

## **The Acquisition Phenomenon of Null and Overt Subjects in the Early Speech of Arabic-Speaking Children**

Fawaz Ali Ahmed Qasem<sup>\*</sup>  
(University of Bisha, Saudi Arabia)

**Abstract:** This paper examines the early acquisition of null subjects and overt subjects and how they are distributed and realized in the early speech of Arabic dialect-speaking children.<sup>①</sup> The study accounts for the phenomenon of subjects by examining a longitudinal corpus of two children, Wala and Ibraheem, who were around two years old, speaking Yemeni Ibbi Arabic (YIA) dialect. The production and elicited production data collection methods were used in the study to collect the corpus during five months. The results of the study showed that null-subjects appear with a high proportion compared to the overt subjects. It was found that null subjects and overt subjects in the speech of Ibraheem and Wala had a similar distribution in the imperfective and the perfective, of which 86-87% are null subjects and 12-14% are overt subjects. The paper examined the widespread linguistic phenomenon of Null Subject Parameter acquisition, (Rizzi, 1982; Hyams, 1986, 1989) that is emergence of null subjects in line with overt subjects. The paper supports Hyam's (1982) argument on the acquisition of Null Subject Parameter where we can find children acquire null subjects early around 2 years of age. In contrast to non-null subject languages (like English), Null Subject Languages (NSLs) like Arabic happen to have null subjects appear more frequently and this is due to the rich inflectional morphology of NSLs.

**Keywords:** Null Subject Languages (NSLs), overt subject, Yemeni Ibbi Arabic (YIA), null subject

### **1. Introduction**

The existence of null subjects in child data has brought interesting and controversial accounts in both null subject languages and non-null subject languages. The reason behind the high proportion of the null subjects in Null Subject Languages (NSLs) is the rich

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<sup>\*</sup> Dr. Fawaz Ali Ahmed Qasem: Assistant Professor, Department of English, University of Bisha, Saudi Arabia. E-mail: faqasem@ub.edu.sa, Fawazrajehbu@gmail.com.

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inflectional morphology in languages like Italian, Spanish, and Catalan (See Rizzi, 1982, 1993/4; Chomsky, 1982; Hyams, 1986, 1989; Sans & Gavarró, 2006), Hebrew (Borer, 1986, 1989), and Arabic (Qasem, 2014). The existence of null subjects in the speech of children learning non-null subject languages, such as English, French and German, has been reported. There is also a contingency between the occurrence of nonfinite verbs and null subjects in overt subject languages. Table 1 summarizes the results of spontaneous production studies of Flemish, German, French, Dutch and English, which shows that null subjects in the child versions of these languages tend to occur in root clauses with verbs that are morphologically marked as infinitive. Overt subjects, in contrast, tend to occur with finite verbs. Children used more null subjects in RIs than in finite clauses and it is noticed that the percentage of null subjects in root infinitives (RI) is consistent over time whereas the null subject use in finite clauses gradually decreases over time (Haegeman, 1996; Phillips, 1995).

Table 1. Overt and null subject occurrence in finite and nonfinite clauses

Language	Child	Finite Verbs			Non-finite Verbs			Source
		Overt	Null	Total	Overt	Null	Total	
Flemish	Maarten 1;1	75%	25%	92	11%	89%	100	Krämer, 1993
German	Simone 1;8-4;1	80%	20%	3636	11%	89%	2477	Behrens, 1993
German	Andreas 2;1	92%	8%	220	32%	68%	68	Krämer, 1993
French *	Nathalie 1;9-2;3	70%	30%	299	27%	73%	180	Krämer, 1993
French *	Philippe 2;1-2;6	74%	26%	705	7%	93%	164	Krämer, 1993
Dutch	Hein 2;3-3;1	68%	32%	3768	15%	85%	721	Haegeman, 1995
English	Eve 1;6-2;3	90%	10%	86	89%	11%	155	Phillips, 1995
English	Adam 2;3-3;0	69%	31%	113	80%	20%	242	Phillips, 1995

\* For French, only preverbal subjects were counted. (Adapted from Hoekstra & Hyams, 1998:16)

Salustri and Hyams (2003, 2006) argued that imperatives in Italian have the same status as RIs in German and French. Imperatives like root infinitives do not (generally) carry ‘finite’ morphology. They also display similar modal meanings, and are eventive and much more frequent in child speech than in the respective child-directed speech.

Interestingly Table 2 also illustrates the comparison between null subject and non-null subject languages and their relationship with RTs. As seen in Table 2, RIs were not attested in YIA like in other null subject languages (Italian, Catalan, Spanish & Hungarian) and the imperatives were used in more than 50% of contexts in early stages of language acquisition. The imperative use decreases with age, as was found in all languages, where the imperative operates as a root infinitive analogue.

