An investigation of the influence of sociolinguistic factors on children's first language in Jordan

Dima Awadh Al-Malahmeh

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Abstract

This thesis presents an investigation of the potential effect of sociolinguistic factors on the acquisition of Arabic by 22 four-year-old children in Jordan. The focus of the current thesis is on Arabic-English bilingual children acquiring English in their early childhood alongside Arabic. The three main extra-linguistic factors under study are: parental attitudes towards Arabic and English, the input children receive in both languages, and the presence of foreign domestic helpers in the household (speaking English or pidgin Arabic).

At first, data was collected in a naturalistic session in the first visit and three elicitation tasks conducted in the second visit. In addition, a time 2 vocabulary test adapted from Shaalan (2010) with amendments was run a year and a half later for 12 children. Besides the data from children, an attitudinal questionnaire was filled by the parents towards Arabic and English to measure their attitudes towards the two languages under study and elicit input children receive.

This thesis reports on children's Arabic mainly in terms of phonology and morpho-syntax. In terms of phonology, I examined children's pronunciation of Arabic sounds not found in English (e.g. emphatics, pharyngeals, and uvulars) and their ability to assimilate the definite article /al-/ when needed. Regarding morpho-syntax, I tested children's ability in: dual and plural forms in Arabic, gender agreement, word order and the gender of the second person pronoun. In addition, I looked at children's code-switching between Arabic and English.

Results indicate that *reported* attitudes do not seem to explain children's results. The *reported* input shows that the more English children hear the more errors they make mainly in forming numbers, the gender of the second pronoun and word order, and the more they code-mix. As for the *recorded* input, the more English the mothers speak, the more errors children make in assimilating the definite article and forming duals and plurals, and the more they switch to English in their speech. On the other hand, the more Arabic the children hear, the fewer errors they make in these variables.

When looking at the presence of the domestic helpers, it has been found that children raised in households with domestic helpers (regardless of the language they speak) make errors in pronunciation, the assimilation of the definite article, forming numbers and gender agreement. When comparing children raised in households with domestic helpers speaking English and those raised in households with domestic helpers speaking pidgin Arabic, results show that those with domestic helpers speaking English make more errors in the assimilation of the definite article, forming duals and plurals and the gender of the second person pronoun.

In the time 2 vocabulary test, no difference is found in the total vocabulary size for children who are exposed to English more than Arabic and those who are exposed to more Arabic. When looking at the vocabulary size of both groups in one language (i.e. Arabic), no significant difference is found. This result might indicate that some children act as typical bilinguals. It has been also found that children who were raised in households with domestic helpers speaking English scored higher in the English test than their peers.

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Author's Declaration

This thesis has not previously been accepted for any degree and is not being concurrently submitted in candidature for any degree other than Doctor of Philosophy of the University of York. This thesis is the result of my own investigations, except where otherwise stated. Explicit references acknowledge any other sources used in this thesis.

"I have never known what language I spoke first, Arabic or English, or which one was mine beyond any doubt. What I do know, however, is that the two have always been together in my life, one resonating in the other, sometimes ironically, sometimes nostalgically, or, more often, one correcting and commenting on the other. Each can seem like my absolutely first language, but neither is."

Edward Said, an Arab-American intellectual (2000: 401)*

*Said, E. W. (2000). *The Edward Said Reader*. M. Bayoumi (Ed.). Vintage Books.

Chapter 1: Introduction

This chapter is organized as follows: a general overview of the topic of the current thesis is presented (1.1). Then, the research questions and the motivations behind the present study are explained (1.2). Finally, the overall structure of the thesis is provided (1.3).

1.1. Overview

English has become increasingly important recently as a global language spoken by one in three of the world's population in different levels (Crystal, 2010). Mohd-Asraf (2005: 103) states that the influence of English has spanned the entire globe, and "there is hardly any country today that does not use English in one way or another or that is not affected by its spread". Many studies shed light on the immense influence of English as a global language on education, employment and even social positions as explored by PennyCook (2001), Al-Dabbagh (2005), Crystal (2010), and Hopkyns (2014), among many others.

This rapid spread of the global English language in recent years makes the study of children's speech particularly important and urgent. Thus, this thesis investigates children's speech in Jordan, as one of the countries affected by the spread of English. Given parents' awareness of the importance of English and how it shapes their children's future, the question raised here is: does this interest in the English language affect the way people perceive Arabic in Jordan? Does raising children bilingually in Jordan interact with their acquisition of Arabic?

In addition to the growing spread of English, the presence of foreign domestic helpers in Jordan is another factor that may interact with the new generation's acquisition of Arabic. Foreign domestic helpers in Jordan are hired to help in the household and sometimes to take care of the children in the absence of the parents. Those domestic helpers in Jordan mainly speak either English (those coming from the

Philippines and Kenya) or a pidginized variety of Arabic (those coming from Sri Lanka, Bangladesh and Indonesia) according to Bizri (2009, 2014) and Tosco and Manfredi (2013). Since the domestic helpers live in the house, their language may interact with the Arabic language acquired by the children.

It is worth looking at children's acquisition of Arabic under conditions in which children receive input in English from foreign domestic helpers because those domestic helpers are native speakers of neither Arabic nor English. In addition, I was interested in examining the acquisition of Arabic by children raised in households with domestic helpers speaking pidgin Arabic because the children will be receiving Arabic from non-native speakers of the language. In other cases, I examined the acquisition of Arabic among children raised in households with no domestic helpers but their parents speak to them in English. I also examined the speech of children raised in households with no domestic helpers and their parents speak to them in Arabic to serve as controls.

1.2. Motivations and Research Questions

This thesis is an attempt to examine the potential impact of certain sociolinguistic factors on children's acquisition of Arabic in Jordan. This research aims to fill a gap in the literature in many ways. Many studies have looked at how English interacts with Arabic in English-speaking countries; i.e. among immigrants and heritage speakers (e.g. Sawaie, 1992; Khattab, 1999; Albirini et al., 2013). However, little research has been conducted on how global English interacts with Arabic in the Arab World (e.g. Hopkyns, 2014). The present thesis provides empirical evidence that examining the speech of children in Jordan nowadays is vital.

Sinno (2011: 351) points out that "we need to provide our children with better Arabic resources as well as approach them with a more

positive attitude". Parents, thus, should hold Arabic with high regard and provide Arabic input in order for their children to acquire it properly. However, if parents favour English over Arabic, children's Arabic may be affected. Accordingly, the attitudes parents hold towards Arabic and English may influence children's acquisition of Arabic.

In addition to the effect of global English, the presence of foreign domestic helpers nowadays who speak English or pidgin Arabic in the households may interact with children's Arabic. Their presence nowadays may be influential due to the high dependence on them in looking after the children in the absence of the working mothers. Therefore, it is worth looking at children's language in Jordan given that the domestic helpers' language is part of the input children receive at home.

The purpose of the present thesis is to investigate the possible impact of the sociolinguistic factors under study on children's Arabic in Jordan. The main research questions of this study are:

1. Do **parental attitudes** towards English and Arabic influence children's acquisition of Arabic?
2. Does the amount of English, Arabic and code-switching in the **mothers' speech** play a role in children's acquisition of Arabic?
3. To what extent does the presence of **foreign domestic helpers** affect children's Arabic? Does the language spoken by the domestic helpers have different effects on children's acquisition of Arabic?
4. Is there a difference between the **vocabulary size** of children exposed to two languages (in this study, English and Arabic) and their peers who are exposed to one language (in this study, Arabic)?

1.3. Structure of the Thesis

The present thesis is organized as follows. A background review of the literature on child bilingualism, language maintenance and shift,

and global English is provided in chapter 2. In addition, a synopsis of the role of foreign domestic helpers and the language they speak is given. Some highlights from the media regarding the use of Arabic in its countries are presented. This chapter concludes with a review of Jordanian Spoken Arabic (JSA) in the light of the linguistic variables under study.

Chapter 3 illustrates the methodology followed in the present thesis. A detailed explanation of the participants who took part in the study and the recruitment procedure is elaborated. In addition, the data collection process is provided. The methods followed in the analysis of the data are also discussed in this chapter.

In chapter 4, the extra-linguistic factors under study are linked to each other in order to see if there is any connection between these factors. I mainly report on significant results in the results chapters. The main results of children's speech in Arabic are first discussed in chapter 5. In this chapter, I attempt to test the first and second research questions in the present thesis. Chapter 6 presents children's results in an attempt to provide a better answer to the second research question. Chapter 7 addresses the presence of foreign domestic helpers, and the language they speak in the households, in order to answer the third research question. In chapter 8, the results of the picture vocabulary test (PVT henceforth) used in the second round of data collection is explained.

Finally, a general discussion of the main findings of the present thesis is provided in chapter 9. This chapter also discusses the main research questions in section (1.2) above based on the findings of the present thesis. This chapter summarizes the main conclusions, and concludes with some suggestions for future work.

Chapter 2: Background

This chapter provides a theoretical and practical background overview of the previous literature in order to show the gap the present thesis is filling in the literature. The two main sections in this chapter are: the literature review (2.1) and review of grammar and acquisition of Arabic (2.2).

In the first main section, the term bilingualism is explained and its types and classifications are discussed, in addition to studies on bilinguals (2.1.1). Studies in the field of language maintenance and shift among heritage speakers are presented, showing the vital role of the speakers' attitudes towards their language in maintaining it (2.1.2). Global English and its influence on other languages are covered in the following section (2.1.3). The following section discusses the role of foreign domestic helpers in the Arab World (2.1.4). Finally, this section concludes the first part of this chapter and links previous studies to the current study (2.1.5).

The second main section in this chapter presents an overview of the linguistic variables of Jordanian Spoken Arabic (JSA) under study (2.2.1). The second sub-section sheds light on a handful of studies in the field of children's acquisition of JSA (2.2.2). In addition, a linguistic description of pidgin Arabic is provided (2.2.3).

2.1. Literature Review

2.1.1. Bilingualism: types and definitions

Bilingualism is generally defined as the ability to speak two languages (Baker & Jones, 1998). However, there is no simple and all-inclusive definition for bilingualism. Childhood bilingualism is perceived as part of language acquisition that deals with children's acquisition of two languages simultaneously or sequentially (Khattab, 2005). 'Home bilinguals' is another term used for children whose parents deliberately choose to speak to them in a different

language because the parents can function in two languages, one of which may be their heritage language (Bialystok, 2001).

Grosjean (1989) stressed that "the bilingual is not two monolinguals in one person". Actually, bilinguals have different needs and functions for each language, and thus acquiring the same level of proficiency in both languages may not be necessary for them (Fabbro, 1999). By looking at the degree of competence in the languages acquired, bilinguals are classified into *balanced* bilinguals and *dominant* bilinguals. *Balanced* bilinguals refer to bilinguals with almost the same degree of competence in both languages, while *dominant* bilinguals refer to bilinguals who are more fluent in one of the languages than the other (Fabbro, 1999).

Other researchers have spoken of other types of bilingualism and its results, such as *additive* bilingualism and *subtractive* bilingualism as used by Lambert (1984: 246). In *additive* bilingualism, bilinguals acquire a second language without losing their first language, whereas *subtractive* bilingualism refers to the situation where bilinguals acquire a second language which replaces their first language (Lambert, 1984). When children are exposed to two languages at the early childhood stages, one language may override the other which may be their mother tongue.

In some cases, children may also not have a good command in both languages. Bloomfield (1927) noticed in one of his studies that a 40-year-old Native American Menominee Indian man did not have a good command in English or Menominee. The man had a small vocabulary size, errors in inflections and simplified grammar patterns in his two languages. This case urged Bloomfield to create the term *semilingualism* to refer to situation when a bilingual lacks competence in both languages. Cummins illustrated that exposing children to two languages unsystematically in their early childhood may make them enter school with a lower command of vocabulary and grammar in the two languages.

Paradis and Genesee (1996) argued that there are three hypotheses on children's acquisition of two languages: *delay*, *acceleration*, and *transfer*. They explained that the hypothesis of *delay* refers to the situation where bilingual children are slower in the acquisition of certain linguistic features compared to monolinguals. On the other hand, they explained that in *acceleration*, bilingual children acquire certain linguistic features faster than monolinguals. In *transfer*, they referred to the notion of the occurrence of certain linguistic features specific to one language in the bilinguals other language, which is also called 'cross-linguistic effect'. In such case, it is important to know the similarities and differences between the systems of the two languages acquired by bilingual children in order to examine the interaction between the two languages or the influence of one language on the other. Thus, I review a few studies on the acquisition of sounds and grammar in bilinguals in light of Paradis and Genesee's (1996) hypotheses.

2.1.1.1. Bilinguals and the acquisition of sounds

Some studies in the literature supported bilinguals' delay in the acquisition of phonology (e.g. Goldstein and Washington, 2001 and Gildersleeve-Neumann et al., 2008). For instance, Goldstein and Washington (2001) also studied the phonological acquisition of 4-year-old Spanish-English bilinguals and compared their results with monolingual children in both languages (Spanish and English). They found that the bilinguals' percentages of correct consonants (in terms of voicing, place and manner of articulation) were similar to those of the monolinguals in both languages, except for spirants, flap and trill in Spanish. However, in terms of the phonological processes, there were some differences between bilinguals and monolinguals. In English, bilinguals scored percentages similar to monolinguals in final consonant deletion, fronting, stopping and final consonant devoicing, but they were behind monolinguals in cluster reduction, unstressed syllable deletion and liquid simplification. In Spanish, bilinguals scored lower than monolinguals in final consonant deletion and unstressed syllable deletion. Their findings showed that bilinguals could be slower in certain phonetic/phonological aspects compared to monolinguals at certain point in time.

Gildersleeve-Neumann et al. (2008) studied the acquisition of English phonology by 3- to 4-year-old children, and divided them into three groups: Spanish-English bilinguals with English being predominant, Spanish-English with relatively equal exposure, and English monolinguals. By comparing between these groups, they found that bilinguals made more errors in consonants and vowels, in addition to applying Spanish phonological properties in their English. They also noted that children who were equally exposed to English and Spanish made more errors in English compared to bilinguals whose predominant language is English.

There are not many studies on bilinguals with Arabic as one of the languages acquired. English is one of the main languages acquired by Arab children as a second or foreign language. Due to the different systems of Arabic and English, researchers tend to focus on the different linguistic aspects between Arabic and English. Studies looking at bilingual children's phonological acquisition of Arabic are scarce. Researchers focused in their studies on the linguistic properties that are different between the two languages acquired by children. For instance, Khattab (2003) also examined Arabic-English bilingual children's acquisition of phonetic properties, mainly word-initial voice onset (VOT, hereafter) time in Arabic and English. She found out that the three children under study follow the same route of English monolinguals in their age when looking at English; however, the case is different when it comes to Arabic. The children were still developing the Arabic phonetic features.

On the other hand, some research picture bilinguals as better than monolinguals phonologically (e.g. Campbell and Sais, 1995 and Loizou and Stuart, 2003). Campbell and Sais (1995) investigated the relationship between bilingualism and phonological awareness. In their study, they compared English-Italian bilinguals with English monolinguals aged four to five years old. The researchers did not attempt to measure the children's language attainment but they stated that none of the children was fluent in Italian as in English. The results showed that the bilinguals significantly exceeded the monolinguals in the phonologically-based tasks.

Loizou and Stuart (2003) also compared between five-year-old English and Greek bilinguals and monolinguals in terms of phonological awareness. The children were classified into four groups: two monolinguals (English and Greek) and two bilinguals (English-Greek and Greek-English). They found that the English-Greek bilinguals outperformed the English monolinguals and even the Greek-English bilinguals, whereas the Greek-English bilinguals did not outperform their monolingual peers. This was attributed to the fact that the English-Greek group was exposed to a language that could be described as simpler than their first language; the bilingual enhancement effect. This study showed that bilinguals outperform their monolingual peers in terms of phonological awareness when the second language is simpler than the child's first language. However, if the second language is more complex than the child's first language (as in the Greek-English group), bilingualism does not seem to facilitate the child's phonological development.

Looking at these studies among others, I assume that the two languages learnt or acquired by the child play a role in whether bilingualism at this early age is considered as a facilitator or not. Thus, I agree with the explanation provided by Loizou and Stuart (2003). Another point worth mentioning is the degree of bilingualism and whether the children are immersed in the second language or not. These could explain the variety of the results in addition to the individual differences which should be taken into consideration too.

2.1.1.2. Bilinguals and the acquisition of morpho-syntax

Some studies on bilingual children reveal that bilingual children do not differ much from their monolingual peers in terms of morpho-syntax. Komeili and Marshall (2013) examined Farsi-English bilinguals and English monolinguals aged 5 to 12 using a sentence-imitation test in order to see if the bilinguals' results will be similar to their monolingual peers or to children with impairment. According to their results, bilingual children repeated the sentences less accurately compared to the monolingual group, however, they did well in the receptive vocabulary tested using The British Picture Vocabulary Scale (Dunn et al., 1997). In their study, Komeili and Marshall (2013) showed that the bilingual children pattern similar to their monolingual peers with regard to their errors and

not to children with impairment as they did not have difficulties distinguishing between content and function words.

By looking at Spanish-English adults in the US, Montrul (2006) also tested lexico-semantic and syntactic competence in English and Spanish in order to assess potential language loss in Spanish. She chose to test participants' knowledge of a universal aspect; which is the unaccusativity (intransitive verbs where the argument is not the semantic agent) vs. unergativity (intransitive verbs having an agent argument) in intransitive verbs using proficiency tests. The results showed that bilinguals' knowledge of unaccusativity is fairly good in the two languages. Accordingly, Montrul argued that these bilingual speakers do not suffer language loss in Spanish. She argued that heritage speakers' maintenance of the knowledge of unaccusativity is attributed to the assumption that it is acquired at an early stage and does not depend very much on the amount of fluctuation in the input to maintain it. Nevertheless, I argue that a wider range of linguistic variables, and not only in unaccusativity, should be tested to provide a clearer image of the bilinguals' linguistic ability.

Another study by Hakansson et al. (2003) studied the grammatical development followed by typically developing Swedish-Arabic bilingual children and Swedish-Arabic bilingual children with impairment. They looked at the production of words in the two languages, lexical morphology (person, number and tense) in both languages, phrasal morphology in both languages, inter-phrasal morphology (subject-verb agreement) in Swedish and subordinate-clause level in Swedish. I was interested to look at the typically developing bilingual group and their grammatical development in both languages. The typically developing bilinguals produced words well in both languages. As for the lexical markings, all of the typically developing children managed to produce them in at least one of the languages but not necessary in both languages. Three out of ten children produced phrasal morphology in both languages; seven of them produced phrasal morphology in Arabic and five only in Swedish. All in all, it was found that the bilingual children with normal language development scored a high level in at least one of the two languages. This finding may reflect the necessity of testing bilinguals in both languages instead of one. However, I

would like to raise a comment here related to their coding in two examples mentioned in the study. For instance, they mentioned that the tester asked one of the children with impairment in Arabic: "shu 'amjamal al-walad?" (what is the boy doing), and child answered: "ashlab (ashrab) haliib" (drink.PRES.MASC.3P.SING). In the previous example (and others), the child used the first person and not the third person as the third person should be "bishrab or jishrab", and thus this should be counted as wrong person. Therefore, I am not sure if this applies to the typical developing children in their study or not.

On the other hand, some researchers showed in languages with gender, number and case marking, heritage speakers, who could be considered bilinguals, are more likely to have errors in these aspects in their heritage language, such as Russian (e.g. Polinsky, 2008), Spanish (e.g. Montrul et al., 2008) and Arabic (e.g. Albirini and Benmamoun, 2012) heritage speakers. Montrul (2010) pointed out that in cases of reduced input and output in the heritage language heritage speakers acquire some of the basics of their languages, but they tend to simplify and overgeneralize some specific morpho-syntactic patterns.

Albirini and Benmamoun (2012) investigated morpho-syntactic areas in the speech of Egyptian and Palestinian bilinguals living in the US. They compared two groups of speakers; a group who moved to the US since their early childhood (heritage speakers of Arabic) and another group who moved to the US after finishing high school in an Arabic country. The researchers examined their acquisition of dual and plural forms, possessives and relative clauses which differ in the English language system. They found that heritage speakers had problems in the tested aspects compared to the control group, as they resort to borrowing, simplification or avoidance. According to Albirini and Benmamoun (2012), heritage speakers realized the dual form by using the "number+noun" structure or the sound plural form for the dual similar to English. As for the plural forms, heritage speakers used the sound plural forms more than the broken form. Heritage speakers also dropped the relative complementizer and the resumptive pronoun in a relative clause which can be dropped in English. They had problems with the definiteness within a phrase compared to the control group, as well.

Obviously the morpho-syntactic areas studied play a significant role in the findings. Inflectional morphology is perhaps the most affected area in the speech of heritage speakers (Montrul, 2010). This may be attributed to the fact that the two (or more) languages acquired may differ in these markings a lot, while other languages may be quite similar. Again, the amount of input received in the heritage language is a key as explained by Montrul (2010).

2.1.1.3. Bilinguals and vocabulary size

In terms of the vocabulary size, bilinguals tend to have a smaller vocabulary in each language compared to monolinguals learning a single language (Bialystok et al., 2010). Thus, researchers found another way to measure bilinguals' development through comparing the combined vocabulary size in both languages with the monolinguals' vocabulary size in their single language. The joint vocabulary size for bilinguals possibly equals or exceeds the monolinguals' vocabulary size in the one language (Bialystok et al., 2010).

A study by Hoff et al. (2012) on Spanish-English bilingual children's vocabulary development reported that monolingual children were more advanced in English vocabulary compared to their bilingual counterparts in a single language. However, monolingual and bilingual children were comparable when looking at the total vocabulary size of bilinguals compared to monolinguals. Hoff et al. (2012) attributed the fact that bilinguals lag behind monolinguals when assessing their abilities in one language to the amount of input they receive in that language.

De Houwer et al. (2013: 21), however, found "no evidence of consistent differences between young bilinguals' and monolinguals' vocabulary sizes" in their study of Dutch-French bilinguals compared to Dutch monolinguals. They emphasized that the number of languages children learn does not explain their vocabulary size, yet they suggested taking into account children's language input experiences.

2.1.1.4. Bilinguals and code-mixing

It is impossible to find a language that does not contain fragments from other languages (Bialystok, 2001). Therefore, code-switching or code-mixing is a normal phenomenon across the world which refers to using two or more languages, varieties of the same language or speech styles (Hymes, 2003). For Backus (2003: 84), code-switching is "the use of two or more languages in the space of a single conversation, a frequent phenomenon in the speech of bilingual communities around the world".

Genesee (2001) presented two hypotheses to explain code-mixing in children's speech: 1) input-based explanation and 2) proficiency-based explanation. According to Genesee (2001), the input-based explanation indicates that code-mixing occurs in children's speech due to the input they receive. Genesee (2001) attributed this to the modeling hypothesis, which indicates that children code-mix because they are exposed to a lot of code-switching from adults (mainly parents), and/or to the discourse hypothesis assuming that parents who tolerate their children's code-mixing use discourse acts indicating their approval for mixing. Either way, parents in that way encourage their children to code-mix between the two languages. The proficiency-based hypothesis explains that code-mixing in children's speech happens due to their lack of language proficiency, so they tend to code-mix to fill linguistic gaps (i.e. when they do not know the word). On the other hand, Gardner-Chloros (2009) doubted that there is a reliable method in most cases to distinguish between deliberate and non-deliberate code-switching in adults or children's speech. This makes it more difficult to tell whether code-switching happened due to lack of proficiency or just as slips of the tongue.

Although code-switching may occur naturally in bilinguals' speech, Albirini (2013) noted that code-switching may serve as an indicator of heritage speakers' proficiency because it shows the lexical and retrieval gaps they have in their knowledge. Similarly, in Albirini and Benmamoun's (2012) aforementioned study, heritage speakers were likely to switch into English when they do not know the plural form of the word in Arabic. Saudi immigrant children in the US, for instance, tend to mix between English and Arabic, as they use Arabic in terms

specific to the Arabic culture or their religion contexts while they use English for academic topics (Al-Enazi, 2002).

Gamal (2007) viewed, in her thesis, bilinguals' ability to code-switch as a normal linguistic interaction between their two languages. In her sociolinguistic study, she investigated her 4-year-old daughter's speech patterns of lexical code-mixing between Egyptian Arabic and English. Her daughter, who grew up in the US, was introduced to English only at nursery after she was nine months old. During the three years, the child's code-mixing was more intra-sentential (at the word level) than extra-sentential (at the clause or sentence level). The child tended to code-mix mainly on the level of nouns, adjectives, and sometimes verbs since verbs act differently in the two languages. She had English utterances with Arabic words and Arabic utterances with English words. Gamal's study patterns with the previous studies in her explanation of her daughter's use of code-mixing to facilitate her communication, for example she tended to code-mix to avoid phonologically difficult words.

In a recent study, Khattab (2013) studied the convergence and divergence patterns among three Arabic-English bilingual children in the UK. She reported that bilingual children are exposed to standard, non-standard and even non-native varieties of these languages. The sociolinguistic competence they develop enables them to choose the appropriate language or accent according to the interlocutor, place and setting. Thus, bilingual children do not just switch between languages, but they are also able to switch between native and non-native varieties of the same language. If parents speak to their children the majority language but with the influence of their own first language which they use with other speakers, children receive non-native variety of the majority language, or in this case Arabic-accented English, alongside the native variety of the majority language from the community. Surprisingly, when the situation requires switching into Arabic, children might use Arabic-accented English instead of Arabic, which Khattab named 'phonetic-switching'. Thus, switching does not only occur on the level of languages, children may invent a different way to express their knowledge of the two not just languages, but also accents.

By looking at the attitudes towards code-switching, a recent study by Dewaele and Wei (2014) investigated multilingual speakers' attitudes towards code-switching. They had over 2000 participants from different nationalities filling in a questionnaire. What distinguishes this study is that the researchers linked code-switching to many variables other than ethnic identity and linguistic practices, they examined linguistic traits and socio-biographical variables. They found out that participants who lived abroad or worked in multilingual environment held positive attitudes towards code-switching. Moreover, participants who scored high on Tolerance of Ambiguity (TA) and Cognitive Empathy (CE) seemed to be emotionally more stable, and thus accepted people from different backgrounds and enjoyed code-switching. Females also favoured code-switching more than males. As for age, middle-ages adults (around forties) preferred code-switching more than teenagers and old people. Most importantly, participants who held positive attitudes towards code-switching stated that they used it more frequently compared to others. I believe that such studies, especially with this big sample, are valuable because it provides a general picture of people's attitudes across the world. It could be also that with globalization more people are willing to accept code-switching nowadays.

Code-mixing may occur in bilinguals' speech due to several reasons. A better understanding of the children's language development in the two languages could be a more objective tool to explain if the code-mixing happened because of lack of proficiency in either of the languages. Otherwise, code-mixing could be a natural and spontaneous (non-deliberate) process rather than an indicator of lack of proficiency in one of the languages. Thus, any study on bilinguals' speech could look at bilinguals' proficiency first and then link it to code-mixing for a clearer picture.

2.1.2. Heritage Speakers

When discussing bilingualism, it is worth looking at the reasons behind being or becoming bilinguals. Grosjean (1982) explained that people become bilingual due to social and economic needs, emigration, education, and nationalism. He also noted that children become bilingual because of a policy in the community or the family. Bilingualism is found in some countries where

linguistic minorities exist (Grosjean, 1982). Immigrating into a community speaking a different language, where the individual's language becomes the minority language and the host country's language is the majority language is another reason. Since bilingualism is encouraged by social interaction, looking at the social environment surrounding the individual (monolingual or bilingual) is vital.

In the present thesis, I am interested in examining the level of children's proficiency in their supposedly first language and how another language would interact with their first language. Although the children in the current study reside in their homeland and did not immigrate, their case may be similar to heritage speakers (defined below) in the sense that they encounter a language which is different from their supposedly first language. In studies conducted on heritage speakers, researchers tried to examine the children's proficiency in their heritage language and investigate whether their maintained their heritage language or shifted into the other language. Due to the interest in looking at the children's proficiency in their heritage language and not the majority language, I was interested in looking at studies conducted on heritage speakers and the attitudes towards the heritage language and how this may impact the maintenance or loss of the heritage language.

With the strong movement of immigration in the 20th century, a second and third generation of migrant families motivated researchers to study the language of those migrants and trace their proficiency in their own language, mainly when families move to communities speaking another language. Children and adults who are "members of a linguistic minority who grew up exposed to their home language and the majority language" are called heritage speakers (Montrul, 2010: 4). Montrul (2010) argued that heritage speakers are considered as a special case of child bilingualism since their home language is the minority language besides another majority language used by the community.

Heritage speakers are likely to not achieve full command of their heritage language (Montrul, 2010). When two languages come into contact where one is the majority language and the other is the minority, language shift usually occurs.

This shift might eventually erode the linguistic abilities in the minority language among its speakers. This process happens gradually and across generations (Anderson, 2004), The majority language holds a higher status since it is the language of the community, and the minority language has a lower status. Minority groups might put more effort in learning the language of the community to secure their futures, which might result in losing their heritage language (Boeschoten, 1992; Anderson, 2004). Consequently, some heritage speakers would shift into the dominant language (i.e. the majority language) either intentionally or unintentionally (Anderson, 2004; Carson, 2012), whereas others would choose to maintain their heritage language (i.e. the minority language) and pass it to their children (Verhoeven, 1997; Guardado, 2002; Tannenbaum and Howie, 2002; Garcia, 2008; Park & Sarkar, 2007).

In order for the minority language to be maintained, there should be a generational transmission of that language, as noted by Fishman (1991). This highlights the importance of contact among generations, i.e. between children and their parents, and even their grandparents. Preserving a heritage (minority) language among its speakers is not possible without intergenerational contact; "that which is not transmitted cannot be maintained" (Fishman, 1991: 113). A handful of studies (e.g. Guardado, 2002, Anderson, 2004; Park & Sarkar, 2007) went further to express the importance of maintaining a language and how that would "aid in maintaining the linguistic ties between the child and the family" (Anderson, 2004: 210).

Many studies report on language contact situations, especially among populations speaking a minority language in the United States, where the majority language is English (e.g. Dweik, 1980; Sawaie, 1992; Anderson, 2004; Garcia, 2008; Aburumuh, 2012). US Latinos were widely studied in this respect, Mexican Americans in particular (speakers of Spanish). Anderson (2004) discussed language loss and how it is manifested in Spanish-speaking children residing in the US. She stated that language loss is more apparent among children of immigrants though it can happen among immigrants themselves. Besides language loss which refers to completely losing the ability to use the language, language attrition may occur too, where speakers of a minority language may not

be able to develop their linguistic ability in their language the way monolinguals do. The reason behind this result, as explained by Anderson (2004), is the minimal support provided to preserve the minority language, given that the sociolinguistic environment is the key to maintain or lose a language.

Another study on the Spanish-speaking adults conducted by Montrul (2006) in the US looked at their linguistic reported competence. First, she tested and compared three groups of participants: Spanish-English bilinguals, Spanish monolinguals, and American English monolinguals. Heritage speakers were asked which language they believe is their dominant language and they were asked to assess their proficiency in both languages, as well. More than half of the heritage speakers reported that English is their dominant language in the family, whereas 25% of them said both languages are equally dominant and 20% stated that it depends on the situation. None of them mentioned Spanish to be the dominant language at home, while all said they used English all the time at work. This finding may show that a large number of the heritage speakers in this study shifted into the majority language, which is English. However, I think that a more reliable measure of their language use could be considered in such studies. It would be interesting to see what language those adults use with their children at home, with their family members and with other speakers of Spanish in the US.

Lambert (1984) examined the challenge that minority groups or those who import languages face, most particularly, keeping their linguistic and cultural identity while learning a second language. He argued that learning a second language does not necessarily mean losing identity. The parents' attitude towards their heritage language, the language input and language use play the most significant role in maintaining a language or losing it. Recently, several sociolinguistic studies (e.g. Guardado, 2002; Park & Sarkar, 2007; Garcia, 2008; Carson, 2012) shed light on attitudes as one of the main social factors behind language maintenance and loss among bilinguals (i.e. heritage speakers).

Garcia (2008) studied a single three-generation Cuban family in the United States. Unlike other Spanish-speaking groups, the Cuban family seemed

to maintain their Spanish language on the familial level. The family under study "serve[d] as a model of how life choices that family members make determine the maintenance or shift of a language," Garcia (2008: 227) emphasized. The researcher elaborated on how life choices, including spousal choice and language ideology, play a crucial role in keeping and passing the language to children. Though all of the Cuban American family members were bilingual, according to her generational classification, the first generation held strong ties to their language and perceived it as part of their identity which needs to be maintained and passed it to their children. The majority of the second generation believed so, and therefore transferred this ideology to their children. However, some of the second-generation people got married to monolingual English speakers, and have worked in the army for long, established stronger ties to the US community instead. As for the third generation, it was found that those whose parents used Spanish at home maintained their language, whereas those whose parents favoured English over Spanish failed to express the importance of maintaining their language to their children. Garcia attributed the family's preference to maintain Spanish mainly to their political situation as refugees seeking asylum in the US, not as immigrants who moved to another country on their own will. I believe that immigrants in general (whether they immigrated on their own will or they were forced) need to shift into the majority's language for survival reasons, however, the language they use at home and with family members determines whether they maintain their heritage language. In Garcia's study, the Cuban families who shifted to the majority language did not seem to choose to shift; if their partners were speakers of the majority language, then they are also forced to use the majority language at home.

Carson (2012) looked at English-Spanish bilinguals in Hawai'i in terms of their language preference and their attitudes towards Spanish as their heritage language. Bilinguals filled in a bilingual attitudinal survey to elicit their contextual language use, language preferences and attitudes toward Spanish. The responses were classified into three main stages: stage one (mostly monolingual Spanish), stage two (nearly equivalent use of English and Spanish) and stage three (English is the dominant language). The findings of this thesis showed a direct link between the language used by informants and their preference; so

those who were classified as stage one, spoke mostly Spanish and preferred Spanish, informants in stage two spoke English more than those in stage one, yet they preferred Spanish, whereas those classified in stage three used and preferred English. The findings are based on reported information; hence the results may differ when investigating their actual speech.

Vancouver is another place where Hispanic families were interviewed to elicit their attitudes towards their Spanish language. Guardado (2002) interviewed four families; two of the families had at least one child over the age of six who was fluent in English and Spanish, and the other two families also had at least one child of the same age range but who was more fluent in English and had some deficiency in Spanish. The bilingual children under study had Spanish input only from one parent at home and English was the dominant language outside the home. Parents of the bilingual children stated that the heritage culture, identity and family relationships motivated them to maintain Spanish, besides their awareness of the benefits of bilingualism. These families believed that parents were to be blamed in cases of heritage language loss for not promoting strong heritage identity in their children. On the other hand, families whose children mainly spoke English felt that English is important and they blamed the absence of a wide Spanish community for their children's loss of Spanish. Guardado's findings, contrary to other studies, assumed that living in a minority community and receiving heritage language input from one parent are enough in two of the families to maintain the heritage language. This may be attributed to the fact that the researcher relied on interviews only and not examining their speech.

