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The Development of Basque Subject Pronoun Expression in Bilingual School-Age Children*

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ABSTRACT. Acquiring full mastery of the pragmatic constraints regulating null/overt pronominal subjects in null subject languages like Basque is a prolonged and cognitively taxing process because pronominal distribution is pragmatically conditioned in discourse. The purpose of this study is to elucidate the acquisition of subject pronoun expression (henceforth, SPE) by school-age Basque-speaking children because Basque has a gender-neutral third-person singular pronoun (*bera*) with a different pronominal feature configuration than traditional pronouns in other languages, which may impact how SPE is acquired. Therefore, we report on a study investigating the acquisition and development of the personal pronoun *bera* in 88 Basque-Spanish bilingual children (ages 6-12) and adults, using an oral pronoun elicitation task where null subjects and the overt pronoun *bera* were elicited in same- and switch-reference contexts. Findings indicate that bilingual children follow a U-shaped developmental trajectory in same-reference contexts in Basque, which favor null subjects, but a linear developmental trajectory in switch-reference contexts, which favor *bera*. These findings are consistent with previous work on the same Basque-Spanish bilinguals who participated in the present study tested in Spanish and age-matched Spanish monolinguals (Etxebarria & Montrul 2025), who showed parallel and age-appropriate developmental trajectories. Results revealed that null subjects encode strong referential continuity properties in Basque. However, *bera* seems to have more flexible referential discontinuity properties than traditional third-person pronouns, likely due to its intrinsic feature composition and referential properties. These results also support the conclusion that pronoun distribution is variable in null subject languages (Giannakou 2018; Otheguy & Shin 2022; Etxebarria & Montrul 2025).

Keywords: null subject languages, pronominal subjects, Basque, Spanish, school-age children

LABURPENA. Euskara bezalako *pro-drop* hizkuntzetan, subjektu pronominal nulo eta esplizituen erabilera arautzen duten baldintza pragmatikoen guztizko jabetzakuntza lortzea prozesu luze eta kognitiboki konplexua da, distribuzio pronominala diskurtsoan baldintza pragmatikoek zehazten baitute. Ikerketa honen helburua da eskola-adineko euskal hiztunek subjektu pronominalaren adierazpena nola ikasten duten aztertzea, bereziki euskararen hirugarren pertsona singularreko genero neutroko izonordainaren (*bera*) ezaugarri pronominalak desberdinak direlako beste hizkuntza batzuetako izenordain tradizionalekin konparatuz eta desberdintasun honek eragina izan dezakeelako ikasketa prozesuan. Beraz, ikerketako partehartzaileak euskara eta gaztelaniaz mintzo diren 88 haur (6-12 urte bitartekoak) eta heldu elebidun dira. Izenordain nulo eta esplizituak (*bera*) erreferente bereko edo aldaketako kontestu diskurtsiboetan apropos erabiltzeko experimentu baten parte hartu zuten. Datuen arabera, haur elebidunek U-formako garapen bidea jarraitzen dute

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subjektu nuloak hobesten diren erreferente bereko kontestu diskurtsiboetan euskaraz. Hala ere, haur elebidunek garapen bide linearra jarraitzen dute *bera* hobesten den erreferente aldaketako kontestu diskurtsiboetan. Patroi hauek bat datoz ikerketa honetako partehartzaile berberek gaztelaniaz egindako aurretiko ikerketarekin eta baita gaztelaniaz mintzo diren haur elebakarrekin (Etxebarria & Montrul 2025), non garapen bide paralelo eta aproposak aurkitu ziren. Emaitzek erakusten dute subjektu nuloak jarraipen erreferentzial sendoa adierazten dutela euskaraz. Bestalde, *berak* izenordain tradizionalek baino malgutasun gehiago duela dirudi etenaldi erreferentziala adierazteko, ziurrenik izenordain propioaren ezaugarri intrintseko eta erreferentzialen osaketagatik. Ondorio hauek aldakortasuna berresten dute *pro-drop* hizkuntzen distribuzio pronominalean (Giannakou 2018; Otheguy & Shin 2022; Etxebarria & Montrul 2025).

Hitz gakoak: *pro-drop* hizkuntzak, subjektu pronominalak, euskara, gaztelania, eskola-adineko haurrak

1. Introduction

This study is concerned with the (bilingual) acquisition of pronominal subjects in Basque, a pro-drop language. Null subject languages (henceforth, NSLs) are languages that can leave the subject of a sentence not overtly expressed (d'Alessandro 2015). Basque is a canonical or consistent NSL where full referential subjects can and frequently do remain unexpressed or null. Much of the syntactic, sociolinguistic, and psycholinguistic scholarship has been devoted to examining the linguistic and extra-linguistic variables that probabilistically constrain the realization and omission of pronominal subjects in monolingual and multilingual grammars. All languages exhibit some form of probabilistic variation, and variable linguistic phenomena such as SPE are as acquirable as categorical phenomena. Documenting the timing of emergence and development of null and overt pronoun usage in early- and late-acquired languages has occupied a central place in language acquisition and acquisition theory, and this study contributes new data from Basque-speaking children and adults. Although our study is informed by findings from sociolinguistics and psycholinguistics, we assume a generative linguistics perspective on acquisition.

Child language research shows foundational linguistic knowledge is in place by age 5 (Guasti 2002; Clark 2009), and children acquiring NSLs produce null and overt subjects by age 2 (Guasti 1993; Meisel & Ezeizabarrena 1996; Grinstead 2004; Bel 2003, among others). However, the referential properties of pronominal subjects are acquired much later, around adolescence (Hickmann 2003; Karmiloff-Smith 1986; Shin & Cairns 2012; Etxebarria & Montrul 2025), because pronominal distribution in discourse is determined by pragmatic constraints. Thus, particularly in the study of subject pronoun acquisition, school-age children are a critical population to analyze children's developmental path, connect research on early child language and adulthood, and understand changes between pre-literate and mature grammars.

The Interface Hypothesis (Sorace & Filiaci 2006; Sorace & Serratrice, 2009; Sorace et al. 2009; Sorace 2011) was formulated based on the results of studies comparing bilingual acquisition of anaphoric pronouns in children and adults. The tenets of the Interface Hypothesis establish that, while the acquisition of narrow syntactic properties can be

ultimately successful for bilingual L1 speakers and advanced L2 learners, properties involving the syntax-discourse interface (e.g., the pragmatically felicitous use of pronouns in discourse) will be unlikely to be acquired at native-like monolingual standards. Thus, the Interface Hypothesis refines the implications of Universal Grammar (and UG accessibility) by specifying that successful language acquisition is not merely acquiring grammatical competence, but also, coordinating linguistic and extra-linguistic interfaces, such as syntax and discourse. Sorace and colleagues proposed this influential hypothesis to account for non-target-like patterns at the level of ultimate attainment in bilingual L1 acquisition (characterized as protracted indeterminacy), advanced L2 acquisition (residual optionality), and L1 attrition (emerging optionality). Two sources of instability or optionality were identified at interface coordination (Sorace 2011). On the one hand, instability/optionality can reflect underlying deficiencies in the mental representation of the language (also known as "the representational account"). On the other hand, instability/optionality can arise from limited processing resources caused by the taxing cognitive load that bilingualism entails (also known as "the processing resources account"). Furthermore, based on the feature composition of null and over pronouns in null subject languages, the Interface Hypothesis predicted more difficulty with overt pronouns being extended to infelicitous discourse contexts.

A growing body of research, however, has disconfirmed the predictions of the Interface Hypothesis (Montrul & Sánchez-Walker 2013; Giannakou 2018; Etxebarria & Montrul 2025) by showing that monolinguals and bilinguals can indeed follow very similar developmental paths and achieve target-like use of null and overt pronouns in their most natural discourse contexts. Additionally, several studies have also shown that both null and overt subject pronouns can be comparably demanding to acquire for both child bilinguals and late L2 learners (Liceras & Díaz 1999; LaFond, Hayes & Bhatt 2001; Montrul & Rodríguez Louro 2006; Lubbers Quesada & Blackwell 2009), not just overt pronouns. More recent approaches to the acquisition and development of subject pronoun expression (henceforth, SPE) have focused on assessing bidirectional crosslinguistic influence at the syntax-discourse interface to better understand pronominal variation.

The current study is part of a larger cross-sectional study on the bilingual acquisition of SPE in Spanish and Basque by 196 Spanish monolingual and Basque-Spanish bilingual children and adults, which assessed the production of null and overt subjects in same- and switch-reference contexts in the two languages. The results of the development of SPE in the Spanish of these participants has been reported in Etxebarria & Montrul (2025). The overall results showed that monolingual and bilingual children seem to go through a U-shaped developmental sequence in same-reference contexts but a linear trajectory in switch-reference contexts (see also Shin & Cairns 2012). All participants overextended and produced null and overt pronouns in both discursive contexts in Spanish. However, bilinguals produced significantly higher rates of ambiguous null pronominal subjects than monolinguals in switch-reference contexts, while monolinguals produced significantly higher rates of redundant overt pronominal subjects than bilinguals in same-reference contexts. These findings do not support the Interface Hypothesis; instead, results are more consistent with crosslinguistic influence from Basque on Spanish and microvariation with the features of the third-person pronouns in Basque and Spanish. In this study we present

the results of Basque SPE in the same 88 Basque-Spanish bilingual children and adults reported in Etxebarria & Montrul (2025), who completed the same pronoun elicitation task in Basque. The results are similar to our Spanish findings and point to parallel and age-appropriate development of the two languages in the bilingual children. We also compare our findings with previous comprehension studies of SPE in Basque (Iraola 2015; Iraola et al. 2017).