The highly frequent use of imperative form in YIA is consistent with that in Italian,

Catalan and Spanish Hungarian (Qasem & Sircar, 2017). Similarly, there is a decrease in the use of the imperative form, which signals that finite forms increase with age. The imperative form is a non-finite form, since it is devoid of agreement in person. Qasem & Sircar addressed the important issue in pro-drop languages which is the relationship between Root Infinitive (RI) analogue and null subjects, since subjects are consistently dropped both in finite and non-finite clauses.

Table 2. RI and Imperative use in null and non null subject languages

	Languages	Age	RI	IMP
(a)	German	[2;0-2;4]	81%	1.5%
		[2;6-2;7]	61%	6.5%
(b)	Dutch	[1;7 -2;1]	70.6%	--
		[2;1-2;6]	20.1%	--
(c)	Icelandic	[1;7- 2;1]	65%	1%
		[1;8-2;4]	24.1%	--
(d)	Italian	[2;0 -2;4]	2%	55.5%
		[2;6-2;7]	7%	34.4%
(e)	Catalan	[1;7-1;8]	0%	41%
		[2;4-3;00]	0%	31%
(f)	Spanish	[2;1 -2;3]	0%	41%
(g)	Hungarian	[2;1-2;5]	1%	21%
(h)	Yemeni Ibbi Arabic	[2;1-2;2]	0%	61.2%
		[2;5-2;6]	0%	18.1%

In this study, we look at the emergence of the overt subject in a pro-drop language. Little work has been done to account for the interesting controversial and widespread issues existing in the literature of linguistics from child data in Arabic. Significant works in Kuwaiti Arabic (Aljenaie, 2000, 2010) and YIA (Qasem, 2014, 2019; Qasem & Sircar, 2017) have addressed the issue of non-finiteness in Arabic and the emergence of functional categories, AGR and TNS in Arabic. Interesting work concerning Arabic-speaking children with Specific Language Impairment (SLI) has been carried out by Abdalla (2002) and Abdalla & Crago (2008). Looking at the verb morphology on Arabic-speaking children with SLI specifically on children speaking urban Hijazi Arabic, they explored the tense and agreement marking in their spontaneous speech. The findings of their studies indicated that the Arabic-speaking participants with SLI had obvious problems in verb morphology. The use of imperatives as default substitutes for tensed forms appeared to be a specific feature with the absence of bare roots and infinitives.

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However, this work attempts to account for the phenomenon of null subjects and overt subjects in YIA in child language to check how null subjects and overt subjects are realized in an Arabic with rich inflectional system and what lies behind the existence of the optionality of using null subjects and overt subjects in Arabic noticed in child language in this study or in the adult speech.

Table 3 interestingly shows the distribution of the null subjects and overt subjects in Spanish and Catalan. It is clear from the table that the percentage of null subjects is higher compared to overt subjects and it varies between 58.3% and 72.1% whereas the percentage of the overt subjects is lower and it is between 27.9% and 41.7%. Similarly, the pattern is found in Arabic.<sup>①</sup>

Table 3. Null and overt subjects in Spanish and Catalan

Language	Child	Null subjects		Overt subjects		Total sentence
		n	%	N	%	
Spanish	Maria	1027	66.5%	518	33.5%	1545
	Emilio	484	72.1%	187	27.9%	671
	Juan	119	58.3%	85	41.7%	204
	Total	1630	67.4%	790	32.6%	2420
Catalan	Gisela	337	68.8%	153	31.2%	492
	Julia	255	67.3%	124	32.7%	379
	Pep	576	67.5%	277	32.5%	853
	Total	1168	67.7%	556	32.3%	1724

(Adapted from Bel's work (2003) extracted from CHILDES project (MacWhinney, 1995))

Interestingly, in many studies, it is shown that the distribution of null and overt subjects in null subject languages have close percentages where the proportion of null subject utterances is higher than that of overt subjects in both child speech and adult speech in languages like Catalan, Spanish, Italian and Arabic (see Casanova, 1999; Bel, 2003; Lorusso, et al, 2005; Casielles, et al, 2006; Sans & Gavarró, 2006; Qasem, 2014; Al-Momani, 2015; Al-Shawashreh, 2016).

Many interesting crosslinguistic studies have been conducted to explore the realization and distribution of subjects, particularly in the pro-drop languages. Klepper-Pang (2003) looked at the acquisition of optional elements in the verbal clauses in Polish and one aspect of the study focused mainly on the distribution of subjects (null and overt) in the spontaneous data of three children ranged between 1;4 and 2;2 years old. The study also covered the distribution of overt subjects' type position (preverbal or postverbal) in Polish.