Similarly, Park and Sarkar (2007) explored the attitudes of Korean parents in Montreal (Canada) towards their heritage language and the effort they made to help their children maintain their language. Through questionnaires and interviews, the attitudes of nine Korean immigrant parents (three fathers and six mothers) towards the Korean language were elicited. Each of the parents had, by the time the study was conducted, a child or two between the ages six and eighteen years old. The findings indicated that the Korean parents held a positive attitude towards their language and wanted their children to maintain it. The

parents linked their heritage language to their identity and culture. They also emphasized their willingness to maintain good relationships between children and their grandparents, which can be achieved through retaining the language. Like the bilingual parents in Guardado's (2002) study, Korean parents agreed on the economic benefits of being bilingual, yet they linked their L1 to culture, identity, relationships and meaning-making in life.

In Australia, the Chinese-speaking community seemed to preserve their language, as well. Tannenbaum and Howie (2002) examined the relationship between family and language maintenance among 40 Chinese-speaking children in Sydney, Australia, aged between nine and twelve years old using the Language Maintenance Questionnaire. The findings showed that children are more likely to maintain their first language when the family relations are strong and cohesive. The researchers highlighted that maintaining the first language did not hinder children from acquiring another language if the relationships in the family were good.

As far as the language maintenance and shift is concerned, in cases where Arabic is the minority language, parental attitudes towards the majority and minority languages are highly likely to play a role in shaping their children's language use. However, children may choose to shift into the majority language to communicate with their peers (Atawneh, 1992). Generally, parents hold bilingualism with high regard because they believe it will help them communicate and live in the host community (Shorrab, 1986). The heritage language, however, remains important for the children for their religious and cultural heritage.

Sawaie (1992) examined the status of Arabic among Arabic-speaking communities in the US. Although the first generation immigrants put a lot of effort into preserving the Arabic language, Sawaie highlighted the gradual language shift in their speech from monolingual Arabic to the bilingual use of Arabic and English, and finally a complete shift to English monolingual. Arabic speakers did not maintain their language due to the small size of the Arabic speaking community in the US at that time, the power of English and the social

pressure to shift to English, besides not having a strong loyal identity to their language, as explained by Sawaie.

Choosing to teach your children a second language and raising them bilingually are not exactly the same as being forced to acquire another language. In the case of minority groups, learning the language of the community is a must for survival reasons (Garcia, 2008; Carson, 2012). However, the case is different when parents believe that learning a second language is an asset, hence they choose to let their children learn a language that is not their native or heritage language, yet it is a language used world-wide. In both scenarios, the question remains the same: when children encounter a second language, be it forced or chosen, do they maintain a fairly native-like proficiency in their 'supposedly' native or heritage language? This question will be addressed in the current thesis.

2.1.3. Global English

Individuals may also choose to become bilingual for social, cultural and personal motivations (Hoffman, 2014). Since the 1990s, English has gained an increasing recognition as a global language (Crystal, 2010). Crystal (2010: 3) explained that "a language achieves a genuinely global status when it develops a special role that is recognized in every country". For a language to have a special role, Crystal (2010) illustrated that it must not only be spoken by a large number of native speakers (i.e. English in the US, Britain and Canada), but to be adopted as an official language by many countries (i.e. the case of English in India and Nigeria) and taught as a foreign language in other countries (i.e. English is now being taught in almost every country).

This prominence of the English language is accepted by some countries which adopted it as an official language or in foreign language teaching. On the other hand, English was rejected in other countries sometimes because it is the language of a former colonial power (as the case of English in Kenya), mentioned Crystal (2010). Reasons of rejection of English mainly revolve around the concept of identity since language is an immediate and universal symbol of identity (Crystal, 2010). Despite rejection by some, English is now the global lingua franca (Seidlhofer, 2005). More recently, English has also started to gain

more prestige even in the countries which were once part of the empire, like Kenya, and other countries too (Crystal, 2010). As a result, English is now the official language in 52 countries and spoken in the five continents (Mohd-Asraf, 2005). Furthermore, speakers from all over the world are likely to code-switch into English, and almost all of the languages borrowed words from English. Borrowing of some words may be due to cultural prestige, the fascination with a certain culture, lineage to intellectual tradition, or the power of commerce (Bialystok, 2001).

With this rapid spread of the English language, many researchers have been aware of the English threat in several countries, such as China, Malaysia, United Arabic Emirates among many others (see Mohd-Asraf, 2005; Al-Issa & Dahan, 2011; Pan & Seargeant, 2012; Hopkyns, 2014). For instance, there was a call for "English language threat discussion" in China due to the prominence the English language gained in the country in the last decade (Pan & Seargeant, 2012). Crystal (2010) discussed the potential dangers of having a global language, as it might speed up the disappearance of minority languages, and even make the existence of other languages unnecessary. "Some people will celebrate one language's success at the expense of others", Crystal (2010: 15) pointed out.

Nowadays, some people welcome the idea of having a global language due to the need for mutual intelligibility between people, while others refuse to give up their languages and lose their identity by accepting another language. In the case of bilingualism, Crystal (2010) mentioned that people would learn a foreign language (be it the global language) giving them access to the world community, and keep their regional language, giving them access to their local community. This supports the distinction presented by House (2003: 556) between 'languages for communication' and 'languages for identification'. This idea could inspire people to learn English for its leading role in social and cultural relations, international business and world communication (Hopkyns, 2014).

Some parents might be interested in securing their children's future by arming them with the global language, besides preserving their own identity

through acquiring their language. Bilingualism could happen at any age, yet it requires more effort in advanced age, especially to achieve a good level in pronunciation and syntax (Fabbro, 1999). Therefore, parents may encourage their children to acquire the language in their early childhood given that "the earlier the exposure to the two languages, the easier and more complete the acquisition" (Fabbro, 1999: 109).

In the context of Arabic, Al-Issa and Dahan (2011) shed light on the impact of global English on Arabic, although studies on the influence of global English on the Arab World are scarce compared to other languages in contact with English. English, driven by globalization, is now perceived as the language of education, modernity and the future in the Arab countries. Al-Issa and Dahan (2011) in their chapter argued that Arab youth started to use English more than their native language. In addition, they also stated that English replaced modern standard Arabic (MSA henceforth) in education in most of the Arab countries, hence Arabic-speaking students are facing difficulties in writing MSA. Due to using the dialects in everyday life and the increased focus on English, many worries are raised about the maintenance of the Standard Arabic language. Al-Issa and Dahan (2011: 12) described the situation in the UAE and warned that if we believe that language is part of identity, "then the continued duality of global English and globalization can have a negative impact on the identity of UAE nationals". It is worth noting here that what applies to the UAE may not necessarily apply to other countries due to the specific nature of that country; which has many foreigners, and thus, as they indicated, calls for the need of having a lingua franca for people to interact with each other. Although Al-Issa and Dahan described the case in the UAE from all aspects, their chapter was merely descriptive based on observation and other studies and not on a study conducted in that country.

A quick look at the public opinion may reveal the concern some people have regarding the contact of English and Arabic in the Arab World. Few conferences have been held in the Arab countries to discuss the potential influence of English over Arabic and the needed steps to protect Arabic. For example, there was a session run by Arab Thought Foundation in December,

2014 under the title 'Discussing the crisis of the Arabic language and how to employ it as a uniting factor for the Arab identity'. In that conference, Fassi Fehri, a well-known Arab linguist, emphasized that "there is no nation without a language and no country without a language". Speakers shared their opinions about the importance of preserving the Arabic language and stressed that preserving Arabic is part of identity.

Even in Jordan, writers and columnists discussed the spread of global English and its potential influence on Arabic. This issue was brought to attention of the public in an article published in al-Rai newspaper (one of the most wide-spread newspapers) in Jordan in 2012 reflecting the awareness of some people of the increasing interest in English. That article stated that some parents were aware of the importance of English for their children's future in our global world. Consequently, they sent their children to bilingual schools and preschools and/or hired a nanny or a teacher fluent in English for their children to learn English. The article highlighted that, according to a local study, some parents in Jordan stated that they preferred to speak English-only to their children at home in order for their children to acquire English at an early age. Other parents said that they followed the one-parent one-language method, where one of the parents spoke Arabic-only and the other spoke English-only to ensure their children's simultaneous bilingual acquisition. Almost half of the parents in the conducted study mentioned that they used both English and Arabic at home to expose their children to both languages through switching between the two languages. Only about third of the parents indicated that it is more important to acquire Arabic before English in early childhood. I was interested to know more about the aforementioned study, however, I could not manage to get more details about the number of participants taking place in it and the methodology used.

Bilingualism is not new but the growing interest in the English language as a lingua franca is to a certain extent recent and linked to globalization. The lack of reliable research in this area may be attributed to the fact that this phenomenon is somehow recent. In addition to that, the conservative nature of the Middle Eastern societies may also explain the scarcity of studies conducted in that area. However, it is worth putting these public assumptions to test and

investigate the potential impact of exposing children to English on their acquisition of Arabic in an Arabic-speaking community.

2.1.4. Foreign domestic helpers (DHs)

Not only global English is in contact with the Arabic language, foreign workers or domestic helpers working in the Arab countries created the so-called 'pidgin Arabic' in the Arab countries. Depending on the area of study, several terms have been created, such as 'Gulf pidgin Arabic' to refer to the dialect used by the non-indigenous workforce, mainly Asian, in the Gulf countries (Smart, 1990; Naess, 2008; Shaalan, 2009; Almoaily, 2014), 'Jordanian Bengali Pidgin Arabic' to refer to the language used by Bengali workers in Jordan (Al-Haq & Al-Salman, 2014), or 'Pidgin Madam' referring to the language used by foreign domestic helpers in Lebanon (Bizri, 2009). In this study, I shall use the term 'pidgin Arabic'.

Little attention was paid to the appearance of this type of pidgin Arabic in the literature. Researchers have noticed the importance of investigating this new variety of Arabic in the Middle East, which is used among Asian foreign workers and Arabs in the Arab countries. A few studies (Smart, 1990; Naess, 2008; Bizri, 2009; Shaalan, 2009; Almoaily, 2014; Al-Haq & Al-Salman, 2014) aimed at investigating whether this variety constitutes a true pidgin variety or not (see section 2.2.3).

Foreign domestic helpers are hired mainly to help in the households and sometimes to look after the children in the absence of their parents. Domestic helpers in Jordan speak either English (mainly those coming from the Philippines and Kenya) or 'pidgin Arabic' (workers from Sri Lanka, Indonesia and Bangladesh). A large number of the domestic helpers working in the Middle East speak pidgin Arabic in Arabic homes, which is different from the native variety.

It has been publically noticed recently that foreign domestic helpers in the Middle East are responsible for looking after the Arab children due to the long hours of mothers' absence (given that the mothers are most likely responsible for looking after the kids in the Middle East). An article published in Al-Rai

newspaper in Jordan on 11 December 2011 sheds light on the absence of 'busy' mothers and on children being attached to domestic helpers. In the article, the columnist Bushnaq spoke of a kindergarten teacher who had a domestic helper attending the school's parental meeting on behalf of the 'busy' mother to inquire about the child's progress at school. The teacher mentioned that the child told her how much he loved the domestic helper who took care of him and spent time with him, as his mother used to come back home just before he went to bed. The teacher who decided to call the child's mother on the next day was surprised by her reaction, as the mother said it is normal to have a domestic helper taking care of her child.

Such newspaper and magazine articles comment on a parental behavior taking place in some Arab countries without mentioning any statistics or numbers of parents hiring domestic helpers to take care of their children. Without having real numbers, such behavior could be rare and not worth discussing. I tried to get such numbers from official institutions but I was told that nothing is documented. As a Jordanian citizen residing in Jordan, I also noticed that some of my family members and close friends hire domestic helpers to look after their children. Those children were attached to those domestic helpers and talked to them more often than to their parents.

Given the public opinion mentioned in the article and my own observation, it is nevertheless interesting to examine the potential influence of the domestic helper, whether she speaks English or Pidgin Arabic, on children's Arabic in Jordan. To the best of my knowledge, this potential influence has not been investigated yet. Thus, the present thesis attempts to investigate this influence.

2.1.5. Conclusion

The previous sections aimed at providing an overall idea of the several factors playing a role in bilingual children's proficiency. The literature shows that attitudes towards languages (and specifically the heritage language) could play a role in maintaining that language and passing it to children. In this study, I will

examine the parental attitudes towards Arabic and English to see if this applies to the current study or not.

The linguistic input children receive has an important role in their acquisition (Gardner-Chloros, 2009). The question, however, is: what happens to children's language when two languages are in contact (i.e. Arabic and English)? I am mainly interested in looking at the children's Arabic. Is it that the more Arabic they hear, the better they do in Arabic? Since input is crucial, will the input provided by foreign domestic helpers speaking English or Pidgin Arabic play a role in the children's speech?

It may be controversial whether code-switching or code-mixing in children's speech reflects lack of proficiency or not. If we look at the code-mixing in the *input* children receive, it seems to be controversial too. Some studies (e.g. Paradis, 2000) argued that if bilinguals encounter two languages which are relatively different in terms of word order, for instance, yet somehow related to each other, that might create confusion. On the other hand, other studies (e.g. Sinka, 2000) provided counter examples stating that when the two languages in contact are different, bilingual children found it easier to separate the two different language systems. Given these contradictory findings, it is worth investigating whether children who are exposed to code-mixing are able to separate to the two languages or not. For this reason, code-switching in mother's speech was taken into account and correlated with the children's results.

Some linguistic variables were selected in order to examine the potential influence of the previous factors. These variables are: the pronunciation of some sounds found in Arabic and not in English, the assimilation of the definite article, gender agreement, forming dual and plural forms, the use of the second person pronoun, word order and finally code-mixing. An overview of these variables under study and the acquisition of these phonological and morpho-syntatic aspects in Arabic are provided in the following section.

2.2. Review of Arabic

Arabic is the native language for more than 280 million people. It is the official language of more than 20 countries across the Middle East and North Africa, such as Saudi Arabia, United Arab Emirates, Oman, Kuwait, Iraq, Jordan, Syria, Lebanon, Egypt, Algeria and Morocco among others. It is also spoken as a second language by more than 60 million speakers and considered to be the largest language in Africa and one of the biggest in Asia (Owens, 2013). Since Arabic is the language of the holy book of Islam, Qur'an, it is also learnt by Muslims all over the world (Holes, 1995; Procházka, 2006; Owens, 2013). The fact that Arabic is the language of the texts of Islamic religion and culture enforces the communicative centrality of Arabic among world languages (de Swaan, 1998, 2001). Due to the importance of Arabic and the huge population size of Arabic-speakers, Arabic has become one of the United Nations official language since 1974 (Holes, 1995).

The Arabic language is divided into Standard and colloquial forms. Modern Standard Arabic (MSA, hereafter) is mainly used in writing and formal settings, whereas the spoken form of the language is what Arab children acquire before formal education. The standard form, thus, is neither the acquired form of the language nor the spoken form by Arabs in everyday life. The spoken dialects are the vernacular forms used in daily life communication across the Arab World. It is important to know that there are lots of dialects of Arabic, some of them are mutually unintelligible (Holes, 1995).

2.2.1. Jordanian Spoken Arabic (JSA)

In this chapter, I will provide an overall review of Jordanian Spoken Arabic (JSA henceforth) since it is the main domain of interest of the current thesis, as regards the characteristics important for this thesis. A description of JSA will be presented covering the variables included in the current study.

2.2.1.1. Phonemic inventory

Jordan is one of the Arab countries that have several dialects under its umbrella. Cleveland (1963) came up with four linguistic groups of speakers

in Jordan according to socio-economic and geographical factors. The groups are: the group which belongs to the Bedouin areas, the group which comes from the rural areas and differs from the first group in terms of morphology, the group that refers to Palestinian people in Jerusalem, and finally the urban group. Spoken accents in Jordan (excluding the one used in Jerusalem) can be mainly classified into urban, rural and bedouin (Suleiman, 1993).

In the current thesis, we are mainly concerned with the urban and bedouin dialects in Jordan, as 21 of the participants speak the urban Ammani dialect while one participant speaks the bedouin dialect. The phonemic system of both dialects will be presented. For clarity purposes, I have collected the consonants that fall under the urban dialect based on data taken from Daana (2009) and the bedouin dialects in Jordan based on data taken from Sakarna (1999). As a native speaker of the language and member of the Jordanian community, I have provided two modifications to the above reported data based on my knowledge of the contemporary linguistic situation in the country. I included the sound /zˤ/ to the urban Ammani inventory as in / zˤari:f/ 'cute' because I noticed that it is widely used by urban speakers instead of /ðˤ/. In addition, I added the phoneme /q/ in the Bedouin dialect table. Although /g/ is used in that dialect instead of /q/, there are still few fossilized forms from MSA that retain the sound /q/ as in /qurʔa:n/ 'Holy Quran' and /raqam/ 'number' in all Jordanian dialects (Al-Wer, 2007).

	labial	labio-dental	dental	alveolar	Alveo-palatal	palatal	velar	uvular	pharyngeal	laryngeal
stops -vc +vc emphatic	b		t d tˤ dˤ				k	q		ʔ
nasals	m			n						
Fricatives -vc +vc emphatic		f		s z sˤ (zˤ)	ʃ ʒ			χ ɣ	ħ ʕ	h
liquids				l r						
glides	w					j				

Table 2.1: Consonantal Phonemic System of Urban Ammani Dialect taken from Daana (2009: 9)

Manner \ Place	Bilabial	Labio-dental	Inter-dental	Dental	Alveolar	Palato-alveolar	Palatal	Velar	Pharyngeal	Uvular	Glottal
stop	b			t / tˤ d				k g		(q)	ʔ
nasal	m				n						
flap					r						
affricate						tʃ dʒ					
fricative		f	θ ð/ðˤ		s /sˤ z	ʃ			ħ ʕ	x ɣ	h
lateral					l						
glide	w						j				

Table 2.2: Consonantal Phonemic System of Bedouin Dialect taken from Sakarna (1999: 21)

According to the two tables above, the number of consonants in the bedouin dialect is 29 while the number of consonants in the urban dialect is 26. From the above tables, we can see that some sounds are fixed and used in both dialects just like /d/, /b/ and /m/, while other sounds are clearly different in the two dialects, and in a very interesting way. The first such phoneme is the voiced inter-dental fricative /ð/. It has been noticed that this phoneme is realized as is in the bedouin dialect but not in the urban dialect. In the urban dialect, this phoneme is realized as /d/, as the word /ðura/ ‘corn’ in the bedouin dialect, while we find the word /dura/ in the urban dialect.

Secondly, the phoneme /ðˤ/ also appears in the bedouin dialect. However, the phonemes /dˤ/ or /zˤ/ are its variants in the urban dialect interchangeably, such as /ðˤill/ ‘shadow’ in the bedouin dialect, and /dˤill/ or /zˤill/ in the urban dialect.

Thirdly, the voiceless inter-dental fricative /θ/ is also found in the bedouin dialect, while it is realised as plosive /t/ in the urban dialect. For instance, we have the word /kθi:r/ ‘a lot’ in the bedouin dialect which becomes /kti:r/ in the urban dialect. However, the Bedouin dialect still has /t/ as a phoneme.

The fourth phoneme is the alveo-palatal affricate /tʃ/. This sound can only be found in the bedouin dialect. It can be considered as an allophone of the phoneme /k/. For example, the phoneme /k/ is realized as /tʃ/ in the word /aħibbitʃ/ ‘I love you’ in addressing a female, which in the urban dialect /baħibbik/.

The fifth consonant is /dʒ/ which is found in the bedouin dialect. This phoneme is realized as the consonant /ʒ/ in the urban dialect. For example, the word /dʒa:dʒ/ ‘chicken’ in the bedouin dialect is /ʒa:ʒ/ in the urban dialect.

Finally, the consonant /g/ is found only in the bedouin dialect, which becomes /ʔ/ in the urban dialect. For instance, the common word /ga:l/ 'he said' in the bedouin is pronounced as /ʔa:l/ in the urban dialect.

2.2.1.2. Morpho-phonology

The Arabic definite article /al-/ ‘the’ is attached to nouns and adjectives to change them from indefinite to definite. Sometimes, when the definite article /al-/ is attached to the beginning of some nouns and adjectives, it assimilates with the first consonant of these words. That is, the first sound assimilates or absorbs the /l/ sound of the definite article /al-/ (Ryding, 2005).

The set of sounds that assimilate with the /l/ sound in the definite article is referred to as ‘sun consonants’ and they include: /t/, /θ/, /ð/, /ðˤ/, /ʃ/, /r/, /z/, /s/, /d/, /l/, /n/, /tˤ/, /sˤ/, /dˤ/. For example, the word /al-ʃams/ ‘the sun’ is realised as /aʃ-ʃams/ and not as */al-ʃams/. The rest of the sounds are referred to as ‘moon letters’. These are the sounds that show no assimilation with the definite article (Ryding, 2005 and Habash et al., 2007). For example, the word /al-qurʔa:n/ ‘the Holy Quran’ is pronounced as /al-qurʔa:n/ with no assimilation at all.

2.2.1.3. Morpho-syntax

2.2.1.3.1. Dual and plural formation

In Arabic, countable nouns or entities can be in the single, dual or plural form. If two entities are referred to, the dual morphological form is used in verbs and nouns. The plural morphological form is applied when speaking of more than two entities. In urban JSA, the suffix /-e:n/ is used to establish a dual form. The dual form in the urban JSA is not affected by case or gender i.e. the suffix /-e:n/ is added to form dual feminine as in the word /binte:n/ ‘two girls’ and the same suffix is used to form dual masculine as in /walade:n/ ‘two boys’.

Holes (1995) reports that the process of forming the plural form in nouns could be done in Arabic either by suffixation (the masculine or feminine forms) or interdigitation. The former process is referred to as ‘sound plural’ and the latter is referred to as broken plural. The suffixation process involves the attachment of suffixes to nominal stems and might involve some changes to the stem. To form a sound plural in JSA, the suffix /–a:t/ is used to form feminine plural as in /mʕallma:t/ ‘girls’ and for masculine plural the suffix /-i:n/ is attached to the singular nominal form as in /mʕallmi:n/ ‘teachers’. It is worth

mentioning that due to the loss of the case system in Spoken Arabic dialects, these plural suffixes are neutral to case (Saiegh-Haddad et al., 2012).

In order to form a broken plural in JSA, a process of interdigitating process is undertaken. As the name interdigitating indicates, the singular form undergoes various morpho-phonological processes, such as long vowel insertion, semi-vowel insertion, consonantal gemination and consonantal affixation added to the nominal root of the singular noun. Some regular suffixed plural noun may have a broken plural alternative giving different meanings. For example, the primitive noun /beit/ 'house' or 'verse' has the plural forms /bju:t/ 'houses' or /ʔabja:t/ 'verses of poetry' (Holes, 1995).

2.2.1.3.2. Gender agreement

It is worth noting that the number usually comes in its masculine form in JSA if it precedes the noun, regardless of the gender of the noun. For instance, in /tlat bana:t/ 'three girls' the number /tlat/ 'three' precedes the head noun and it comes in masculine form even though the head noun /bana:t/ 'girls' comes in feminine form (Moawad, 2006; Al-Aqarbeh, 2011). In JSA, non-verbal predicates, mainly adjectives, show agreement with their subject in gender and number as demonstrated in (1) and (2).

1. walad kbi:r
   boy.MS big.MS
   'Big boy'

2. bint kbi:re
   girl.FS big.FS
   'Big girl'

In (1) and (2), the adjective kbi:r/kbi:re 'big' agrees with its singular-animate subject in number and gender. Adjectives show a parallel behavior when the subject is non-animate as shown in (3) and (4) and when the subject is plural as in (5) and (6).

3. kursi kbi:r
   chair.MS big.MS
   'Big chair'
4. sayya:ra kbi:re
   car.FS big.FS
   'Big car'

5. mʕallmi:n ra:ʔiʕi:n
   teacher.MP great.MP
   ‘Great teachers’
6. mʕallma:t ra:ʔiʕa:t
   teacher.FP great.FP
   ‘Great teachers’

2.2.1.3.3. Word Order

In JSA, adjectives follow the nouns they modify as in (7) below.

7. walad tˁwi:l
   boy.MS tall.MS
   ‘Tall boy’

However, numbers usually precede the noun unless they are treated as adjectives. For example, the number comes before the noun in (8); and it can follow the noun as in (9) (Moawad, 2006).

8. tlat wla:d
   three.M boy.MP
   ‘Three boys’
9. il-wla:d it-tala:te
   the-boy.MP three.F
   ‘The three boys’

It is worth noting here that when numbers precede the noun they modify, they inflect for masculine gender marking as in (8). However, when they follow the noun, they inflect for feminine gender marking as in (9) instead of /tlat/ 'three' which is used as a masculine form.

2.2.1.3.4. Second person pronoun

JSA distinguishes between masculine and feminine genders for the second person singular pronoun. JSA uses two independent forms for this distinction: /inta/ ‘you’ is used for a masculine second person singular pronoun and /inti/ ‘you’ is used for a feminine second person singular pronoun (Holes, 1995; Naess, 2008, among others).

2.2.2. The Acquisition of JSA

2.2.2.1.Phonetic/Phonological aspect

The studies conducted on the acquisition of spoken Arabic are quite a few across the Arab World in general, and in Jordan in specific. In Jordan, Amayreh (1994) investigated the acquisition of consonants among 180 children between the ages 2 and 6;4 years old. In the articulation test used to elicit the children's sound production, it was noted that the performance of the children participating in the study developed with age; i.e. older children scored higher in the test. He also found that there were no gender differences in the process of acquisition. He classified the process of development into three main periods: early, intermediate and late. The sounds /b/, /t/, /d/, /k/, /f/, /ħ/, /m/, /n/, /l/, and /w/ were early (2;0 to 3;10), whereas the sounds /s/, /ʃ/, /x/, /ʁ/, /h/ and /r/ were intermediate (40 to 6;4). Some sounds were acquired late (after 6;4), which were the sounds Amayreh (1994) claimed are difficult sounds. These sounds include: the emphatics, the uvular /q/, the fricatives /θ/, /ð/,/ʕ/ and /z/, the glottal stop /ʔ/ and the affricate /dʒ/.

In his dissertation, Amayreh (1994) compared the stages of Arabic acquisition with the acquisition of English, based on Ingram's (1989) study. The results showed that some of the sounds were acquired at the same stage in both languages. However, the sounds /f/, /t/ and /l/ were acquired earlier in Arabic and the sounds /h/,/dʒ/,/ð/ and /j/ were acquired earlier in English. The emphatic sounds were noted to be acquired later than their non-emphatic counterparts in Arabic (Amayreh, 1994; Amayreh & Dyson, 1998).

Dyson and Amayreh (2000) also examined the phonological errors and sound changes of Jordanian Arabic-speaking children aged between 2;0 and 4;4. They elicited data from 50 children living in the city of Amman and surrounding areas targeting the consonants that were produced in an unacceptable way and that were changed from the variety used by educated Arabic speakers. The researchers designed a picture naming test to elicit the data where children are asked to look at pictures then answer some questions about them. The results of the study showed that children had difficulty with the emphatic stops, the

emphatic fricatives, the dental non-emphatic fricatives, and /r/ consonant. Difficulties with these sounds were attributed to their articulatory difficulty and infrequency.

Another study by Hamdan and Amayreh (2007) explored the consonant profile acquired by school-age children in Amman, Jordan. It was reported that the 100 children under study already acquired all of the consonants by the time they entered first year school (around the age of 6;4), except for six consonants which were not acquired fully by that age due to the diglossic situation in Amman. Thus, the six consonants /dˤ/ (or /ðˤ/ in rural and Bedouin JSA), /θ/ (or /t/ in urban JSA), /ð/ (or /d/ or /z/ in urban JSA), /ðˤ/ (or /ð/ in rural JSA or /d/ in urban JSA, or even /zˤ/), /dʒ/ (or /ʒ/ in urban JSA), and /q/ (can be either /g/ in rural JSA or /ʔ/ in urban JSA or /k/ in Palestinian Spoken Arabic) had more than one dialectal form (i.e. differ from one dialect to the other). It was noted that no studies had been carried on the acquisition of vowels, consonant clusters, intelligibility, errors of prosody and phonological awareness (Dyson & Amayreh, 2007).

2.2.2.2.Morpho-Syntactic aspect

2.2.2.2.1. Forming duals and plurals

Gender agreement, forming dual and plural, word order and second person pronouns are the main aspects studied in the acquisition of morpho-syntax in the current thesis. Although the acquisition of these morpho-syntactic aspects has not been studied in JSA, to the best of my knowledge, these variables were studied in a similar dialect, which is Palestinian Spoken Arabic (PSA). Ravid and Farah (1999) looked into the acquisition of noun plurals by Arabic-speaking children in Israel. Eighty four children (aged 2 to 6) participated in this study, 12 in each age group. Children were provided with 42 pictures of items and asked to give the plural form. The researchers discussed Strauss's model (1982) for acquiring inflectional morphology, where children follow the U-shaped learning curve. This suggests that children start by using the regular and irregular forms correctly, but then they start to make some mistakes and overgeneralizations. After that the mature morphology is developed. In this study, it was found that children followed two different patterns in acquiring the noun plurals. As for the

feminine sound plural, the learning is complete by the age of three. However, the masculine and broken forms were acquired gradually, and the learning process is still incomplete at the age of five. Thus, the feminine plural form is the easiest to learn and not simply any regular pluralization in general (since the masculine form is learned late).

Ravid and Hayek (2003) described the acquisition of three forms of number formation in Arabic: feminine noun plurals, duals and collectives. They looked into this aspect in 58 Palestinian children (aged 3;6 and 8) using 30 noun stimuli denoting fruits and vegetables familiar to the children. The findings revealed that the feminine form is the easiest to acquire by the children, while for the dual form, younger children tend to describe it by adding the number two. The collectives, on the other hand, showed no increase throughout the age groups studied, even the chances of using collectives in the everyday speech are little. The researchers attributed this to the fact that input of collectives is "more restricted, less consistent, semantically non-coherent and structurally non-transparent" (Ravid & Hayek, 2003:58).

In line with the previous studies, a recent study by Saiegh-Haddad et al. (2012) examined the acquisition of two types of pluralization in Arabic: feminine regular form and the broken irregular form. Thirty six children (aged 3 to 8) were provided with three tasks: repetition task, structured production task and semi-natural task. The study looked at the effect of the morphological procedure, familiarity with the singular form and the frequency of the pattern on these two types of pluralization. The findings showed that the feminine regular form (feminine sound plural), as in /sa:ʕa:t/ 'hours or watches', was acquired earlier and had shorter developmental stages. Even errors show that the feminine form was the dominant form, as in the word /luʕba/ 'game or doll' which some children used in the feminine sound plural form as /luʕba:t/ instead of the broken plural form /alʕa:b/ 'games'. The broken form, like the plural /bju:t/ 'houses', was affected by the familiarity with the word and the frequency of the pattern according to Saiegh-Haddad et al. (2012).

2.2.2.2.2. Gender agreement

Moving to the agreement of gender, it has not yet been studied in either JSA or PSA, to the best of my knowledge. However, Moawad (2006) studied the acquisition of number and gender patterns in MSA and Saudi Arabic. Ninety eight children (aged 6 to 12), and seven adults, were tested in terms of their acquisition of gender and number agreement of adjectives and verbs with corresponding nouns. She looked into these types of nouns in terms of the agreement of adjectives and verbs with nouns. Overall findings showed that gender agreement was mastered between ages 8 and 10, whereas number agreement was mastered later after the age 12.

2.2.2.2.3. Word order

With regards to word order, Khamis-Dakwar (2011) studied the acquisition of Subject-Verb-Object (SVO) and Verb-Subject-Object (VSO) in Arabic speaking children in Palestine between the ages 1;7 and 3;0. She pointed out that VSO was acquired earlier by the children and then comes SVO. She mentioned that children mastered SVO, which was more common in adults' speech, at a later stage.

In a following study, Khamis-Dakwar et al. (2012) ran a grammaticality judgment task to investigate the factors that affect the acquisition in a diglossic situation among Palestinians. Sixty children within the age range 6;4 and 12;4 took part in this study. Through morpho-syntactic variables, the task aimed at measuring the children's knowledge of MSA and the spoken dialect. The variables under study were subject-verb agreement, negation, yes/no and wh-questions, dual and plural form, relative pronouns, passive form, adjective (in)definiteness and construct phrase (i.e. the juxtaposition of nouns to form a certain semantic relationship like possession). School-aged children performed better in tasks related to the spoken dialect, except for negation due to the fact that negation in MSA requires only the use of a free morpheme (i.e. /la/ or /ma/), whereas the negation in the Palestinian dialect is formed by using two markers; the free morpheme /ma/ and the bound morpheme /-ʃ/. The children also performed well in items where the constructions were similar in the two

varieties, such as adjective definiteness and indefiniteness which have the same rule in MSA and PSA.

2.2.3. Pidgin Arabic

Sebba (1997: 79) defined pidgin as "a stable language variety which, although allowing for individual variation as with any language variety, is conventionalized and has a somewhat unified vocabulary and grammar, but is used for a limited number of functions as compared with a natural language". Thus, what differentiates between pidgin varieties and imperfect learning of a second language is its conventionalization.

During her stay in the Gulf area, Naess (2008) noticed a distinctive variety of Arabic used between Asian foreign workers and Arabs. She collected data from 16 Asian workers in Oman and UAE and analyzed the sound and grammatical features of this variety in order to see if it can be considered a pidgin variety. In terms of pronunciation, foreign domestic helpers from Asian backgrounds would find it difficult to pronounce some sounds in Arabic, like the pharyngeals (Smart, 1990; Shaalan, 2009). Naess (2008) found that the uvular /q/ was realised as /k/ in syllable-final positions, the interdentals /θ/, /ð/ and /zˤ/ were realised as /t/, /d/ and /d/ respectively, /ʃ/ was realised as /s/, and /z/ lost its voicing or was realised as /ʒ/, while /x/, /ɣ/ and /ħ/ were realised as /k/, /g/ and /h/ respectively or /k/ for them all. In addition, /w/ was realised as /v/, and /f/ was realised as /p/ among Sinhala, Javanese and Chavacano speakers, whereas /ʕ/ was either realised as a glottal stop /ʔ/ or substituted with a long vowel. Gulf Pidgin Arabic was also categorized with the neutralization of the voiced/voiceless contrast in word-final positions, in addition to the absence of consonant germination and long vowels. Naess did not mention emphatics, though it would be interesting to look at the production of emphatics in Pidgin Arabic which is used by foreigners.