2. Subject Pronouns in Basque

2.1 Same-/Switch-Reference Contexts

As a highly inflected language, Basque licenses null subjects because the person and number information can be recovered from the verbal morphology. However, during communication, speakers have a choice of *how* to express the subject referent. The choice of using a null or an overt subject is motivated by speakers' communicative intention (Gundel, Hedberg & Zacharski 1993; Carvalho, Orozco & Shin 2015). When relating a sequence of events during communication, for example, speakers intentionally choose between maintaining the same referent or drawing the listener's attention to a new referent based on what they are communicating. Topic discontinuity occurs when speakers switch referents in conversation. That is, they introduce a referent and either they continue talking about that referent, or they introduce another referent, changing the topic. In NSLs, switch-reference or topic discontinuity has been consistently shown to be a deterministic pragmatic factor that triggers the use of full noun phrases or overt pronouns as referents. If the speaker continues to refer to the same referent, then there is topic continuity and this discourse context favors null subjects in NSLs, which is related to communicative efficiency.

The notion of communicative efficiency is captured by Chomsky's (1981) *Avoid Pronoun Principle* (APP), a universal principle of grammar imposing a linguistic economy strategy on the referential grid of pronouns. For example, when the formal identification requirements of the subject are instantiated in the verb (e.g., person and number), the linguistic economy principle applies: a null pronoun in a same-reference context is the default option because it is less cognitively taxing than spelling out a redundant pronoun. Thus, this principle favors the less explicit form providing it is not ambiguous. Because grammar is an efficient system, overt pronouns will generally be deleted when the antecedent information is recoverable, but overt pronouns will generally not be deleted when null subjects are not possible.

Null pronouns allow speakers to refer to already established referents without redundancy (Keating, VanPatten & Jegerski 2016; Iraola et al. 2017). In fact, re-introducing an already-established entity through an overt pronoun requires more cognitive effort than simply deleting it, unless the speaker has some specific communicative intention, such as emphasis, for instance. When this happens, speakers need to process an unanticipated pronoun that is not serving its expected function (i.e., a redundant overt pronoun).

The following examples (from Etxebarria & Montrul 2025) illustrate the use of null and overt pronouns in same- and switch-reference contexts in Basque:

(1)	a.	Berak$_i$	azterketa	du	bihar.	**Ø$_i$**	artega	dago.
		She$_i$	exam	have-	tomorrow	**Ø$_i$**	nervous	3.SG

She$_i$ has an exam tomorrow. **Ø$_i$** (she) is nervous.

b.	Ni$_i$	kazetaria	naiz.	**Bera$_{ii}$**	irakaslea	da.
	I$_i$	journalist	be-1.SG	**He$_{ii}$**	teacher	be-3.SG

I$_i$ am a journalist. **He$_{ii}$** is a teacher.

In same-reference/topic-continuity contexts, the subject introduced in the first sentence (*berak*) is followed by the same subject in the next sentence; that is, the two clauses share the same discourse referent, as illustrated in (1a). Same-reference contexts often trigger null subjects (Ø) because the subjects of two clauses co-refer, and the first-mentioned subject can be identified by the verbal inflection in the next sentence. In switch-reference/topic-shift contexts, however, one clause is followed by another clause with a different subject, resulting in a change of reference or reference shift, as shown in (1b).

In short, null subjects are typically preferred and pragmatically felicitous in same-reference contexts, whereas overt subjects are pragmatically felicitous and typically preferred in switch-reference contexts (Tsimpli et al. 2004; Sorace & Filiaci 2006). In the generative account, overt subjects in same-reference contexts can be considered pragmatically odd because they can be redundant or repetitive, whereas null subjects in switch-reference contexts can lead to ambiguity. However, it is reported in the variationist literature that when ambiguity can be resolved in natural speech, null subjects tend to be more frequent than overt subjects even in switch-reference contexts (see Otheguy & Shin 2022). Redundant or ambiguous pronominal subjects are not necessarily ungrammatical under this view; rather, they can be infelicitous or pragmatically inappropriate in certain contexts. That is why unanticipated pronouns that are not serving their expected function require more cognitive effort to process.

Summing up, comprehension and use of pronominal subjects show systematic variation because discursive referentiality is not a categorical linguistic restriction, but rather entrenched tendencies or preferences that favor the use of certain types of pronouns in specific discursive contexts. Generally, though, Basque favors null subjects in same-reference discourse and overt subjects in switch-reference discourse (Ezeizabarrena 2012; Iraola 2015; Iraola et al. 2017), just like Spanish, another NSL.

2.2 Third-Person Subject Pronouns

As a consistent NSL (Holmberg et al., 2009), Basque has very rich verbal agreement morphology that overtly expresses person and number features through three-way agreement with its subject, direct object, and indirect object. Research has found some of the highest null pronoun frequencies ever documented in conversation for a NSL: the average rate of overt subject pronouns in Basque spontaneous speech is 10.6% (Rodríguez-Ordóñez & Sainzmaza-Lecanda 2018). Notably, Basque third-person subject pronouns show relevant differences from more traditional third-person pronouns in other languages

regarding their morphosyntactic and referential properties (see also Giannakou (2018) for a similar case with Greek pronouns). Table 1 illustrates the Basque pronominal system:

Table 1. The subject pronoun system of Basque

Person & Number	Gender	Mode	Pronoun
1 singular			*ni*
2 singular		intimate	*hi*
2 singular		unmarked	*zu*
3 singular	neuter		*hura*[1]/***bera***[2]
1 plural	neuter		*gu*
2 plural	neuter		*zuek*
3 plural	neuter		*haiek/beraiek*

Third-person pronouns are more complex than first-/second-person pronouns (Tauli 1958; Hale 1973; Givón 1976; Mithun 1991; Haugen 2004; Van Gelderen 2011). Etymologically, third-person pronouns derive from demonstratives, whereas first-/second-person pronouns derive from emphatic pronouns. In discourse, first-/second-person pronouns refer to actual discourse participants (i.e., speaker and hearer), but third-person pronouns must be assigned a discursive antecedent to be identified and interpreted. From an acquisition perspective, third-person pronouns are less accessible and salient than first-/second-person pronouns because very often children have difficulty in taking another person's perspective. This ability gradually develops as children gain linguistic experience and cognitive maturity (Hendriks et al., 2014; see also Iraola et al. 2017). In the generative framework, inherent differences in their pronominal feature configuration would account for why children learning NSLs acquire null pronouns earlier than overt pronouns (Guasti 1993; Meisel & Ezeizabarrena 1996; Ezeizabarrena 2003, 2013; Grinstead 2004, among others). For example, Sorace (2011) states that overt pronouns have a [+topic shift] feature that null pronouns do not have.

It has been claimed that Basquethird-person pronouns are demonstratives and "quasi-pronouns" instead of true third-person pronouns (Ortiz de Urbina 1989; Laka 1996; Hualde & Ortiz de Urbina 2003; Trask 2003; de Rijk 2008; Duguine 2008; Ezeizabarrena 2013; Iraola 2015; Iraola et al. 2017). Although *bera* ('he/she', 'himself'/'herself') is treated as a true pronoun, it is different from full-fledged third-person pronouns. *Bera* encodes number and case features —third-person nominative singular pronoun— but no gender features. Etymologically, *bera* partially derives from a demonstrative: the emphatic marker *ber-* + the historical distal demonstrative *-a* (Hualde & Ortiz de Urbina 2003). *Bera* usually refers to people or objects previously mentioned in the discourse, although it can also refer to a third party occasionally, adding difficulty to trace back, decode, or interpret *bera* in certain contexts. Unlike traditional pronouns in Basque which have contrastive, emphatic variants (e.g., *ni* vs. *neu* ('I' non-contrastive vs. contrastive); *zu* vs. *zeu* ('you' non-contrastive vs.

[1] *Hura* ('that') is considered a demonstrative and can refer to human and non-human as well as animate and inanimate entities.

[2] Iraola et al. (2017) explore the distributional differences of *bera* vs. *hura* in an acceptability judgement task with children and adults.

contrastive), etc.), *bera* does not have contrastive value. In short, intrinsic differences in its pronominal feature configuration, dialectal evolution, and diachronic trajectories of Basque (see Iraola 2012, 2014, 2015 for more information) make *bera* different in status, scope, and use compared to traditional pronouns. Therefore, we expect that the nature of *bera* can influence the development of SPE in Basque.

3. Basque and Basque education

Basque can be categorized as a *regional* or *minority* language, which the European Charter for Regional and Minority Languages defines as "languages traditionally used within a given territory of a state by nationals of that state who form a group numerically smaller than the rest of the state, and they include neither dialects of the official language(s) of the state nor the languages of migrants" (Council of Europe, 1992). The Basque people are a historical ethnolinguistic minority group, and currently, Basque is mainly spoken in the Basque Autonomous Community (BAC, henceforth), predominantly Northern and Central Navarre, and South-Western France (also known as *Iparralde*). This region is situated in the westernmost Pyrenees in adjacent parts of Northern Spain and Southwestern France. The data for this study was collected in the Basque Autonomous Community located in northeastern Spain, where Basque is best preserved. The BAC has historically been a bilingual community where Basque and Spanish have been in contact for centuries. More specifically, the case of the BAC is a double diglossic situation where not only are these two languages in contact, but particularly in rural areas, Standard Basque is in contact with many other vernacular Basque dialects.