<sup>①</sup> More details of the null and overt subjects in Arabic will be covered in section four, the results.

The findings show that overt subjects occur in the early speech of Polish children both preverbally and postverbally. It is found that pronominal subjects were used more frequently than NP subjects. Similar results were recorded for Caribbean and European Spanish (Villa-Garcia, 2011) and Catalan and Spanish, (Grinstead, 1998, 2000). Villa-Garcia (2011) also investigated the acquisition of subjects in Caribbean and European Spanish. The study addressed the issue of distribution and position of preverbal and postverbal subjects. The data came from four children in the CHILDS project who speak European-Spanish varieties and a longitudinal data came from one girl, Ana, a speaker of Caribbean Spanish. It was found that preverbal and postverbal subjects are acquired simultaneously.

Crosslinguistic investigations have also been done on the distributions of subjects with respect to the verb classes in the language. Sans and Gavarró (2006) examined the subjects, null and overt, in the early speech of Catalan children. The study was based on the longitudinal corpora of three Catalan-speaking children and the productions of the adults interacting with them. The study attempted to find out whether there are systematic differences between child- and adult-Catalan with regards to the null subject phenomenon in Catalan and whether the various verb classes in the language have relations with the distribution of subjects (postverbal or preverbal position). The results showed that the child productions of null and overt subjects are equivalent to the adult forms in Catalan after the initial stage.

Arabic is an NSL with a rich inflectional system which allows subjects to drop or to appear overtly. It is interesting to look at the widespread issues in null and non-null subject languages, like the realization of subjects, which has not been reported much in Arabic. The primary aim of this work is to analyze the acquisition of null and overt subjects in the early speech of Arabic-speaking children. The study shows how overt subjects are distributed preverbally and postverbally and how both pronominal and nominal subjects are realized.

This paper is divided into five sections. Section 1 exposes the prevailing phenomenon in the children's data in many NSLs similar to Arabic and gives a summary of the relationship between null subjects and RIs in NSLs existing in literature such as the realization of null and overt subjects in the child speech of NSLs. Section 2 provides the status of the optionality (null and overt subjects) that exists in adult speech of Arabic. In section 3 we give a description of the children corpus used for this study. Section 4 highlights the results of data analysis of the corpus of the two children, Wala and Ibrahim. And section 5 concludes the findings of the study.

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**2. Null and overt subjects in adult speech in Arabic**

Firstly, let us look at the linguistic properties of the adult speech of Arabic with a close reference to YIA, and with comparison to the Standard Arabic (SA) to get a clear understanding of what null and overt subjects look like and how they are distributed. Like many dialects of Arabic, YIA is a pro drop or null-subject-object language<sup>①</sup>, i.e. the subject may be dropped if it can be recovered from the morphological information in the verbal inflections as in (1). Arabic, like Italian, is a consistent NSL as it has a rich agreement system, and the agreement features can be used to retrieve the subjects as stated by Holmberg, 2010 and Roberts & Holmberg, 2010<sup>②</sup>.

(1)	The verb	The referent
	a. <i>katabu-k</i>	write -1S
	b. <i>katab-na</i>	write -1P
	c. <i>katab</i>	write -3MS
	d. <i>katab-ah</i>	write -3FS
	e. <i>katab-u</i>	write -3MP
	f. <i>katab-ein</i>	write -3MP

In YIA, objects of finite clauses may also be dropped. The primary focus is not on objects, since object drop has little known implications for tense and agreement in YIA which is the main interest in the study.<sup>③</sup>

However, the subjects may appear when there is a need to disambiguate between two subjects in the present contexts. The subjects can occur both preverbally or postverbally. Consider the examples (2a) and (2b) below.

(2) a.	<i>Ali</i>	<i>yi-num</i>	<i>badri.</i>
	Ali	3.sleep.MS	early
	'Ali sleeps early.'		
	b. <i>yi-num</i>	<i>Ali</i>	<i>badri.</i>
	3.sleep.MS	Ali	early
	'Ali sleeps early.'		

Spanish subjects, similarly, can be realized preverbally (3a) and postverbally (3b),

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<sup>①</sup> The two linguistic terms pro drop and null subject have been used interchangeably, in the paper we consistently use pro drop, and non pro drop.

<sup>②</sup> Benmamoun, 1994; Eid, 1993; Mohammed, 1988; Farghaly, 1982; and Jelinek, 1983, 2002 proposed that null subjects exist when the predicates are marked for person feature and it is necessarily to the absence of null subjects in the sentences.