Naess (2008) also investigated pronouns in Gulf Pidgin Arabic. It was found that only independent personal pronouns were used, and most commonly /ana/ 'I' and /inte/ 'you' with no gender distinction (though in Arabic there is a gender distinction as in /inta/ for male and /inti/ for female). For the third person,

only few of the speakers managed to distinguish between these pronouns in terms of gender; /huwa/ 'he' and /hiye/ 'she'. Plural pronouns hardly occurred, and were formed by juxtaposing two singular pronouns in cases involving the first person, such as /ana huwa/ 'I he'. Gulf Pidgin Arabic speakers were not found to use the possessive or dependent pronouns. Naess (2008) explained also that negation in Gulf Pidgin Arabic used a system of two negations; the particle /ma:/ (and sometimes /mu:/) is used in front of verbs and pseudo-verbs (e.g. /fi/ meaning 'to have') just like Gulf Arabic, while /mafi/ is used in front of non-verbal negation and imperative verbs and sometimes verbs too, as in the examples 10 and 11 below provided by Naess (2008).

10. ana ma:lu:m, ma: fi muʃkila ana
    I.1S known, no have problem I.1S
    'I understand, I don't have a problem with that'.
11. Bas ha:da riyya:l mafi zein
    But this.MS man no good
    'But the husband is not nice'.

Al-Haq & Al-Salman (2014) studied the Jordanian Bengali Pidgin Arabic (PBPA henceforth) in the speech of Bengali male workers in the industrial city in Irbid, Jordan. Their results were similar to the previous study. As for the pronunciation of JBPA, they found that /k/ was realised as /g/, /f/ as /p/, the interdentals /θ/and /ð/ were realized as /t/ and /d/ or /dˁ/ as in the rural Irbid dialect, /z/ was realised as /s/, and /ʒ/ as /z/, /x/ was realised as /k/ while /ɣ/ as /g/ or /k/, and /ħ/ as /h/. The glottal stop /ʔ/ and the pharyngeal /ʕ/ were normally dropped or substituted with a long vowel, and sometimes /r/ was realised as /l/. Most of the emphatic sounds were replaced with their non-emphatic counterparts. By looking at the verb form, Jordanian Arabic uses the perfective form for the past /katab.3MS/ 'he wrote' and imperfective form for the present /bijuktub.3MS/ 'he writes'. In JBPA, the imperfective form was used for the past and the present leaving it open for the context to determine the tense. In addition, no inflection for person, gender or number was found in the imperfective verbs in JBPA. As for negation, JBPA used /mafi/ and /ma/ interchangeably to negate the perfective and imperfective verbs, whereas /mafi/ is used with the imperative.

Given that a large number of the Asian foreign workers in the Middle East are housemaids or domestic helpers, Bizri (2009) used the term 'Pidgin Madam' which is usually called 'Maids' Arabic' in reference to the language used between Sri Lankan female domestic helpers and their Arab employers in the Middle East. She chose this term because those domestic helpers are mainly in contact with the madams in the houses they work in. Bizri (2009) noted that domestic helpers from the Philippines used English with their Arab employers, which develops what she named 'English-based pidgin', while those from Sri Lanka (Sinhala or Tamil speakers) use 'Sri Lankan Arabic' as people in Lebanon named it. Since Arabic and the languages spoken by the domestic helpers are not from the same family, this creates a context for pidgin. Bizri (2009) investigated the contact between Sinhala and Arabic as most of the Sri Lanka maids were speakers of Sinhala.

Bizri (2009) mentioned that Spoken Sinhala had no verb-agreement, and though it did not have feminine-masculine gender, it had animate-inanimate gender. Some of the characteristics of Pidgin Madam as illustrated by Bizri (2009) are mentioned. In Pidgin Madam, domestic helpers were found to use the imperative verb form even for the affirmative past and present tenses, too. They also tend to use the Arabic singular second person possessive suffix /-ik/ 'you, your, yours' or the singular third person /-a/ or /-ya/ 'she, her, hers' in the feminine form instead of the first person (see examples 12 and 13 below from Bizri (2009)).

12. ana ibnik askari
    me.1S son-your.2FS soldier.MS
    'My son is a soldier'.
13. ana sawsik mapi odrobi-ya
    me.1S husband-your.2FS there-is-no hit-her.3FS
    'My husband has never hit me'.

According to Bizri (2009), Pidgin Madam had no gender or number marking, yet the adjectives were used in the feminine singular form (see example 14 below by Bizri (2009)). In addition, a lot of Arabic expressions that need to be transformed or conjugated were kept and used as is (see example 15 from Bizri

(2009)). Moreover, some causative and transitive verbs were used as non-causative and intransitive verbs (see example 16 from Bizri (2009)). Interrogative forms were sometimes used in non-interrogative context to focus on an element or to express a relative clause (see example 17 from Bizri (2009)). Pidgin Madam was also marked with the use of the preposition /fi/ (which means 'in or inside') to give an existence meaning 'there is' as in example 18 from Bizri (2009). Reduplication was another main characteristic of Pidgin Madam, which indicated pluralization or intensification of the meaning (see example 19 from Bizri (2009)).

14. sawsik niya
    husband-your.2FS good.FS
    'My husband is good'.
15. Bithiibbi:ni ʒeiye
    love.3FS-me coming
    'I felt like coming'.
16. ana sitti nos payyani
    me.1S six half wake.2FS(imperative)-me.1S
    'I wake up at six thirty'.
17. ana su: baddik hadiyye
    me.1S what intention-your.2FS gift
    'What I want is that thing'.
18. ho:n pi binit
    here there is girl
    'The girl who is here'.
19. ana kil yo:m sogol sogol
    me.1S every day work work
    'I have so much work to do every day'.

2.2.4. Linguistic variables in the current study

As mentioned in the first section of this chapter. This current thesis examines the independent factors discussed earlier. As for the linguistic variables, I was interested to look into children's pronunciation of certain sounds found in Arabic but not in English (e.g. pharyngeal sounds) in order

find whether children introduced to English and/or live in a house with a domestic helper will be able to pronounce them or not.

As for the morpho-syntactic variables, I chose to test gender agreement in Arabic as it is not found in English. For example, we say 'she/ he cooks' in English, whereas it is 'hijje btutˁbux' (she cook.3FS) and 'huwwa butˁbux' (he cooks.3MS). Same thing applies to adjectives describing nouns. In English it is 'smart girl/smart boy', but in Arabic it is 'bint ʃa:tˁra' (girl smart.FS) and 'walad ʃa:tˁir' (boy smart.MS). Gender agreement is mostly dropped in Pidgin Arabic.

I also looked into forming dual and plural forms which is different in the two languages, too. In English there is no dual form, and the plural is typically formed by adding the suffix /-s/ (except for some irregular forms). However, in Arabic, as mentioned earlier, there are dual and plural forms, and the plural has three different forms.

As for word order, JSA is quite flexible in terms of subject verb order, thus I did not look into this. However, adjective and noun order in English is the opposite of it in Arabic. For example, we say 'big car' in English, while we say 'sijja:ra kbi:re' (car big.FS) in Arabic.

In the middle of my study, I decided to add another two variables too: the second person pronoun and the assimilation of the definite article in Arabic, because I noticed some of the children making errors in them. As discussed in the Pidgin Arabic section, domestic helpers do not differentiate the gender of the addressee, similarly, English uses the pronoun 'you' regardless of the gender. Conversely, in Arabic we have 'inta' for masculine and 'inti' for feminine. As for the assimilation of the definite article /al/, I thought it is interesting to investigate the acquisition of this among bilingual and monolingual children in Jordan.

Chapter 3: Methodology

This chapter explains the various methods used in conducting this study and the attempts made to analyze the data collected. Due to the fact that this study looks into the linguistic and sociolinguistic factors that influence the acquisition of Jordanian Spoken Arabic in four-year-old children, a combination of methods were used in collecting and analyzing the data. Firstly, the number of participants recruited for this study will be reported (3.1). In that section, the classification of the participants will be discussed. A description of the methods used in data collection will be provided (3.2). Furthermore, this chapter will also discuss the various methods of data analysis of the recordings and questionnaire results, in addition to the reliability of the transcriptions (3.3). Finally, the limitations faced while conducting this study will be covered (3.4).

3.1. The Study Sample

Twenty-two normally developing children were included in this study (11 boys, 11 girls). The children under study were four-year-olds at the time of the recordings (born in 2008), and were children of Jordanian, Arabic-speaking parents. The children attended bilingual preschools prior to that time (for almost a year). To control for the socio-economic background, children were chosen from the schools they were registered at for the following year, which all charged similar fees and used bilingual educational system.

Participants were first approached from the end of April 2012, through bilingual private schools in Amman, the capital of Jordan. Schools were asked to send the information sheet (see appendix 1) about the study via e-mail to the parents of, by that time, incoming kindergarten children. Parents who were willing to enrol their children in the study were asked to contact the researcher directly.

However, recruiting participants through schools, and even preschools, was not particularly successful. For this reason, 500 copies of a flyer (see appendix 3) with information about the study were distributed amongst

various bookshops, children's toy and clothes shops. These flyers asked interested candidates to contact the researcher. Not getting enough participants created a need to post the flyer on child-related pages on the social network, Facebook. This served not just for finding participants, but for familiarizing the 'networking' community with the objectives of this research. In addition, the society got an insight into such studies, including the need for them and the methods of data collection carried out in this field.

According to the 'Social Network' framework suggested by Milroy and Milroy (1978), participants were also approached 'in the capacity of 'a friend of a friend' or in some cases a 'friend of a friend of a friend' (Al-Khatib, 1988: 57). It was easier to convince people who I knew to enrol their children in the study. Moreover, Milroy (1980) elaborated in this regard that being identified as a friend of a friend may put the participants at ease and encourage them to agree to take part in the study. I also asked my participants to ask their friends and their children's colleagues to take part in the study since they had an insight into the process of data collection in my study.

Children fell into two main groups: 1) children raised in households with foreign DHs, 2) children raised in households with no DH. The first group was then classified into two subgroups: 1) children with DHs speaking English DHs-E, henceforth), 2) children with DHs speaking pidgin Arabic (DHs-PA, henceforth). Table 3.1 shows the classification of the 22 children. More information about the children is provided in chapter 4.

	With DHs		**With *no* DH**
	DHs-E	**DHs-PA**	
Number of children	9	6	7
total	15		7

Table 3.1: Number of children in each group

3.1.1. Children raised in households with foreign domestic helpers (DHs)

One of the factors under study, which is assumed to play a role in the acquisition of language among children, is the presence of a foreign domestic helper (DH). This aspect was, therefore, taken into account while recruiting the participants and choosing the sample. The plan was that most of the children chosen to be in this group would be raised in households with DHs speaking English (DHs-E), who were mainly from the Philippines. However, this was not possible due to not finding enough parents from this group willing to take part in this study. Therefore, I decided to also look into the language of children who were raised in households with foreign DHs from other nationalities, who mainly speak pidgin Arabic (DH-PA) (see Smart, 1990; Shaalan, 2009).

3.1.1.1. Children raised in households with DHs-E

This group includes children who were being raised in households with foreign DHs speaking the English language. Some people in Jordan prefer hiring Filipino helpers, in spite of their high costs, for various reasons; mainly for their good command of English compared to other DHs. Children classified under this category spent some time speaking English at home due to the presence of a stranger speaking English. Nine children (4 boys and 5 girls) fall into the group of children raised in households with DHs-E.

3.1.1.2. Children raised in households with DHs-PA

Children who were raised in households with foreign DHs who were not English speakers, fall into this category. Some people prefer to hire a non-Filipino DH because Filipino DHs are costly compared to those from Indonesia and Sri Lanka. In addition, some Jordanians prefer to have a Muslim domestic helper; hence they choose a DH from countries like Indonesia, Sri Lanka, or Bangladesh. These DHs tend to speak Arabic, usually because they worked in Arab countries for several years. However, the Arabic language they speak is mainly pidgin Arabic (Smart, 1990; Shaalan, 2009). Six children (2 boys and 4 girls) fall into this group.

3.1.2. Children raised in households with *no* domestic helper

The second main group, i.e. children being raised with no domestic helpers at home, serves as a control group in this study. All of the children went to bilingual preschools, yet I looked for children who were raised in households with no DH in order to serve as a control group in this study. Seven children (5 boys and 2 girls) fall into this group. Despite the fact that this group had no domestic helpers at home, it was noticed that some parents in this group, either indicated in the questionnaire or was observed in the sessions, used English along with Arabic in their daily interaction with their children. I did not classify the children here into groups as this is already clear in the correlations with the input they received.

3.2. Data Collection

Due to the diverse nature of this cross-linguistic study, various methods of data collection were applied. To elicit pure linguistic data, each child's speech was recorded in two separate sessions; the first was a naturalistic session (3.2.1) and the second consisted of three elicitation tasks (3.2.2). Moreover, a questionnaire was sent to the parents to collect sociolinguistic data and to elicit their attitudes towards English and Arabic (3.2.3). A second round of data collection took place and a picture vocabulary test was used. The whole process is explained in chapter 8.

Before being officially enrolled in the study, after reading an information sheet explaining the nature of the study and its objectives, the parents were asked to sign a consent form (either in English or Arabic) stating clearly, for ethical issues, their willingness to participate in the current study. Recordings took place in the child's house in the presence of one or both of the parents most of the time. My mother accompanied me during all of my visits in order to encourage children to speak in Arabic with a monolingual speaker (i.e. my mother). All of the sessions were recorded using a Sony DSR PDX10P cam-recorder and radio microphones.

3.2.1. Naturalistic Recordings

Undoubtedly, the presence of the cam-recorder and a stranger at home for the first time 'can render the child literally "speechless",' argued Smith et al. (2007: 68). To lessen shyness and the Observer's Paradox (Labov, 1972), and to put children at ease, their mothers were requested to be involved in the first session. Therefore, the twenty-two children were video-recorded in the first visit with their mothers doing any activity they liked. They were drawing, colouring, playing or just chatting. Sometimes, the child's sister or brother was there too to help the child feel safe and more comfortable.

The recordings were mainly done with the mother, yet the researcher also took part in the conversation every now and then during the session. The mother and the child were asked to speak freely, but to speak mainly in Arabic in order to elicit data in Arabic. These sessions ended up being useful in providing invaluable information not only related to the child's speech, but also to the input the child got from the mother and the surrounding environment in case the children and/or mothers preferred to use English or switched between English and Arabic. I opted for the naturalistic recording in order to elicit long sentences, yet some of the children tended to provide short utterances, which created a need for other interactive short tasks.

3.2.2. Elicitation Tasks

The second session for each of the children took place four to eight weeks after the first session, except for the last five children who joined the study at the end, and for them at least a week of time was given between the two sessions. The reason behind this time difference was to give me as a researcher time to record the first session for all the children before starting the second session.

Unlike the first session, the second sessions were all video recorded with the researcher. Most of the children participated happily and were cooperative in the second session, which was divided into three main

activities: a memory game, a story-telling activity and a sticker book activity. The memory game and the sticker book activity were designed to elicit specific structures and sounds, whereas the story-telling activity, like the naturalistic session, was added to elicit long sentences from the children.

It is worth mentioning that the sticker book activity was added after recording the second session for three children, so another third short session was added for those children. Children were given stickers and small gifts as incentives throughout the session to appeal to them and boost their enthusiasm.

3.2.2.1. Memory game

A Noah's Ark memory game with a 3-dimentional ark and animal illustrations (see figure 3.1) was chosen to break the ice with the children in the second recording session. Though the game consists of 20 pairs of animals and two rainy cloud cards, children did not get all of the cards to play with. Due to time restrictions, most of the children got 6 pairs to play with; this game was merely a start and not the main task in these sessions.

Figure 3.1: "Two by two": A Noah's ark memory game

In this game, children under study were supposed to make matching pairs out of the animal cards they had. The task was explained to the children in an easy way. As a start, I asked the child to take all of the cards off the 3D ark. Then, I explained that these cards had pictures of animals, and so we needed to choose some of these animals to play with, but we needed to have 2 cards with the pictures of each animal we chose. I asked each child to pick six different cards and I picked the same ones too, so that we got 6 identical pairs. The rest of the cards were taken out. The children were invited to choose the cards they wanted to play with to encourage them to play.

After choosing six pairs of cards, each of us (the child and I) had six different cards. I explained to them that we needed to lay our cards face down to hide the picture of the animal and shuffle the cards. The child then decided who would start. The first player turned over a card and said what the animal was, e.g. "ha:da ʔird bunni" (this is a brown monkey). The second player, then, had to guess which of his/her cards had the same animal and say what s/he has found, e.g. "hay il-ʔird il-bunni" (here is the brown monkey). If the two cards matched, the child dropped them both into the ark. If the second player made a correct guess, s/he was awarded another turn for making a match unless the child preferred otherwise. If the cards were not a match, the player turned over the wrong one and selected another card in an attempt to make a pair.

The aim of the game was not to see whether the children were successful at making a match, but rather to break the ice, to get the children involved in the session and to make sure they understand what "matching" means. This is important in understanding the following activity (i.e. the sticker book activity). This task was also chosen as an attempt to elicit noun phrases from children by describing the animal illustrated on the card they turned over, in order to see if they got the right order of adjectives and nouns. By that, we elicited two morpho-syntactic variables; word order, i.e. the order of the noun followed by the adjective in Arabic, and gender

agreement, because the adjective had to agree with the noun in gender and number (number was not an issue here since they were all singular).

The child was supposed, for instance, to turn over one of the cards and describe the animal by saying "ʔird bunni" (monkey.SM brown.SM), for the researcher to look for the brown monkey in her covered cards. Most of the children, however, gave one-word responses, even when they were asked to give details; they tended to provide an adjective or a noun instead of a noun phrase.

3.2.2.2. Story-telling

The second task in the elicitation session was the story-telling activity, which aimed at motivating the child to give long sentences by explaining the events of the story. The story 'Frog, Where Are You?' by Mercer Mayer (2003) was chosen for this purpose (see figure 3.2). The story talks about a boy and his dog looking for a frog that escaped from a jar in the boy's room. The eventful story is based on illustrations and has no words.

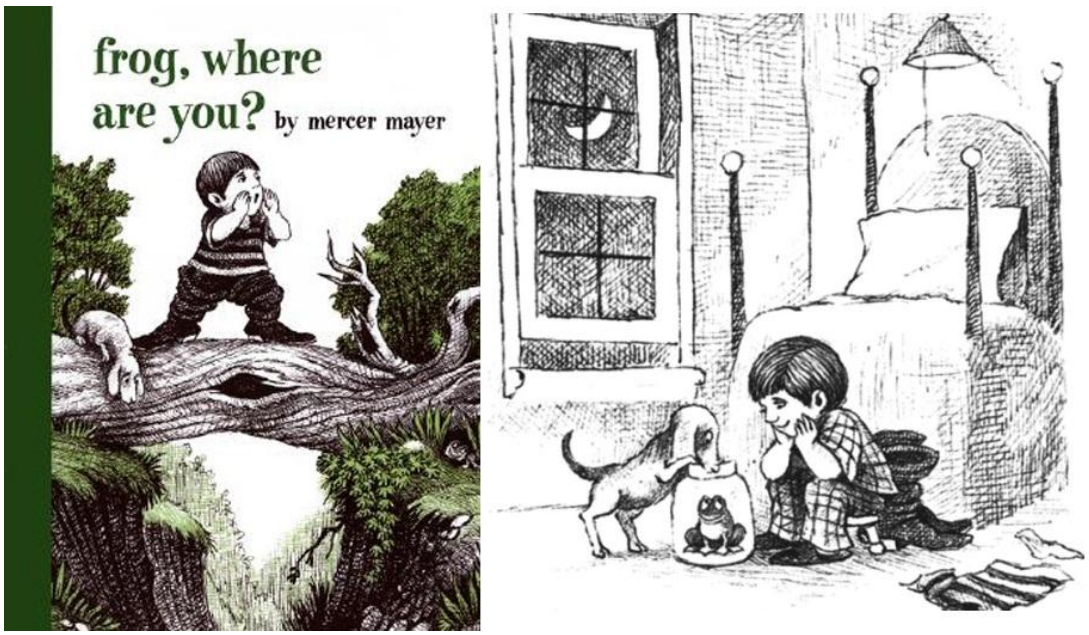

Figure 3.2: "Frog, where are you?" story cover and one of the pages

The children were given the storybook and we looked at the cover together. Sitting next to the child, I said "this is a very nice and exciting story. Let's see what it talks about". The child was asked to tell me what was on the first page and to talk me through the story. Although some of the children liked the story and were interested in it, some children gave very short answers to my questions about the story, sometimes even one-word answer. Some of the children expected me to read the story for them, and tended to ask me questions about the events instead of talking about them perhaps because they were still young. Keeping some of the children interested in the story, and encouraging them to speak, was quite challenging. Some of the children refused to continue with the story after a certain point.

3.2.2.3. Sticker book

Despite the fact that the twenty-two children under study enjoyed the memory game and the story, most of them described the pictures using single words. Some of the children also did not provide long sentences, as expected, in the story telling activity. This hindered the researcher from getting data for the morpho-syntactic level; i.e. word order, number forming and gender agreement. The sticker book was, thus, adapted from Matthews et al.'s (2012) designed sticker book with amendments to meet the needs of the current study.

3.2.2.3.1. Design

A coloured ten-page sticker book was designed with two stories (five pages each); a family celebrating a birthday and a family having a holiday. The pictures were mostly taken from Matthews et al. (2012) study, yet were changed to meet the needs of the current study. On each page of the book, an item (an animate or inanimate object) was missing from the picture. The missing item for each page was printed out, cut out like stickers and stuck on white cardboard along with three other different pictures which serve as distracters. The children had to choose the target item for each page from the four-sticker array. The target items were stuck on with blue tack whereas the distracters were glued on the cardboard. The

choice of the items serving as distracters was systematic. For example, when the target item was a brown cat, the distracters were: a white cat, a brown dog and a white dog. A cat and a dog were used to have a variation in gender among items belonging to the same group (i.e. animals), since a cat is feminine and a dog in masculine in Arabic. Two different colours were used, so that one-word response would not be sufficient, such as if the child said "bisse" (cat.FS), or "binnijje" (brown.FS). This would encourage children to provide at least a noun phrase, including a noun and an adjective.

In the four-sticker array, the four stickers were placed two above and two below. The distracters were kept in the same place during all of the sessions, and before each session, I placed the target stickers in the empty places for the children to take. The target stickers were not placed in the same position for all of the pages. The target items were randomized across pages in order to control for potential training effects, so that the children would not memorize their place and keep on asking for the picture in that place. However, for each page, the target sticker was placed in the same position during all of the sessions, so that it remained consistent for all of the children to enhance participants' comparability.

Twenty-three copies of the sticker book were printed out; one for the researcher and the rest for the twenty-two children under study. For testing, the twenty-three copies were identical except that the researcher's copy had the “missing” items glued in place (see Figure 3.3). The researcher's copy had the missing items glued on and not printed as part of the book, so that the children would not feel that their book was not original after gluing the stickers in place.

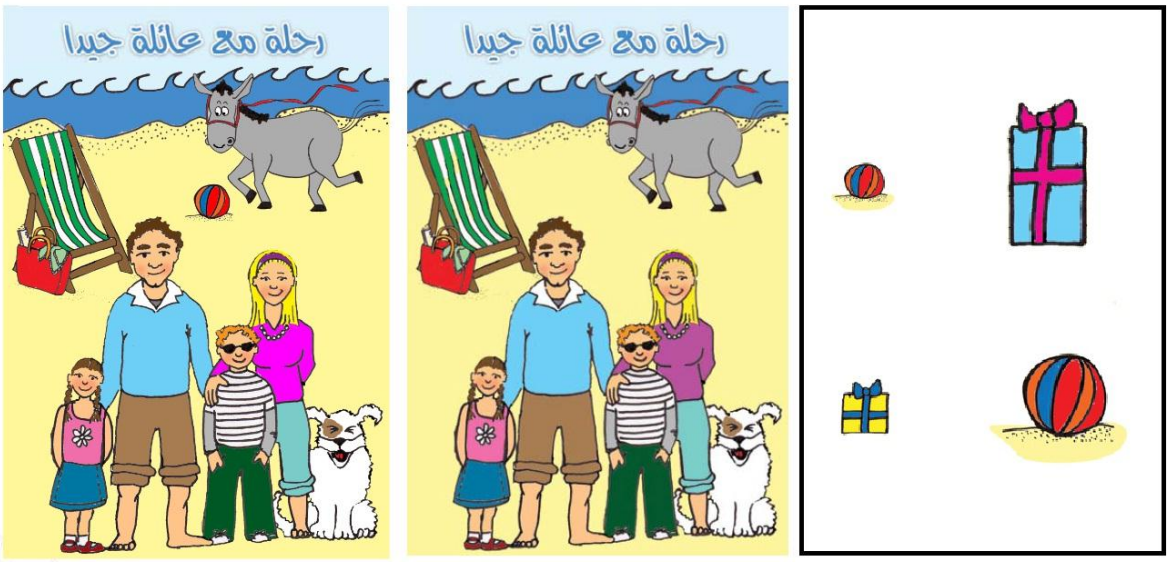

Figure 3.3: Sticker book design, with the children's copy missing the small ball on the top left side of the sticker page

3.2.2.3.2. Variables

The choice of items to be used as targets was based on the choice of phonetic and morpho-syntactic variables under study. I was mainly concerned with eliciting some sounds that are different between Arabic and English, such as the pharyngeals (e.g. /ʕ/ and /ħ/), the uvulars (e.g. /q/ and /ɣ/) and the emphatics or the uvularized consonants (e.g. /sˤ/, /zˤ/, /tˤ/ and /dˤ/ which are produced with the retraction of the back of the tongue as a secondary articulation according to Zawaydeh (1998)). At the morpho-syntactic level, this task mainly aimed at eliciting adjective-noun order, number and gender agreement. Thus, the child's answer should be at least a noun phrase containing singular, dual and plural nouns and adjectives, and feminine and masculine nouns and adjectives. Adjectives in Arabic follow the noun and have to agree with the noun in terms of number and gender. A graphic designer helped to fix the pictures and design the sticker book. Table 3.2 shows the noun phrases children were expected to provide for each item in the sticker book task, which are the optimal responses.

	Optimal responses
1	bisse binnijje cat.FS brown.FS ‘brown cat’
2	ʔarbaʕ wla:d four.M boy.MP ‘four boys’
3	muharriʒ ʔasˤlaʕ clown.MS bald.MS ‘bald clown’
4	talat hada:ja (kba:r) three.M gifts.FP (big-BP) ‘three big gifts’
5	tˤa:wiltein zˤɣa:r table.FD small.BP ‘two small tables’
6	tˤa:be/kura zˤɣi:re ball.FS small.FS ‘small ball’
7	kalb ʔabjadˤ dog.MS white.MS ‘white dog’
8	bint btisbaħ girl.FS swimming.FS ‘a girl swimming’
9	bint mabsu:tˤa girl.FS happy.FS 'happy girl’
10	bantˤalo:n/ʃurt burtuqa:li pants/shorts.MS orange.MS ‘orange pants/shorts’

Table 3.2: List of optimal responses in the sticker book activity

As shown in table 3.2., I tried to include singular (e.g. sticker #6), dual (e.g. sticker #5) and plural forms (e.g. sticker #4), and also both genders (masculine and feminine). Nine of these stickers attempted to elicit noun-adjective order except for #8 in which I tried to add a verb instead of an adjective. By that change, I wanted to catch their attention and link them to the story they were playing with in case they lose interest. I also wanted to see if they could make the verb agree with the noun in terms of gender too. I noticed that children were excited about this change. The optimal response I was looking for was a full noun phrase rather than one-word response.

Here are two examples (1 and 2) from two different children showing their responses and how I coded them.

Example 1: Child #7 (no DH at home) asking for sticker #6
Child : /biddi itˤtˤaːbe lizˤɣiːre/
I want the ball.FS the small.FS

Example 2: child #19 (DH-E at home) asking for sticker #6
Child: /biddi ziːre ziːre kura/
I want small.FS small.FS ball

In example 1, the child gave the optimal response, i.e. full noun phrase, with no errors at any level. However, the child in example 2 used a reversed order of the adjective and noun and missed the emphatic /zˤ/ and the uvular /ɣ/, so this counted as one error in terms of word order and two errors in terms of pronunciation.

3.2.2.3.3. Procedure

In the experiment, I explained to each child that in this game there were two copies of the sticker book: the complete one was for the researcher, whereas children had the incomplete one. Each child was supposed to make his/her book look like the researcher's book by comparing each page of their book with the researchers' book, identifying what was missing from their pages and asking for the missing pictures

from the person holding the stickers. The child's mother or sibling, or at times the researcher's mother, acted as a naïve listener and held the cardboard with the stickers at a short distance from the child and the researcher, without being able to see the child's or researcher's books. The choice of person holding the stickers depended upon who the child wanted to play with at first, and in most cases it was the child's mother. However, my mother held the stickers sometimes to encourage the child to speak in Arabic, knowing she was monolingual, or when the child's parents were busy.

As a first step, I sat with the child looking at his/her book and comparing each page with the same page in mine. To create some excitement and to let the child know that s/he needed to give all the details about the sticker s/he would ask for, the child and I, as a team, sat away from the person holding the stickers and we used the ark (used in the memory game activity) as a barrier to hide our books from the person with the stickers. I explained to each child "in this game, we should hide our stuff so that others do not know what we are looking at". The child was asked "what is the difference between my page and yours?", and the child had to figure out what was missing in his/her page.

Most of the times, children gave one word answers in this task too, so I motivated them to provide more information by saying "we need to give full details of the item we want. We should say it all in one sentence and in Arabic in order to finish the game quickly and win the prize". There was a wrapped gift on the side waiting for them to finish the game, as an incentive. I did not provide the children with the answer, so that they did not model my answer.

As a second step, and after making sure that the child understood which picture s/he needed to get, s/he was asked to go and ask for it from the person holding the sheet with four different stickers per page (i.e. the target sticker and 3 distracters). To encourage verbalisation and inhibit any other form of responses (such as gestures and pointing), a red "magical

circle" was placed on the floor at a short distance from the person holding the stickers. The child was asked to stand on the red magical circle, knowing that if s/he moved, s/he would "lose" the game, and to fully describe the item they wanted. By that, we assumed that the child would be encouraged 'to produce longer utterances,' explain Matthews et al. (2012: 188).

In the third step, if the child produced a two-word answer which was enough to describe the target item, they were given the sticker by the person holding the stickers. However, if the child did not give the information needed, the person holding the stickers said to him/her "I am not sure I know which sticker you want". I tried to help the children by asking them some questions so they knew what information they needed to provide, as in saying "shu: loon il-bisse?" (What is the colour of the cat?), then they would say "bunni" (brown). Nevertheless, providing a one word answer was not sufficient to guide the person holding the stickers to the target sticker, because the distracters were to some extent close to the target sticker. For example, if the target sticker was "a brown cat", the distracters were "a white cat, a brown dog, and a white dog". The child kept on making attempts until they got it right. Once they provided the information needed, they were given the sticker to glue onto their sticker book, and so on. Figure 3.4 explains the procedure.

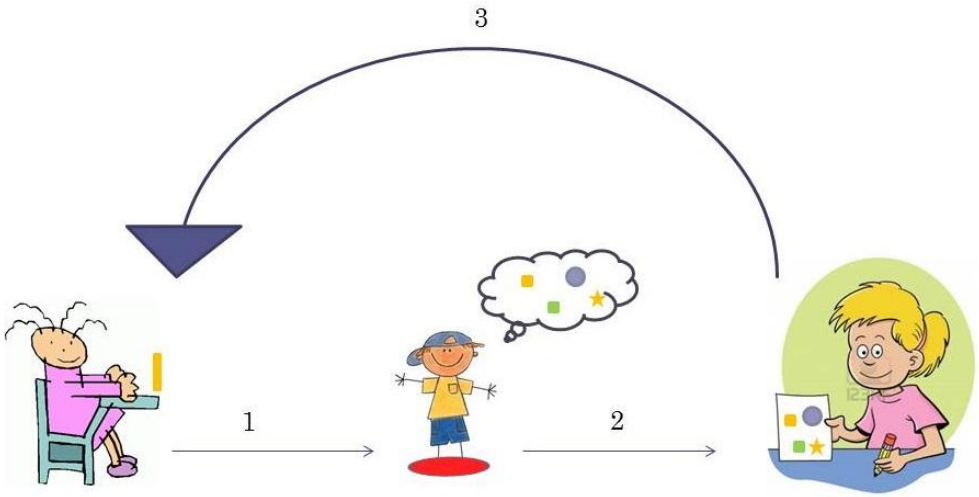

Figure 3.4: The procedure of the sticker book activity

The response was considered to be wrong when a child asked for a sticker that was different from the one in the researcher's book, so the child needed to make other attempts. In cases where children tended not to provide a sufficient description of the sticker requested, the parent (the naïve listener), was trained to say 'I cannot figure out which sticker you are asking for' without mentioning the target item. This is to encourage the child to increase specificity; thus, the child made another attempt(s) to explain which sticker s/he was asking for until they produce a two-word answer. There were no time-limit constraints, but some of the children got annoyed and started crying, then I needed to accept whatever the best response was which I considered the optimal response. Verbal responses were only counted after standing on the red 'magical' circle; anything before that was ignored.

The children were encouraged to speak in Arabic, unless they did not know the word in Arabic. In such cases, I tried to help them by giving the first syllable of the word, or trying to clarify it. They were also allowed to ask their mothers if they wanted to. Some of the children were slow in this activity, while others were quick. This task, however, was found to be very useful and interactive, and the children had fun doing it. I was able to get phrases from children to elicit word order, number and gender agreement; which were rarely elicited using the other two activities.

Interestingly, one of the children cried in this task because she could not accept the idea of having an 'incomplete' version of the book, so she was given the complete sticker book and the researcher took the incomplete one, and then the child was asked to help the researcher to get the stickers to complete her book.

3.2.3. Sociolinguistic variables

After collecting the linguistic data from children under study, sociolinguistic data related to biographical data and the linguistic input children receive at home were collected. The main sociolinguistic variables in the present thesis are: 1) parents' attitudes towards Arabic and English, 2) the

language of input children receive at home, 2) the presence of foreign domestic helpers. The questionnaire used to collect data related to attitudes, reported input and domestic helpers is described (3.2.3.1). In addition, recorded input, and the need for it, is explained (3.2.3.2).

3.2.3.1. Questionnaire for parents

Parental attitudes were assumed to reflect parents' language preferences and perhaps shape children's language. A questionnaire was designed to meet the needs of the current study (see appendix 2). The questionnaire was translated into Arabic. The parents of each child received an electronic copy of the questionnaire to be filled in and returned via e-mail. The questionnaires were sent to parents in both languages, English and Arabic.

The questionnaire consisted of four parts, in each of which there were mostly closed questions, but also a few open-ended ones. It took about ten minutes to fill in the questionnaire. The first part was intended to elicit biographical data about the parents; i.e. number of children, educational level, languages they speak, etc. Parents were asked, then, to answer various questions related to their language use and which languages and people their children are exposed to. The third section was devoted to measuring the parent's attitudes towards the Arabic and English languages and their preferences regarding which language(s) they want their children to learn. This part consisted of twelve statements and responses were recorded using a five-point Likert scale (from strongly agree to strongly disagree). Finally, the parents were asked to answer questions related to their children's development and their foreign domestic helpers, if applicable. One of the families did not fill in the questionnaire although I made several attempts to get in touch with them and ask them to fill it in. Unfortunately, most of the parents only filled in part of the questionnaire and left many questions empty; one left the questions related to input empty.