Due to protectionist language policies, the Basque language is the main language of instruction in many schools. The *Directorio General de Centros Docentes no Universitarios* published by the Basque Government, gathers data about the educational institutions in the BAC and the number of students enrolled in public and private schools. Public schools are government-funded institutions that prioritize Basque as the vehicular instructional language during compulsory education. Private schools include both semi-private (including but not limited to "ikastolak") and private schools (also including religious schools) that receive both government- and private-funding to differing degrees depending on the institution. While in some semi-private schools Basque can also be the vehicular language of instruction, public schools generally tend to prioritize Basque education and better maintain cultural legacy than private schools. According to the most recent data published in 2023 about the AY of 2023-2024, 67% of the schools ("escuelas infantiles" or "haurreskolak") teaching children between 0-6 were public schools, and the number of public schools decreased to 53% for schools teaching children between 6-16.

Within the Basque education system, three main programs exist with varying degrees of integrated Basque instruction:

- **Modelo D:** Basque full immersion program that teaches the academic curriculum entirely in Basque, in addition to Spanish and English taught as second/foreign language subjects in their respective languages.

- **Modelo B:** Spanish and Basque are the languages of instruction, but Spanish generally has stronger influence than Basque. English is taught as foreign language subject in its respective language.
- **Modelo A:** Spanish is the vehicular language of instruction, in addition to Basque and English taught as second/foreign language subjects in their respective languages.[3]

Based on the Basque Government's most recent 2023 data, 80% of children aged 6-12 and 74% of children aged 12-16 are enrolled in D-model programs, indicating that most of the children attending public and private schools in the BAC are enrolled in Basque immersion programs. Children's enrollment in Basque programs has been steadily rising since the re-emergence of Basque education in the 1970s and 1980s. This trend is the result of the commitment and labor-intensive work from linguists and teachers, parents and community leaders, the Basque Government, and Basque organizations, among other entities. Together, several grassroots language revitalization and preservation initiatives have been developed, including the standardization of Basque, implementation of government-funded Basque immersion programs, teacher training, curriculum development, broadcasting of regular Basque TV programming, reconstruction of folklore, and other measures (see Zuazo 2005; Hualde & Zuazo 2007; Salaburu & Alberdi 2012).

The Basque community has and still is devotedly working towards cultivating positive linguistic attitudes to affirm, nurture, and celebrate Basque identity. In part because of the immersion schools, the number of Basque speakers has been gradually and steadily rising among the youngest generations. However, many of these children become part of the growing number of "passive Basque speakers" (i.e. those who do not speak Basque fluently but understand it). Despite efforts on all fronts, the acquisition of minority and heritage languages is often precarious, strenuous, and complex in nature. Therefore, although our results are encouraging for the acquisition and maintenance of Basque, it is with caution that we present this scenario and emphasize that a lasting language preservation action plan will be essential to ensure the future of Basque.

4. Pronominal Acquisition in Basque

Research in the generative tradition has found that null subject pronouns are acquired earlier than overt subject pronouns (Guasti 1993; Meisel & Ezeizabarrena 1996; Grinstead 1998). In Basque monolingual and Basque-Spanish bilingual children, overt pronouns emerge on their own (without any verb) at age 1;08, with non-finite verbs at age 1;11, and with finite verbs at age 2;02 (Ezeizabarrena 2013). However, full mastery of the pragmatic constraints regulating SPE in NSLs is not achieved until the late stages of childhood and early adolescence (Hickmann 2003; Karmiloff-Smith 1986; Shin & Cairns 2012; Etxebarria & Montrul 2025).

Pronominal expression in Basque has predominantly been studied from a formal theoretical syntactic approach (Ortiz de Urbina 1989; Laka 1996; Hualde & Ortiz de Urbina 2003; De Rijk 2008; Duguine 2008). More recent variationist research with adult Spanish-

[3] Nowadays, it is common for many schools to teach one or more subjects in addition to English, such as arts-and-crafts, in English to increase children's exposure and understanding of English.

Basque bilinguals and L2 Basque learners (Rodríguez-Ordóñez & Sainzmaza-Lecanda 2018) found that as Basque proficiency decreased, the use of overt pronominal subjects increased, and the hierarchical constraint system regulating the distribution of SPE in Basque was Spanish-like. The L2 Basque intermediate learners, the group with the lowest Basque proficiency in the study, produced 21.4% of overt subjects, comparable to the rate produced by Peninsular Spanish monolinguals (Cameron 1995). Rodríguez-Ordóñez and Sainzmaza-Lecanda suggest that the increased rate of overt subjects was caused by learners' need to alleviate processing costs when communicating in their second language. However, instead of simplifying their constraint system because of their limitations to process and integrate pronominal subjects at native-like levels, Rodríguez-Ordóñez and Sainzmaza-Lecanda proposed that L2 Basque learners show complexification of their system because they integrate more linguistic factors to regulate the distribution of SPE in Basque than in their native language, Spanish.

Regarding child acquisition research in Basque, most studies have traditionally focused on very young children from ages 1;6 to 4;0 (e.g., Barreña 1993; Meisel & Ezeizabarrena 1996, 2013; Meisel & Ezeizabarrena 1996; Austin et al., 1998; Austin, 2009), although pronominal subjects are rarely produced by children within this age range. Subsequent studies (Iraola 2015; Iraola et al. 2017) explored the distributional differences of the third-person forms *bera* and *hura* through pronoun interpretation tasks with older children. Iraola (2015) assessed 6-8 year-old children's pronoun comprehension in anaphora resolution contexts in Basque, while Iraola, Santesteban, Sorace & Ezeizabarrena (2017) assessed 6-7 and 8-10-year-old children's acceptability of null/overt pronouns in same- and switch-reference contexts. Iraola (2015) confirmed that, regarding binding conditions, *bera* behaves as a proper third-person pronoun in Basque. In intrasentential anaphora resolution contexts, *bera* showed broad coreferential possibilities and versatile functions, thus confirming that the syntactic constraints that operate on *bera* are more flexible compared to *hura*. Similar to findings from bilingual children acquiring Romance languages (Pladevall 2010; Shin & Cairns 2012; Sorace et al. 2009), Basque child data corroborated that the referential properties and discourse features of pronouns develop slowly and are far from adult-like at ages 6-8. Iraola et al. (2017) reported that 6/7-year-old children already show a preference for null pronouns (over overt pronouns) in same-reference contexts in Basque. However, 6/7-year-old and 8/10-year-old children still preferred ambiguous null pronouns in switch-reference contexts rather than the overt pronoun *bera*, indicating that learning to avoid ambiguity may be more taxing than learning to avoid redundancy for these children.

In general, more sizeable participant samples of older children are needed to track the development and acquisition of SPE in Basque. Most of the studies completed with school-age children to date have focused on pronoun interpretation and comprehension, but production data is scarce. García-Azkoaga (2003), for instance, investigated cohesive devices in different text genres among 11 to 15 year-old Basque-Spanish bilinguals and reported, without providing specific Basque pronoun rates, that third-person pronouns are very frequent in narratives to identify main characters or thematic subjects of the story (see also Karmiloff-Smith 1981; Hickmann 1980, 1985, 1987; de Weck 1991). Through an oral narrative task, however, Etxebarria (2022) documented very low pronominal rates in

Basque with Basque-Spanish school-age children and adults. The low number of pronominal subjects produced in recent semi-guided narratives and interviews further supports the need for alternative methodological designs, such as controlled elicitation tasks, to elicit pronouns in different discursive contexts. Therefore, the study presented in this article addresses the need for larger sample sizes of 6-12-year-old children and the use of a production measure.

5. The Study

This study is part of a larger study of Basque-Spanish bilinguals acquiring SPE in Basque and Spanish. The Spanish production data was reported in Etxebarria & Montrul 2025, and in the current study, we present the results of the Basque data. Both studies share the same bilingual participants, experimental materials, and procedure.

5.1 Participants

Following Shin & Cairns' (2012) design, the participant sample included 88 Basque-Spanish bilingual children (ages 6, 8, and 12) and adults (ages 21-36) from the BAC to track the development and acquisition of SPE in Basque. Immigrant children who spoke other languages or varieties of Spanish were excluded from the study.

The Basque-Spanish bilingual participants were educated and raised in a rural community, the Valley of Arratia, where both Basque and Spanish are regularly spoken. Bilingual children and adults attended a government-funded, public Basque immersion school (D-model). These participants were fluent in both their native languages (i.e., Basque and Spanish), as well as both Basque dialects (Standard Basque and Arratia Basque). The traditional Basque dominant community settled in rural areas, along with governmental protectionist language policies, provides this region with an optimal environment for successful dual language development because the community and the educational system prioritize the minority language. While the use of Spanish continues to steadily increase in this region, both Basque and Spanish remain the community languages[4]. It is important to note that there are no monolingual Basque speakers in this region nowadays. Basque-dominant bilinguals would be the closest living population to the monolingual Basque speakers that once existed in Basque territories.

The study was approved by the University of Illinois Research Board. Parents or guardians of the children signed consent forms and completed a Language Background Questionnaire (LBQ) with short answer questions about demographic and biographical information. According to the responses gathered in the LBQ, Basque dominant households included two Basque native or fluent parents who use Basque most of the time with their children. On the other hand, Spanish-dominant households included two Spanish monolingual parents or one Spanish monolingual parent and another Basque-Spanish bilingual parent who use Spanish most of the time. Table 2 summarizes the participant sample:

[4] This bilingual scenario represents a minority even within the Basque territories.