<sup>③</sup> Objects in Arabic do not show agreement with verb, as shown in (a) *Ahmed katab qiSSah*. (Ahmed-M write-Past-3MS story-F, 'He wrote a story.') and (b) *Sundus katabah kitaab* (Sundus-F write-PERF.3FS book-M, 'Sundus wrote a book.'). The object in (a) is *qiSSah* 'story (F)', does not show agreement with the verb, which inflects for the masculine. The object in (b) is *kitaab* 'book (M)', does not show agreement with the verb which inflect for feminine.

(Villa-Garcia, 2011).

- (3) a. *Puerto Rico me ha encantado.* [SV]  
 Puerto Rico cl. has enchanted  
 ‘Puerto Rico has captivated me.’
- b. *Me ha encantado Puerto Rico.* [VS]  
 cl. has enchanted Puerto Rico  
 ‘Puerto Rico has captivated me.’

As in pro-drop language, word order in Arabic and many dialects of Arabic is flexible. Though there are various word orders,<sup>①</sup> we focus on two main word orders in this discussion. The first word order includes the subject realized in preverbal position as subject-verb-object (SVO) as in example (4a). In the second word order the subject can be realized in postverbal position as verb-subject-object (VSO) as in example (4b). In the second word order, the subject can be in the postverbal position even when dropped as in (4c).

- (4) a. *Mohammed ?ashtari talafoon.* [SVO]  
 Mohammed buy.PERF.3MS telephone  
 ‘Mohammed bought a telephone.’
- b. *?akalah Hend ?al-xubz.* [VSO]  
 eat.PERF 3FSHend the-bread  
 ‘Hend ate the bread.’
- c. *?akal-eh ?al-xubz.* [VSO]  
 eat.PERF.3FS the-bread  
 ‘She ate the bread.’

YIA has subject-verb-object (SVO) (5a) and verb-subject-object (VSO) (5b) word orders; VSO is treated as the unmarked order as it is used more frequently in different contexts.

- (5) a. *Ali shaat? al-kurah.*  
 Ali kick.PERF.3MS the-ball  
 ‘Ali kicked the ball.’
- b. *baa? ?ammi ?arTHiyah ?ams.*  
 sell.PERF.3MS uncle-my land yesterday  
 ‘My uncle sold land last week.’

In this part, we present the subject-verb agreement system in YIA in comparison to the subject-verb-agreement system in the Modern Standard Arabic (MSA) to bring out the differences.

Standard Arabic has two types of agreements, full and partial, with respect to two

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<sup>①</sup> For more details about word order in Arabic cf. Al-Asbahi, 2001.



order, subjects in the postverbal position are possible only when they are lexical DPs as in (9), where the verb does not have to agree in number with the pronoun.

- (9) *Xarag-uu hum wa Sami.*  
 Left-3MP/left-3MS they and Sami

‘They and Sami left.’

(Harbert & Bahloul, 2002)

Soltan (2007) and Saeed (2011) have also shown that pronominal subjects can occur postverbally in MSA in what is called a ‘conjunction phase’ as in (10).

- (10) *haDar-uu hum wa ?aabaa-u-hum.*  
 came.3MP they and father-nom-their

‘They and their father came.’

The pronominal subjects occurring in the post verbal positions need not be conjugated as mentioned earlier. Al-Sharafi (2014) gave evidence (11a-b) from MSA that pronominal elements can be realized postverbally.

- (11) a. *jaa?-uu hum laa xuddaam-u-hum.*  
 came-3.p.m they-m not servants-nom-their

‘They came and not their servants.’

(Fassi-Fehri, 1993:113)

- b. *Daras-a hua.*

studied-3.s.m he

‘He studied.’

(Azim, 2006:467)

In YIA, subjects can occur preverbally as in (12a-b) and (13a-b) and postverbally as either pronominal subjects or nominal subjects.

- (12) a. *?ana ?ataSaluk buh ?ams.*  
 I call-PERF.1S him yesterday

‘I called him yesterday.’

- b. *Ali rige? qabl ?ams.*

Ali come-PERF.back before yesterday

‘Ali came back the day before yesterday.’

- (13) a. *walluk ?ana wa hu ?ams San’aa.*  
 go.1S I and he yesterday Sana’aa

‘He and I went to Sana’aa yesterday.’

- b. *Hu ma yi-qdirsh yi-l?ab kurah.*  
 he NEG-particle 3.can.IMPERF.3MS 3.play.IMPERF.3MS football

‘He cannot play football.’