3.2.3.2. *Recorded* input

In the sessions, some of the children and some of the parents did not feel comfortable speaking in Arabic. Although mothers were asked to speak in Arabic, some mothers stated clearly that they themselves preferred to speak in English, and they tended to mix between English and Arabic. In order to figure out what mothers actually speak to their children, I have looked at their actual speech in the naturalistic session, and counted how many utterances each mother made in Arabic and English, and how many utterances contained code-switching in their speech. Since mothers were dealing with young children, their utterances were short and easy to classify as Arabic, English or code-switched. The average number/percentage of Arabic, English, and code-mixed utterances was calculated accordingly and added to the information for each child in the naturalistic session. This served as an objective measure of the language of input children received in order to validate the *reported* input in the questionnaire.

3.3. Data Analysis

As explained in the previous section, the two types of data collected were recordings for the children and a questionnaire filled in by the parents. The linguistic variables were derived from the recordings of the children's speech, whereas the measures of parental attitudes towards languages, along with the sociolinguistic variables, were based on the questionnaire and the mothers' speech in the naturalistic session. Raw scores are provided in chapter 5.

3.3.1. Analysis of the Recordings

Each child was recorded twice: in a naturalistic session and doing three elicitation tasks. Each session lasted for approximately 40 minutes. The children's verbal responses, in the video-recorded sessions, were transcribed using ELAN software 4.5.1. The transcriptions were done using a transliteration system taken from two projects[1] with amendments.

[1] Phonological acquisition in multilingual settings: the case of Lebanese Arabic by Khattab, Ghada and Intonational Variation in Arabic (IVAR) by Hellmuth, Sam and Almbark, Rana.

3.3.1.1. Linguistic variables

For each child, I counted separately for each variable the number of errors and opportunities for using this variable. I counted the number of errors in production of the linguistic variables measured out of the total number of the opportunities. In terms of pronunciation, I counted "1" error if the one of the sounds under study was missing or substituted. As for the assimilation of the definite article, I counted "1" error if assimilation did not occur and the /l/ sound was kept. I counted "1" error for gender agreement if the adjective did not agree with the noun in terms of gender (except for one example of verb agreement provided in the sticker book activity). I also counted "1" error if the child did not use the correct form of number (singular, dual or plural). As for the second person pronoun, I counted as "1" error if the child did not use the right gender with the addressee. I also counted as "1" error if the noun and adjective order was reversed. As for code-mixing, I counted "1" occurrence for each utterance including a word in English. The score for each variable was calculated separately for each task: the naturalistic session, memory game activity, storytelling activity, and the sticker book activity.

The linguistic variables measured in the naturalistic session, the memory game and the story-telling are (followed by examples in table 3.3):

- Phonetic and phonological:
    1. Pronunciation: the production of the pharyngeals /ħ/ and /ʕ/, emphatics /tˤ/, /dˤ/, /sˤ/ and / ðˤ/, velars /ɣ/ and /x / and the uvular /q/. When a child fails to pronounce any of these sounds correctly, it was counted as "1" error.
    2. The assimilation of the definite article /al/.
- Morpho-syntactic:
    3. Forming numbers: forming the dual and plural forms of nouns and adjectives, and getting the right plural form.
    4. Gender agreement: in Arabic, adjectives must agree with the noun they describe.
    5. Word order: using the right order of adjectives and nouns.
    6. Pronouns: using the right Arabic gender in the second person pronoun.

- Mixing:
    7. Code-mixing: Every time the child mixes between English and Arabic in speech, it was marked as "1" whether it was a word, phrase or a sentence. However, when there was more than one sentence, each sentence was counted as a separate case.

Type of error	**Child form**	**Correct form**	**Translat-ion**	**Child no.**	**Age**	**Error/ occur-rence**	**notes**
Pronuncia-tion	/ti:r.MS/	/tˤi:r/	fly	19	4;2	1	
Definite article	/il-ta:nje/	/it-ta:nje/	the other one	16	4;3	1	
Forming numbers	/talat.M ʔalba:t.FP/	/talat ʔlu:b.BP/	three hearts	1	4;7	1	Wrong plural form
Gender agreement	/kbi:r.MS tˤajja:ra.FS/	/tˤajja:ra.FS kbi:re.FS/	big plane	20	3;11	2	also counted as word order error
Word order	/kbi:r.MS tˤajja:ra.FS/	/tˤajja:ra.FS kbi:re.FS/	big plane	20	3;11	2	
2nd person pronoun	/ʕindak.M/	/ʕindik.F/	near you	17	4;0	1	Addr-essing moth-er
Code-mixing	/ʔana smart/	/ʔana ʃa:tˤir.MS/	I am smart	1	4;7	1	

Table 3.3: Examples on the linguistic errors/occurrences in children's speech

I was not able to elicit some of the linguistic variables from two of the children due to the fact that they preferred to speak in English most of the time in the naturalistic session. As a score for them could not be calculated, but their performance was clearly poor, I assigned them the second highest score of errors in these empty variables. Otherwise, if they got zero errors (out of zero opportunities), because they did not attempt to speak in Arabic, they would appear on the graph and in the results as if they were 100% correct.

In the sticker book activity, the children started talking about the sticker before standing on the red 'magical' circle. They also tried to give more than one answer when they stood on that circle, yet most of the answers were single words. Thus, I only coded for the best attempt made by each child after standing on the red 'magical' circle. The best attempt was ideally a full noun phrase (i.e. adjective and noun) in spite of not having a full noun phrase from few children (because they got bored or started crying). Thus, there was no need to count the errors out of number of opportunities since they all had the same number of utterances, which is ten, with the same target forms. When the children's best attempt was a single word response; this was coded, when it occurred, for the word class provided by the child for each picture. There were also rare cases, on the contrary, where some children provided extra information.

Responses coded for in the sticker book activity were basically noun phrases; hence not all the linguistic variables used in the other sessions were relevant. This activity was added mainly to measure pronunciation (production of some sounds as in the other sessions), morphology (number and gender agreement), word order (adjective - noun order), and code-mixing (see table 3.4).

Optimal response	**Best attempt given by the child**	**Gloss**	**Child no.**	**Errors in pronuncia-tion**	**Errors in number & gender agree-ment**	**Errors in word order**	**Code-mixin g**
ʔil-bisse ʔil-binnijje	ʔil-bisse ʔil-binni	cat.FS brown.FS	0	0	1	0	0
kalb kbi:r	kbi:r kalb	0	0	0	0	1	0

Table 3.4: Example on coding children's results in the sticker book

3.3.2. Analysis of the questionnaire and actual mothers' speech

I coded for having a DH or not, whether the DH speaks English or Pidgin Arabic, the child's parental attitudes towards Arabic and English, the *reported* input received in Arabic and English, the *recorded* input of in the naturalistic session in Arabic and English, and when code-mixing occurs. Unfortunately, most of the parents only filled in part of the questionnaire and left many questions empty. The good news is that all of the parents who filled in the questionnaire answered the question related to attitudes.

The twelve questions eliciting parental attitudes in the questionnaire were coded for (see chapter 4). In the five-point Likert scale, I gave scores ranging from 2 to -2, where "strongly agree" is 2 and "strongly disagree" is -2. Seven sentences were related to Arabic, and five to English. The average attitudinal score from the twelve questions eliciting parental attitudes was calculated for each parent for each language.

In addition to attitudes, the number of hours children were exposed to English and Arabic at home per week was used as provided by most parents in the questionnaire. In the case of having percentages provided by parents instead of hours, I assumed that a child's day is 12 hours and I estimated the hours accordingly. Only a handful of parents answered the final question about the reason behind hiring a domestic helper, hence this information will only be mentioned anecdotally, because no quantitative analysis relating to it was possible.

For the actual mothers' speech in the naturalistic session, I counted how many utterances were fully in Arabic or in English, or whether they code-switched within the same utterance. The average number/percentage of Arabic, English, and code-mixed utterances was calculated accordingly and added to the information for each child in the naturalistic session.

3.3.3. Transcription reliability

Some of the recordings were re-transcribed to determine the reliability of my transcriptions. One naturalistic session was fully re-

transcribed by one of my Arab colleagues, and another three 15-minute portions of sessions were re-transcribed by another colleague. Unfortunately, my colleagues were not speakers of JSA, but they were the best candidates available to transcribe the files. Since I am interested in testing certain linguistic variables, I coded the re-transcribed sessions and measured the reliability of the coding in terms of the sounds (counting the errors in pronunciation out of the proportions for the children).

In the first full file, the difference in the average of errors the child made in pronunciation in my transcription and my colleague's transcription was only 1.49%. In the other three files, the differences in the average of errors the child made in pronunciation in my transcription and my colleague's transcription were less than 1%. Some of the words were left untranscribed by my colleagues because it was difficult for them at times to interpret what the child was saying, so I took out the words not transcribed by them. I was more capable of understanding the children's productions due to my presence in the recordings and taking some notes, and sometimes from the mothers' repetition of the children's words. However, still some of these utterances were also left untranscribed in my transcriptions as well due to unclarity. In few cases, my colleagues got the word wrong because they are from a different Arabic background.

3.4. Limitations of the study

Recruiting the participants for the present study was difficult due to the fact that the society is predominantly conservative and people in Jordan, in particular, and the Arab World, in general, and they are not used to fieldwork studies and video-recording sessions. In addition, the data collection took place in summer 2012, when political factors may have been involved in the reluctance of people to take part in the study. Due to the situation in neighbouring countries, Jordanians were cautious as to whom they allowed into their homes and let their children sit with; hence, finding people willing to take part in the study was difficult. Therefore, the classification of the groups was out of my hand.

Moreover, some parents of children who were raised in households with foreign DHs did not show interest in the study or refused to take part in it after reading the information sheet. In the information sheet, the main aim of the study was to a certain extent clear, and I think this may have affected the recruiting and perhaps the parental attitudes.

Furthermore, children might get bored, sleepy, annoyed or shy at any time during the recordings. Some of the children insisted on eating during the recordings, others were to some extent nervous at some point, and some refused to wear the microphone or even to raise their voice to an audible level. Three sessions, thus, needed to be re-recorded.

In the naturalistic recordings, some of the parents lacked ideas for keeping their children enthusiastic and encouraging them to speak. The researcher, in such situations, tried to join the interaction, yet this was not always helpful. Some of the children did not easily get used to strangers. At times, children did not want to sit unless their siblings were there. This caused some distraction in the recordings and affected the sound quality to some extent. In these sessions too, some of the children and parents did not feel comfortable speaking in Arabic. Some mothers stated clearly that they themselves preferred to speak in English, and they tended to mix between English and Arabic. I think it would have been better if I let all the parents speak freely without asking them to use a specific language. By that, I could elicit a more reliable input from mothers.

Some of the children tended to only respond when prompted and to give one-word utterances. In addition, one of the children refused to speak in Arabic at all in the first recording despite all my attempts at convincing her, for example by explaining that the researcher's mother (who was present) did not understand English. Gifts were bought to motivate the children to speak in Arabic and to keep them interested.

Unfortunately, I did not re-do the sticker book activity for the children in the second round of data collection. However, I plan to do it again in future studies. This will add more to the findings.

Chapter 4: Parental Attitudes and Input

This chapter presents information from the questionnaire that was completed by the parents of the children under study, and also from what the mothers actually spoke in the naturalistic session. The results will be reported descriptively and statistically in separate sections according to the three sociolinguistic variables under study; i.e. parents' attitudes, reported input by parents, and what the mothers actually spoke (i.e. *recorded* input).

Firstly, overall attitudes of the parents towards the Arabic and English languages will be discussed (4.1). The second section (4.2) attempts to look into the potential relationship between parental attitudes and the input children receive in both languages. The *reported* input in the questionnaire is explained first (4.2.1), the section 4.2.2 explains the need for the study to use *recorded* input and correlates it with parental attitudes, whereas the third section shows the correlation between the *recorded* input with the *reported* input (4.3). The final section summarises this chapter and weighs up these factors (4.4).

4.1. Overall attitudes of parents towards Arabic and English

As mentioned in the Introduction chapter, it was anticipated that there is a trend nowadays in Jordan to perceive English as a prestigious language; and hence parents may be encouraging their children to learn English from early childhood. Given this increasing prominence of English, it was worth looking at the attitudes parents hold towards Arabic and to assess whether they believe it is important for their children to acquire Arabic as well.

The questionnaire was mainly intended to measure parental attitudes towards the Arabic and English languages. In the 12 questions, the 21 parents expressed their attitudes towards English and Arabic as shown in table 4.1. As mentioned in the methodology chapter, one family did not fill in the questionnaire. Question 1, 2, 4, 5, 8, 9 and 11 are related to

Arabic, whereas question 3, 6, 7, 10 and 12 are related to English. Due to the diglossic nature of Arabic, some questions were about the spoken variety (mainly those related to the acquisition of Arabic or using it in the community) and others about Arabic in general.

child	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Attitudes/ Arabic	Attitudes/ English
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	2	2	1	1	-2	2	2	1	0	2	1	2	0.7	1.8
3	1	1	1	0	1	1	2	1	2	1	0	2	0.9	1.4
4	2	2	0	1	1	2	2	1	0	1	1	0	1.1	1
5	1	1	1	0	1	1	1	1	1	1	0	1	0.7	1
6	-1	0	2	-1	1	1	2	1	2	-1	-2	0	0	0.8
7	1	1	2	0	2	2	2	2	1	2	1	2	1.1	2
8	2	2	2	2	2	2	2	2	2	2	2	0	2	1.6
9	2	2	2	2	2	2	2	2	0	0	0	2	1.4	1.6
10	-1	-2	2	0	-2	2	2	-2	1	2	-1	1	-1	1.8
11	1	1	2	0	1	2	2	2	2	2	1	2	1.1	2
12	2	2	1	2	0	1	1	2	1	1	0	2	1.3	1.2
13	2	2	2	2	2	2	2	2	0	2	1	2	1.6	2
14	2	2	1	1	2	2	2	2	1	2	-1	2	1.3	1.8
15	0	1	2	0	1	2	2	2	0	2	2	2	0.9	2
16	2	2	2	1	2	2	2	2	2	2	1	2	1.7	2
17	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	2	2	0	2	2	2	0	2	2	0	2	2	2	0.8
19	2	0	1	1	1	2	2	2	0	1	2	2	1.1	1.6
20	2	2	2	2	2	2	2	2	2	2	1	1	1.9	1.8
21	2	1	2	0	2	2	2	2	0	1	-1	2	0.9	1.8
22	-2	1	2	2	2	2	2	2	-1	1	1	2	0.7	1.8

Table 4.1: Details of parental attitudes (using Likert Scale) in the questionnaire

The overall attitudes towards Arabic were calculated by providing the sum of the parents' answers for each question about Arabic and then divided by the number of questions related to that language. The same way was followed for English. For instance, for child 2, Q1 on MSA got a score of +2, Q2 on JSA also got a score of +2, Q4 on JSA got a score of +1, whereas Q5 of MSA got a score of -2 which cancelled the score of Q1, Q8 of Arabic in general got a score of 1, Q9 of JSA got a score of 0 and Q11 of Arabic in general got a score of 1. The sum of these scores (5) was divided by the number of questions related to Arabic (i.e. 7) making the total score 0.7 for the attitudes towards Arabic. The score of Q5 cancelled the score of Q1 of MSA contributing to the low overall score. This shows that attitudes to Arabic are complex. As for the attitudes towards English for the same child, Q3, Q6, Q7, Q10 and Q12 got the scores 1, 2, 2, 2 and 2 respectively with no low score to cancel the high scores, so the total of these scores (9) was divided by the number of questions related to English (i.e. 5) making the score of attitudes towards English 1.8.

By looking at the overall attitudes, the parents of the children under study tended to favour the English language (M= 1,610, SE= 0.0899) over Arabic (M= 1,114, SE= .1548) as shown in their answers to the questions in the parental questionnaire (question 3 in the questionnaire). This difference, -0.4952, 95% CI [-0.85, -0.14], was highly significant t(20)= -2.912, (p= 0.009, two-tailed), and represented a medium to large-sized effect, d= 0.635, as shown in figure 4.1. This reflects the general tendency for parents in Jordan to value English more than Arabic.

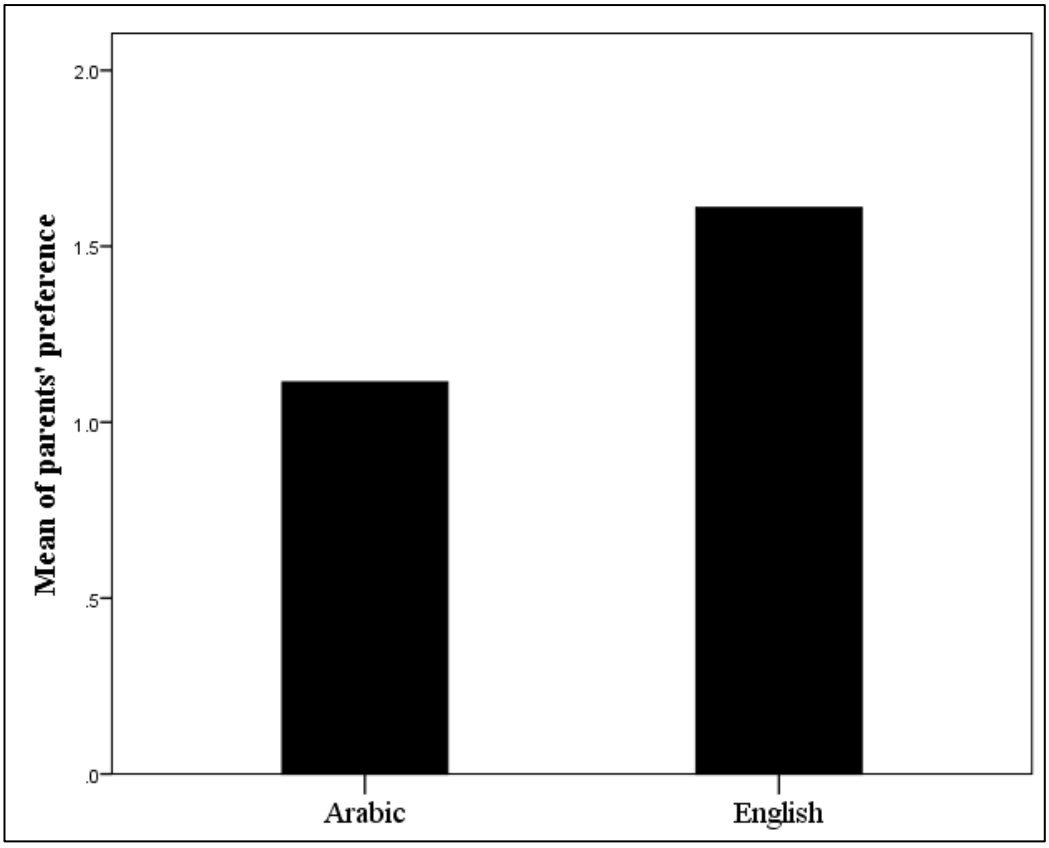

Figure 4.1: Parental attitudes towards Arabic and English

4.2. Parental attitudes and input

The main hypothesis was that the higher the attitudes of parents to a language, the more input children receive in that language, and perhaps less input is received in the other language. Thus, I attempted to look at the amount of input children receive in both languages according to what parents *reported* in the questionnaire and *recorded* input children received from their mothers in the naturalistic sessions. Table 4.2 presents information related to each child; whether there is a domestic helper in the household or not, the input received in both languages in hours and in percentages as *reported* by parents, besides the percentage of Arabic, English and code-switching in the mothers' speech in the *recorded* input.

4.2.1. Parental attitudes and *reported* input

However, in this study this relationship is not as direct and clear as it could be. Given the percentages of input children under study receive in Arabic and English as reported by parents, there seems to be no correlation between *percentage* of *reported* input and parental attitudes. However, when looking at the number of hours per week children were exposed to Arabic and English, the picture seems to be different.

Child no.	DH	Input Arabic (hrs)	Input English (hrs)	Input Arabic (%)	Input English (%)	Mothers' Arabic (%)	Mothers' English (%)	Mothers' CS (%)
1	DH-PA	-	-	-	-	88.5	2.5	8.9
2	DH-E	17	25	40	60	43.8	37.4	18.8
3	DH-E	46	30	61	39	85	5.4	9.6
4	DH-E	48	79	38	62	26.7	57.9	15.4
5	no	138	13	91	9	87.8	0.8	11.4
6	DH-PA	54	15	78	22	76.7	5.6	17.8
7	no	32	2	94	6	89.9	0.3	9.8
8	no	57	57	50	50	61.1	9.1	29.8
9	DH-PA	130	12	92	8	85.3	4.4	10.3
10	no	21	2	91	9	90.1	0	9.9
11	DH-E	-	-	-	-	5.2	90.8	4.0
12	DH-PA	77	71	52	48	86.5	3.0	10.5
13	DH-PA	173	13	93	7	98.4	0	1.7
14	no	41	44	48	52	46.3	40.7	13.0
15	DH-PA	69	50	58	42	76.7	5.3	18
16	no	53	53	50	50	24.6	68.7	6.7
17	DH-E	80	103	44	56	49.1	29.412	21. 5
18	DH-E	192	15	93	7	95.7	1.0	3.2
19	DH-E	80	14	85	15	75.6	6.6	17.8
20	DH-E	51	57	47	53	68.9	8.0	23
21	no	58	24	71	29	97.4	1.0	1.6
22	DH-E	38	41	48	52	90.2	0.8	9

Table 4.2: Children's information from the questionnaire and recordings

Parental attitudes towards English correlate positively with the *reported* input (in number of hours) children receive in English (r= .095, p= .691, two-tailed) and negatively with input (in hours) in Arabic (r= -.331, p= .154, two-tailed). Neither of these correlations is significant as shown in figure 4.2.

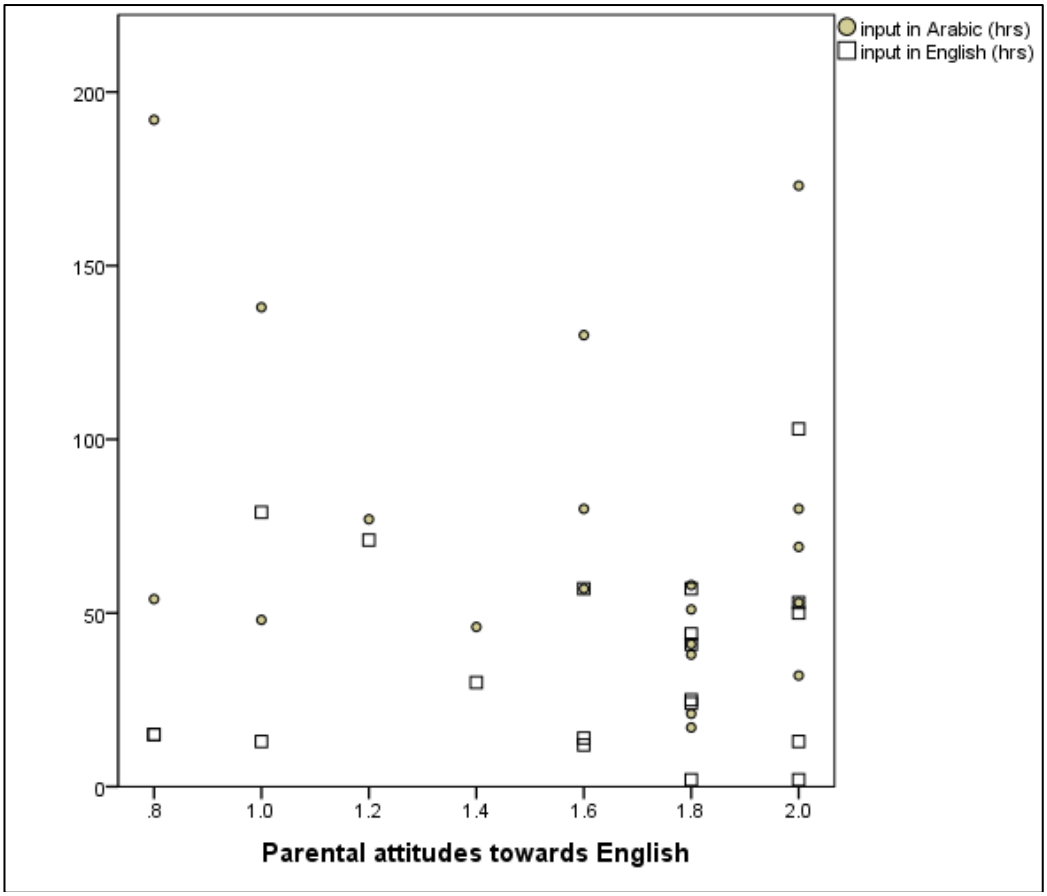

Figure 4.2: The correlation between parental attitudes towards English and *reported* input in Arabic and English (in hours)

When it comes to parental attitudes towards Arabic, there is no significant relationships between attitudes parents hold towards Arabic and the *reported* input (in hours) children receive in Arabic, r= 0.419, p= .066, two-tailed (see figure 4.3). However, there may be a tendency to expose children to more Arabic when parents hold the language in high regard.

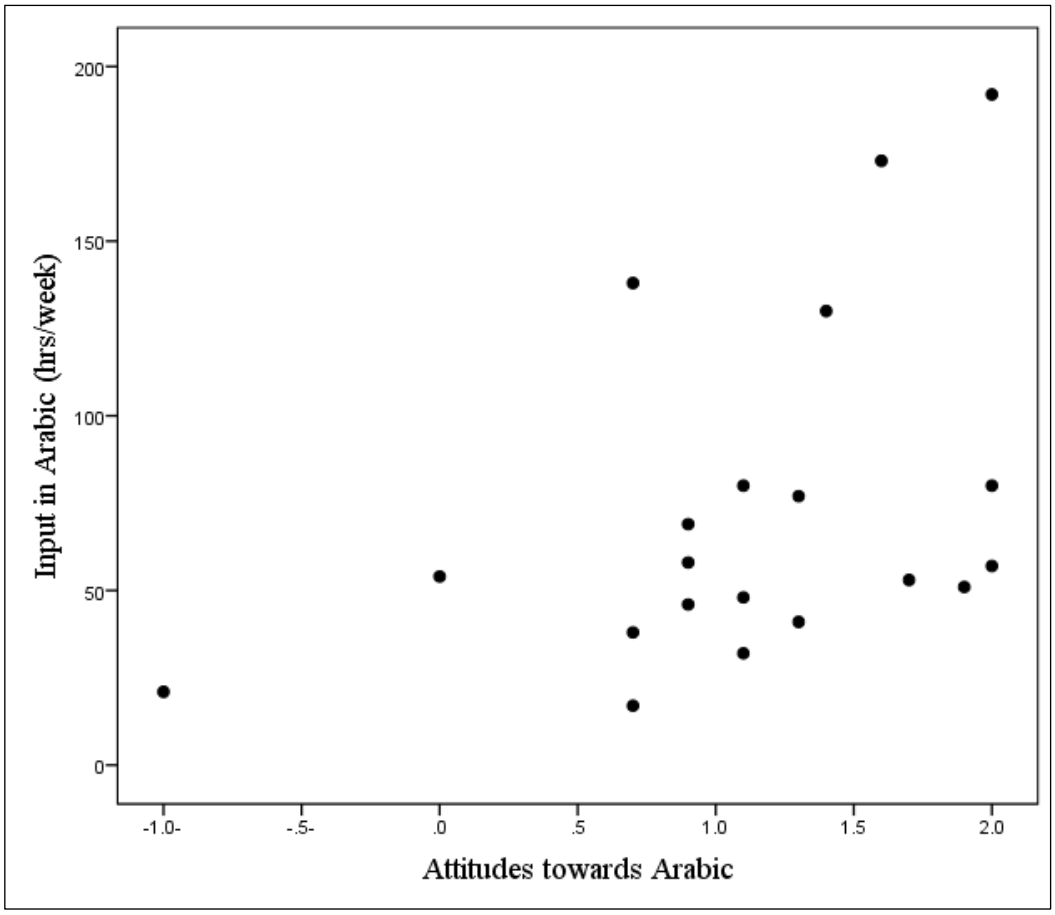

Figure 4.3: The correlation between *reported* attitudes towards Arabic and *reported* input in Arabic (in hours)

On the other hand, there is a surprisingly significant 'positive' relationship between the attitudes parents hold towards Arabic and the input children receive in English, r= 0.480, p= .032, two-tailed (see figure 4.4). In other words, the higher the attitudes parents have for Arabic, the more input in English children receive; indicating that parents who speak more English to their children seem to give Arabic a high rank, either for face saving or because they have noticed that Arabic is important to their children. It could be also that they recognised different types of importance of a language.

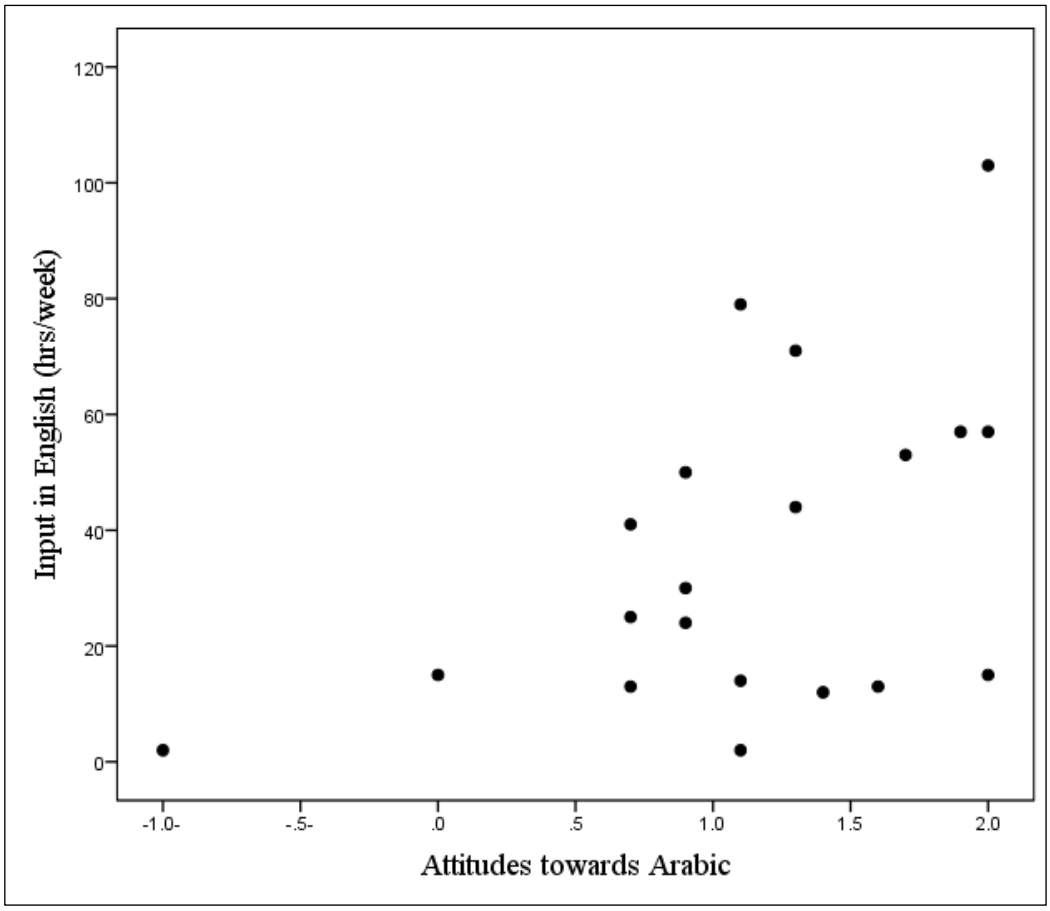

Figure 4.4: The correlation between *reported* attitudes towards Arabic and *reported* input in English (in hours)

Whether the correlation is significant or not, a positive relationship between parental attitudes towards Arabic and the *reported* input children receive in Arabic and in English is quite puzzling. It was anticipated that there will be a negative correlation between the *reported* input in English (*in hours*) and the *reported* input in Arabic (*in hours*). It is worth mentioning that there is no significant correlation between the two *reported* inputs, r= -0.211, p= 0.372 (two-tailed). This leads to the fact that it is difficult to count on the information provided by parents in the questionnaire; regarding the attitudes and language children are exposed to. Thus, a more reliable measure available to me to get an insight into what parents actually do was to measure the actual mothers' speech in the naturalistic session (i.e. *recorded* input), and see how many utterances were Arabic-only, English-only and code-switched.

4.2.2. Parental attitudes and *recorded* input

An attempt was made to correlate the *recorded* input with the attitudes of the parents, in order to see if parents behave in accordance with their *reported* attitudes. A correlation was run between parental attitudes towards Arabic and the percentage of Arabic, English and code-switching in what the mothers spoke in the naturalistic session. Similarly, a correlation was run between the attitudes of the parents towards English and the percentage of Arabic, English and code-switching in what the mothers spoke in the naturalistic session.

There is no relationship between *reported* parental attitudes towards Arabic, as elicited from the questionnaire, and the *recorded* input in the naturalistic session. Although it was expected that the percentage of Arabic the mothers spoke would correlate positively with parental attitudes towards Arabic, the results did not corroborate this prediction.

Likewise, there is no significant relationship between parental attitudes towards English and the *recorded* input. It was expected that the percentage of English in the *recorded* input would correlate positively with parental attitudes towards English, yet the results did not corroborate this prediction. These results indicate that what parents seem to believe is not necessarily borne out by what they actually do. It is also worth mentioning that this may be due to the fact that parents were asked to speak in Arabic in the sessions. Perhaps if they were free to speak in any language, the results may vary.

4.3. *Reported* and *recorded* input

In this section, we try to see if there is a relationship between what language the mothers actually spoke in the naturalistic session and the input children receive at home in both languages, Arabic and English, as *reported* by their parents in the questionnaire. Since the *recorded* input is considered as relatively more reliable since this is what actually happened in the sessions, I tested the *reported* input by correlating it with the *recorded* input.

I, first, correlated the percentages of Arabic sentences in mothers' speech with the percentage of the *reported* input in Arabic and English. It was expected that the more Arabic parents *reported* their children received at home, the more their mothers would speak in Arabic in the naturalistic session. Figure 4.5 shows that there is a positive relationship between the percentage of *reported* input in Arabic children are exposed to and the percentage of Arabic in the *recorded* input (i.e. the percentage of sentences in Arabic excluding code-switched utterances), r= 0.715, p = 0.001 (two-tailed). It also shows that there is a negative correlation between the percentage of *reported* input in English and the percentage of Arabic in the *recorded* input (i.e. the percentage of sentences in Arabic excluding code-switched utterances), r= -0.715, p = 0.000 (two-tailed).