Table 2. Demographic information including age, sex, and dominant school language attended during childhood by the bilingual children

	N	Age	Grade	Dominant family language		Majority school language
				Spanish	Basque	
Group						
Age 6	24	6	1st	12	12	Basque
Age 8	24	8	3rd	16	8	Basque
Age 12	20	12	7th	8	12	Basque
Adults	20	Adults	—	8	12	Basque
TOTAL:	**88**			**44**	**44**	

Participants also completed a narrative task with *The Little Red Riding Hood* tale to elicit spontaneous, unrehearsed speech as a proficiency measure. They were shown 15 wordless colored pictures from the tale and were asked to retell the story. Bilinguals did the task in Basque and Spanish. Audio-recordings of the participants' speech were transcribed and coded. For each participant, three lexical complexity measures were taken: two fluency measures and an accuracy measure, a selection of measures suggested by Ahmadian & García Mayo (2017). For fluency measure A, the number of words produced per minute of speech was counted. This was obtained by dividing the number of words per minute by the number of seconds in a minute (adapted from Wendel 1997; Yuan & Ellis 2003; Ellis & Yuan 2004; Ahmadian & García Mayo 2017). For fluency measure B, the number of meaningful words per minute of speech was counted (e.g., Wendel 1997; Yuan & Ellis 2003; Ellis & Yuan 2004; Ahmadian & García Mayo 2017). The number of words per minute, excluding all words or phrases that were repeated, reformulated, or replaced within each narrative, were divided by the number of seconds in a minute. Accuracy was measured by counting error-free units (Wendel 1997; Yuan & Ellis 2003; Ellis & Yuan 2004; Ahmadian & García Mayo 2017). The number of meaningful words per minute of speech, excluding all words or phrases that were repeated, reformulated, or replaced, were divided by the number of seconds. Table 3 illustrates all three proficiency measures by age group in Basque. As the table shows, children's fluency and accuracy progressively increase with age:

Table 3. Proficiency scores by age group in Basque

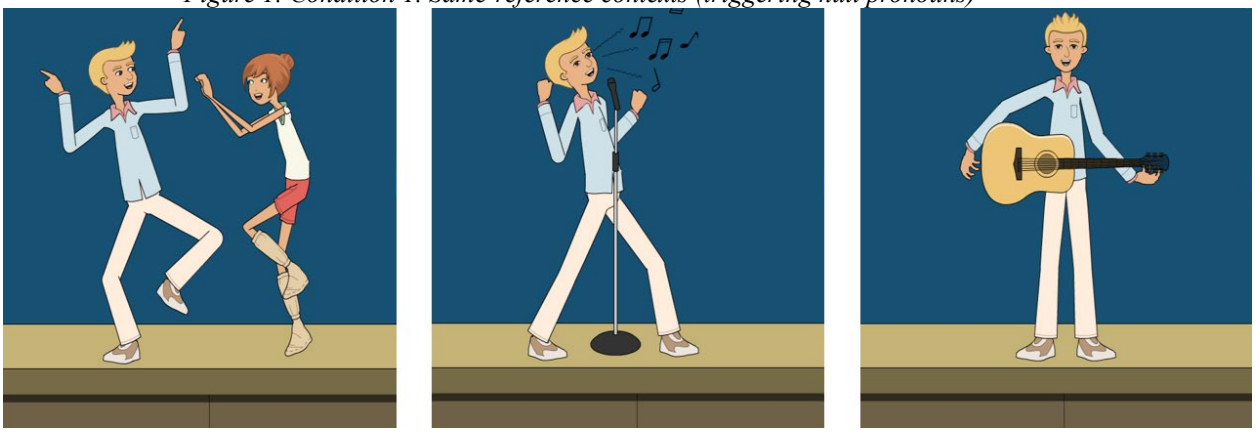
	Fluency Measure A		**Fluency Measure B**		**Accuracy Measure**	
	M (Sd)	Range	M (Sd)	Range	M (Sd)	Range
Group						
Age 6	1.13 (*0.21*)	0.90-1.68	0.99 (*0.17*)	0.77-1.38	0.95 (*0.18*)	0.70-1.38
Age 8	1.17 (*0.21*)	0.92-1.68	1.05 (*0.23*)	0.77-1.60	1.01 (*0.25*)	0.70-1.60
Age 12	1.78 (*0.27*)	1.25-2.13	1.71 (*0.29*)	1.17-2.13	1.70 (*0.29*)	1.15-2.13
Adults	1.92 (*0.34*)	1.33-2.62	1.79 (*0.36*)	1.32-2.55	1.79 (*0.36*)	1.32-2.55

5.2. Materials and Procedure

Participants completed an Oral Elicitation Task, which was originally based on Shin & Cairns' (2012) Pronoun Preference Judgement Task. Due to replicability issues, the Pronoun Preference Judgment Task was adapted into a Pronoun Elicitation Task. Experimental items were designed and normed through two different piloting sessions with bilingual school-age children. Stimuli (re)design and standardization required visual saliency for participants to clearly identify the actions that the characters were performing in the pictures. In order for the youngest children to be able to complete the experiment, simple pictures with clear backgrounds were created, thus avoiding any potential distractions or misinterpretations.

The task included 16 experimental items: the number of same- and switch-reference scenarios as well as male and female characters is balanced in each experiment. Each experimental item consisted of two-sentence-long narratives in the present tense paired with a three-picture sequence. The first sentence describes the first picture and introduces a male and a female character with a lexical NP. The second sentence describes the second picture and illustrates one of the characters performing an activity, introduced with a third-person singular pronoun (*bera* in Basque). The third sentence elicits a spoken description of the third picture by the participant. The experimenter asks 'And then?'. There was a five-minute training period before the experiment began. Participants were asked to describe what they see in the third picture as accurately as they could in one sentence. In the same-reference context, the target response elicits a null subject pronoun, whereas in the switch-reference context the target response elicits an overt pronoun. Figure 1 (Condition 1) and Figure 2 (Condition 2) below illustrate the experimental materials in both same- and switch-reference discursive contexts in Basque.

Figure 1. Condition 1. Same-reference contexts (triggering null pronouns)



Malenek eta Aritzek musikea entzuten daurie. Lehenengo, berak kantau iten dau, eta gero?
'Malen and Aritz listen to music. First, he sings a song, and then?'

Expected Response:	**Ø** gitarrea joten dau	(Basque)
	Ø (he) plays the guitar	(English translation)

Figure 2. Condition 2. Switch-reference context (triggering overt pronouns)

Amaiak eta Oierrek edurretan disfrutetan daurie. Lehenengo, berak edurretako panpina bat iten dau, eta gero?
Amaia and Oier enjoy the snow. First, she builds a snowman, and later?

Expected Response:	**Berak** txapela ipinten dotse [edurretako panpinari]	(Basque)
	He puts the hat on the snowman	(English translation)

5.3. Research Questions and Hypotheses

The following research questions guide our study:

1) What is the overall distribution of felicitous and infelicitous null and overt subjects in bilingual children's production in Basque?

2) At what age do bilingual children's subject pronoun production rates match the adult distributions?
3) How does parental input in Basque relate to bilingual children's subject pronoun expression production?

Hypotheses:

If comprehension patterns from previous studies in Basque (Iraola 2015; Iraola et al., 2017) extend to production patterns, significant rates of ambiguous null pronouns are expected in switch-reference contexts. If *bera* has more flexible constraints in switch-reference contexts than regular fully-fledged third-person pronouns, bilinguals are expected to use felicitous overt pronouns less frequently, potentially because *bera* has weak(er) referential discontinuity properties in Basque. These results would disconfirm the Interface Hypothesis, which predicts that bilinguals will overuse redundant overt pronouns more frequently than ambiguous null pronouns due to the cognitive limitations associated with bilingualism. Based on previous research (Iraola 2015; Iraola et al. 2017; Rodríguez-Ordóñez & Sainzmaza-Lecanda 2018), particularly high rates of felicitous null pronouns are expected in same-reference contexts. Overall, adult-like uses of null/overt pronouns in Basque are expected by early adolescence, consistent with findings from Hickmann (2003), Karmiloff-Smith (1986), Shin & Cairns (2012), and Etxebarria & Montrul (2025) in Spanish.

6. Results

A total of 1,317 responses were included in the analysis. Responses were reviewed by a second Basque-speaking researcher to assess inter-rater reliability, which was 95%. All responses included consisted of full sentences with a conjugated verb preceded by a null or an overt third-person pronominal subject. Responses were coded as null or overt, depending on whether the subject was a null or an overt pronoun. All other responses were discarded from the analysis (6.5% of the overall data). Discarded responses included subject NPs (e.g.,'the girl/boy', 'the other' (*bestea*), or the character's name) or, particularly among the youngest children, sentences with uninflected verbs or third-person plural pronominal subjects. Discarded responses were most frequent among the youngest children, which decreased as participants' age increased.