Subjects<sup>①</sup> in YIA can be preverbal or postverbal freely, be them nominals or

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<sup>①</sup> The subjects in SA in preverbal position have been considered as topics in the traditional linguistics and in many recent studies. Many interesting studies have looked at this phenomenon of subjects and topics’ positions. (Benmamoun, 1994; Soltan, 2007; Aoun et al., 2010; Al-Balushi, 2011; Saeed, 2011)

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pronominals. Examples from Tihami Yemeni Arabic (TYA) also show that pronominals (14a-b) and nominals (14c) can be postverbal or preverbal in (14d) and (14e).

- (14) a. *riHtu*            *?ana*            *?amsu:q.*  
 go.PERF.1S    I            the market  
 ‘I went to the market.’
- b. *waTTan*            *hi*            *?amGada.*  
 cook.PERF.3MS    she            the lunch  
 ‘She cooked the lunch.’
- c. *qaabal-uu*            *?imTalab*            *?amidiir.*  
 meet.PERF.3MP    the-students    the headmaster  
 ‘The students met the headmaster.’
- d. *hu*            *raged*            *badri.*  
 he            sleep.PERF.3MS    early  
 ‘He slept early.’
- e. *?imTaaleb*            *qaabal-uu*            *?amidiir.*  
 the-student    meet.PERF.3MP    the-headmaster  
 ‘The student met the headmaster.’

More data on TYA and on this regard can be checked in Al-Sharafi (2014). Similar to YIA, Kwaiti Arabic (KA) dialect shows the linguistic realization of subjects in different positions, which can be preverbal (15a), null (15b) or postverbal (15c) (Aljenaie, 2010).

- (15) a. *ohwa*    *ye-rooH*            *il-beet.*            Subject-verb  
 He-    go-IMPER-3PS    the-house  
 ‘He goes home.’
- b. *ye-rooH*            *il-beet.*            Null subject  
 go-IMPER-3PS    the-house  
 ‘He goes home.’
- c. *ye-rooH*            *ohw*    *ail-beet.*            Verb-subject inversion  
 go-IMPER-3PS    he    the-house  
 ‘He goes home.’

There is something interesting in the overt subject agreement in YIA. When there are two overt conjugated subjects, the agreement marked in the verb follows the first lexical subject – if it is masculine, the marker will be masculine, and if the first lexical subject is feminine, the marker will be feminine. Consider the examples (16a) and (16b).

- (16) a. *walah*            *hi*    *wa*    *hu*    *al-madrasah.*  
 go.PERF.3FS    she    and    he    the school  
 ‘She and he went to the school.’
- b. *wali*            *hu*    *wa*    *hi*    *al-madrasah.*

go.PERF.3M She and she the school

‘He and she went to the school.’

Though overt subjects are allowed in Arabic dialects, they are used less often due to the fact that speakers of Arabic prefer null subjects than overt subjects. Al-Momani (2015) interestingly examined the phenomenon of overt and null subjects in JA. Based on the natural speech of adults speaking JA, he checked the role of morphology in allowing and motivating sentence in JA to be formed with or without subjects for different periods and how both overt and null subject pronouns are distributed and to what extent the optionality works with such distribution.

### **3. Data analysis method**

The data examined for this study came from mono-lingual Arabic speakers, Ibraheem (2;1 to 2;5) and Wala (2;6 to 2;10), which was collected longitudinally in five months. Two methods of data collection were used. The natural production data and informal elicited production data were used in the video recording sessions. The speech data were coded manually to find occurrences of subjects in YIA. In counting uses of the constructions (null/overt; pronominal/nominal subjects; preverbal/ postverbal subjects), all imitations of adult utterances, repetition of the same utterances in the context, and formatic expressions were discarded. All utterances containing overt subjects were counted, categorized and tabulated. The relevant utterances were coded for subject type (pronominal/ nominal) and position (SV, VS). In order to check for acquisition of the pertinent use, the age of emergence of the target utterances was noted down.

### **4. Results**

The section presents the realization of subjects in the speech corpora of Ibraheem and Wala. Arabic, as stated earlier, is a pro-drop language: subjects are optional in finite clauses and may not be realized phonologically where the context is supportive. English-speaking children were found to drop subjects from finite clauses even though it is not allowed. This phenomenon in English and other non-pro-drop languages is referred to as ‘null subject in child language’ (see Rizzi, 1982; Hyams, 2005; Hyams & Wexler, 1993) for a detailed discussion).

The analysis of subjects in child YIA provides evidence that (1) YIA-speaking children optionally use/drop subjects in finite clauses as early as 2;1 and show knowledge of the null-subject parameter. (2) Both types of overt subjects, nominal subjects (which can be single words or phrases), and pronominal subjects are used simultaneously from the beginning. (3) These subjects are used both preverbally and postverbally though preverbal subjects are used more often than postverbal subjects.