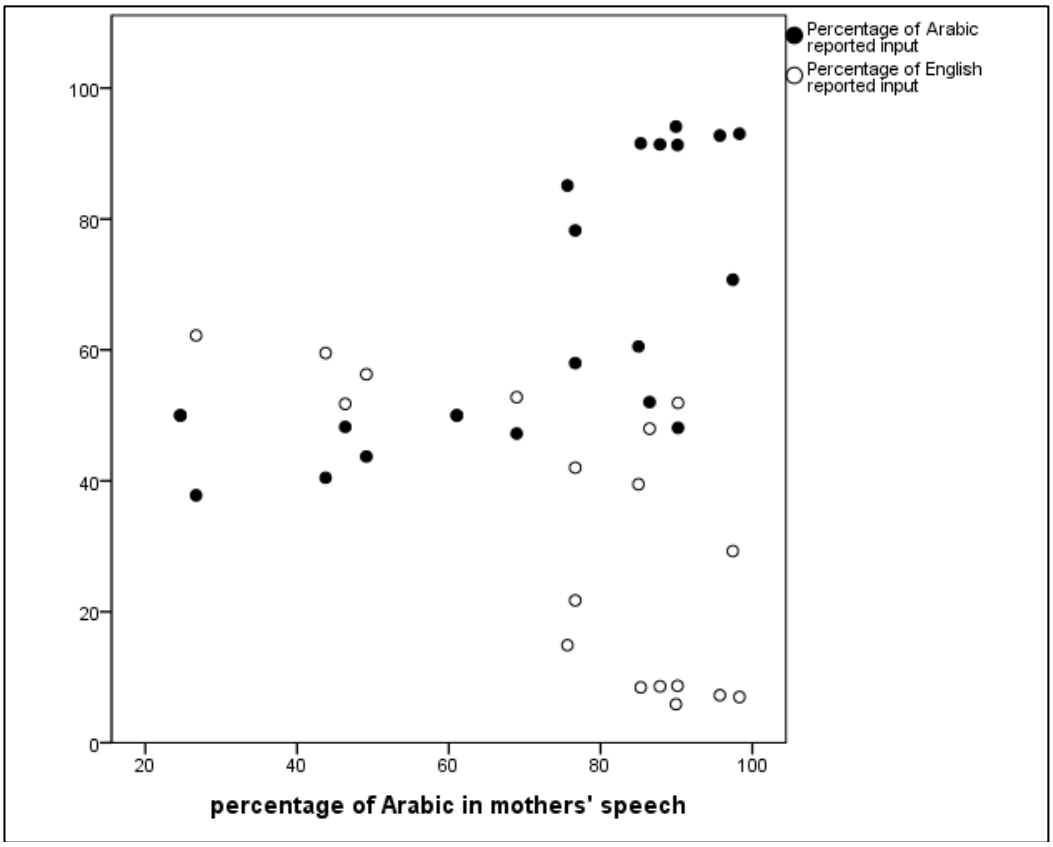

Figure 4.5: The correlation between the percentage of Arabic in mothers' speech and the percentage of Arabic and English in the *reported* input

Like-wise, it is expected that the more English parents *reported* their children are exposed to at home, the more English the mother would speak in

the naturalistic session. There is a positive relationship between the percentage of English input the children receive as reported by parents and the percentage of English sentences (excluding code-switched utterances) actually spoken by the mothers in the naturalistic session, r= .622, p= .003 (two-tailed). It is also found that the percentage of English in mothers' speech correlated negatively with the percentage of Arabic in the *reported* input, r= -0.622, p= .003 (two-tailed). However, figure 4.6 does not show this linear relationship. The instructions provided to the parents may be reason behind this.

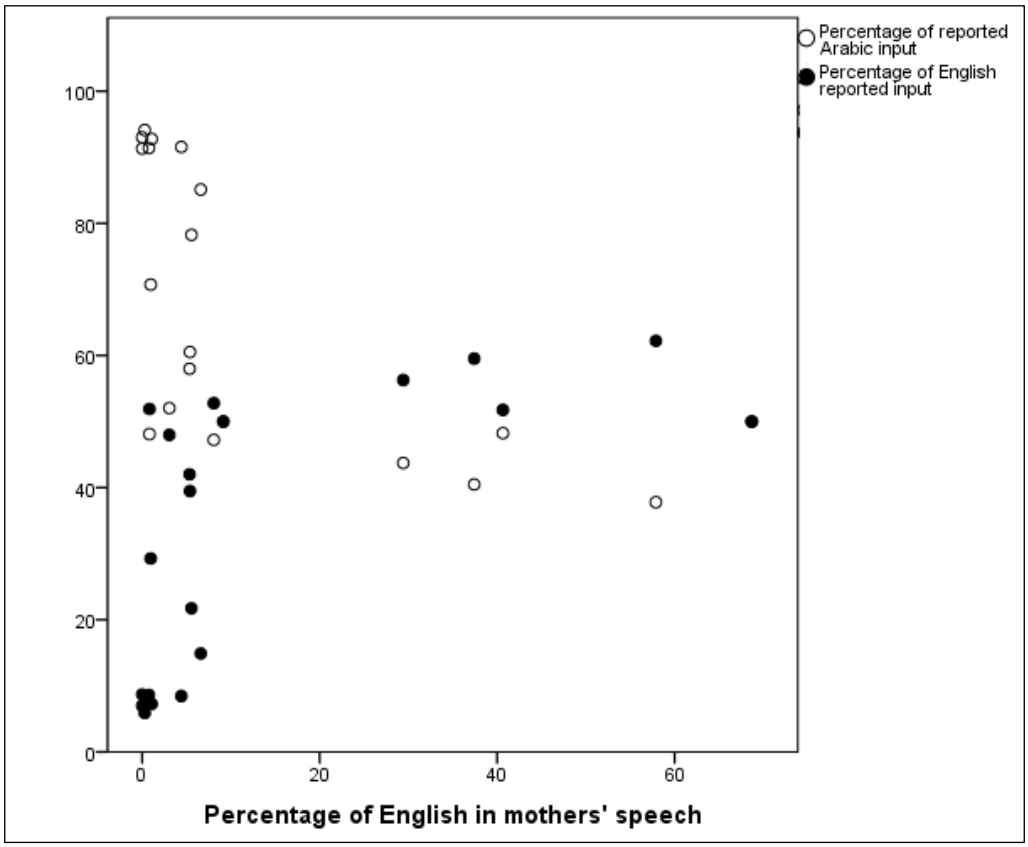

Figure 4.6: The correlation between the percentage of English in mothers' speech and the percentage of Arabic and English in the *reported* input

Even when we correlate the percentage of code-switching in mothers' speech and the reported input in Arabic and English, we find significant results. There is a positive correlation between the percentage of code-switching in mothers' speech and the percentage of English in the *reported* input, r= 0.486, p= 0.003 (two-tailed), and a negative correlation with the

percentage of Arabic in the *reported* input, r= -0.486, p= 0.03 (two-tailed) as shown in figure 4.7. This relationship may not be quite obvious in the figure mainly due to having few utterances with code-switching. At least, this gives us an indication that mothers' who tend to code-switch are the one who speak more English with their children, and vice versa.

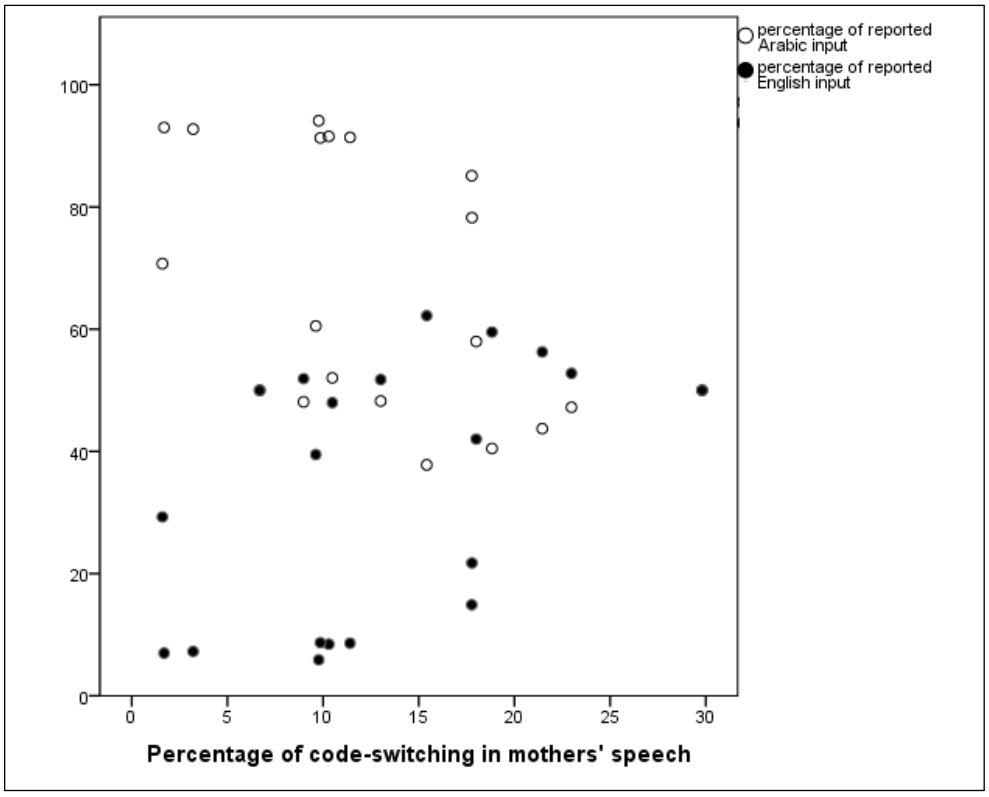

Figure 4.7: The correlation between the percentage of code-switching in mothers' speech and the percentage of Arabic and English in the *reported* input

4.4. Conclusion

This chapter looked at the sociolinguistic variables under study in an attempt to evaluate their reliability. These variables are: 1) parental attitudes towards the Arabic and English languages, which reflect which language parents think is important; 2) the *reported* input of Arabic and English children received at home, which reflects what parents think they do; and finally 3) the *recorded* input, i.e. what the mothers actually spoke in the naturalistic session, which represents which language parents actually use with their children.

It is worth noting that parents could favour both language and not just one, however, I am interested in the link between their attitudes (what they favour) and the language they use with their children, and so if this is related to their results in the tasks. I tried to look for a reliable way to test the information I was provided with by the parents. The best reliable way I could think of was looking at the mothers' speech in the naturalistic sessions. Thus, I correlated this factor with the other two factors mentioned above to put them to test. Once again, it was unfortunate that I did not have this as a factor at the beginning of the study, otherwise I would not have instructed parents to use Arabic as a language of interaction in the sessions.

To sum up the findings of this chapter, it is found that there is no relationship between parental attitudes towards languages and the *reported* input their children receive, as elicited in the questionnaire. Similarly, when comparing parental attitudes towards Arabic and English with the *recorded* input in the naturalistic session, no relationship is found either. However, a significant 'positive' relationship is found between the attitudes parents hold towards Arabic and the *reported* input children receive in English, which was not expected.

On the other hand, there is a significant relationship between the *reported* input children receive and the *recorded* input in the naturalistic session. The higher the percentage of Arabic in mothers' speech, the higher the percentage of Arabic parents reported that their children hear and the less English children hear. Moreover, the more English the mothers spoke in the naturalistic session, the more English they reported their children hear and the less Arabic input they receive. Interestingly, the percentage of code-switching in the mothers' speech reflects that the input children receive at home is higher in English and less in Arabic.

These relationships between *reported* input in the questionnaire and the *recorded* input in the naturalistic session may tell us that the *reported* percentage of input is to some extent reliable. This may be attributed to the fact that parents boast of the language inherent to them, but the fact remains that they are encouraging their children to learn English, perhaps unintentionally.

Chapter 5: *Reported* Attitudes, *Reported* Input and Children's Results

This chapter presents the results of the children under study in light of the sociolinguistic variables collected from the questionnaire completed by their parents. The results will be reported descriptively and statistically in separate sections. First, children's raw results will be provided (5.1). The second section will be devoted to children's results, in the naturalistic session and the elicitation tasks, and the *reported* attitudes of the parents (5.2), whereas the third section will present the children's results, in the naturalistic session and the elicitation tasks, and the *reported* input they receive (5.3). The final section provides a summary of this chapter (5.4).

5.1. Children's raw results

Table 5.1 shows the raw results of children under study in the naturalistic session. As for the phonological and morpho-syntactic variables, the percentage of errors out of the opportunities is used in order to show whether the children made many mistakes in that variable or not. In the code-mixing column, a count of code-mixed between utterances in the children's speech is used in an attempt to compare the amount of code-mixing among the children participating in the current study. The naturalistic session was the most useful session since it enabled me to elicit many variables compared to the rest of the activities shown in the following tables. Children's scores in the following tables are linked to the information provided in table 4.2 (see chapter 4) in an attempt to answer the aforementioned research questions.

Child no.	Errors in pronun-ciation (%)	Errors in /al/ (%)	Errors in gender (%)	Errors in number (%)	Errors in pronoun (%)	Errors in word order (%)	Amount of Code-mixing
1	27.6	0	37.5	37.5	2.63	16.7	8
2	3.846	100	33.3	50	6.25	0	52
3	19.66	25	0	0	18.8	0	48
4	78.57	75	75	75	75	75	236
5	0.838	0	0	0	0	0	24
6	12.87	9.09	44.4	19.2	0	0	83
7	0.613	0	0	6.25	0	0	44
8	11.41	0	50	25	26.7	100	49
9	57.62	25	100	10	26.3	75	58
10	0.339	0	8.33	4.76	0	0	22
11	3.488	22.2	0	100	14.3	0	174
12	23.13	0	13.3	0	0	0	27
13	8.387	0	25	11.1	0	0	5
14	0.743	0	14.3	16.7	0	0	43
15	11.63	0	0	0	0	100	75
16	3.382	57.1	50	20	11.1	0	170
17	39.71	50	100	75	89.7	75	29
18	1.575	16	3.7	24	0.81	0	10
19	75.51	100	100	66.7	46.7	33.3	40
20	15.77	80	79.2	66.7	3.03	63.6	121
21	2.8	0	0	11.1	0	0	1
22	0	0	0	17.6	0	0	48

Table 5.1: Children's raw scores in the naturalistic session

In table 5.2, children's raw scores in the linguistic variables under study are presented. Similar to the previous table, the percentage of errors out of opportunities is calculated except for the count of code-mixing. This activity was not found to be useful in eliciting data needed as children did not provide me with full utterances to be able to count for; thus many empty cells are shown in the table below.

Child no.	Errors in pronun-ciation (%)	Errors in /al/ (%)	Errors in gender (%)	Errors in number (%)	Errors in pronoun (%)	Errors in word order (%)	Amount of Code-mixing
1	25	0.	0	0.	0.	0.	13.0
2	9.6		66.6				37.0
3	37.5						10.0
4	75						9.0
5	0		0		0.	0.	1.0
6	0	0.	0				1.0
7	0	0.	0	0.	0.	0.	13.0
8	45.45						7.0
9	52.9	100.0			0.		7.0
10	0				0.		18.0
11	6.25				0.		4.0
12	58.3			0.	0.		5.0
13	48.3		100				8.0
14	0				0.		0.
15	45.45						11.0
16	25.8				0.		11.0
17	27.77		0		100.0		9.0
18	1.96	0.	0	50.0	0.	0.	2.0
19	58.33			0.	0.		5.0
20	39.47		0				32.0
21	0	0.	0	0.		0.	4.0
22	8.3	0.	0		0.		0.

Table 5.2: Children's raw scores in the memory game

The count for errors in the sticker book activity was different from the rest of activities as explained in chapter 3. Since all children were expected to give a specific answer, and only the optimal responses were taken into account, the number of opportunities was almost equal for each child. Therefore, a count for errors is used and not a percentage. This activity was helpful because it was more restricted and oriented; no empty cells are found in this task as shown in table 5.3.

Child no.	Errors in pronunciation	Errors in morphology	Errors in word order	Code-mixing
1	11	3.5	0	0
2	4	5	2	2
3	6	6	0	1
4	10	8	3	2
5	0	2.5	1	1
6	3	3.5	3	0
7	0	0.5	0	0
8	3	6	0	0
9	12	7	1	1
10	0	4.5	1	1
11	0	4	1	1
12	3	3.5	1	0
13	2	5	1	1
14	0	0	0	0
15	4	4	0	0
16	3	5.5	1	0
17	4	8	1	0
18	3	2	1	0
19	11	8	2	3
20	5	9	2	3
21	0	2.5	0	0
22	0	2	0	0

Table 5.3: Children's raw scores in the sticker book activity

Table 5.4 presents children's raw scores in the last activity, i.e. the storytelling activity. A percentage of errors out of opportunities is used here too. Although this task attempted to elicit long utterances, the table has many empty cells, which makes this task no as rich as the naturalistic session and the sticker book activity.

Child no.	Errors in pronun-ciation (%)	Errors in /al/ (%)	Errors in gender (%)	Errors in number (%)	Errors in pronoun (%)	Errors in word order (%)	Amount of Code-mixing
1	29.0	0	0	100	0.		2.0
2	26.3		0.	50			36.0
3	24.1	50.0	0				9.0
4	55.6	100	0				30.0
5	61.	0	0	0			4.0
6	2.1	7.1	5.7	33.3			0
7	51.	0	0	0	0	0.	7.0
8	12	0	0				9.0
9	78.6	100	12.5		0.		12.0
10	2.86	25	0	0			18.0
11	1.08	33.3	6.67	75			4.0
12	.50		0				0.
13	17.6	0	0				1.0
14	0	8.69	0	11.1			1.0
15	22.2	4.5	5.26	25		0.	7.0
16	11.67	66.67	10.5	100	0.		15.0
17	51.16		0	100	100.0		2.0
18	0	0	4.76	0		0.	1.0
19	50		0				0.
20	71.4	100	0	100			24.0
21	10.8	25	0	0	0		2.0
22	.675	7.7	0	0		0.	0.

Table 5.4: Children's raw scores in the story-telling activity

5.2. Parental attitudes and children's results

One of the hypotheses tested in this study is that children's results will be a reflection of parental attitudes. I assumed that parental attitudes will influence the input children receive, which will consequently influence children's results. Although the *reported* attitudes in the questionnaires do not seem to reflect parents' behaviour, I tried to correlate the *reported* attitudes with children's results in the naturalistic session and the elicitation tasks to see whether there is any potential link.

5.2.1. Children's results in the naturalistic session

No correlation was found between parental attitudes towards English and the children's results in the naturalistic session. Likewise, no correlation was found between parental attitudes towards Arabic and their children's results in the naturalistic session in general. Thus, there is no correlation between the *reported* attitudes and the errors in children's speech.

5.2.2. Children's results in the elicitation tasks

The parental attitudes reported in the questionnaires were also linked to the children's results in the three elicitation tasks. However, when running many correlations between *reported* attitudes and children's results in two tasks, some are likely to turn out significant. In the story-telling activity, there is no significant relationship between parental attitudes towards Arabic and English and their children's results in the story-telling activity.

No correlation is found between the *reported* parental attitudes and the children's results in the sticker book activity except for word order errors, which correlates negatively with parental attitudes towards English, r= -0.460, p= 0.036 (two-tailed), yet the negative relationship is not clear in figure 5.1. This, surprisingly, means that the more positive the attitudes towards English, the less

errors children make in word order. It could be that the two outliers caused this relationship.

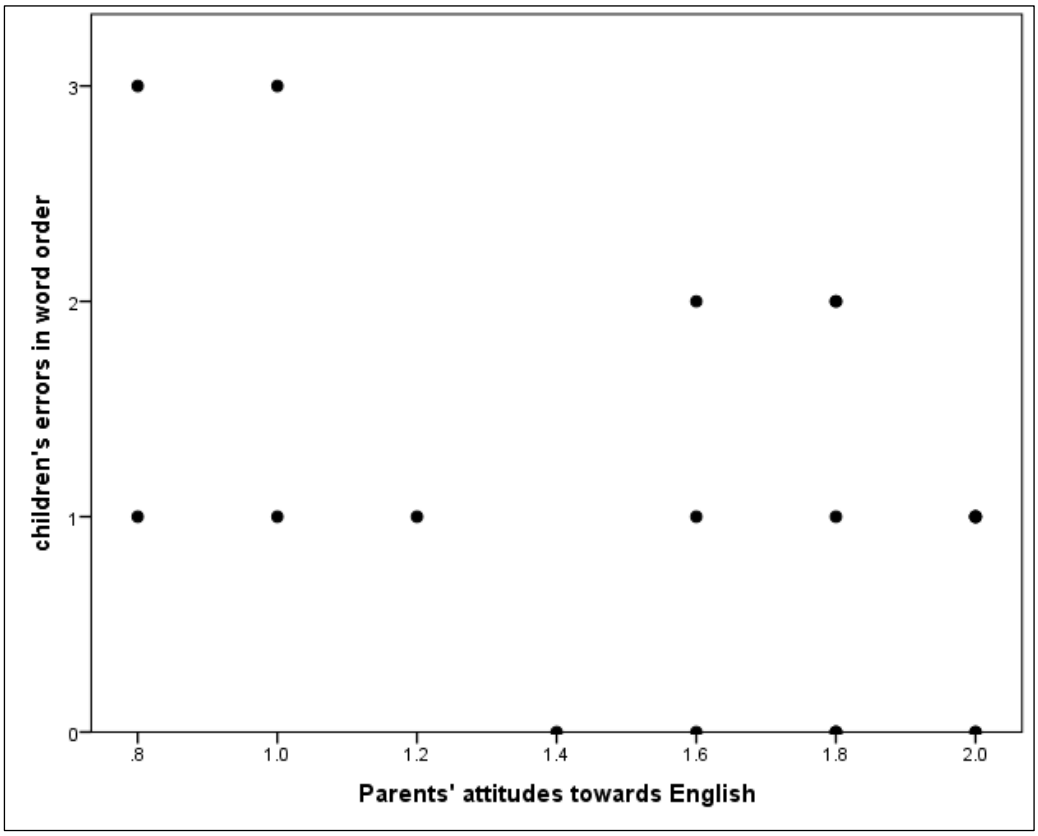

Figure 5.1: The correlation between *reported* parental attitudes towards English and word order errors in their children's speech in the sticker book activity

Another surprising correction is found in the memory game activity. There is a positive correlation between parental attitudes towards Arabic and their children's errors in forming number, r= 0.975, p= 0.025 (two-tailed). This means that the more positive the attitudes towards Arabic, the more errors children made in forming numbers. However, a quick look at figure 5.2 explains that this significant result was due to one child. This could show that *reported* attitudes do not justify the results.

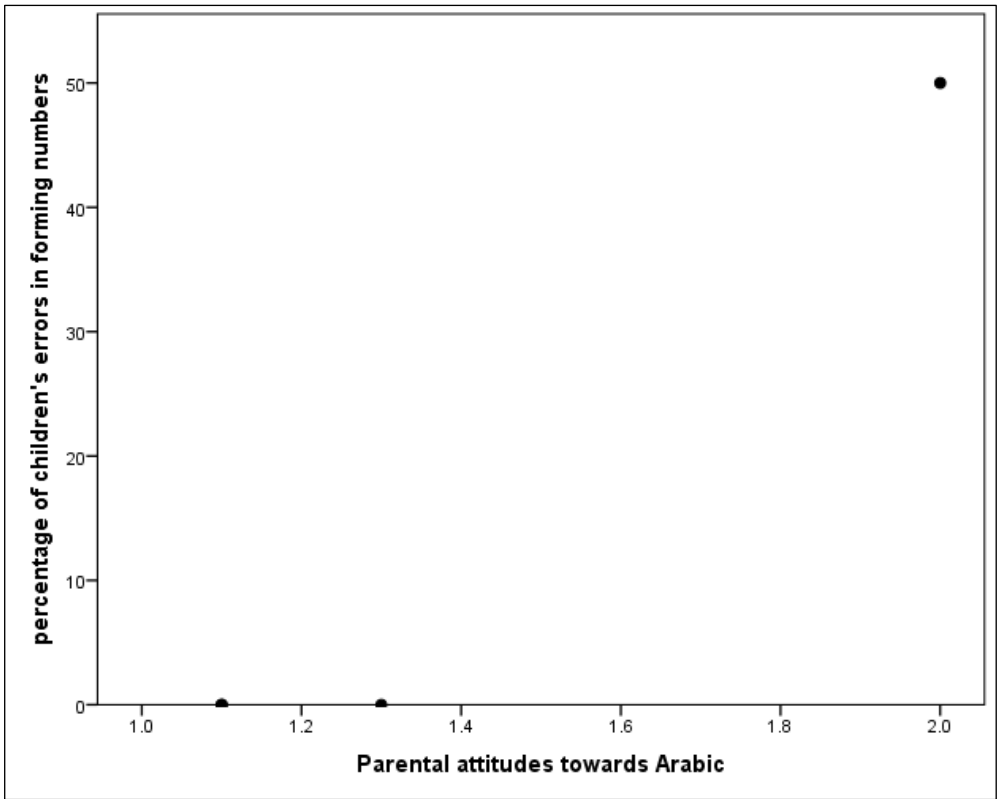

Figure 5.2: The correlation between *reported* parental attitudes towards Arabic and children's errors in forming numbers in the memory game activity

5.3. *Reported* input and children's results

In the questionnaires, parents were asked to estimate the amount of Arabic and English their children are exposed to during the week. This input was then linked to the children's errors in Arabic in order to investigate whether input plays a role in children's acquisition of Arabic or not. In order to look at the potential effect of input in Arabic and English on a child's first language (i.e. Arabic), *reported* input was correlated with children's errors in the naturalistic session and the three elicitation tasks.

5.3.1. *Reported* input and children's results in the naturalistic session

The language children hear most often might influence their proficiency in Arabic. The amount of English and Arabic the children under study are *reported* to be exposed to in hours per week is correlated with the percentage of errors they made in Arabic in the naturalistic session. Although there is no significant correlation between the *reported* input in Arabic and the children's results in the naturalistic session, the amount of *reported* input in English that children hear seems to influence their results in Arabic. The more English children are exposed to at home, the more errors they make in Arabic.

There is a significant relationship between *reported* input in English and children's errors in using plural and dual forms in the naturalistic session, r= 0.491, p= 0.028 (two-tailed), as shown in figure 5.3. Even when looking at the reported percentages of English and Arabic the children are exposed to instead of the quantity in hours, there is a significant relationship between the percentage of the *reported* input in English and the number of errors they made in forming duals and plurals in Arabic as shown in figure 5.4, r= 0.446, p= 0.049 (two-tailed).

Thus, children who tend to hear more English may find it more difficult to acquire the plural and dual forms of Arabic. This could be attributed to the fact that English does not have a dual form and only has one way of forming plurals (in addition to few exceptions). Figure 5.3 shows that three children who hear lots of English, compared to the rest of the group, have more errors in using the plural and dual forms. On the other hand, there are two other children who do not get a lot of English input seem to make more errors in forming dual and plural forms in Arabic. Those two children actually do not receive a lot of input in English but they have domestic helpers speaking English at home.

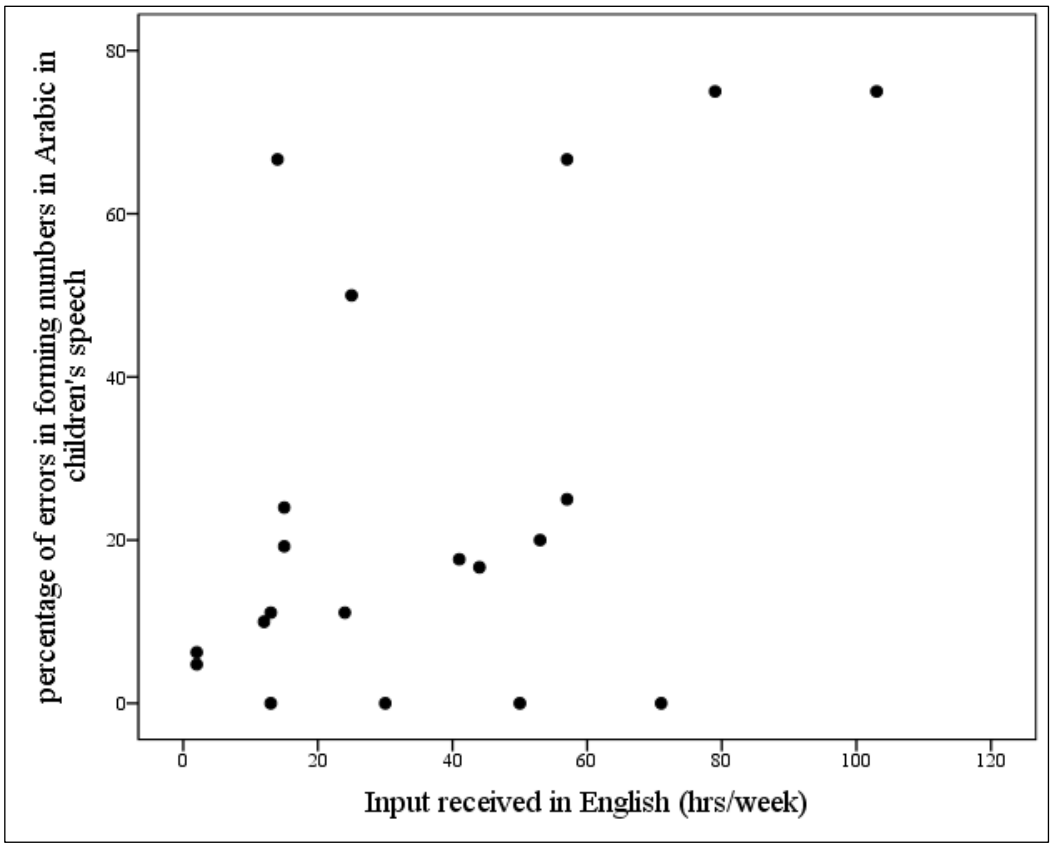

Figure 5.3: The correlation between the *reported* input in English (hrs) and the errors in forming duals and plurals in children's speech

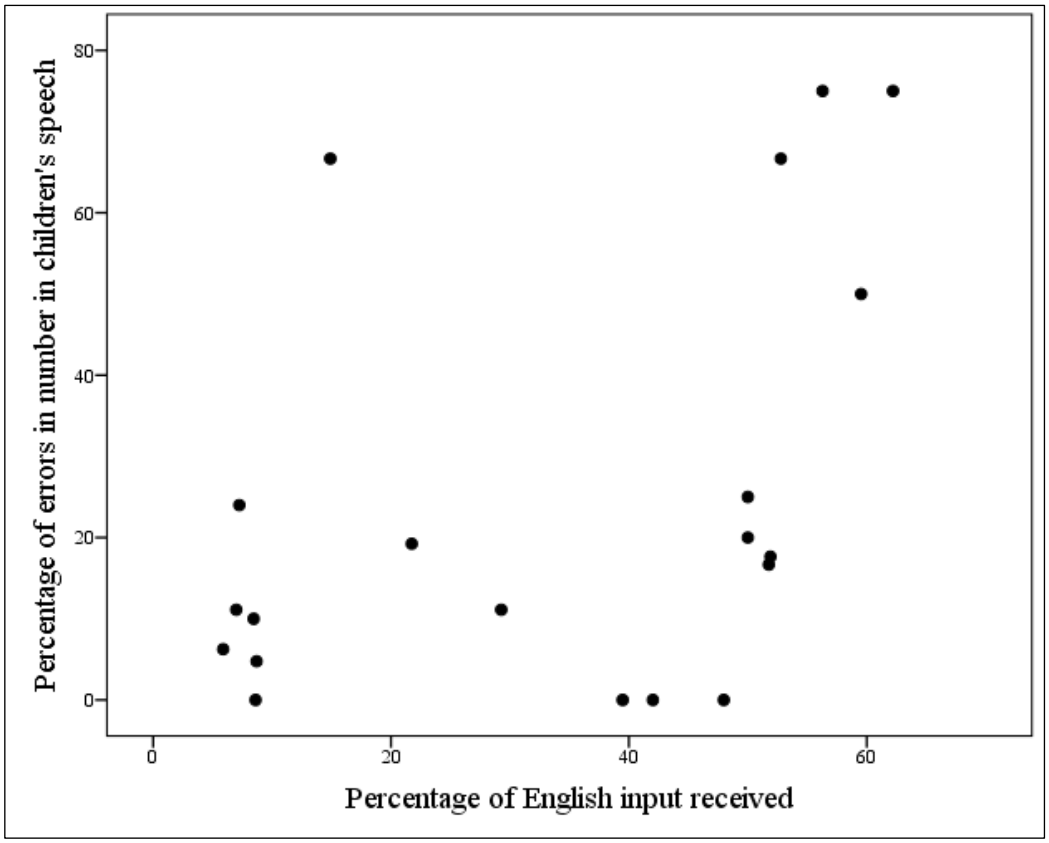

Figure 5.4: The correlation between the *percentage* of *reported* input in English and the errors in forming numbers in children's speech

Furthermore, there is a significant relationship between the *reported* input received in English and errors in the second person pronoun in the children's speech in Arabic in the naturalistic session, r= 0.591, p= 0.006 (two-tailed). In figure 5.5, two of the children who were reported hearing English most of the time made more errors in choosing the right gender in the second person pronoun in Arabic. This may be attributed to the fact that children who hear more English will find it difficult to determine the right gender in the pronoun because the second pronoun in English has no gender. However, since only two children had this type of error, it could be that at this age they need a bit more input in Arabic in order to use the appropriate pronoun gender.