Data was analyzed using two mixed-effect binomial logistic regression models in the *lme4* package (Bates et al. 2015), which looked at same-/switch-reference contexts separately in the statistical software R (R Development Core Team 2020). Statistical models were chosen using a stepwise selection process, with each variable being added and evaluated for importance using ANOVA. Due to the low statistical power, interactions were not included. Model 1 looked at same-reference contexts in Basque and included 666 observations, whereas Model 2 looked at switch-reference contexts in Basque and included 651 observations. In Models 1 and 2, the dependent variable was *Response* (null, overt), the fixed effects were *Age* (6, 8, 12, and Adults) and *Home Language Dominance* (Spanish, Basque). *Subject* was included as a random effect to account for individual variability. Table 4 illustrates the distribution of null and overt pronominal subjects in different discursive contexts by bilinguals:

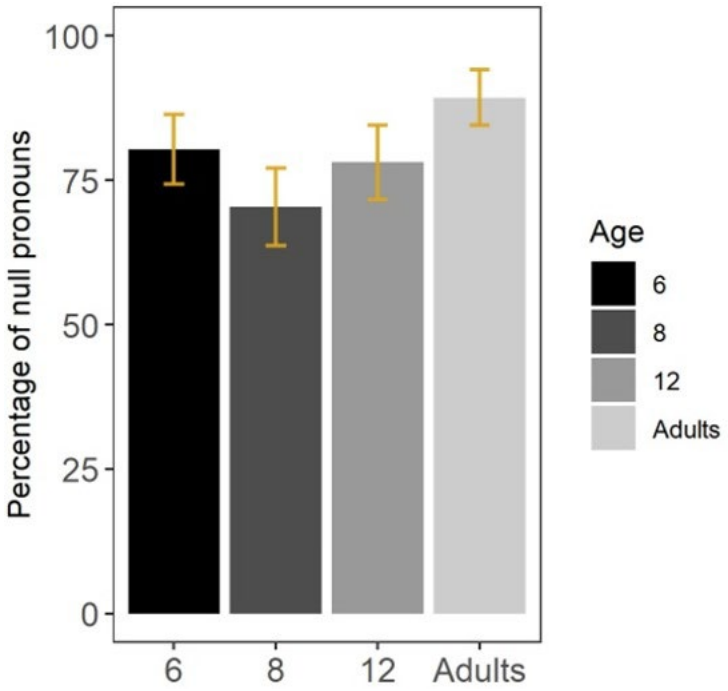
Table 4. Count distribution and rates of null/overt subject pronouns in same- and switch-reference contexts by bilingual children and adults in Basque

	SAME-REFERENCE CONTEXTS		**SWITCH-REFERENCE CONTEXTS**	
	Null % (felicitous)	**Overt %** (infelicitous)	**Null %** (infelicitous)	**Overt %** (felicitous)
Group				
Age 6	80.4% (135/168)	19.6% (33/168)	66.5% (105/158)	33.5% (53/158)
Age 8	70.4% (126/179)	29.6% (53/179)	48.6% (88/181)	51.4% (93/181)
Age 12	78.1% (125/160)	21.9% (35/160)	45.2% (70/155)	54.8% (85/155)
Adults	89.3% (142/159)	10.7% (17/159)	30.6% (48/157)	69.4% (109/157)

6.1 Same-reference contexts

At age 6, bilingual children already show a clear preference for producing null pronouns in same-reference contexts in Basque. Six-year-olds produce 80.4% of felicitous null pronouns (and 19.6% of redundant overt pronouns). 8-year-olds produce the highest rates of redundant overt pronominal subjects (29.6%) in same-reference contexts, and therefore, the lowest rates of felicitous null pronominal subjects (70.4%) in Basque. 12-year-olds produce 78.1% of felicitous null pronouns and 21.9% of redundant overt pronouns. Bilingual adults produce 89.3% of null pronouns, demonstrating a clear preference to use null pronouns in same-reference contexts in Basque. Figure 3 illustrates the null subject pronoun percentages in same-reference contexts by bilinguals in Basque.

Figure 3. Percentages of null pronouns in same-reference contexts by bilingual children and adults in Basque



Model 1 (Table 5) revealed no age effects between bilingual children and adults in same-reference contexts in Basque. That is, the likelihood for bilingual 6-year-olds, 8-year-olds, and 12-year-olds to produce null pronouns in same-reference contexts is comparable to that of bilingual adults in Basque. No home dominant language effect was found, suggesting that for school-age bilingual children parental input exposure does not deterministically influence their pronoun production rates in same-reference contexts in Basque. Overall, bilingual children and adults use pronominal subjects very similarly in these contexts in both Basque and Spanish, as reported in Etxebarria & Montrul (2025).

Table 5. Summary of Mixed-effect Binomial Logistic Regression Model 1

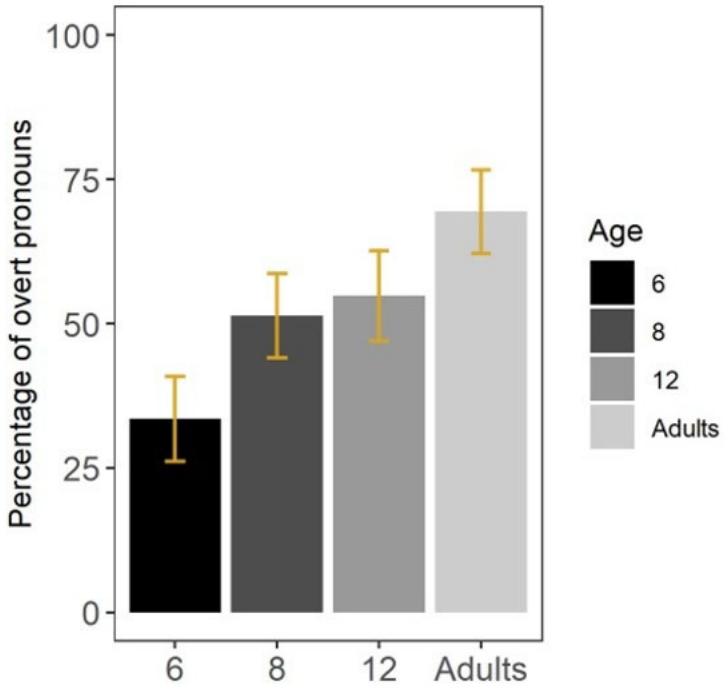
	β	*SE*	*z*	*p*
(Intercept)	-3.127398	0.681402	-4.590	<.0001
Age: 6	0.494843	0.833597	0.594	0.5528
Age: 8	1.458360	0.820923	1.776	0.0757
Age: 12	1.059460	0.836952	1.266	0.2056
Home Dominant Language: Spanish	-0.002634	0.575297	-0.005	0.9963

6.2 Switch-reference contexts

6-year-old bilinguals produce 33.5% of felicitous overt pronouns in switch-reference contexts. At this age, notably high rates (66.5%) of ambiguous null pronouns are documented. At age 8, ambiguity decreases significantly, as children produce 51.4% of

felicitous overt pronouns and 48.6% of ambiguous null pronouns. 12-year-olds produce 54.8% of felicitous overt pronouns (and 45.2% of ambiguous null pronouns). Adults produce 69.4% of overt pronouns in Basque, thus showing a preference to use overt pronouns to mark a referent switch. Figure 4 illustrates the distribution of null and overt subject pronoun percentages in switch-reference contexts by bilinguals in Basque.

Figure 4. Percentages of overt pronouns in switch-reference contexts by bilingual children and adults in Basque



Model 2 (Table 6) revealed that age effects emerged between bilingual children and adults in switch-reference contexts in Basque: the likelihood for 6-year-old children (β = -2.59, *SE* = 0.80, *z* = -3.24, *p* =.001) to produce overt pronouns in switch-reference contexts is significantly lower compared to adults. 8-year-olds and 12-year-olds do not significantly differ from adults regarding the rates of subject pronouns in switch-reference contexts. Similar to Model 1, no home dominant language effects were found. In general, similar trajectories are observed in switch-reference contexts in Basque and Spanish, as reported in Etxebarria & Montrul (2025). Except at age 6, bilinguals more frequently used overt pronouns in Spanish (*él/ella*) than in Basque (*bera*).

Table 6. Summary of Mixed-effect Binomial Logistic Regression Model 2

	β	*SE*	*z*	*p*
(Intercept)	1.3100	0.5940	2.206	=.02
Age: 6	-2.5959	0.8007	-3.242	=.001
Age: 8	-1.1593	0.7790	-1.488	0.13670
Age: 12	-1.0056	0.7782	-1.292	0.19629
Home Dominant Language: Spanish	-0.2184	0.5594	-0.390	0.69625

7. Discussion

The process of developing sensitivity to the pragmatic-discursive constraints that regulate the felicitous use of pronouns in NSLs is prolonged, complex, and not always linear. Children must learn to coordinate pronominal syntactic structure with discourse needs: understand the features (i.e., gender, number, etc.) encoded in pronouns, track referents in natural speech, infer shared knowledge between listener and speaker, anticipate accessibility needs when using pronouns, etc. Gundel et al. (1993) and Ariel (1990) formalized the relationship between cognitive accessibility and linguistic form, proposing that different referring expressions —i.e., the linguistic forms speakers use to identify or refer to entities in discourse— signal distinct levels of mental activation, expectations about discourse (dis)continuity, and ease of retrieval. Both theories agree that pronouns signal high cognitive statuses, whereas full NPs signal a lower status. As children's cognitive and discourse-pragmatic abilities develop, they need to increase their use of high-accessibility markers (such as pronouns, clitics, and null subjects) and reduce both under- and over-specification in referential choice.

In same-reference contexts, bilingual children go through a U-shaped developmental trajectory in Basque where, at age 8, they show the highest uses of redundant overt pronominal subjects. By contrast, in switch-reference contexts, bilinguals follow a linear sequence where the use of ambiguous null subject pronouns declines with age in Basque. Similar developmental patterns were observed in Etxebarria & Montrul (2025), where age-matched Spanish monolinguals and the same Basque-Spanish bilinguals followed comparable trajectories with Spanish SPE. As illustrated in figures 5 and 6, Basque-Spanish bilingual children follow parallel and age-appropriate developmental paths in both their native languages. Spanish data was obtained from Etxebarria & Montrul (2025).