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All utterances in Ibraheem and Wala corpora were analyzed for the presence and the absence of overt subjects. Imperative constructions were excluded from the analysis since subjects are usually dropped in such constructions. The subjects were analyzed for the type and position in finite clauses. YIA children knew that they were learning a pro-drop language and they used more null subjects, though the corpora showed the use of null and overt subject around the same time. We also found that there was no difference between null and overt subject in tense and agreement no matter in what context they occur.

**4.1 Distribution of null and overt subject in child speech**

Figures 1 and 2 present the distribution of null and overt subject in Ibraheem’s and Wala’s speech respectively (in percentage).

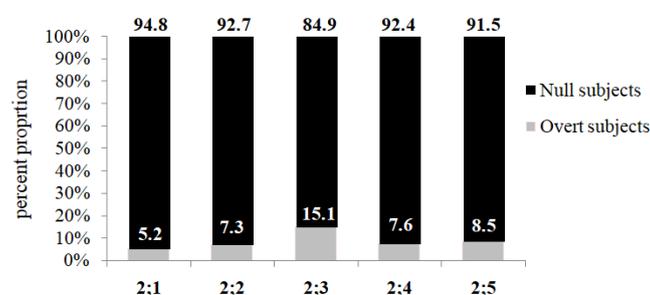


Figure 1. Null and Overt subjects in Ibraheem-Corpus

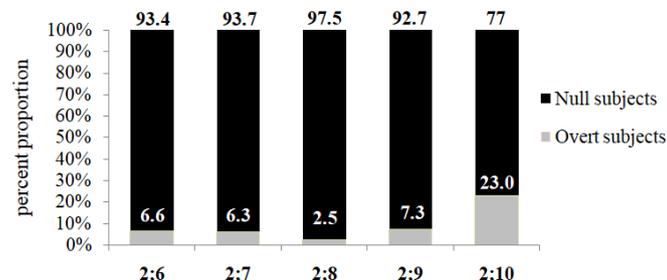


Figure 2. Null and Overt Subjects in Wala-Corpus

In both Ibraheem’s and Wala’s speech, null subjects were used in 90% of the cases, while overt subjects were in the range of 5-15%. Between 2;1 and 2;9, and no noticeable difference in the use of overt subject was found. At 2;10, the overt subject use increased to 23% which was a sharp increase compared to that at 2;9 (7.3%). However, this piece of evidence cannot be conclusively used to argue that the use of overt subjects increase with age and proficiency, since we do not have speech data after 2;10. Even though the use of overt subjects was significantly lower than the use of null subjects, it is clear that they were nevertheless used from the earliest ages, alongside null subjects. This can be used to support the fact that children know that subjects were optional in YIA.

The second evidence to show that children know that YIA is a pro-drop language is that they used the null and overt subjects in similar syntactic contexts, i.e. there were no distributional differences. Figures 3 and 4 present the distribution of the overt subjects in the imperfective and perfective constructions by Ibraheem and Wala respectively in percentage.

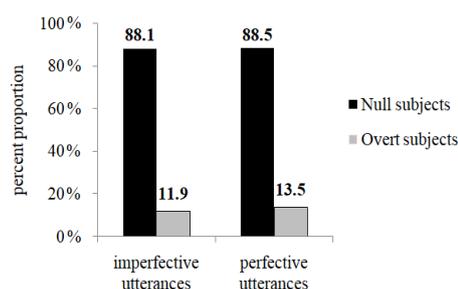


Figure 3. Subjects in Imperfective and Perfective in Ibraheem-corpus

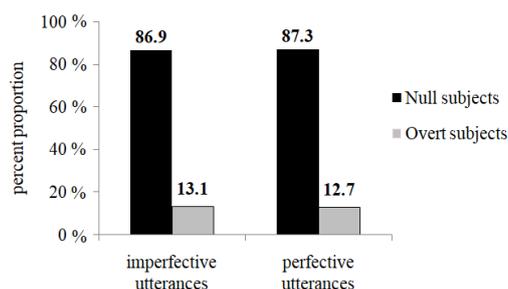


Figure 4. Subjects in Imperfective and Perfective in Wala-corpus

Null subjects and overt subjects in the speech of Ibraheem and Wala had similar distribution in the imperfective and the perfective, which was 86.9-87.3% null subjects versus 12.7-13.1% overt subjects.