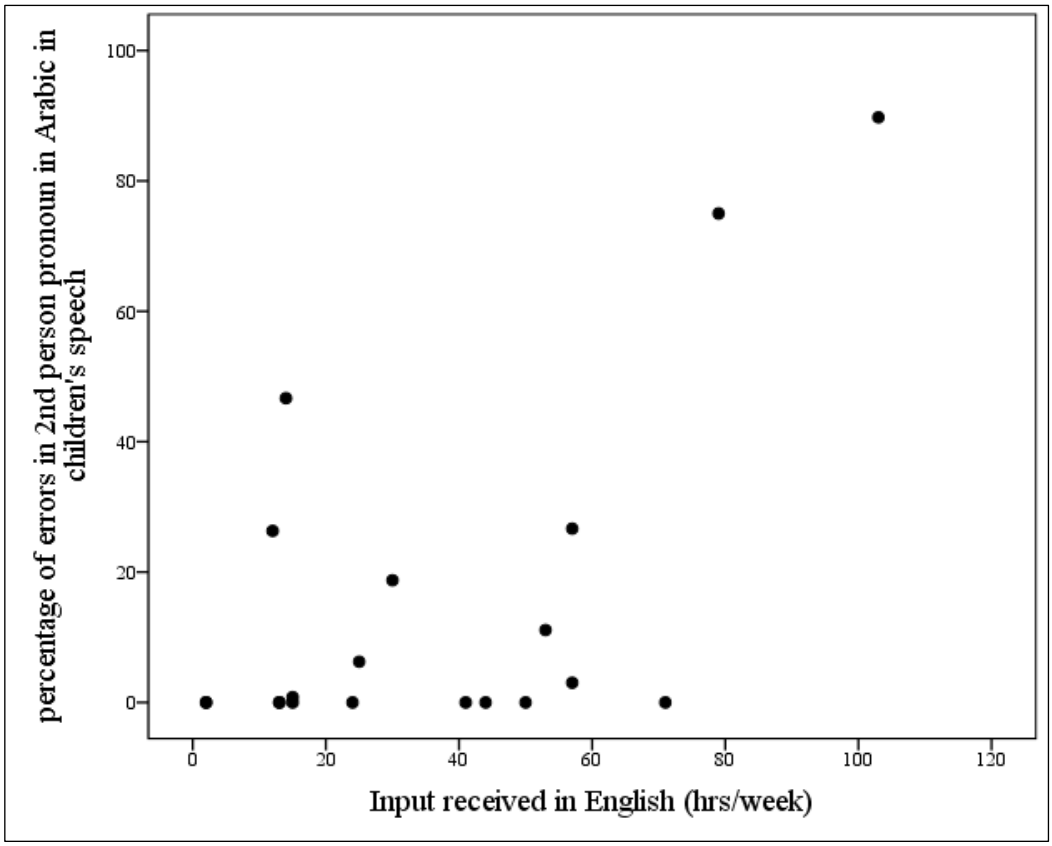

Figure 5.5: The correlation between *reported* input in English (hrs) and errors in the second person pronoun in children's speech

It has been also found that there is a significant relationship between the *reported* input in English and children's errors in word order, r= 0.518, p= 0.019 (two-tailed). Although there is no relation in the majority of the cases and it is not clear in figure 5.6, most of the children who are exposed to more English input have more errors in adjective-noun word order. The difference in the adjective-noun order between English and Arabic may account for this. Some of the children had English input more than others but did not have errors in word order, perhaps because the input in Arabic they receive is relatively more or equals the input they receive in English.

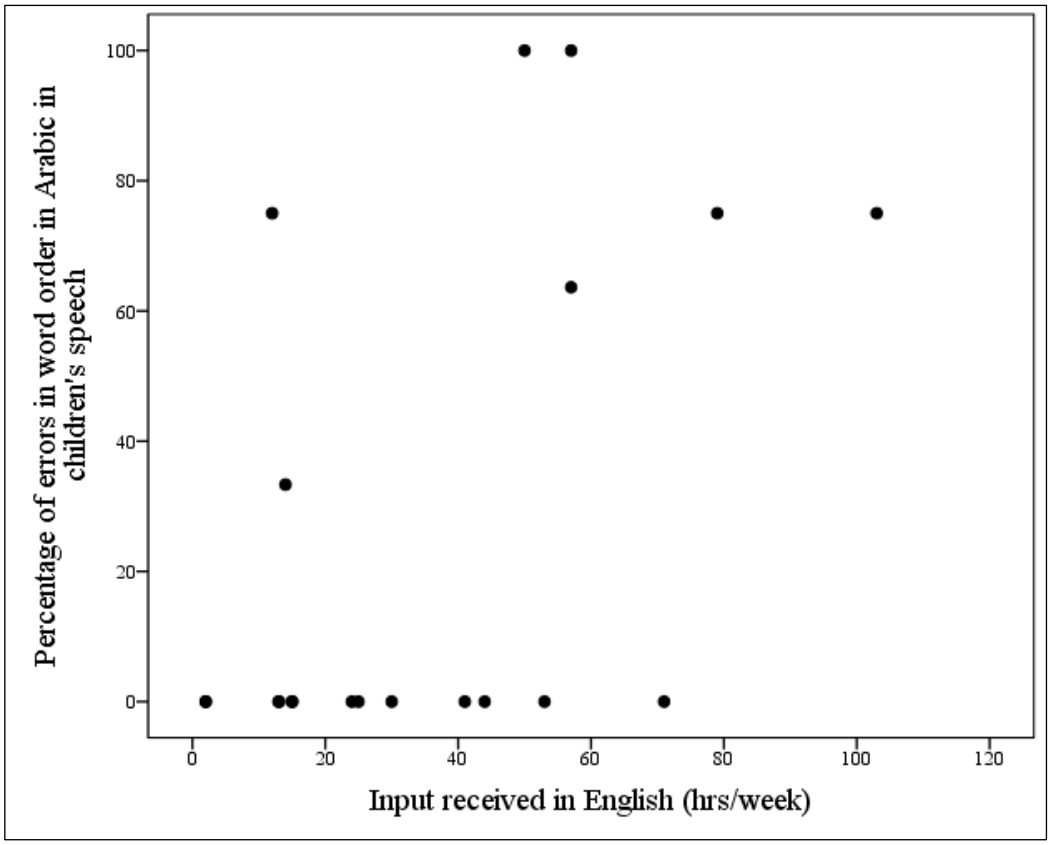

Figure 5.6: The correlation between *reported* input in English (hrs) and errors in word order in children's speech

There is also a strong tendency among children who are exposed to more English to code-mix between English and Arabic in their speech. The results also show a significant relationship between the *reported* percentage of English children hear and the amount of code-mixing in their speech, r= 0.497, p= 0.026 (two-tailed) as shown in figure 5.7.

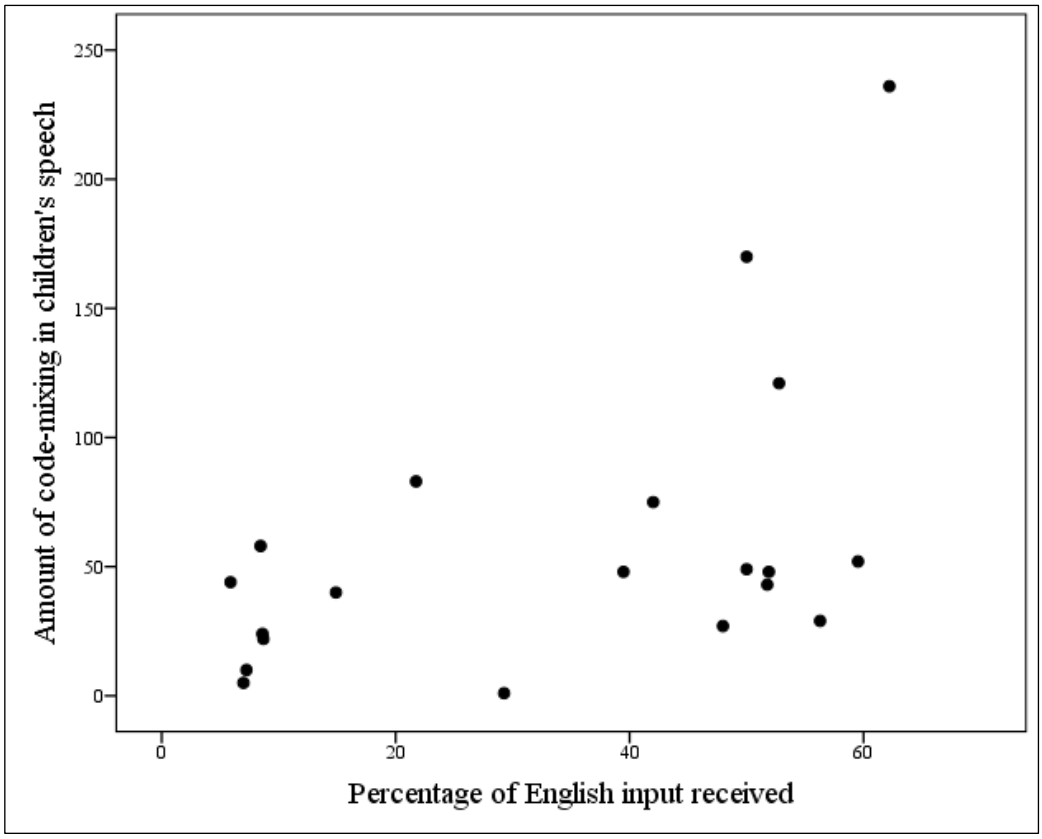

Figure 5.7: The correlation between the *reported percentage* of English received and the amount of code-mixing in children's speech

5.3.2. *Reported* input and children's results in the elicitation tasks

The *reported* input in English and Arabic children received was also correlated with the children's results in the three elicitation tasks: the memory game activity, the sticker book activity and the story-telling activity.

There was no significant relationship between the *reported percentage* of input in Arabic and English and the children's results in the memory game. However, *reported* input in English (in hours) correlates positively with the errors children made in the pronunciation (in the sounds under study) in the memory game, r= 0.452, p= .023 (two-tailed) as illustrated in figure 5.8 below. Three of those children who did not receive much input in English still

made errors in pronunciation. Given that those three children have domestic helpers in the household, the errors may be due to another reason.

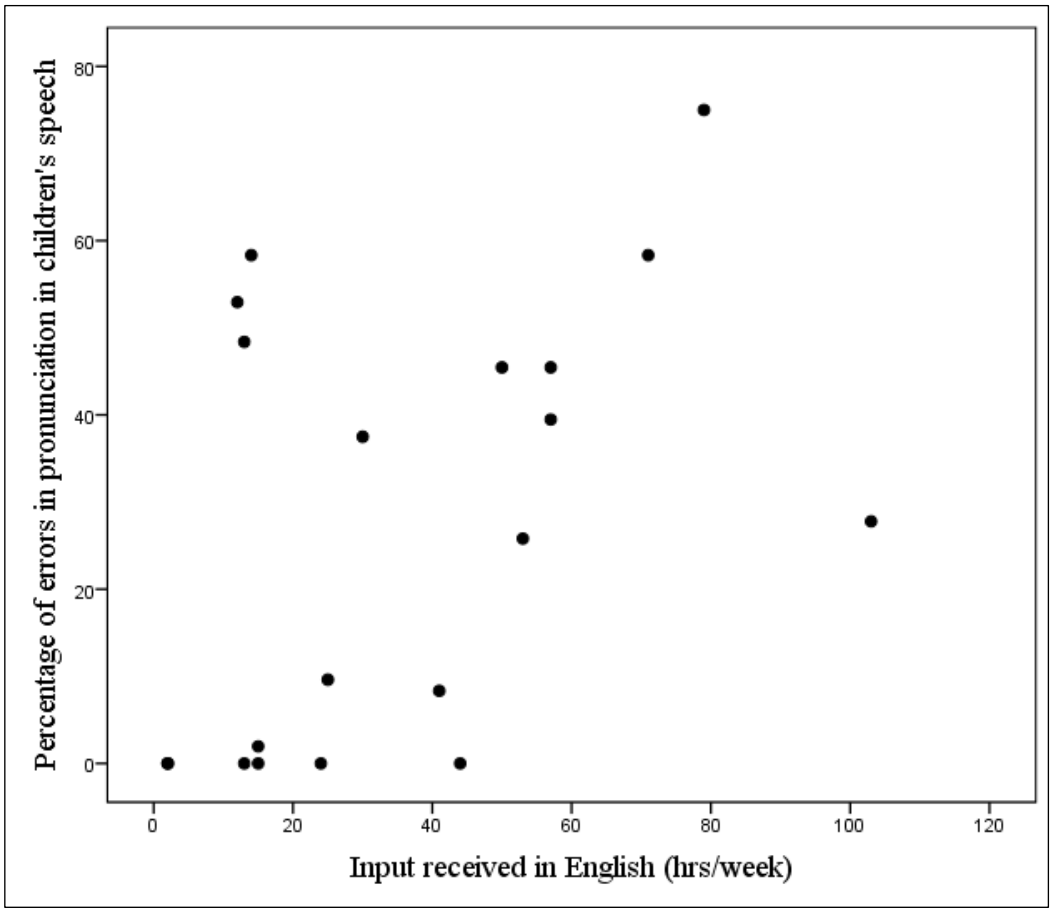

Figure 5.8: The correlation between *reported* input in English (hrs) and the number of children's errors in pronunciation in the memory game

It has been also found in the memory game, as shown in figure 5.9, that the *reported* input in Arabic correlates negatively with the amount of code-mixing in their speech, r= -0.392, p= 0.044 (two-tailed). This is an expected result because children who tend to hear lots of Arabic are more likely to speak in Arabic most of the time.

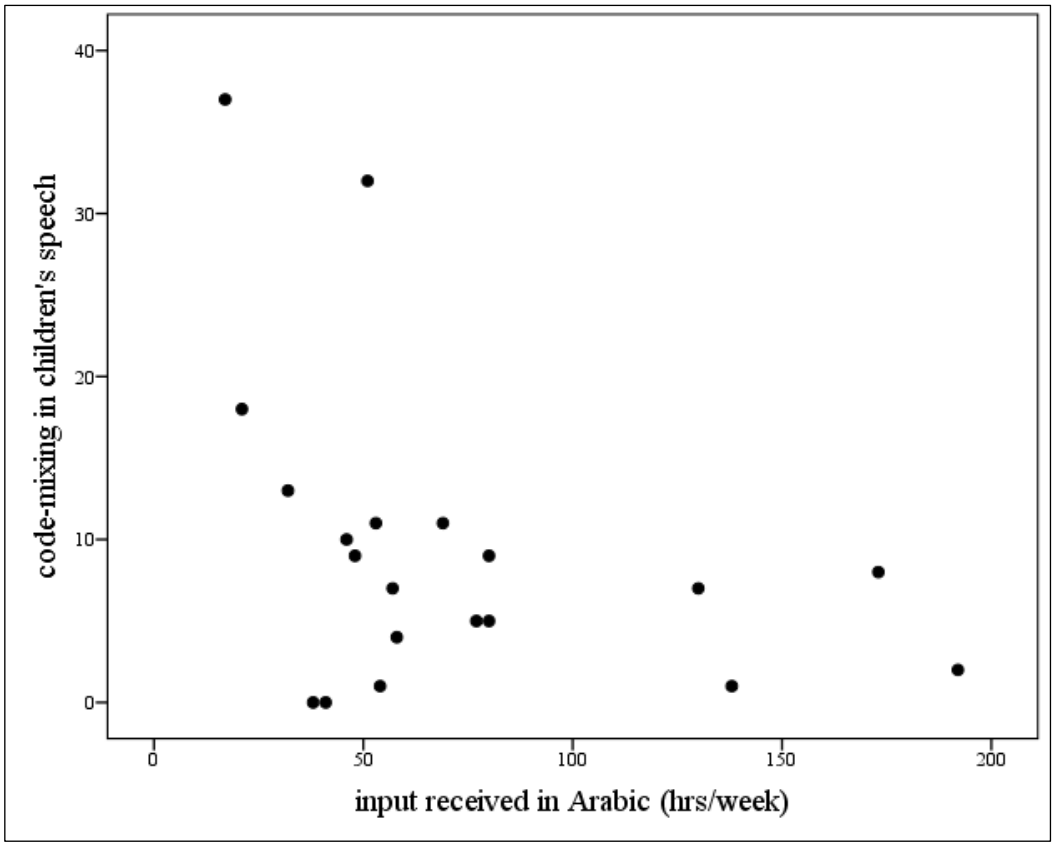

Figure 5.9: The correlation between the *reported* input in Arabic (hrs) and the amount of code-mixing in children's speech in the memory game

In the sticker book activity, figure 5.10 shows that the more *reported* input children receive in English, the more errors they make in morphology (number and gender agreement), r= 0.405 , p= 0.038 (one-tailed). The morphological variables counted here are gender agreement, forming duals and plurals and word order. This may be attributed to the fact that the more English children hear, the fewer opportunities they have to shape their knowledge about these variables in Arabic. However, there are few children who made a considerable number of errors but they did not receive a lot of input in English. Another factor played a role in here, which is the presence of a DH in the household. Only one of these children did not have a domestic helper when the test took place, yet his parents reported that he was raised in a household with a domestic helper speaking Pidgin Arabic and she left few months before the test took place.

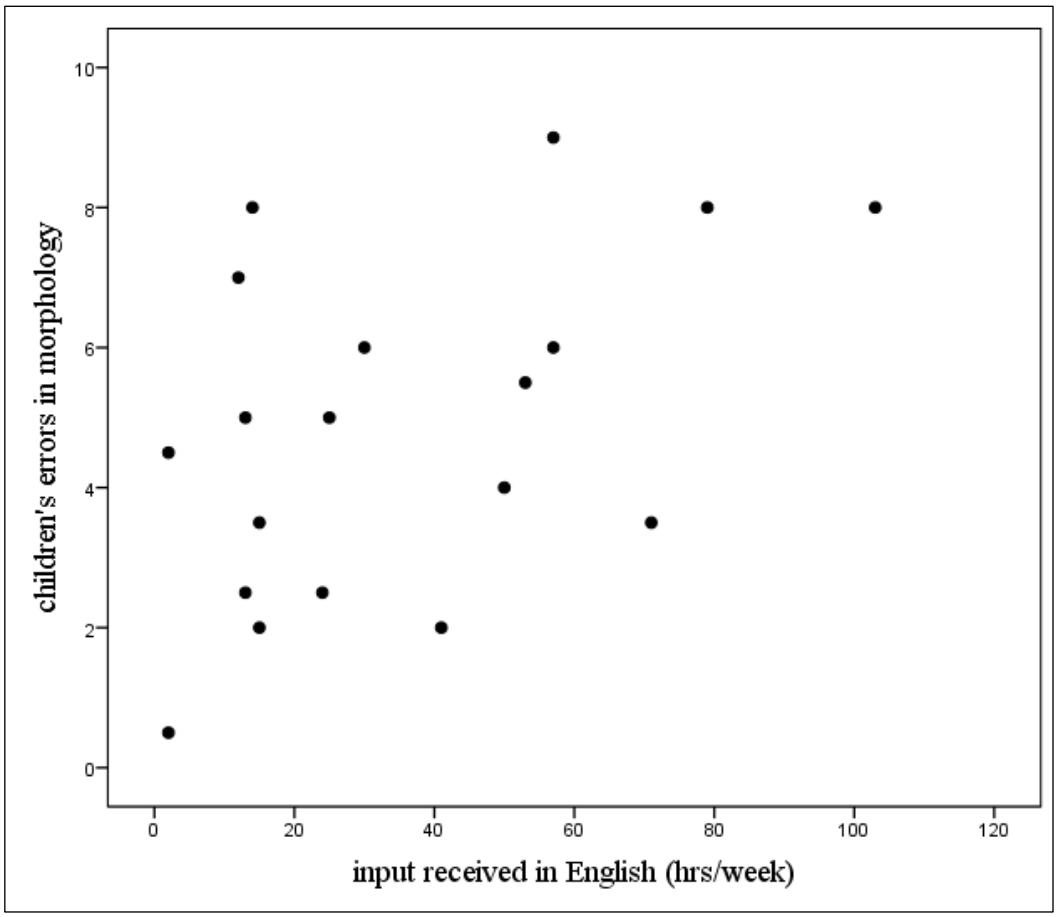

Figure 5.10: The correlation between the *reported* input in English (hrs) and children's errors in morphology in the stick book activity

Similar results are found in the story telling activity. It is found that children who hear more English during the week have more errors in forming the dual and plural forms, r= 0.746, p= 0.003 (two-tailed), as shown in figure 5.11. Likewise, when looking at the percentage of *reported* input, it shows that there is also a positive relationship between *reported* input received in English and the errors children made in forming duals and plurals in the story-telling activity, r= 0.645, p= .017 (two-tailed), as shown in figure 5.12. In this graph (and some others), more than one participant is represented in one data point; hence, it appears that only few participants made these errors.

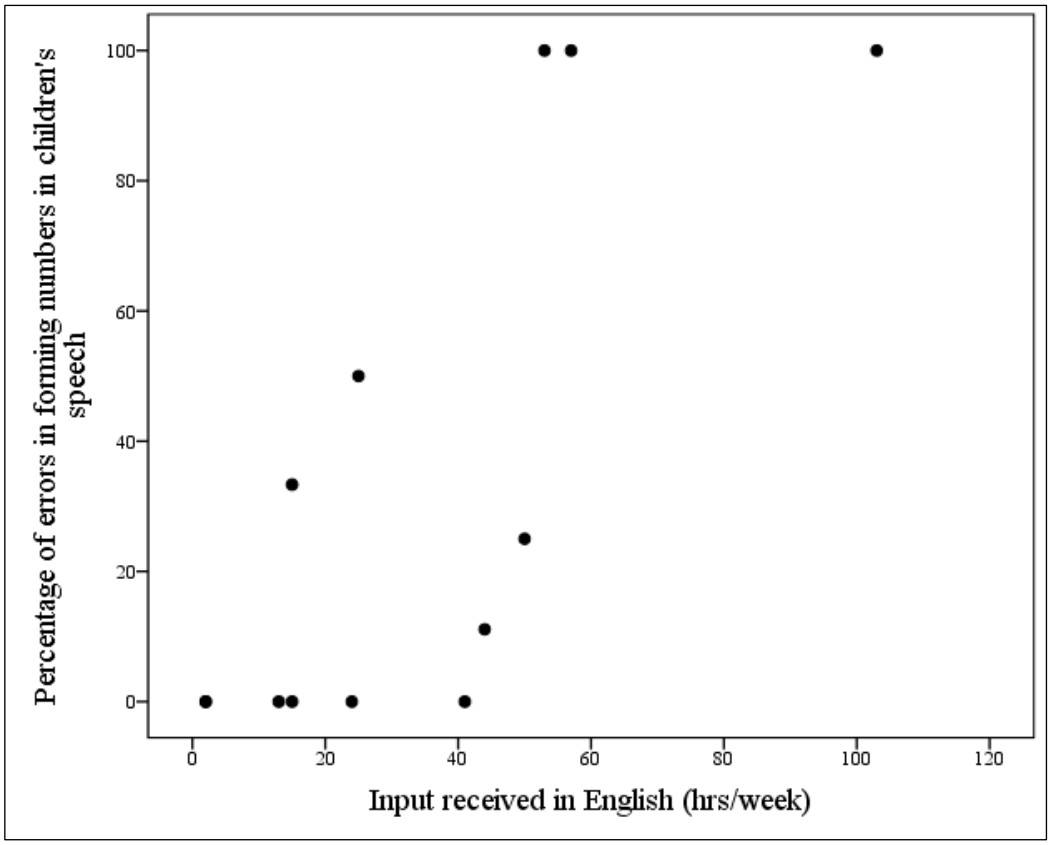

Figure 5.11: The correlation between *reported* input in English (hrs) and children's errors in using dual and plural forms in the story-telling activity

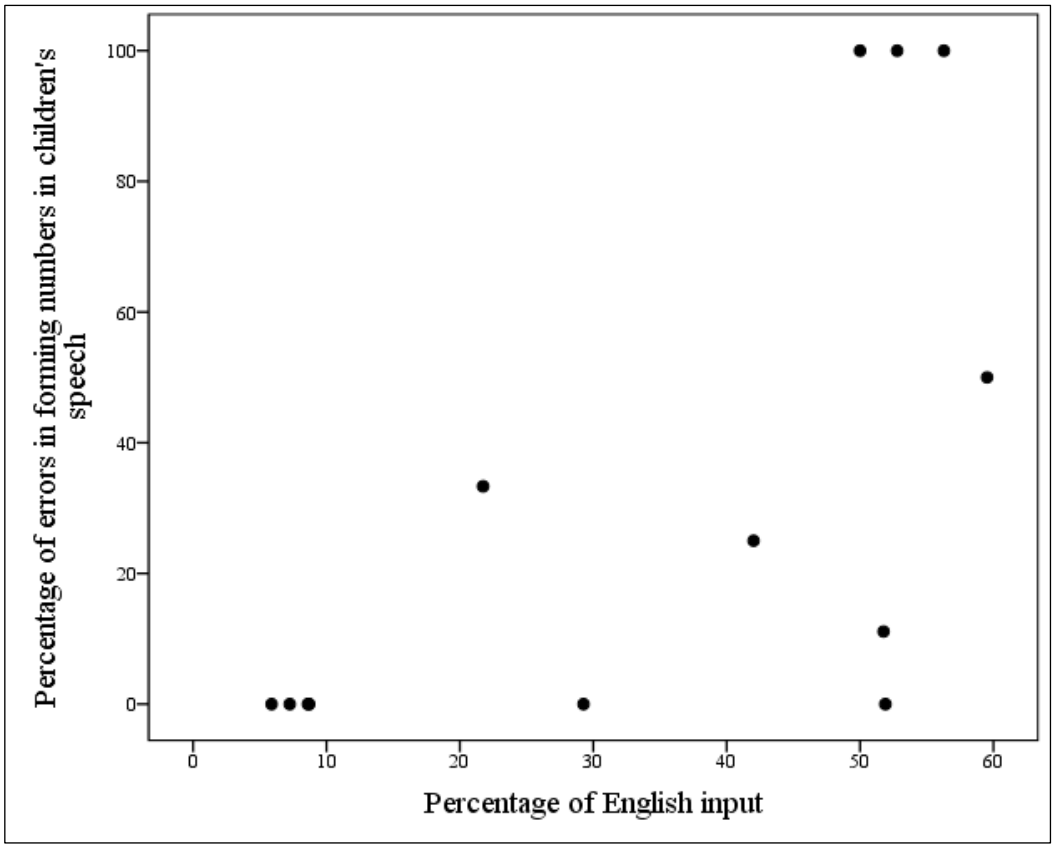

Figure 5.12: The correlation between the *percentage* of *reported* input in English and children's errors in using dual and plural forms in the story-telling activity

5.4. Conclusion

In sum, the reported attitudes and the children's results in the naturalistic session and the three elicitation tasks do not correlate. While no relationship is found in the naturalistic session, surprising relationships are found in the two short activities (i.e. the sticker book and memory game activities). In the sticker book activity, the more positive the attitudes to English, the less errors children made in word order, whereas the more positive the attitudes towards Arabic, the more errors children made in forming the duals and plurals in the memory game. These unexpected results are not reflected in the figures, which lead to the fact that the reported attitudes towards Arabic and English do not justify the results of the children. Parents may choose not to provide their real attitudes perhaps because they knew that the purpose of the study is to look at their children's Arabic. This was one of the limitations of the study.

As for the *reported* input in the questionnaire, it was expected that the more input children receive in English, as *reported* by parents, the more errors children will make in Arabic. The results of the *reported* input and children's results matched the expectations. The results of the naturalistic session show that children who are exposed to a lot of English are more likely to have errors in word order, dual and plural forms, and the gender of the second person pronoun. In addition, it is found that the higher the percentage of English input children receive, the higher the tendency to code-mix in their speech between English and Arabic.

In the story-telling where long utterances were expected too, children are also found to make more errors in duals and plurals when they are exposed to more hours of English, as *reported* by parents. In the two activities were short utterances were expected, the more English children are said to be exposed to, the more errors they had in pronunciation in the memory game activity. In the same task, there is a tendency to have less code-mixing utterances between English and Arabic in children's speech when parents reported that their children hear more Arabic. Furthermore, the more English children are said to be exposed to, the more errors they had in morphology (gender agreement, forming duals and plurals and word order) in the sticker book activity.

The *reported* input could justify children's results in Arabic, whereas the *reported* attitudes do not. Mainly, using the dual and plural forms is the most linguistic variable in children's speech affected by their exposure to English, followed by morphology in general (including gender agreement, using duals and plurals and word order) and pronunciation. It is worth noting that the variation in the number of data points in most figures is due to some participants being represented in one data point.

Chapter 6: *Recorded* input and Children's Results

One of the hypotheses discussed in the Introduction chapter is tested in an attempt to answer the research question: Does the amount of Arabic, English and code-switching in mothers' speech influence children's acquisition of Arabic? Thus, this chapter aims at investigating the relationship between the actual mothers' speech and the children's results in their *recorded* interaction in the naturalistic session.

First, a summary of the amount of Arabic, English and code-switching in mothers' speech will be provided in order to give an insight into mothers' speech (6.1). The second section will look into the amount of Arabic in the *recorded* input and links it to children's speech (6.2). In contrast, the amount of English in the *recorded* input will be also linked to children's results in Arabic (6.3). Then, I will shed the light on the impact of code-switching in the *recorded* input on children's Arabic (6.4). Finally, a summary of the findings of this chapter will be provided (6.5).

6.1. *Recorded* input in the naturalistic session

Although mothers were asked to speak in Arabic in the naturalistic session, those who are used to speak in English were likely to speak in English or code-switch within the same sentence. Figure 6.1 below shows the percentages of Arabic-only, English-only and code-switched sentences in the actual mothers' speech directed to their children in that session for all of the children. Since percentages of Arabic, English and code-switching in the *recorded* input are used, the percentages of Arabic and English may not seem to be mirror images of each other because code-switching goes up to approximately 30% in the speech of some mothers. For this reason, the results of Arabic, English

and code-switching in mothers' speech will be presented in the following sections.

According to the graph, six mothers out of 22 used Arabic with their children in less than half of their utterances in the 40-minute session. Three mothers used mainly English in their speech, since half of their utterances were only in English, and a further three in 30% or more of their utterances. Interestingly, code-switching within the same sentence occurred in around 10-30% of the utterances of 10 mothers in the naturalistic session.

Some of the mothers preferred to speak in English most of the time in the session. The mother of child no.13, for instance, asked her child while reading a story together "it's a nice dog but is it a real one?". Using English happened for various reasons. For example, some children refused to interact when the medium of interaction was Arabic, so we needed to encourage them to speak and interact. Another reason was that some of the mothers were used to speaking English more than Arabic; two of the mothers stated clearly that they find it easier to talk in English. In some cases, mothers tended to switch to English within the same sentence. For example, the mother of child no. 17 said to her child /ʔullha minlawwin il-beidˤ ʔu minjiib ir-rabbit/ (tell her that we colour the eggs and bring the rabbit).

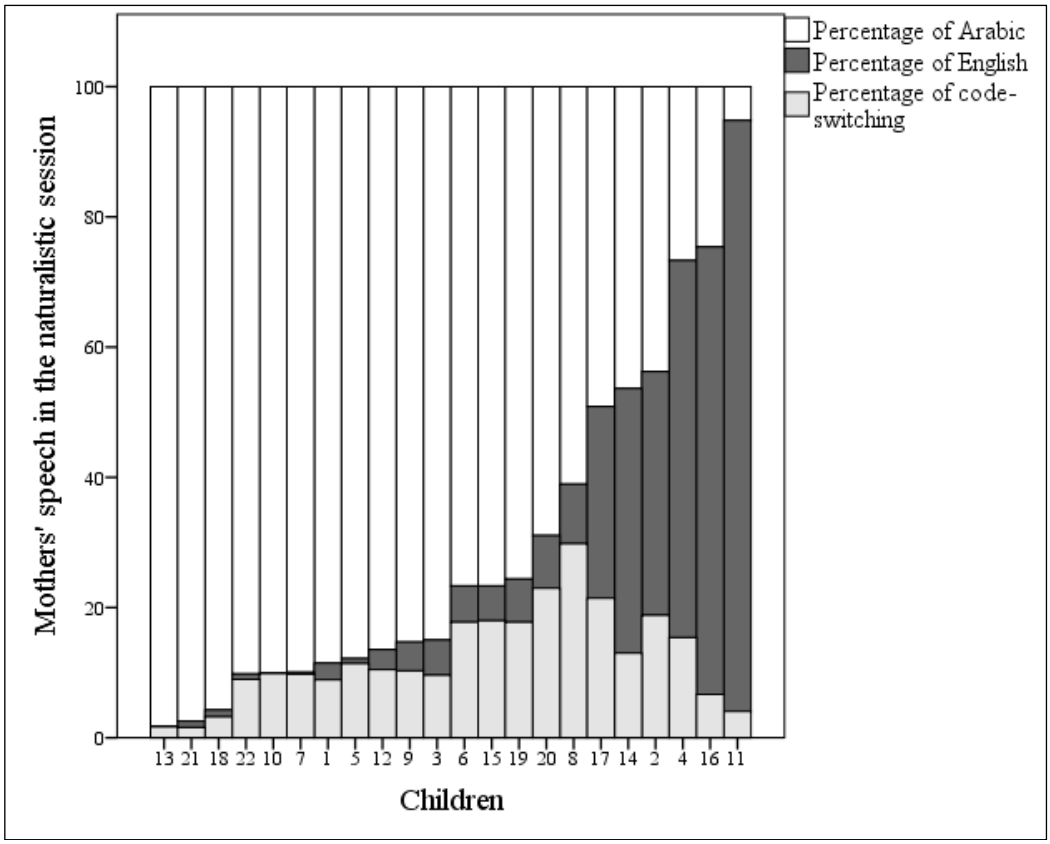

Figure 6.1: The percentages of Arabic, English and code-switching in mothers' speech in the naturalistic session for each child

6.2. Arabic in the *recorded* input and children's results

Some of the parents preferred to use English in the session; hence, this allowed me to get an insight into actual language preferences of mothers'. Results show that children whose mothers tend to speak more Arabic in the session, have fewer errors in Arabic.

The more Arabic mothers' spoke, the fewer errors children made in the assimilation of the definite article /al/ in Arabic, r= -0.0486, p= 0.011 (one-tailed). This was an expected result, since children exposed to a lot of Arabic are more likely to hear words with the Arabic definite article. Figure 6.2 below reflects this correlation between children's errors in the assimilation of the definite article and the amount of Arabic in mothers' speech. Despite the mothers speaking mostly in Arabic, two of

their children made a lot of errors in the assimilation. Those two children had domestic helpers in the household which could be the reason behind this.

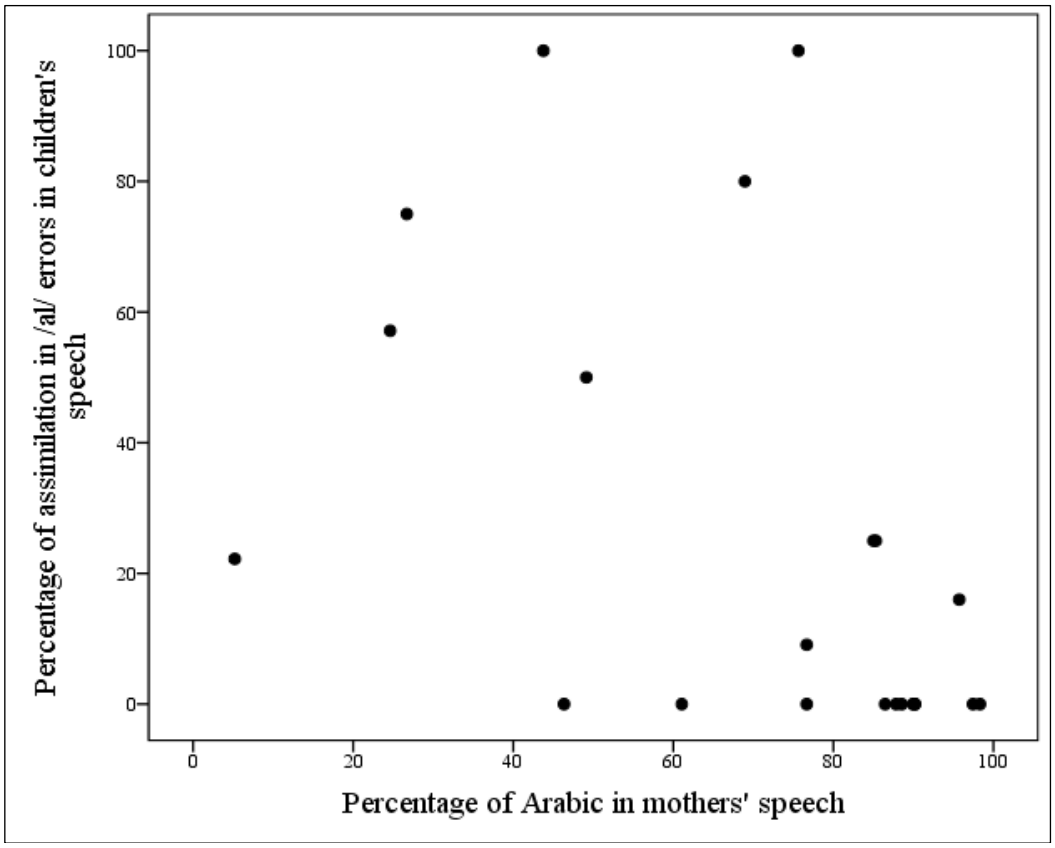

Figure 6.2: The correlation between the percentage of Arabic in the *recorded* input and the percentage of errors in the assimilation of /al/ in children's speech

Similarly, the more Arabic mothers spoke in the session, the more familiar children are with forming dual and plural forms in Arabic. The percentage of Arabic in mothers' speech correlates negatively with the errors children made in forming the dual and plural forms in Arabic, r= -0.681, p= 0.000 (one-tailed). We can see that monolingual children or children who receive input in Arabic produce the correct form compared to their peers who hear less Arabic, as shown in figure 6.3. The same two children, mentioned above, made a considerable number of errors though their mothers spoke to them in Arabic.