Figure 5. U-shaped developmental trajectory of bilingual children in same-reference contexts in Basque and Spanish

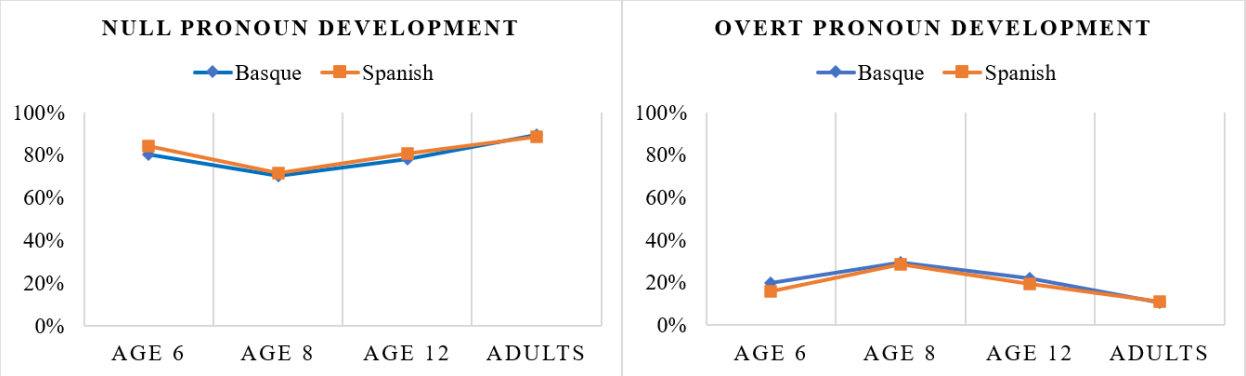
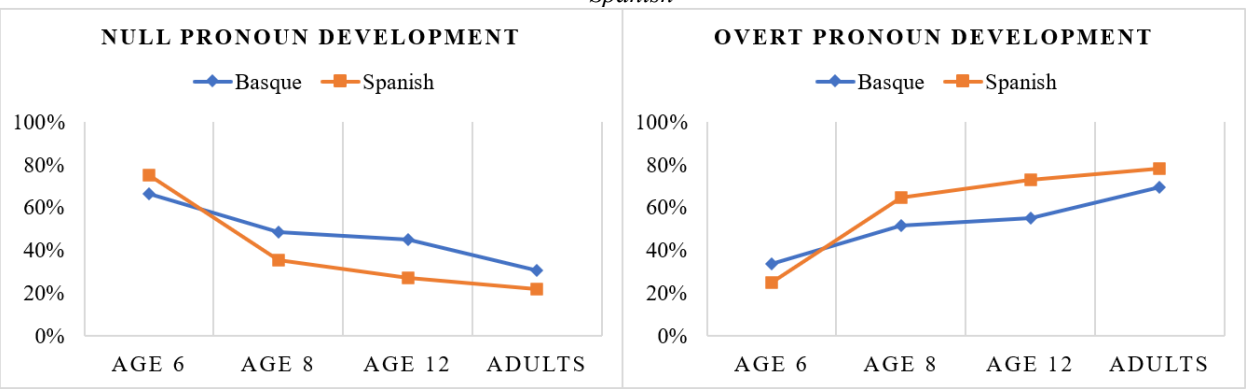


Figure 6. Linear developmental trajectory of bilingual children in switch-reference contexts in Basque and Spanish



In Basque too, overextension of null and overt pronouns was observed in bilingual children and adults, as previously reported (e.g., Liceras & Díaz 1999; LaFond, Hayes & Bhatt 2001; Montrul 2004; Montrul & Rodríguez Louro 2006; Lubbers Quesada & Blackwell 2009; Sorace et al. 2009; Iraola & Ezeizabarrena 2011; Shin & Cairns 2012; Iraola, Santesteban & Ezeizabarrena, 2014; Etxebarria & Montrul 2025). These patterns further reinforce the notion that referentiality manifests as well-established tendencies or preferences rather than categorical choices.

Our findings do not support the predictions of the Interface Hypothesis. On the one hand, the use of ambiguous null pronouns at all ages, but particularly peaking at age 8, reveals that the acquisition of null pronouns is challenging for children, perhaps as demanding as that of overt pronouns. On the other hand, bilinguals used more ambiguous null pronouns than redundant overt pronouns in Basque, indicating that processing limitations associated with bilingualism do not necessarily cause a greater use of infelicitous overt pronouns in bilingual populations. Instead, this distributional asymmetry can be better explained by the intrinsic feature configuration and referential properties of the Basque pronoun *bera*.

Revisiting the sources of instability outlined by the Interface Hypothesis (Sorace 2011), the representational account explains instability as incomplete acquisition of discourse-pragmatic features, whereas the processing resources account attributes the difficulty to

limited cognitive resources during real-time integration, despite target-like underlying knowledge. Our results show no evidence of persistent representational deficits or processing limitations in 12-year-old bilingual children. Their performance aligns with that of adults, and bilinguals perform comparably to monolinguals (Etxebarria & Montrul 2025), indicating that bilingual populations can be equally capable and efficient in managing referential prominence in discourse.

In switch-reference contexts, *bera* seems to have less rigid constraints than traditional third-person pronouns, precisely because *bera* is not a typical third-person pronoun (Ortiz de Urbina 1989; Laka 1996; Hualde & Ortiz de Urbina 2003; Trask 2003; de Rijk 2008; Duguine 2008; Ezeizabarrena 2013; Iraola 2015; Iraola et al. 2017). Specifically, *bera* seems to have more flexible referential discontinuity properties than traditional pronouns. This explains Basque-Spanish bilinguals' tendency to show stronger preferences to use null pronouns in same-reference contexts than overt pronouns in switch-reference contexts in Basque. In the discursive contexts under analysis, the expression (as opposed to the omission) of the pronoun *bera* is expected to establish a switch in reference. The lack of gender feature though, likely diminishes the saliency of *bera* to select a clear referent as efficiently and transparently as a gendered pronoun. The differences in the pronominal feature composition of *bera* may persuade speakers not to use this pronoun as consistently in Basque as they would in other languages with traditional, fully-fledged third-person pronouns like Spanish (Etxebarria & Montrul 2025). Generally, Basque demonstrates high tolerance for omission and nullness, and so does Spanish in contact with Basque (Rodríguez-Ordóñez, Etxebarria-Zuluaga & Sainzmaza-Lecanda, in press) not only with null subjects but also with other linguistic phenomena, such as null objects (see Landa 1995; Franco & Landa 1991, 2003; Urrutia-Cárdenas 2003).

Regarding frequency effects, children receive extensive positive evidence from input to learn that null pronouns encode strong referential continuity properties in Basque. Note that children do not receive any formal implicit nor explicit instruction to learn *when* and *how* to use pronouns in their native languages. This preference was also found in previous work examining Basque pronoun usage in spontaneous speech with adults (Rodríguez-Ordóñez & Sainzmaza-Lecanda 2018), which established overt Basque SPE rates at 10.6%. As argued by Shin (2015), null pronouns are more frequent than overt pronouns in conversation, which might not always give children sufficient positive evidence from input to decide *when* to use a pronoun. In addition to that, adults present more variation with the use of *bera*. Alternative perspectives, such as usage-based approaches (Bybee 2006), argue that usage shapes grammar just as much as grammar governs usage. From this perspective, language structure emerges from recurring patterns of use and accumulated linguistic experience. High-frequency structures, such as null subject pronouns in Basque, would become routinized and entrenched through repetition, first at the individual level and later within the speech community, thus making language acquisition inherently frequency-sensitive. Under this account, the high incidence of null subjects in Basque appears to have become a distinctive feature of the language, as well as of Spanish in contact with Basque. Overall, the referential grid of *bera*, frequency effects, and input-driven structured variation, among other factors, contribute to the acquisition of Basque SPE being prolonged and intricate.

8. Conclusion

This study traced the acquisition and development of Basque SPE in Basque-Spanish bilingual children and adults. This work is the expansion of Etxebarria & Montrul (2025), where age-matched monolingual children and adults were also tested in Spanish. By adopting a cross-sectional design, the current study allows us to indirectly map developmental milestones in pragmatic and discourse competence from bilingual Basque children and compare them with other bilingual child populations. Although our study was couched within a generative perspective, integrating insights from a variationist perspective offers a more comprehensive account for the developmental patterns and use of Basque pronouns by bilingual children. The UG-assumed competence to selectively use discourse-conditioned null/overt pronouns emerges and expands as children's interface mapping develops. At the same time, null/overt pronoun distribution is refined and reshaped into more adult-like through exposure to language and input-driven structured variation, among other factors, that children are exposed to through socialization.

Findings reinforce the notion that acquiring sensitivity to the pragmatic-discursive constraints that govern the null-overt pronoun alternation in NSLs is a prolonged, demanding, and intricate process. Bilingual children show adult-like Basque SPE usage by late childhood and early adolescence period, as reported by Hickmann (2003), Karmiloff-Smith (1986), Shin & Cairns (2012), and Etxebarria & Montrul (2025). During the school-age period, parental input does not seem to deterministically influence children's use of Basque pronominal subjects.

In same-reference contexts, bilingual children showed a U-shaped developmental trajectory in Basque. The rates of felicitous null pronouns were consistently high across age groups and comparable to adult-like frequencies from early on. Specifically, 8-year-olds produced the highest rates of redundant pronouns in Basque. During this stage, children have difficulty deciding between necessary/unnecessary information, and repetition is a common strategy in narration. By contrast, in switch-reference contexts, bilingual children followed a linear developmental trajectory in Basque. The youngest children (ages 6-8) produced the least amount of third-person pronouns. During this stage, children show high tolerance for ambiguity, which can potentially hinder comprehension and communication. As their age increases, so does their understanding to avoid ambiguity. Overall, unlike the findings in Shin & Cairns (2012) for Spanish and Sorace et al. (2009) for Italian, but consistent with Iraola (2015) and Iraola et al. (2017) for Basque, children seem to learn how to avoid redundancy before they learn to avoid ambiguity in Basque. However, more evidence is needed to further examine this claim.