#### 4.2 Types of overt subject

Given the surprisingly low percentage of child utterances with overt subjects, it seems worthwhile to investigate the type of subjects involved. As is mentioned earlier, the data evaluation scheme contains one variable that specifies an overt subject with respect to its lexical content. We analyzed two types of overt subjects: Noun or NP, and personal pronoun or other pronouns (e.g. demonstrative pronouns). As we were particularly interested in the general issue of the clausal architecture and the presence of functional categories in early child grammar, the occurrence of personal (subject) pronouns was of special interest to us. Table 4 shows the distribution of the type of overt subjects in Ibraheem's and Wala's speech respectively.

Looking at the entire corpus of Ibraheem and Wala of overt subjects, NP subjects and

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pronominal subjects were found to be used in the early speech of both children, Ibraheem and Wala, at the same time and both types were almost evenly distributed. However, Wala used more pronominal subjects (56.9%) than full NPs (43.1%) whereas Ibraheem used NPs (50.5%) more than pronominal subjects (49.5%). This is opposite to the distribution of subjects in Polish where pronominal subjects are used more frequently than nominal subjects (Klepper-Pang, 2003).

Table 4. Distribution of types of overt subject

Child	Age	Nominal subject	Pronominal subject
Ibraheem	2;1	50%	50%
	2;2	81.8%	18.2%
	2;3	44%	56%
	2;4	69.2%	30.8%
	2;5	25%	75%
Wala	2;6	18.2%	81.8%
	2;7	37.5%	62.5%
	2;8	0%	100%
	2;9	35.7%	64.3%
	2;10	65.5%	34.5%

Among pronominal subjects the most frequent pronouns were personal pronouns, coming close to 90% of the total pronominal subjects. Apart from the first person, as in Ibraheem's and Wala's data, they usually displaced some other pronominals with determiners. The third masculine singular and third masculine plural are used respectively. No use of 'they' 'we' has been attested in either the speech of Ibraheem or that of Wala.

#### 4.3 Position of overt subject

Table 5 presents the percentage of overt subjects in preverbal and postverbal positions in the speech of Ibraheem and Wala respectively.

Table 5. Distribution of pre- and postverbal subjects

Ibraheem-corpus			Wala-corpus		
Age	Preverbal subject	Postverbal subject	Age	Preverbal subject	Postverbal subject
2;1	83.4%	16.6%	2;6	81.8%	18.2%
2;2	100%	0%	2;7	66.7%	33.3%
2;3	96%	4%	2;8	100%	0%
2;4	92.3%	7.7%	2;9	85.7%	14.3%
2;5	100%	0%	2;10	55.2%	44.8%

It is clear that preverbal subjects are preferred by children than postverbal subjects.

#### 4.3.1 Time of acquisition of preverbal and postverbal subject

The first clear uses of preverbal (17a-b) and postverbal subjects (18a-b) are shown below for preverbal nominal and pronominal subject).

- (17) a. *ʔadaad dizaʔ* (Ibraheem, 2;1.12)  
the-grandfather go.PERF.3MS away.  
‘The grandfather went away.’
- b. *ʔana ʔa-nzul.* (Ibraheem, 2;1.12)  
I 1.go-IMPERF.S down  
‘I will go down.’
- (18) a. *maa ʔashtali li ʔamm-i- Fawaz.* (Ibraheem, 2;4.28)  
NEG buy-PERF.1S for me my-uncle- Fawaz  
‘No, my uncle Fawaz bought for me.’
- b. *ʔaSawel ʔana.* (Ibraheem, 2;2.0)  
1.take.IMPERF.S I  
‘I will take a photo.’

In the speech of Ibraheem, preverbal subjects, either nominals or pronominals, emerged early in the first month at 2;1 whereas the postverbal subjects emerged in different periods, the postverbal nominal subjects at 2;4,28 and postverbal pronominal subject at 2;2.

#### 4.3.2 Frequency of pre- and postverbal subject

Tables 6 and 7 present the distribution of preverbal and postverbal subjects, for different types of subjects (nominal, pronominal, and determiner subjects) in Ibraheem and Wala respectively. This is to show which type of subjects is used more frequently and in which position they are used, preverbally or postverbally.

Table 6. Distribution of types of overt subjects in the Ibraheem-corpus

Age	Nominal subjects		Pronominal subjects		Determiners	
	Preverbal	Postverbal	Preverbal	Postverbal	Preverbal	Postverbal
2;1	3	0	2	1	0	0
2;2	9	0	1	0	1	0
2;3	11	0	11	1	2	0
2;4	9	0	3	1	0	0
2;5	4	0	12	0	0	0

In Ibraheem’s speech, only 3 pronominal subjects occurred postverbally; nominals and determiners were never used, but pronominals had 29 preverbal subjects as well. However, in the speech of the older child, both nominals (16) and pronominals (3) were used postverbally. Interestingly, two findings can be drawn as follows: (i) Postverbal and

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preverbal subjects were used at the same time. (ii) Postverbal subjects in the younger child's speech were used only with pronominal subjects, and were later extended to nominal subjects as seen in the older child, Wala.