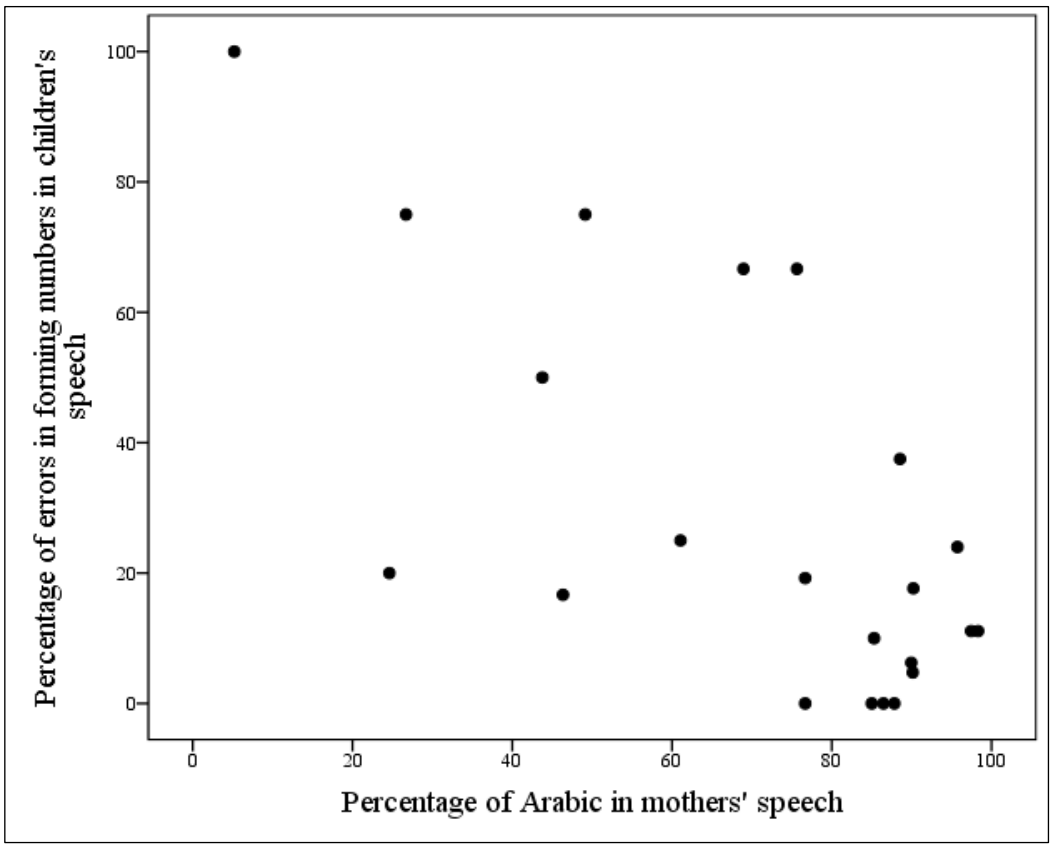

Figure 6.3: The correlation between the percentage of Arabic in the *recorded* input and the percentage of errors in forming numbers in children's speech

Children in this study whose mothers speak more Arabic make fewer errors in the gender of the second person pronoun in Arabic, r= -0.433, p= 0.02 (one-tailed). Whereas the children whose mothers speak a lot of Arabic, they cluster at the zero errors point and around. Similarly, four children shown in figure 6.4 making errors in this variable though their mothers spoke mostly in Arabic. Actually three of those children have domestic helpers at home and one of them used to have one for years but she left before the sessions took place (this case was mentioned earlier).

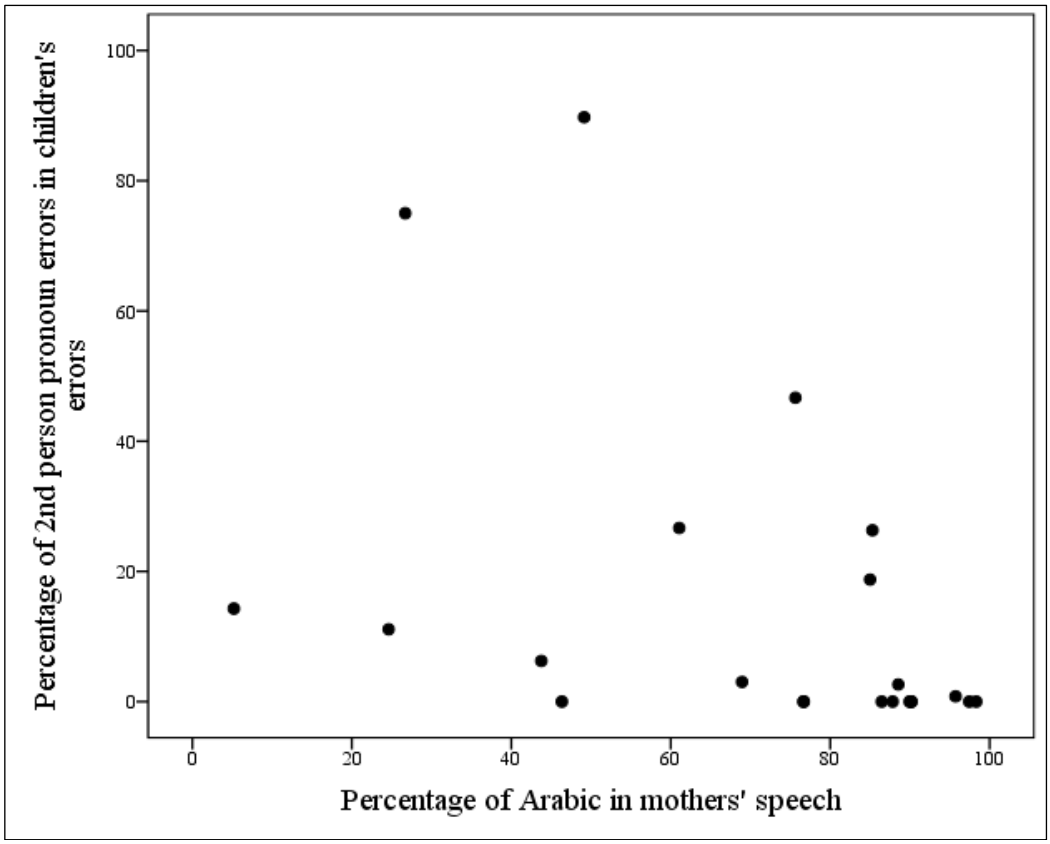

Figure 6.4: The correlation between the percentage of Arabic in the *recorded* input and the percentage of errors in the second person pronoun in children's speech

When mothers speak more Arabic to their children, their children were less likely to shift to English in their speech. Code-mixing in children's speech and the amount of Arabic mothers use in their speech correlate negatively, r= -0.784, p= 0.000 (one-tailed), as shown in figure 6.5.

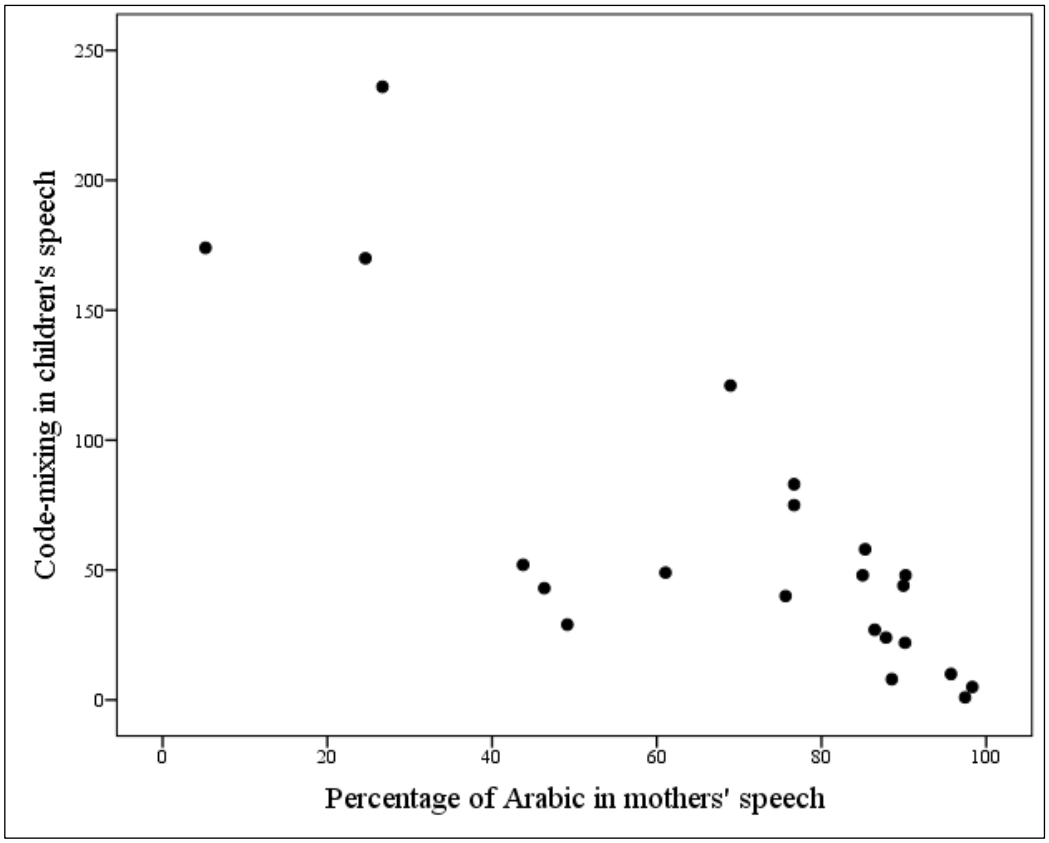

Figure 6.5: The correlation between the percentage of Arabic in the *recorded* input and the amount of code-mixing in children's speech

6.3. English in the *recorded* input and children's results

As expected, the more English mothers speak the more errors children tend to have in their Arabic. I found earlier that the higher the percentage of Arabic in mothers' speech, the fewer errors children make in the assimilation of /al/. Here, there is also a significantly positive relationship between the percentage of English in mothers' speech and children's errors in the assimilation of the definite article /al/, r= 0.395, p= 0.035 (one-tailed), see figure 6.6. Again, the reason could be that when children hear English more than Arabic, they miss out on the opportunity of hearing words with the definite article. The same two children who have domestic helpers (mentioned above) also scored here a high number in errors despite their mothers not speaking in English.

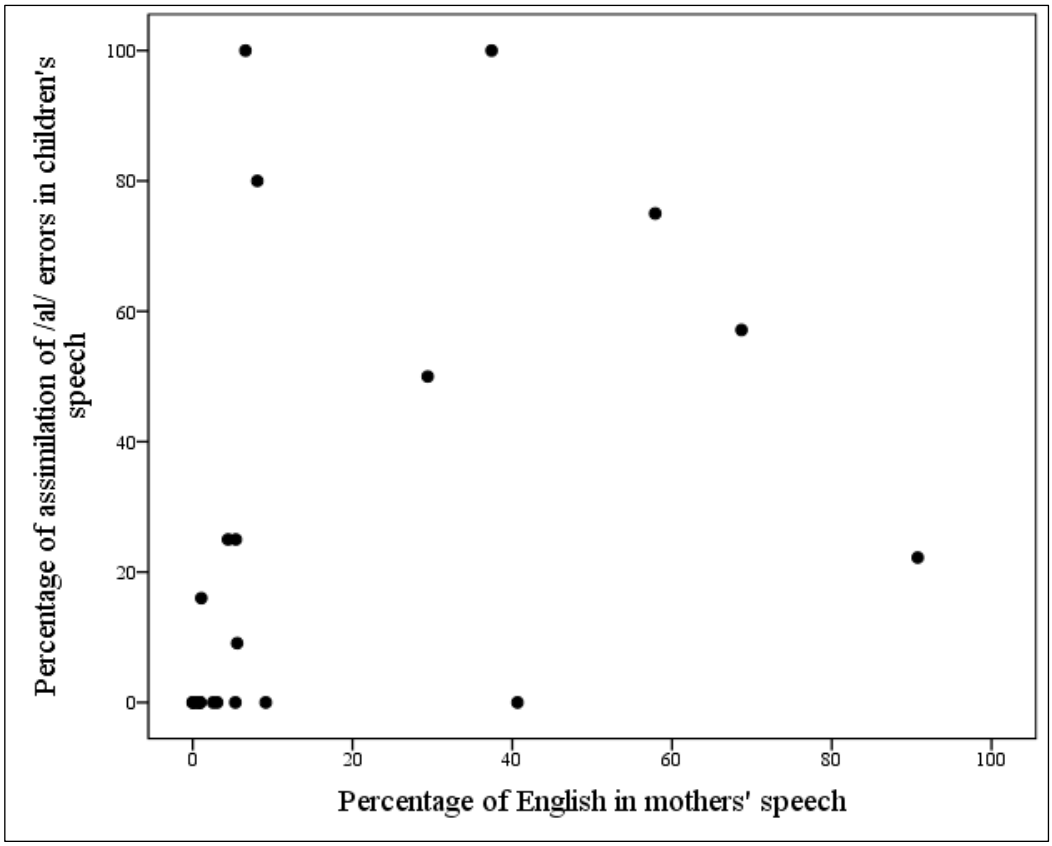

Figure 6.6: The correlation between the percentage of English in the *recorded* input and the percentage of errors in the assimilation of /al/ in children's speech

The English mothers spoke is found to have an impact also on children's ability to form the dual and plural forms in Arabic. Figure 6.7 shows that errors in forming numbers in children's speech and the percentage of English mothers spoke correlate positively, r= 0.625, p= 0.001 (one-tailed), with the same outliers.

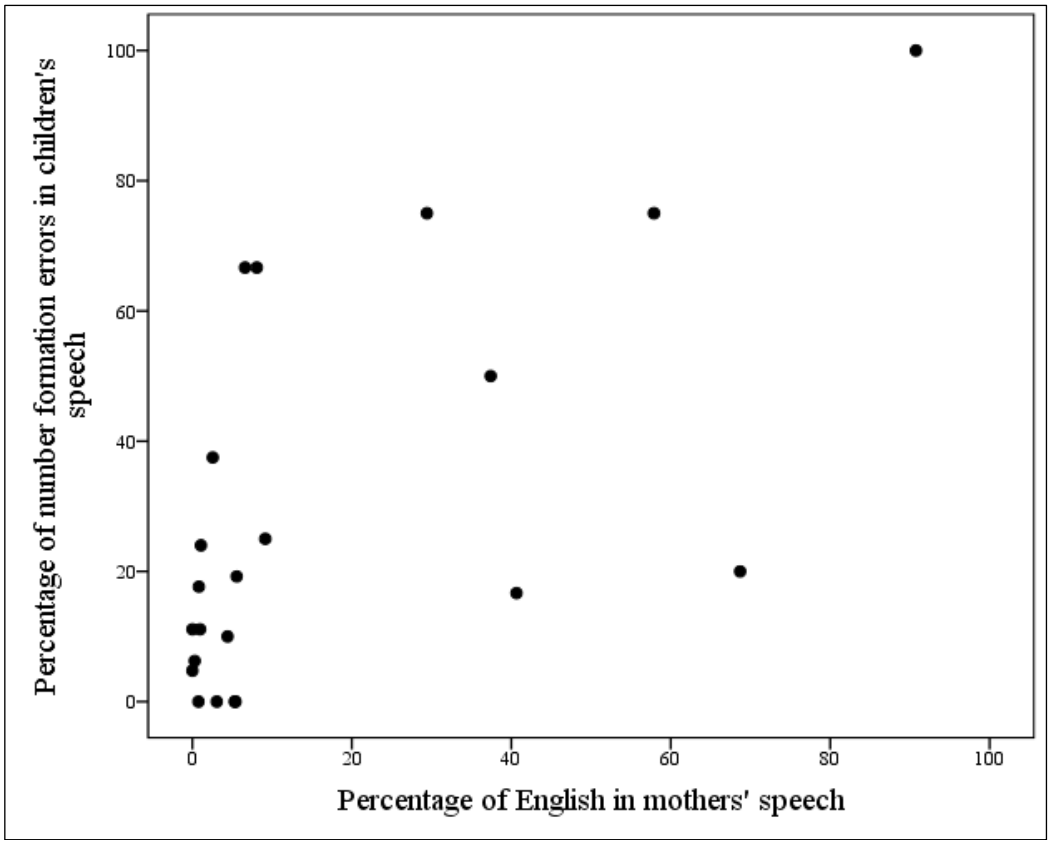

Figure 6.7: The correlation between the percentage of English in the *recorded* input and the percentage of errors in forming numbers in children's speech

Code-mixing in children's speech seems to be prompted by the percentage of English the mothers used with them. There is a significant relationship between the amount of code-mixing in children's speech and the percentage of English mothers used in the naturalistic session, r= 0.766, p= 0.000 (one-tailed). The relationship is highly significant. Figure 6.8 shows that the more English mothers spoke, the more likely for children to mix between English and Arabic in their speech. Children who hear more English may be familiar with some words only in English and, thus, prefer to use them in English.

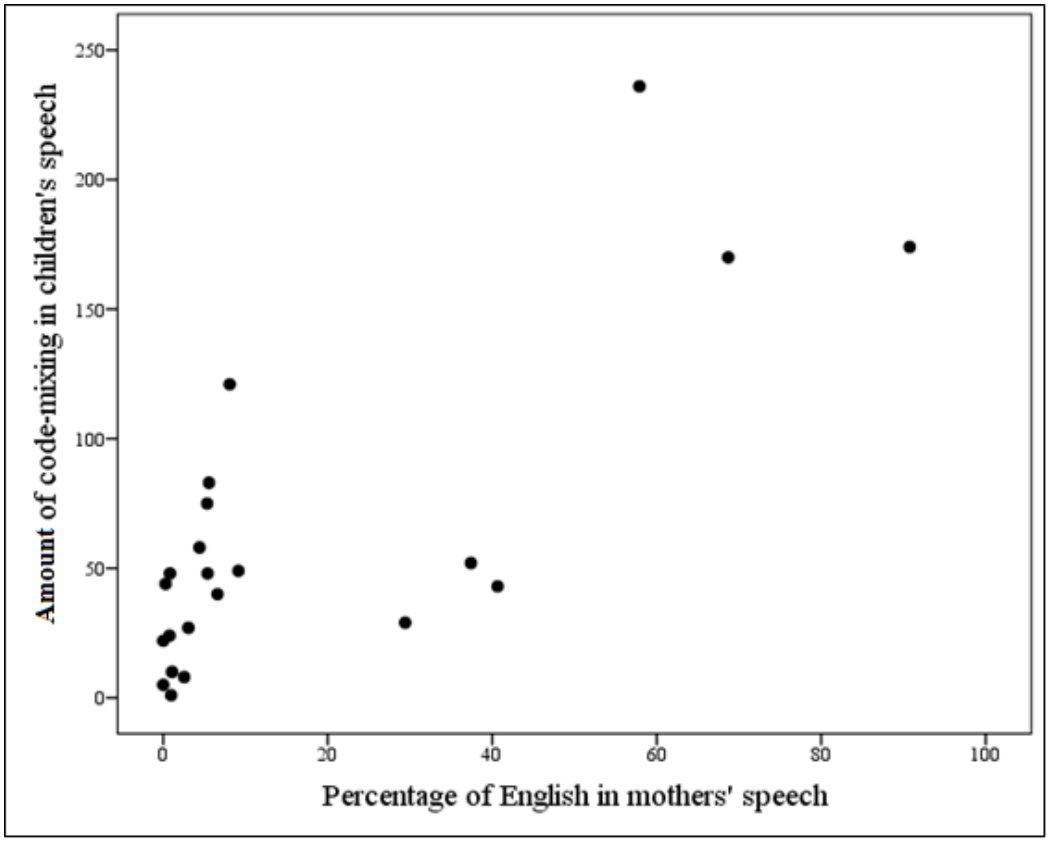

Figure 6.8: The correlation between the percentage of English in the *recorded* input and the amount of code-mixing in children's speech

6.4. Code-switching in the *recorded* input and children's results

When mothers code switch between Arabic and English within the same sentence, children are apt to miss out on certain aspects in Arabic. Although mothers are not the only source of input for children, children usually spend most of their time with their mothers. Hence, it is worth investigating if switching between English and Arabic in the mothers' speech would be related to the errors children have in their Arabic.

In code-switching, sometimes Arabic speakers use an English word in an Arabic context and add the Arabic definite article to the English word. In such case, assimilation to the onset of the following

word would be optional in JSA. Thus, it may be hard for children to distinguish when or when not to assimilate if they hear lots of code-switching in the mothers' speech. Figure 6.9 shows the positive correlation between code-switching in mothers' speech and the errors children made in the assimilation of the definite article /al/, r= 0.376, p= 0.043 (one-tailed). In spite of the significance of this relationship, it is not considered to be that strong as the previous ones. This may be attributed to the fact that some of the mothers who code-switched a lot, still spoke in Arabic most of the time, as seen in the outliers. For example, the child whose mother code-switched the most (in 30% of her speech), used Arabic in around 60% of her speech. This explains why this child got the assimilation right.

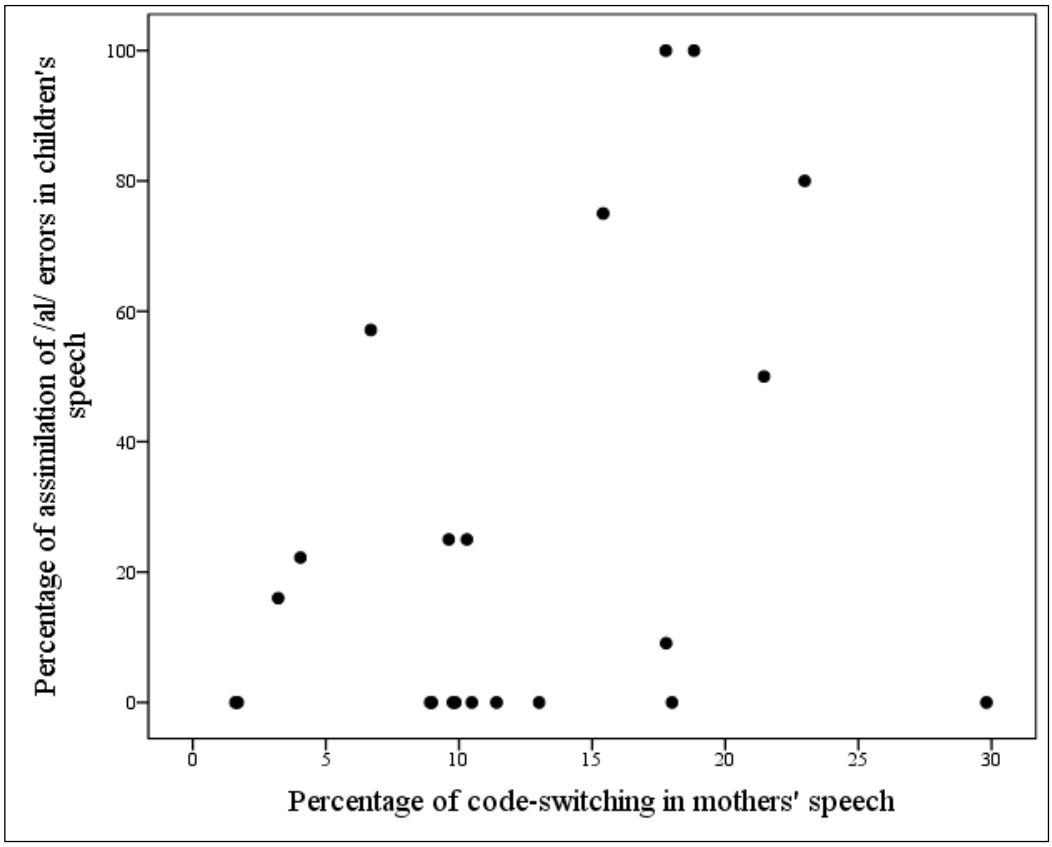

Figure 6.9: The correlation between the percentage of code-switching in the *recorded* input and the percentage of errors in the assimilation of /al/ in children's speech

Code-switching in mothers' speech also correlates positively with the percentages of errors in gender agreement in children's speech, r= 0.521, p= 0.006 (one-tailed), as shown in figure 6.10.

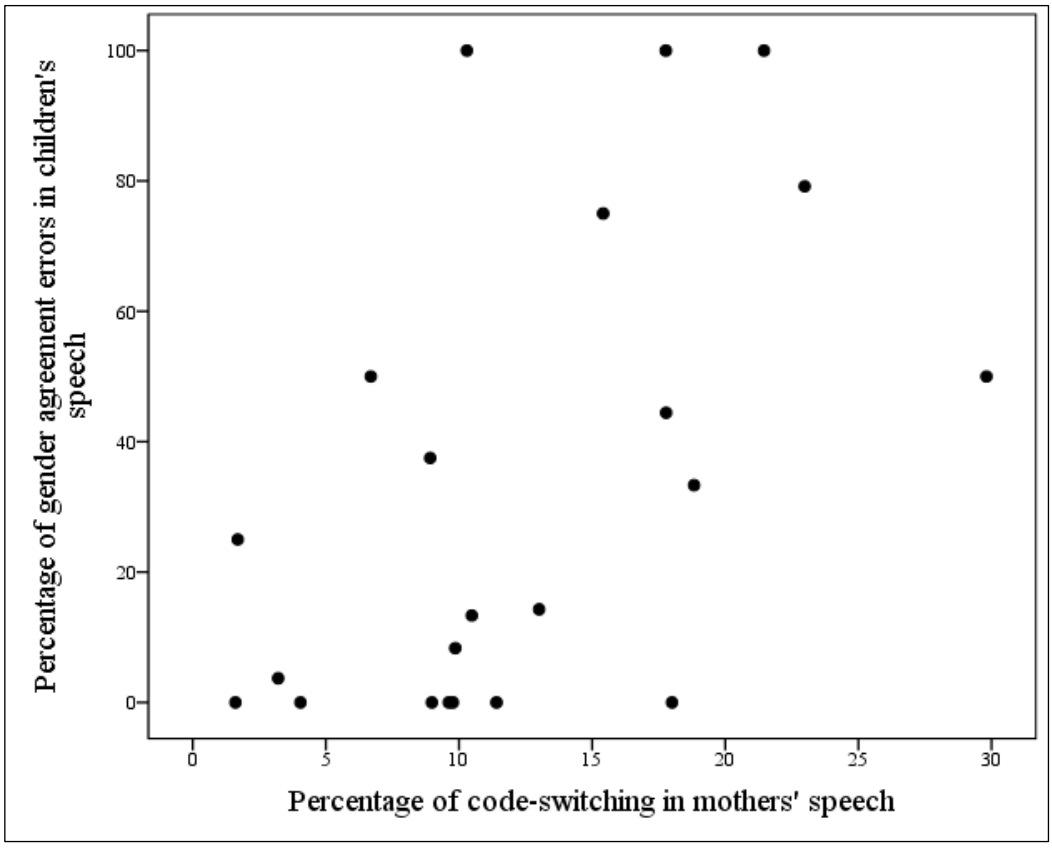

Figure 6.10: The correlation between the percentage of code-switching in the *recorded* input and the percentage of errors in gender agreement in children's speech

Figure 6.11 below presents the results of the positive correlation between the percentage of code-switching in mothers' speech and the percentage of children's errors in the second person pronoun in Arabic, r= 0.400, p= 0.033 (one-tailed). Again, the relationships is significant, yet not of the same strength as the correlations with the percentage of English in mothers' speech.

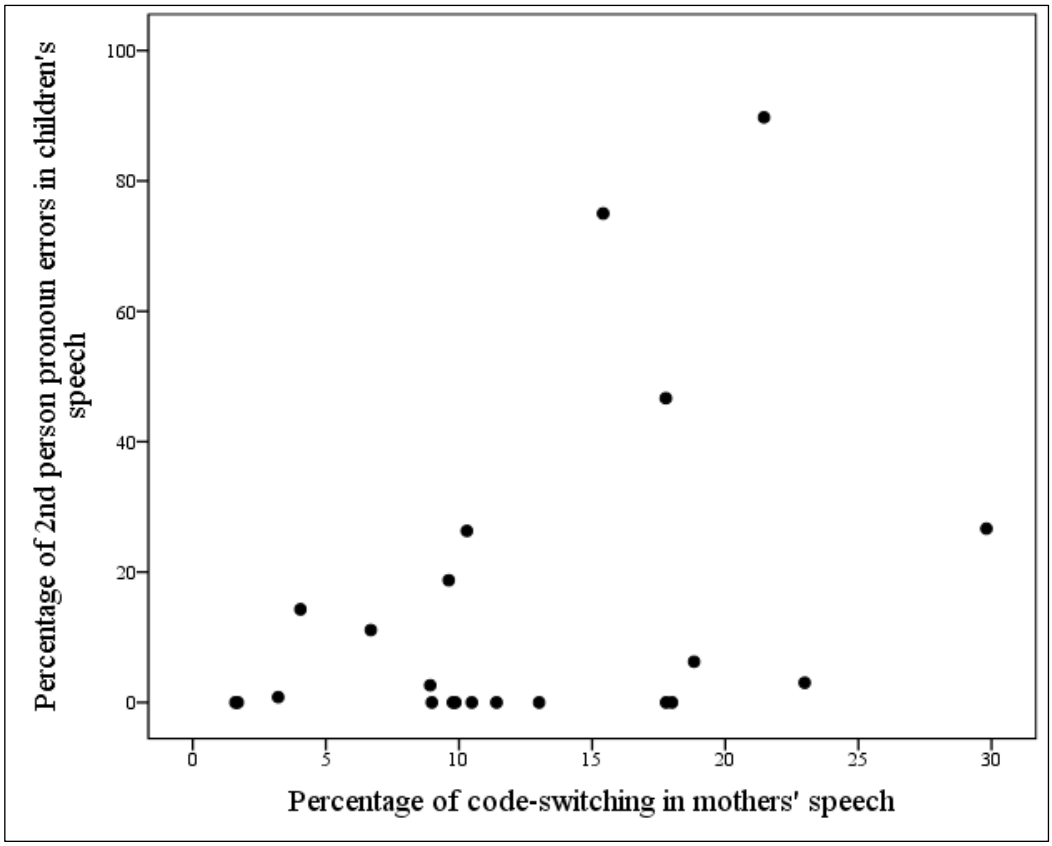

Figure 6.11: The correlation between the percentage of code-switching in mothers' speech and the percentage of errors in the second person pronoun in children's speech

Results of the children under study show that there is a significant relationship between children's errors in word order in Arabic and code-switching in mothers' speech, r= 0.681, p= 0.000 (one-tailed). Figure 6.12 below reflects this positive correlation. Two of those children did not make errors in word order despite their mothers' code-switching. This is because most of their mothers' speech was actually in Arabic. This correlation seems to be the strongest in the code-switching in mothers' speech, thus word order may be the most linguistic variable affected by switching.

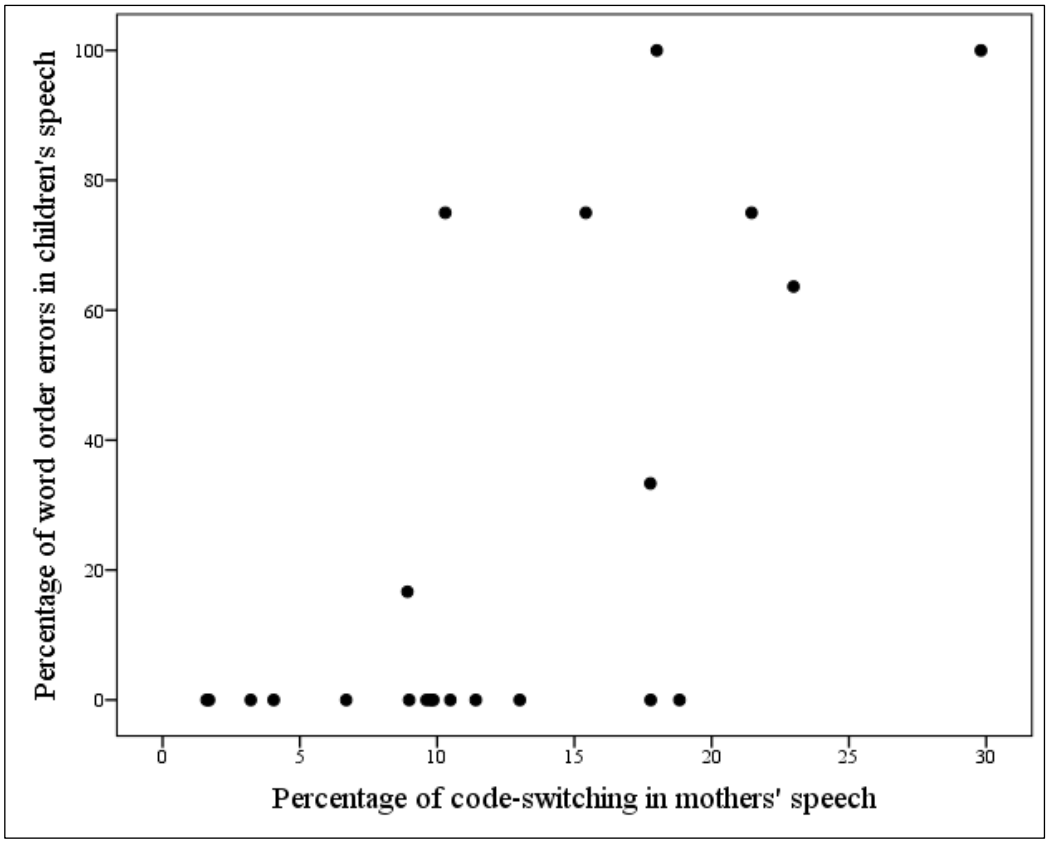

Figure 6.12: The correlation between the percentage of code-switching in the *recorded* input and the percentage of errors in word order in children's speech

6.5. Conclusion

The results of the present chapter clearly show that the *recorded* input plays a role in shaping children's Arabic language. It is found that the more Arabic children are exposed to, the fewer errors they make in Arabic. There is a negative correlation between the percentage of Arabic in the *recorded* input and the number of errors children made in the assimilation of the definite article, forming duals and plurals, the gender of the second person pronoun, in addition to less code-mixing in children's speech.