Basque-Spanish bilinguals produced characteristically high felicitous null pronoun frequencies in Basque, indicating that null subjects encode strong referential continuity properties in Basque. Conversely, the intrinsic feature composition and less rigid referential properties of the pronoun *bera* contribute to variation. *Bera* seems to have more flexible referential discontinuity properties than traditional third-person pronouns, particularly when compared to languages with traditional pronominal systems like Spanish (Etxebarria & Montrul 2025).

Finally, these findings align with previous work with this population. Basque-Spanish bilinguals and age-matched Spanish monolinguals followed identical developmental

trajectories and comparable pronoun distributions (Etxebarria & Montrul 2025). Overall, however, overt pronouns were more frequently used in Spanish compared to Basque. In accordance with previous studies (Meisel 2013, 2014, 2017; Genesee & Nicoladis 2007), bilingual children showed parallel and age-appropriate developmental trajectories in both their native languages.

We acknowledge that a longitudinal design would have provided direct evidence to discuss developmental and maturational patterns. While our research design allowed for a controlled examination of pronominal use in same-/switch-reference contexts, future research should incorporate a wider range of discursive factors to expand current findings. Altogether, this study highlights the significance of testing older bilingual child speakers of genetically unrelated and lesser documented languages in both their native languages to assess and further extend current theories.

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References

Ahmadian, M. J. & M. P. García Mayo (2017). *Recent perspectives on task-based language learning and teaching*. Berlin, Mouton De Gruyter. https://doi.org/10.1515/9781501503399

Ariel, M. (1990). Accessing Noun-Phrase Antecedents. London & New York: Routledge.

Austin, J., Blume, M., Parkinson, D., Nuñez del Prado, Z. & B. Lust (1998). Interactions between pragmatic and syntactic knowledge in the first language acquisition of Spanish null and overt pronominals. *Amsterdam Studies in the Theory and History of Linguistic Science Series* 4, pp. 35-52. https://doi.org/10.1075/cilt.157.04aus

Austin, J. (2009). Delay, interference and bilingual development: The acquisition of verbal morphology in children learning Basque and Spanish. *International Journal of Bilingualism* 13(4) 447-479. https://doi.org/10.1177/1367006909353234

Basque Government. (2023). Directorio General de Centro Docentes no Universitarios. Vitoria-Gasteiz. Available at https://www.euskadi.eus/directorio-general-de-centros-docentes-no-universitarios/web01-a2aderre/es/

Bates, D., Mächler, M, Bolker, B. & S. Walker (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, 67(1), pp. 1-48. https://doi.org/10.18637/jss.v067.i01

Bel, A. (2003). The syntax of subjects in the acquisition of Spanish and Catalan. *Probus*, 15(1), pp. 1-26. https://doi.org/10.1515/prbs.2003.003

Bybee, J. (2006). From Usage to Grammar: The Mind's Response to Repetition. *Language* 82(4), 711-733. https://doi.org/10.1353/lan.2006.0186

Cameron, R. (1995). The scope and limits of switch reference as a constraint on pronominal subject expression. *Hispanic Linguistics* 6, pp. 1-28.

Carvalho, A. M., Orozco, R., & N. L. Shin (2015). *Subject pronoun expression in Spanish: A cross-dialectal perspective*. Georgetown, University Press.

Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht, Foris Publications.

Clark, E. V. (2009). *First language acquisition*. Cambridge, University Press. https://doi.org/10.1017/CBO9780511806698

Council of Europe: Secretariat of the Framework Convention for the Protection of National Minorities. (1992). *European Charter for Regional or Minority Languages* (ETS 148), 5.XI.1992. Available at https://www.coe.int/en/web/european-charter-regional-or%20minority-languages/text-of-the-charter

d'Alessandro, R. (2015). Null subjects. *Contemporary Linguistic Parameters*, pp. 201-226.

de Weck, G. (1991). La cohésion dans les narrations d'enfants. Étude du développement des processus Anaphoriques. *Neuchâtel: Delachaux & Niestlé.*

de Rijk, R. (2008). *Standard Basque: A progressive grammar*. Cambridge, MIT Press. https://doi.org/10.7551/mitpress/7444.001.0001

Duguine, M. (2008). Silent arguments without pro: The case of Basque, en T. Biberauer (ed.), *The limits of syntactic variation*. Amsterdam, John Benjamins, pp. 311-330. https://doi.org/10.1075/la.132.13dug

Ellis, R. & F. Yuan (2004). The effects of planning on fluency, complexity, and accuracy in second language narrative writing. *Studies in Second Language Acquisition* 26(1), pp. 59–84. https://doi.org/10.1017/S0272263104261034

Etxebarria, E. (2022). *Development of Pronominal Expression in School-Age Children: Basque-Spanish Contact*. Doctoral Dissertation, University of Illinois at Urbana Champaign.

Etxebarria, E. & S. Montrul (2025). Interface Vulnerability in Bilingual Grammars? Spanish Production of Null and Overt Subjects in Basque-Spanish Bilingual Children and Adults, en K. Schmitz & T. Diaubalick (ed.), *Interfaces in Spanish and beyond*. Special issue of Isogloss. Open Journal of Romance Linguistics 11(2)/3, 1-32. https://doi.org/10.5565/rev/isogloss.436

Ezeizabarrena, M. J. (2003). Null subjects and optional infinitives in Basque, en N. Müller (ed.), *(In)vulnerable domains in multilingualism* (Hamburg Series on Multilingualism). Amsterdam, John Benjamins, pp. 83-106. https://doi.org/10.1075/hsm.1.04eze

Ezeizabarrena, M. J. (2013). Overt subjects in early Basque and other null subject languages. *International Journal of Bilingualism* 17(3), pp. 309-336. https://doi.org/10.1177/1367006912438997

Franco, J. & A. Landa (1991). Spanish object clitics as verbal agreement morphemes. *MIT Working Papers in Linguistics* 14. Cambridge, MIT Press, pp. 99-114.

Franco, J. & A. Landa (2003). Null objects revisited, en R. Núñez-Cedeño et al. (ed.), *A Romance perspective on language knowledge and use: selected papers from the*

31st Linguistic Symposium on Romance Languages. Amsterdam, John Benjamins, pp. 311-326. https://doi.org/10.1075/cilt.238.23fra

García-Azkoaga, I. (2003). Kohesio anaforikoa hiru testu generotan. Adinaren araberako garapen azterketa [Anaphoric cohesion in three text genres. A study on the age development]. Bilbao, Spain: University of the Basque Country.

Genesee, F., & Nicoladis, E (2007). Bilingual acquisition, en E. Hoff & M. Shatz (ed.), *Handbook of Language Development*. Oxford, Blackwell, pp. 324-342. https://doi.org/10.1002/9780470757833.ch16

Giannakou, A. (2018). Spanish and Greek subjects in contact: Greek as a heritage language in Chile. Doctoral dissertation, University of Cambridge.

Givón, T. (1976). *Topic, Pronoun and Grammatical Agreement in Subject and Topic*. New York, Academic Press.

Grinstead, J. (2004). Subjects and interface delay in child Spanish and Catalan. *Language* 80(1), pp. 40-72. https://doi.org/10.1353/lan.2004.0024

Guasti, M. T. (1993). Verb syntax in Italian child grammar: Finite and nonfinite verbs. *Language acquisition,* 3(1), pp. 1-40. https://doi.org/10.1207/s15327817la0301_1

Guasti, M. T. (2002). *Language acquisition*. Cambridge, MIT Press.

Gundel, J. K., Hedberg, N., & R. Zacharski (1993). Cognitive Status and the Form of Referring Expressions in Discourse. *Language*, 69(2), 274-307. https://doi.org/10.2307/416535

Hale, K. (1973). Person Marking in Walbiri, en S. Anderson & P. Kiparsky (ed.), *A Festschrift for Morris Halle*. New York, Holt, Rinehart and Winston, pp. 308–344.

Haugen, J. (2004). Issues in comparative Uto-Aztecan morphosyntax. Doctoral dissertation, University of Arizona.

Hendriks, P., Koster, C., & J. Hoecks (2014). Referential choice across the lifespan: Why children and elderly adults produce ambiguous pronouns. *Language and Cognitive Processes* 29, pp. 391-407. https://doi.org/10.1080/01690965.2013.766356

Hickmann, M. (1980). Creating referents in discourse: A developmental analysis of linguistic cohesion. *Papers from the parasession on pronouns and anaphora*, pp. 192-203.

Hickmann, M. (1985). Metapragmatics in child language. *In Semiotic Mediation*. Academic Press, pp. 177-201. https://doi.org/10.1016/B978-0-12-491280-9.50014-5

Hickmann, M. (1987). *Social and functional approaches to language and thought*. New York, Academic. https://doi.org/10.1163/9789004454071

Hickmann, M. (2003). *Children's discourse: Person, space and time across languages*. Cambridge, University Press.

Holmberg, A., Nayudu, A., & M. Sheehan (2009). Three partial null-subject languages: A comparison of Brazilian Portuguese, Finnish and Marathi. *Studia Linguistica* 63, pp. 59-97. https://doi.org/10.1111/j.1467-9582.2008.01154.x

Hualde, J. I. & J. Ortiz de Urbina (2003). *A grammar of Basque*. Berlin, Mouton De Gruyter. https://doi.org/10.1515/9783110895285

Hualde, J. I. & K. Zuazo (2007). The standardization of the Basque language. *Language Problems and Language Planning* 31(2), pp. 143-168. https://doi.org/10.1075/lplp.31.2.04hua

Iraola, M., & M. J. Ezeizabarrena (2011). Anaphora resolution in Basque: Null vs. overt subject hura. *Boston University Conference on Language Development 35 online proceedings supplement*.