Table 7. Distribution of types of overt subjects in the Wala-corpus

Age	Nominal subjects		Pronominal subjects		Determiners	
	Preverbal	Postverbal	Preverbal	Postverbal	Preverbal	Postverbal
2;6	1	1	6	1	2	0
2;7	2	1	4	1	0	0
2;8	0	0	4	0	0	0
2;9	3	2	7	0	2	0
2;10	7	12	9	1	0	0

#### 4.4 Distribution of types of semantic subject

Here, we look at the distribution of the semantic types of subjects (with respect to person, number and gender) in the data of Ibraheem and Wala. Table 8 and Table 9 give a distribution of the semantic types of subjects in the utterances of Ibraheem and Wala.

Table 8. Distribution of the types of semantic subjects in the Ibraheem-corpus

Age	3MS	3FS	3MP	1S	2MS	2FS
2;1	2	1	-	3	-	-
2;2	7	3	-	1	-	-
2;3	11	3	1	11	-	-
2;4	6	2	-	4	-	-
2;5	2	2	-	11	1	-
Total	28	11	1	30	1	0

Table 9. Distribution of type of semantic subjects in the Wala-corpus

Age	3MS	3FS	3MP	1S	2MS	2FS
2;6	2	2	-	7	-	-
2;7	2	-	-	5	1	-
2;8	-	-	-	4	-	-
2;9	6	-	1	7	-	-
2;10	11	8	-	10	-	-
Total	21	10	1	33	1	0

Tables 8 and Table 9 show that third person singular and firstperson singular were used more often, and they appeared early at the age of 2;1. Singular pronouns emerged early and

were used more frequently than plural pronouns. Second person pronouns were very rarely used and also appeared late at the age 2;5. Though the person, number and gender features on pronouns are lexically determined, a parallel is found between the semantic agreement in pronouns and the syntactic agreement on verbs.

### **5. Conclusion**

From the results and as far as the distribution of overt vs. null subjects is concerned, the YIA data showed a low frequency of overt subjects, which is not surprising given the status of YIA as a null subject language. This approves that the null-subject parameter is acquired early in Arabic and this is due to the rich morphological system exists in many Arabic varieties and other languages as proposed by Rizzi, 1982; Chomsky, 1982; Hyams, 1986 that there is a relationship between the rich inflectional system and the empty categories.

We can conclude that the speech of Ibraheem showed that he had set the null-subject parameter by 2;1. It was also found that null subjects were used more often than overt subjects. Ibraheem had null subjects around 85-95% of his utterances and Wala had 77-97%. In comparison, the use of overt subjects was 5-15% in Ibraheem's corpus and 2-23% in Wala's. Note that Wala is an older child and therefore tended to use more overt subjects. We also found that the use of overt subjects increased with age. Nominal subjects and pronominal subjects co-occurred with comparable accuracy. Subjects occurred both preverbally and postverbally though preverbal subjects were used more frequently than postverbal subjects. Postverbal subjects initially occurred, particularly in the younger child's speech, only when the subject was pronominal and not when it was with a nominal and a determiner. For Wala, both nominal and pronominal subjects were used postverbally. In addition, overt subjects were more often used with first person, followed by the third person singular masculine subjects. The emergence of plural and feminine subjects showed a developmental delay, showing a general cognitive delay in the acquisition of number and gender. With regards to the distribution of the two types of overt subjects and the position of overt subjects, similar results have been found cross-linguistically in pro-drop languages. Acquisition data from Polish, for instance, showed the presence of overt subjects (NPs and pronominal) in the early speech of Polish children and they appear both preverbally and postverbally (Klepper-Pang, 2003).

### **Abbreviations**

1S	first person singular	3FP	third person feminine plural
1P	first person plural	3FS	third person feminine singular
2FP	second person feminine plural	3MP	third person masculine plural
2FS	second person feminine singular	3MS	third person masculine singular
2MP	second person masculine plural	Agr	agreement
2MS	second person masculine singular	JA	Jordanian Arabic

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MLU	mean length of utterances	SVO	subject-verb-object
MSA	modern standard Arabic	TNS	tense
NSLs	null subject languages	VSO	verb-subject-object
RI	root infinitive	YIA	Yemeni Ibbi Arabic

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