Iraola, M. (2012). La resolución anafórica en la adquisición del euskera. Empiricism and analytical tools for 21 Century applied linguistics. *Selected papers from the XXIX International Conference of the Spanish Association of Applied Linguistics (AESLA)*.

Iraola, M. (2014). Discursive Feature Specification of the pronoun hura in child (L1, L2) and adult Basque. New Directions in the Acquisition of Romance Languages. *Selected Proceedings of The Romance Turn V*. Newcastle, Cambridge Scholar Publishing, pp. 134-157.

Iraola, M. (2015). *Anaphora resolution in children and adults: An experimental study of the mature speakers and learners of Basque*. Tübingen, Günher Narr Verlag.

Iraola, M., Santesteban, M., Sorace, A. & M. J. Ezeizabarrena (2017). Pronoun preferences of children in a language without typical third-person pronouns. *First Language* 37(2), pp. 168-185. https://doi.org/10.1177/0142723716679799

Karmiloff-Smith, A. (1981). Getting developmental differences or studying child development?. *Cognition* 10(1-3), pp. 151-158. https://doi.org/10.1016/0010-0277(81)90039-1

Karmiloff-Smith, A. (1986). From metaprocess to conscious access: Evidence from children's metalinguistic and repair data. *Cognition* 23, pp. 95-147. https://doi.org/10.1016/0010-0277(86)90040-5

Keating, G., Jegerski, J. & B. Vanpatten (2016). Online processing of subject pronouns in monolingual and heritage bilingual speakers of Mexican Spanish. *Bilingualism: Language and Cognition* 19(1), pp. 36-49. https://doi.org/10.1017/S1366728914000418

LaFond, L., Hayes, R. & R. Bhatt (2001). Constraint demotion and null subjects in Spanish L2 acquisition. Romance syntax, semantics and their L2 acquisition, en J. Camps, & C. Wiltshire (ed.), *Selected papers from the 30th Linguistic Symposium on Romance Languages*. https://doi.org/10.1075/cilt.216.11laf

Laka, I. (1996). *A brief grammar of Euskara, the Basque language*. Universidad del País Vasco, Euskal Herriko Unibertsitatea.

Landa, A. (1995). Conditions on null objects in Basque Spanish and their relation to leísmo and clitic doubling. Doctoral dissertation, University of Southern California.

Liceras, J. & L. Díaz (1999). Topic-Drop versus Pro-Drop: Null Subjects and Pronominal Subjects in the Spanish L2 of Chinese, English, French, German and Japanese Speakers. *Second Language Research* 15, pp. 1-40. https://doi.org/10.1191/026765899678128123

Meisel, J. M. (2013). Heritage language learners: Unprecedented opportunities for the study of grammars and their development?. *Theoretical Linguistics*, 39(3-4), pp. 225-236. https://doi.org/10.1515/tl-2013-0014

Meisel, J. M. (2014). Heritage language learners: Incomplete acquisition of grammar in early childhood. *Perspectives in the Study of Spanish Language Variation*, pp. 397-417.

Meisel, J. M. (2017). Parameters in acquisition. *The Handbook of Child Language*, pp. 9-35. https://doi.org/10.1111/b.9780631203124.1996.00002.x

Meisel, J. M. & M. J. Ezeizabarrena (1996). Subject-Verb and Object-Verb Agreement in Early Basque, en H. Clahsen (ed.), *Generative Perspectives on Language Acquisition: Empirical findings, theoretical considerations and crosslinguistic comparisons*. Amsterdam, John Benjamins, pp. 201-240. https://doi.org/10.1075/lald.14.10mei

Mithun, M. (1991). The role of motivation in the emergence of grammatical categories: The grammaticization of subjects, en E. C. Traugott & B. Heine (ed.), *Approaches to Grammaticalization* 2. Amsterdam, John Benjamins, pp. 159-184. https://doi.org/10.1075/tsl.19.2.09mit

Montrul, S. (2004). Subject and object expression in Spanish heritage speakers: A case of morphosyntactic convergence. *Bilingualism: Language and Cognition* 7(2): 125-142. https://doi.org/10.1017/S1366728904001464

Montrul, S. & C. Rodríguez Louro (2006). Beyond the syntax of the null subject parameter: A look at the discourse-pragmatic distribution of null and overt subjects by L2 learners in Spanish, en V. Torrens, & L. Escobar (ed.), *The Acquisition of Syntax in Romance Languages*, 401-418. Amsterdam: John Benjamins. https://doi.org/10.1075/lald.41.19mon

Montrul, S. & N. Sánchez-Walker (2013). Differential object marking in child and adult Spanish heritage speakers. *Language Acquisition* 20(2): 109-132. https://doi.org/10.1080/10489223.2013.766741

Ortiz de Urbina, J. (1989). *Parameters in the grammar of Basque*. Dordrecht, Foris. https://doi.org/10.1515/9783110876741

Otheguy, R. & N. L. Shin (2022). A Columbia School perspective on explanation in morphosyntactic variation, en T. K. Christensen & T. Juel Jensen (ed.), *Explanations in sociosyntactic variation*. Cambridge, Cambridge University Press, pp. 90-119. https://doi.org/10.1017/9781108674942.005

Pladevall, E. (2010). Child L2 development of syntactic and discourse properties of Spanish subjects. *Bilingualism: Language and Cognition* 13, pp. 185-216. https://doi.org/10.1017/S1366728909990447

Quesada Lubbers, M. & S. E. Blackwell (2009). The L2 acquisition of null and overt Spanish subject pronouns: A pragmatic approach, en J. Collentine, M. Garcia, B. Lafford & F. M. Martín (ed.), *Selected Proceedings of the 11th Hispanic Linguistics Symposium.* Somerville, Cascadilla Proceedings Project, pp. 117-130.

R Developmental Core Team. (2020). R: A language and environment for statistical computing. *R Foundation for Statistical Computing*. Vienna, Austria.

Rodríguez-Ordóñez, I. & L. Sainzmaza-Lecanda (2018). Bilingualism effects in Basque Subject Pronoun Expression: Evidence from L2 Basque. *Linguistic Approaches to Bilingualism* 8(5), pp. 523-560. https://doi.org/10.1075/lab.16024.rod

Rodríguez-Ordóñez, I., Etxebarria-Zuluaga, E. & L. Sainzmaza-Lecanda (in press). Variationist Typology: Assessing Convergence Between Basque and Spanish Subject Pronoun Expression.

Salaburu, P. & X. Alberdi (2012). *The challenge of a bilingual society in the Basque country*. Reno, Center for Basque Studies.

Shin, N. L., & H. S. Cairns (2012). The development of NP selection in school age children: Reference and Spanish subject pronouns. *Language Acquisition* 19(1), pp. 3-38. https://doi.org/10.1080/10489223.2012.633846

Shin, N. L. (2015). Acquiring constraints on morphosyntactic variation: Children's Spanish subject pronoun expression. *Journal of Child Language* 43, pp. 914-947. https://doi.org/10.1017/S0305000915000380

Sorace, A. (2011). Pinning down the concept of "interface" in bilingualism. *Linguistic Approaches to Bilingualism* 1(1), pp. 1-33. https://doi.org/10.1075/lab.1.1.01sor

Sorace, A. & F. Filiaci (2006). Anaphora resolution in near-native speakers of Italian. *Second Language Research* 22(3), pp. 339-368. https://doi.org/10.1191/0267658306sr271oa

Sorace, A. & L. Serratrice (2009). Internal and external interfaces in bilingual language development: Beyond structural overlap. *International Journal of Bilingualism* 13(2), pp. 195-210. https://doi.org/10.1177/1367006909339810

Sorace, A., Serratrice, L., Filiaci, F. & M. Baldo (2009). Discourse conditions on subject pronoun realization: Testing the linguistic intuitions of older bilingual children. *Lingua* 119(3), pp. 460-477. https://doi.org/10.1016/j.lingua.2008.09.008

Tauli, V. (1958). *The structural tendencies of languages*. Suomalainen Tiedeakatemia, Helsinki.

Trask, R. (2003). The noun phrase: Nouns, determiners and modifiers; pronouns and names, en J. I. Hualde & J. Ortiz de Urbina (ed.), *A grammar of Basque*. Berlin, Mouton de Gruyter, pp. 119-358.

Tsimpli, I., Sorace, A., Heycock, C. & F. Filiaci (2004). First language attrition and syntactic subjects: A study of Greek and Italian near-native speakers of English. *International Journal of Bilingualism* 8(3), pp. 257-277. https://doi.org/10.1177/13670069040080030601

Urrutia Cárdenas, H. (2003). Los clíticos de tercera persona en el País Vasco. *Cauce, Revista de Filología y su Didáctica* 26, pp. 517-538.

Van Gelderen, E. (2011). *The linguistic cycle: Language change and the language faculty*. Oxford, University Press. https://doi.org/10.1093/acprof:oso/9780199756056.001.0001

Wendel, J. N. (1997). Planning and second-language narrative production. Doctoral Dissertation, Temple University.

Yuan, F. & R. Ellis (2003). The effects of pre-task planning and on-line planning on fluency, complexity and accuracy in L2 monologic oral production. *Applied Linguistics* 24(1), pp. 1-27. https://doi.org/10.1093/applin/24.1.1

Zuazo, K. (2005). *Euskara batua: Ezina ekinez egina [Standard Basque: The impossible accomplished with effort]*. Donostia, Elkar.