On the other hand, when children hear more English from their mothers, they seem to have some problems with their Arabic. Thus, there is a positive correlation between the percentage of English in the *recorded* input and the errors children made in the assimilation of the

definite article and using the dual and plural forms in Arabic, as well as mixing between English and Arabic within the same sentence

The results of this chapter also demonstrate the correlation between code-switching in mothers' speech and children's results. The more code-switching between Arabic and English within the same sentence in the *recorded* input, the more errors children made in the assimilation of the definite article, gender agreement, the second person pronoun and word order. The correlation between code-switching in mothers' speech and children's errors in word order is the strongest.

It is worth noting that the correlations between children's results and the percentage of code-switching in mothers' speech are generally not as strong as they are with the percentage of English and Arabic in mothers' speech. This may be due to the low percentage of code-switching compared to the percentages of Arabic-only and English-only sentences in their speech.

Chapter 7: The Presence of Foreign Domestic Helpers (DHs)

The aim of the present chapter is to examine the potential influence of foreign DHs on 4-year-old children's acquisition of Arabic in Jordan. Additionally, the language spoken by DHs is taken into account. The first section will look at the relationship, if any, between the presence of DHs (regardless of their language) and the *reported* attitudes (7.1), while the relationship, if found, between the presence of DHs and the *reported* input will be covered in the second section (7.2). The third section will link the presence of DHs in the households with the *recorded* input (7.3). After that, children's results in the naturalistic session will be linked to the presence of DHs (regardless of the language they use), and then to DHs speaking English and DHs speaking pidgin Arabic (7.4). Children's results in the three elicitation tasks will be looked at in light of the presence of DHs, and also DHs-E and DHs-PA (7.5). A summary of the results will follow in the last section (7.6).

7.1. The presence of DHs and the *reported* attitudes

No correlation was found between *reported* attitudes by parents towards Arabic and English, as elicited from the questionnaires, and the presence of foreign DHs (regardless of their language) in the household. In houses with DH, parents' attitudes towards Arabic (M= 1.19, SE= 0.15) were not higher than parental attitudes towards Arabic in households with no DH (M= 0.96, SE= 0.37). This difference, 0.23, 95% CI [-0.46, 0.93], was not significant t(19)= 0.7, p= 0.48 (two-tailed). Similarly, parents' attitudes towards English in households with DH (M= 1.55, SE= 0.11) were not higher than parental attitudes towards English in households with no DH (M= 1.71, SE= 0.12). This difference, -0.15, 95% CI [-0.55, 0.24], was not significant t(19)= -0.89, p= 0.42 (two-tailed).

The language used by the foreign DHs does not seem to be linked to parental attitudes, according to what was reported in the questionnaires. Parents' attitudes towards Arabic in households with DH-E (M= 1.27, SE= 0.18) were not higher than parental attitudes towards Arabic in households with DH-PA (M= 1.04, SE= 0.28). This difference, 0.23, 95% CI [-0.45, 0.93], was not significant t(12)= 0.74, p= 0.47 (two-tailed). Similarly, parents' attitudes towards English in households with DH-E (M= 1.57, SE= 0.14) were not higher than parental attitudes towards English in households with DH-PA (M= 1.52, SE= 0.23). This difference, 0.057, 95% CI [-0.50, 0.61], was not significant t(12)= 0.22, p= 0.82 (two-tailed).

This may be because *reported* attitudes do not reflect the real values of parents, especially that two of the parents mentioned in the last open-question in the questionnaire that one of the reasons behind hiring a DH speaking English was to provide an English atmosphere for their young children to practise the language.

7.2. The presence of DHs and the *reported* input

Likewise, no relationship is found between the presence of foreign DHs and the input children receive at home according to what was reported by parents in the questionnaires. The input children receive in English in households with DH (M= 40.38, SE= 8.24) is not higher than the English input children receive in households with no DH (M= 27.85, SE= 8.88). This difference, 12.5, 95% CI [-14.8, 39.91], was not significant t(18)= 0.96, p= 0.3 (two-tailed). Like-wise, the input children receive in Arabic in households with DH (M= 81.15, SE= 14.59) is not higher or lower than the Arabic input children receive in households with no DH (M= 57.14, SE= 14.43). This difference, 24, 95% CI [-23.5, 71.58], was not significant t(18)= 1.06, p= 0.3 (two-tailed).

Although it was expected that the language spoken by the DHs will be reflected in the language input children receive, the language DHs

speak and the input children receive reported by parents also do not correlate with each other. The input children receive in English in households with DH-E (M= 45.5, SE= 11.31) is not higher than the English input children receive in households with DH-PA (M= 32.2, SE= 12). This difference, 13.3, 95% CI [-24.6, 51.24], was not significant t(11)= 0.77, p= 0.45 (two-tailed). The input children receive in Arabic in households with DH-E (M= 69, SE= 19) is not lower than the Arabic input children receive in households with DH-PA (M= 100.6, SE= 22.17). This difference, -31.6, 95% CI [-96.3, 34.1], was not significant t(11)= -1.05, p= 0.31 (two-tailed).

7.3. The presence of DHs and the *recorded* input

By looking at the presence of foreign DHs (regardless of the language they use) and the percentage of Arabic, English and code-switching in the *recorded* input, mothers' were likely to speak Arabic less in households with DH (M= 60.04, SE= 10.29), than their counterparts (M= 85.37, SE= 3.36), in the naturalistic session (see figure 7.1). This difference, -25.33, 95% CI [-49.58, -1.07], was significant t(9.621)= -2.339, p= 0.042 (two-tailed), but it does represent a large-sized effect,

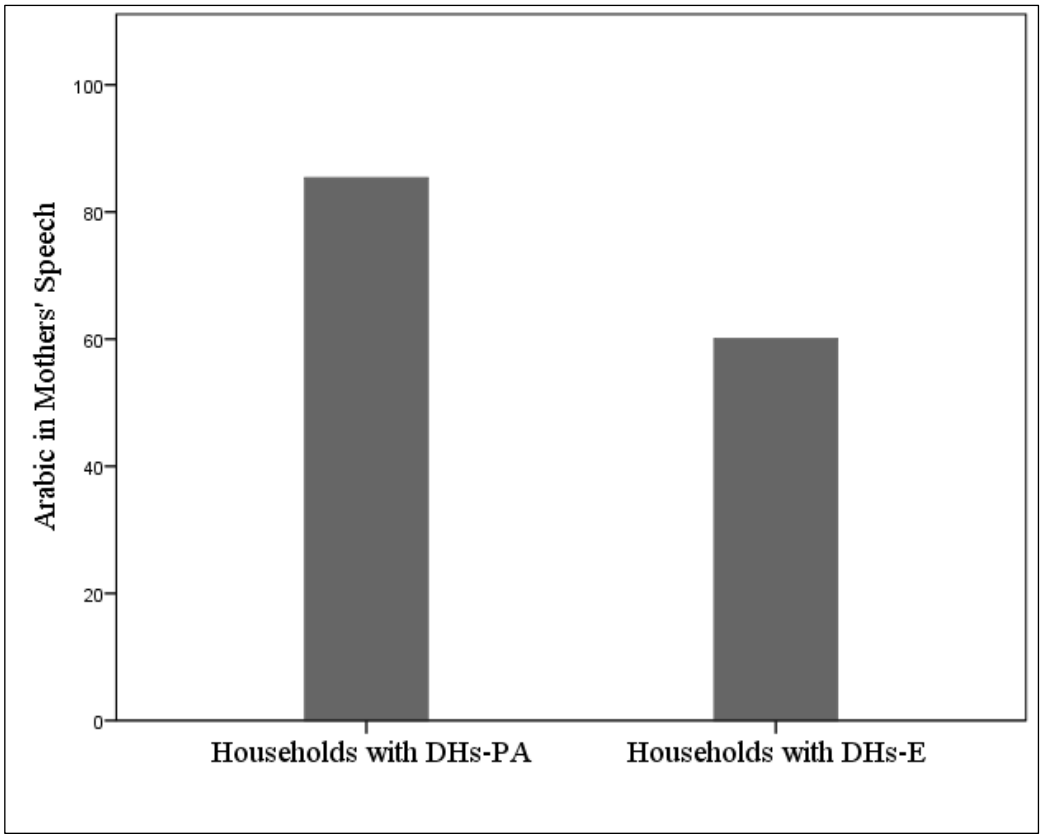

Figure 7.1: The percentage of Arabic in the *recorded* input in households with DHs speaking pidgin Arabic and households with DHs speaking English

Furthermore, in the case of having DHs speaking English, the percentage of English mothers spoke in the naturalistic session was higher (M= 26.37, SE= 10.36), than when there was a DH speaking pidgin Arabic (M= 3.48, SE= 0.84) as shown in figure 7.2. This difference, 22.89, 95% CI [-1.02, 46.80], was almost significant t(8.107)= 2.202, p= 0.058; it also represents a large-sized effect, d= 0.92.

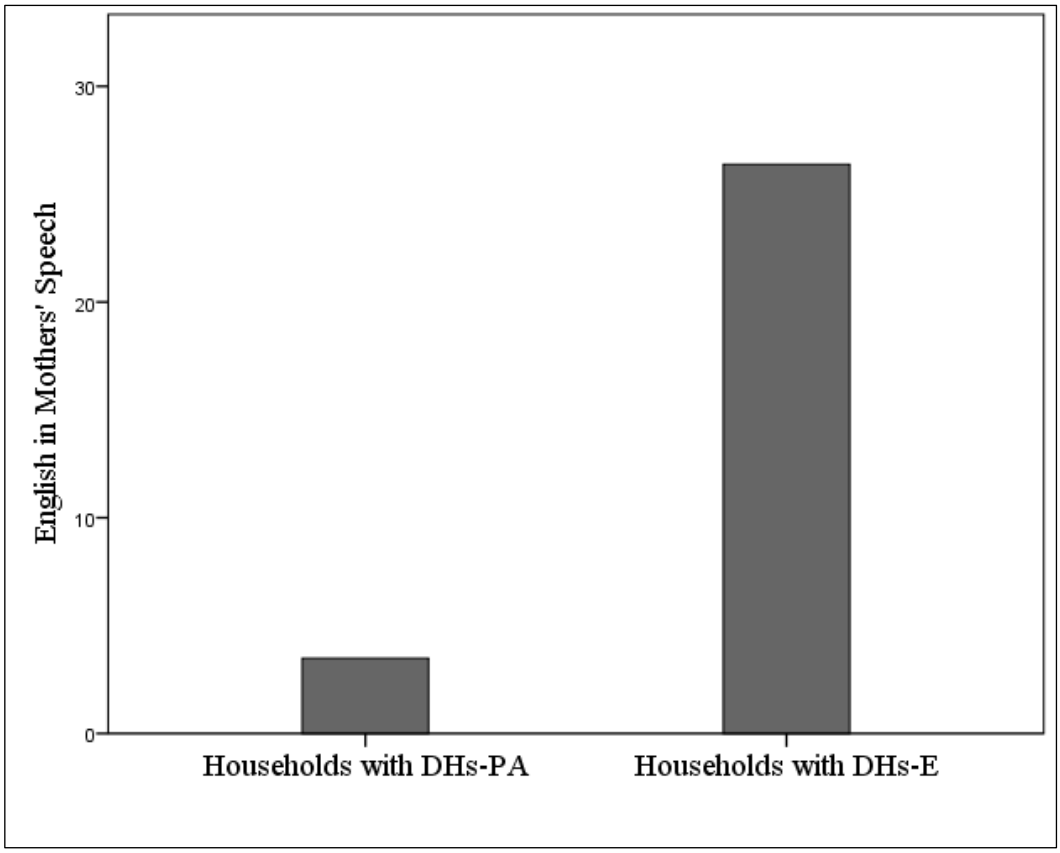

Figure 7.2: The percentage of English in the *recorded* input in households with DHs-PA and households with DH-E

Therefore, it is found that in households with no DH (regardless of the language they use), mothers speak more Arabic than in households with DH. It is also found that in households with DH speaking English, mothers tend to use more English in their speech than if the DH speaks Pidgin Arabic. These findings indicate that the presence of a foreigner who speaks English may encourage mothers to use English. Therefore, children's results depending on the presence of the DH and the language used by the DH may be linked to children's results according to the language used by the mothers.

7.4. Children's results in the naturalistic session

7.4.1. Children in households with DHs vs. no DHs (regardless of the spoken language)

I will discuss here the significant results, yet a general discussion is provided in chapter 9. Children raised in households with DHs have

more errors in their Arabic as presented in figure 7.3. In households where DHs are found, children have more problems in the pronunciation of the sounds under study (M= 25.28, SE= 6.72), compared to children growing up in households with no DHs (M= 2.87, SE= 1.49). This difference, 22.41, 95% CI [7.74, 37.07], was highly significant t(15.32)= 3.25, p= 0.005 (two-tailed), and it represents a quite large-sized effect, Cohen's d= 5.68.

On average, children raised with DHs have more errors in the assimilation of the definite article /al/ (M= 33.48, SE= 9.70), compared to their peers who do not have DHs (M= 8.16, SE= 8.16). This difference, 25.32, 95% CI [-1.23, 51.88], was significant t(18.82)= 1.99, p= 0.03 (one-tailed), and it does represent a large-sized effect, Cohen's d= 1.17.

Children raised in households with foreign DHs also found forming duals and plurals more difficult (M= 36.85, SE= 8.49), compared to their peers who have no DHs at home (M= 11.96, SE= 3.39). This difference, 24.88, 95% CI [5.64, 44.12], was significant t(17.77)= 2.72, p= 0.007 (one-tailed), and it represents a large-sized effect, Cohen's d= 2.76.

Furthermore, children growing up with DHs have more errors in gender agreement (M= 40.76, SE= 10.29), than the children who did not have DHs (M= 17.51, SE= 8.62). This difference, 23.24, 95% CI [-4.88, 51.38], was significant t(18.86)= 1.73, p= 0.05 (one-tailed), and it represents a large-sized effect, Cohen's d= 1.01.

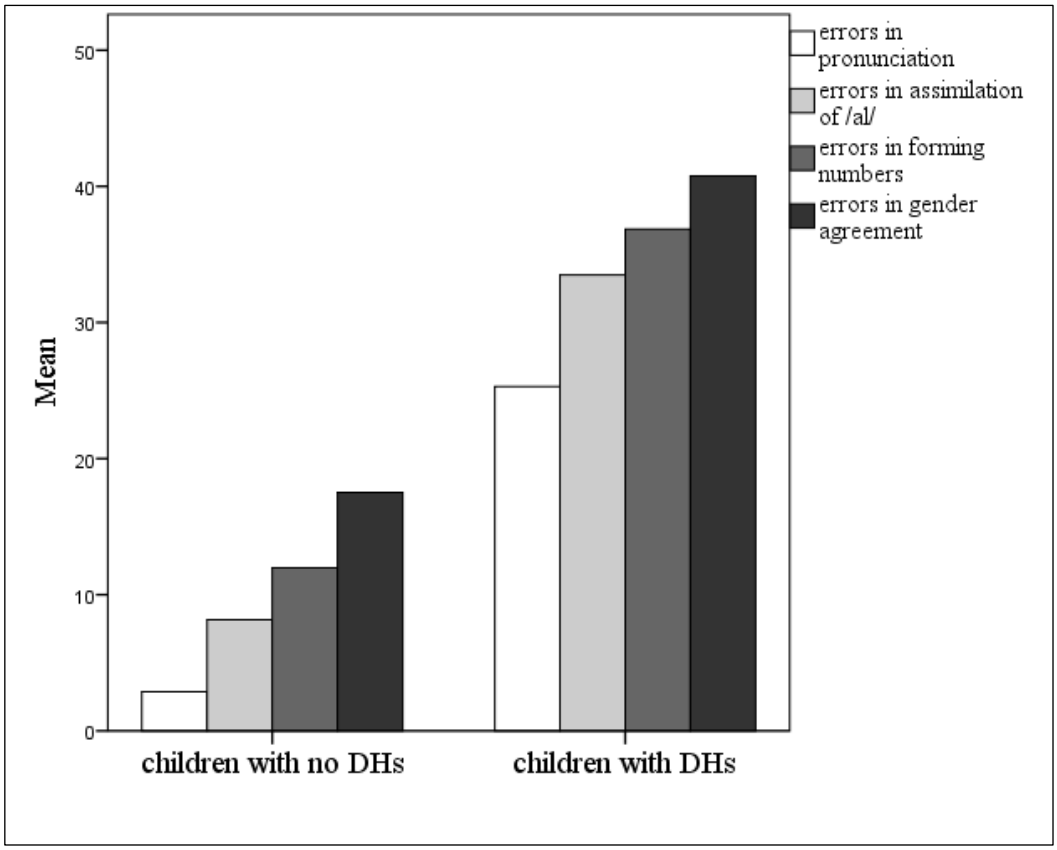

Figure 7.3: The percentages of errors made by children in households with DHs and with no DHs

Since mothers speak more Arabic in households with no DHs (as reported in section 7.3), this may also count for the fewer errors made by this group of children compared to children in households with DHs. In chapter 6, it was noted that there is a negative correlation also between the percentage of Arabic in mothers' speech and the assimilation of /al/ and forming numbers, which goes with the results in figure 7.4.

7.4.2. Children with DHs-E vs. DHs-PA

Figure 7.4 shows that children growing up with DHs speaking mainly English also have more errors in the assimilation of the definite article /al/ (M= 52.02, SE= 12.66), compared to their counterparts who have DHs speaking pidgin Arabic (M= 5.68, SE= 4.13). This difference, 46.34, 95% CI [16.50, 76.17], was significant t(9.62)= 3.47, p= 0.003 (one-tailed), and it represents a large-sized effect, Cohen's d= 1.52.

Forming duals and plurals is more difficult for children growing up with DHs speaking English (M= 52.77, SE= 10.83), compared to children growing up with DHs speaking pidgin Arabic (M= 12.97, SE= 5.74). This difference, 39.80, 95% CI [12.98, 66.61], was highly significant t(11.65)= 3.24, p= 0.004 (one-tailed), and it does represent a large-sized effect, Cohen's d= 1.47 (see figure 7.6).

The gender of the second person pronoun in Arabic is found difficult to for children growing in households with DHs speaking English (M= 28.28, SE= 11.34), in comparison with children growing in households with DHs speaking pidgin Arabic (M= 4.82, SE= 4.31) as shown in figure 7.6. This difference, 23.45, 95% CI [-3.53, 50.44], was highly significant t(10.14)= 1.93, p= 0.041 (one-tailed), and it does represent a large-sized effect, Cohen's d= 0.85.

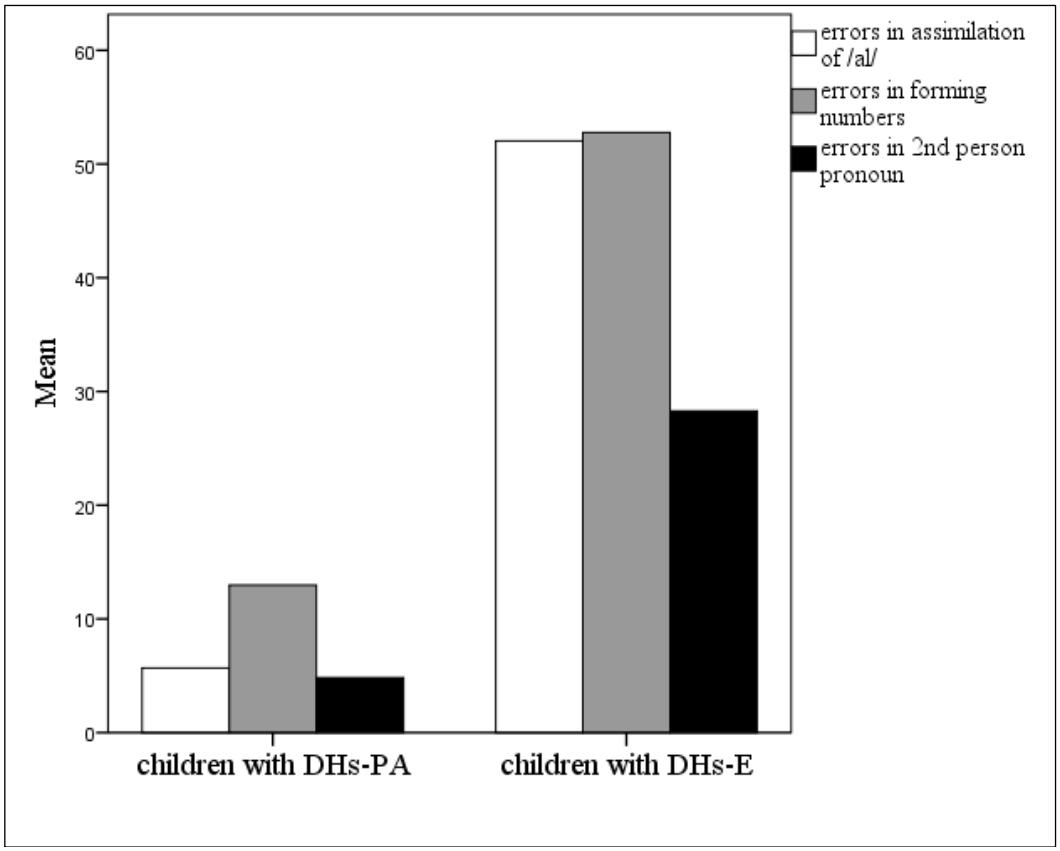

Figure 7.4: The percentages of errors made by children with DHs-E and children with DHs-PA

Mothers in households with DH speaking English are found to use English more in their speech (see section 7.3). Therefore, a link is expected between the results of children whose mothers use more English and the results of children in households with DH speaking English. By looking at the results in chapter 6 and figure 7.5, we will also find that children in these two groups make errors in the assimilation of /al/ and forming numbers.

7.5. Children's results in the elicitation tasks

7.5.1. Children with DHs vs. no DHs

In the memory game activity, children under study who have DHs at home made more errors in pronunciation in Arabic (M= 32.95, SE= 6.13), than children who have no DHs (M= 10.18, SE= 6.91). This difference, 22.77, 95% CI [1.51, 44.04], was significant t(20)= 2.23, p= 0.018 (one-tailed). It also represents a large-sized effect, d= 1.24. Figure 7.5 below shows the result.

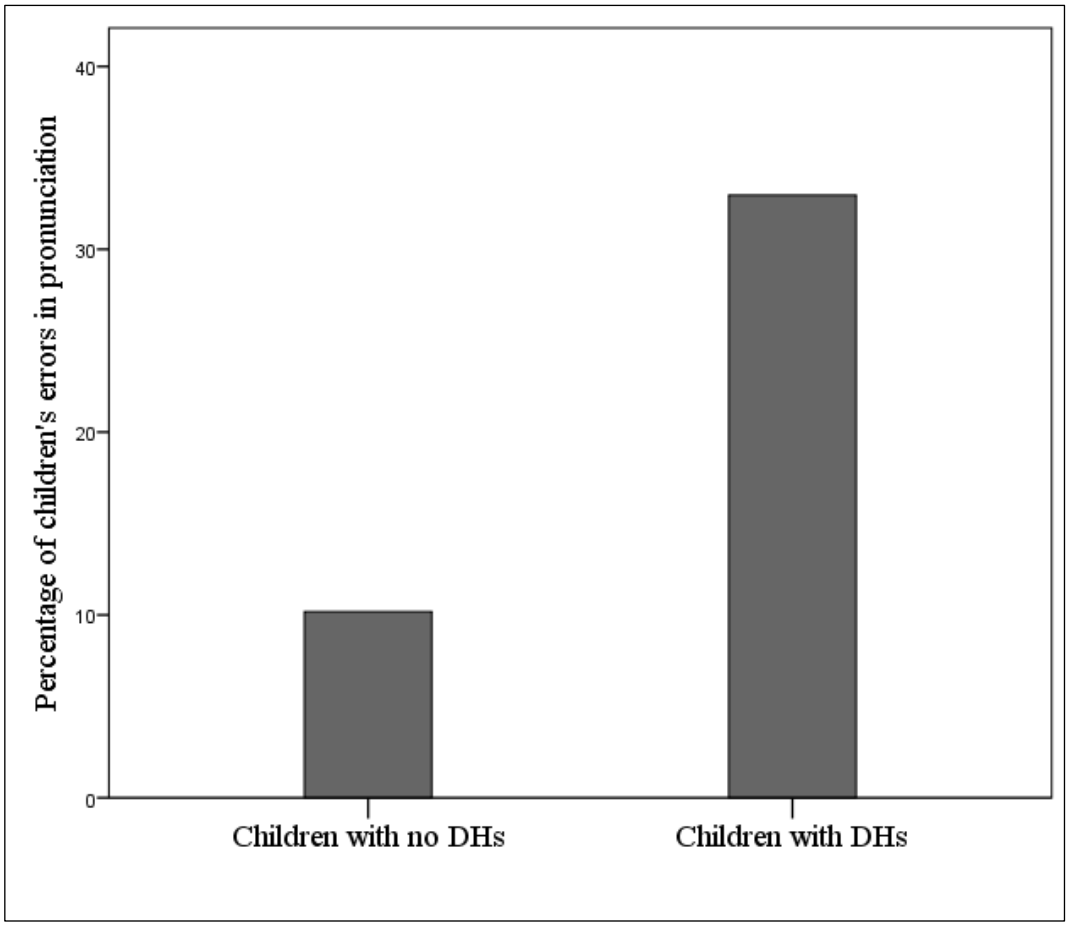

Figure 7.5: The percentage of errors in pronunciation in the speech of children with DH and with no DHs in the memory game activity

As for the story-telling activity, figure 7.6 below shows that children with DHs have more errors in pronunciation in Arabic (M= 31.99, SE= 6.74), than children who do not have DHs (M= 5.49, SE= 2.15), as shown in figure 7.9. This difference, 26.50, 95% CI [11.45, 41.46], was significant t(16.59)= 3.74, p= 0.001(one-tailed). It also represents a large-sized effect, d= 4.65.

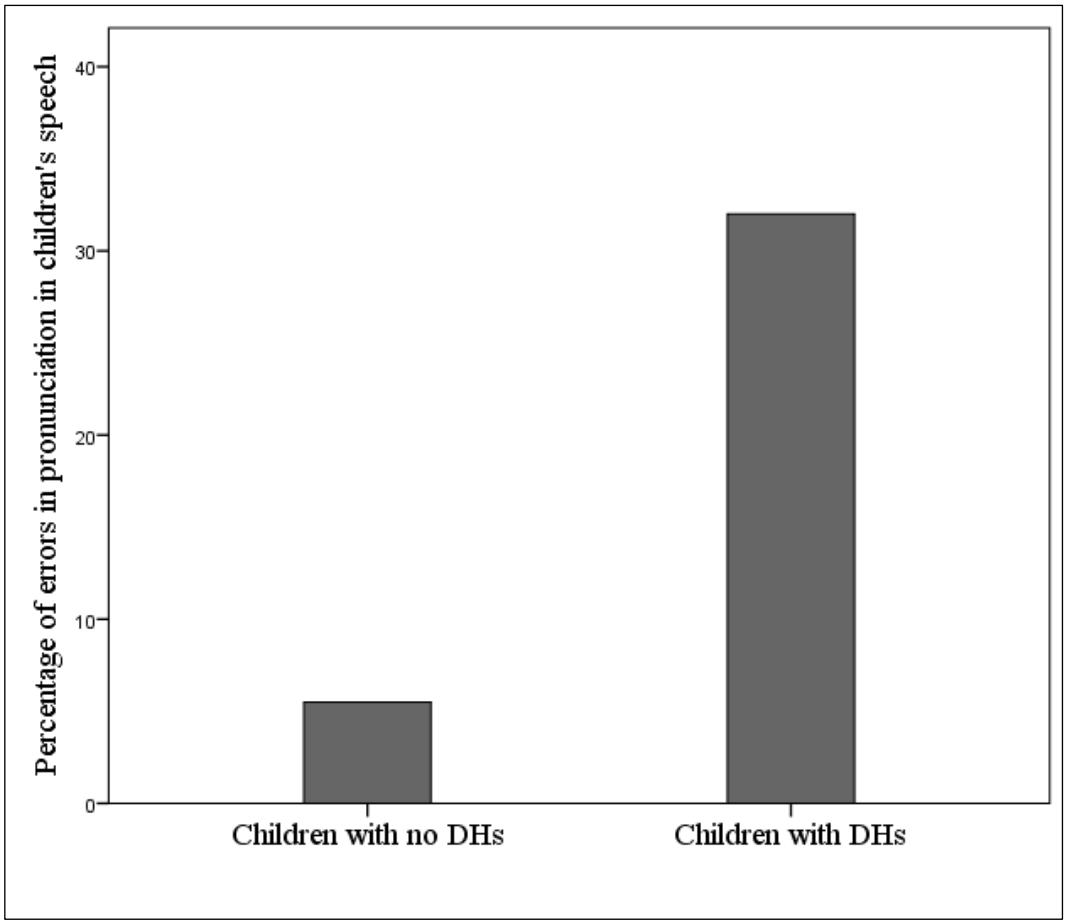

Figure 7.6: The percentage of errors in pronunciation in the speech of children with DH and with no DH in the story-telling activity

A similar result was found in the sticker book activity. Children with DHs tended to have more errors in pronunciation (M= 5.20, SE= 1.02), compared to their peers with no DHs (M= 0.85, SE= 0.55). The difference, 4.34, 95% CI [1.91, 6.77], was significant t(19.48)= 3.73, p= 0.0005 (one-tailed). It also represents a large-sized effect, d= 2.97 (see figure 7.7).

Children with DHs tended to have more errors in morphology, (M= 5.23, SE= 0.59), compared to their peers with no DHs (M= 3.07, SE= 0.88). The difference, 2.16, 95% CI [-0.48, 4.37], was significant t(20)= 2.04, p= 0.0027 (one-tailed). It also represents a large-sized effect, d= 0.92 (see figure 7.7).

In addition, children with DHs have more errors in word order (M= 1.20, SE= 0.26), compared to their peers with no DHs (M= 0.42, SE= 0.20). The difference, 0.77, 95% CI [-0.85, 1.62], was significant t(20)= 1.87, p= 0.037 (one-tailed). It also represents a large-sized effect, d= 1.45 (see figure 7.7).

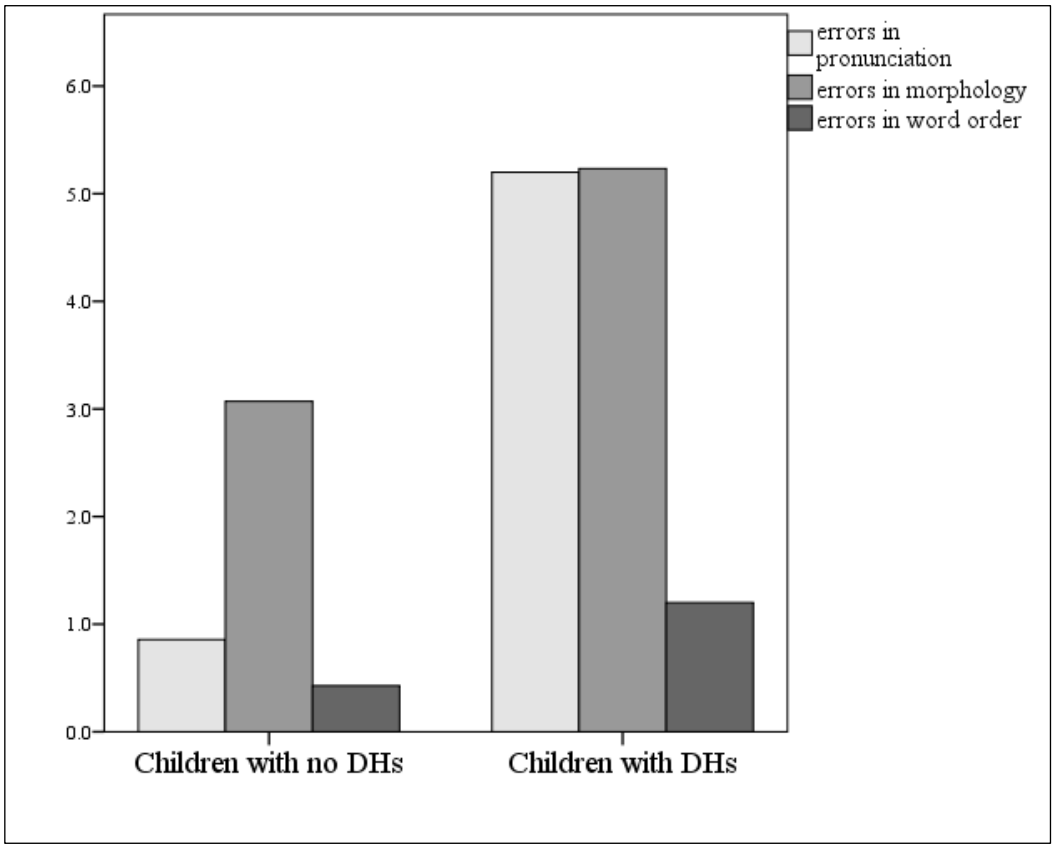

Figure 7.7: The percentages of errors in the speech of children with DH and with no DH in the sticker book activity

7.5.2. Children with DHs-E vs. DHs-PA

By comparing children who have DHs speaking English to those who have DHs speaking pidgin Arabic in memory game task, there is no significant difference between the two groups in any of the variables. Likewise, no significant results are found in the story-telling activity.

As for the sticker book activity which had specific responses eliciting the linguistic variables under study, children

raised in households with DHs speaking English tended to mix between English and Arabic (M= 1.33, SE= 0.40) more than those who are raised in households with DHs speaking Arabic (M= 0.33, SE= 0.21), as shown in figure 7.9. This difference, 1.00, 95% CI [-0.005, 2.00], was significant t(11.52)= 2.17, p= 0.025 (one-tailed). It represents a large-sized effect, Cohen's d= 1. However, the difference is not that big as shown in the scale below; code-mixing was in count and not percentages. To put this in words; children raised in households with DH-E code-mixed more than once and less than twice in this task, while the children with DH-PA code-mixed less than once.

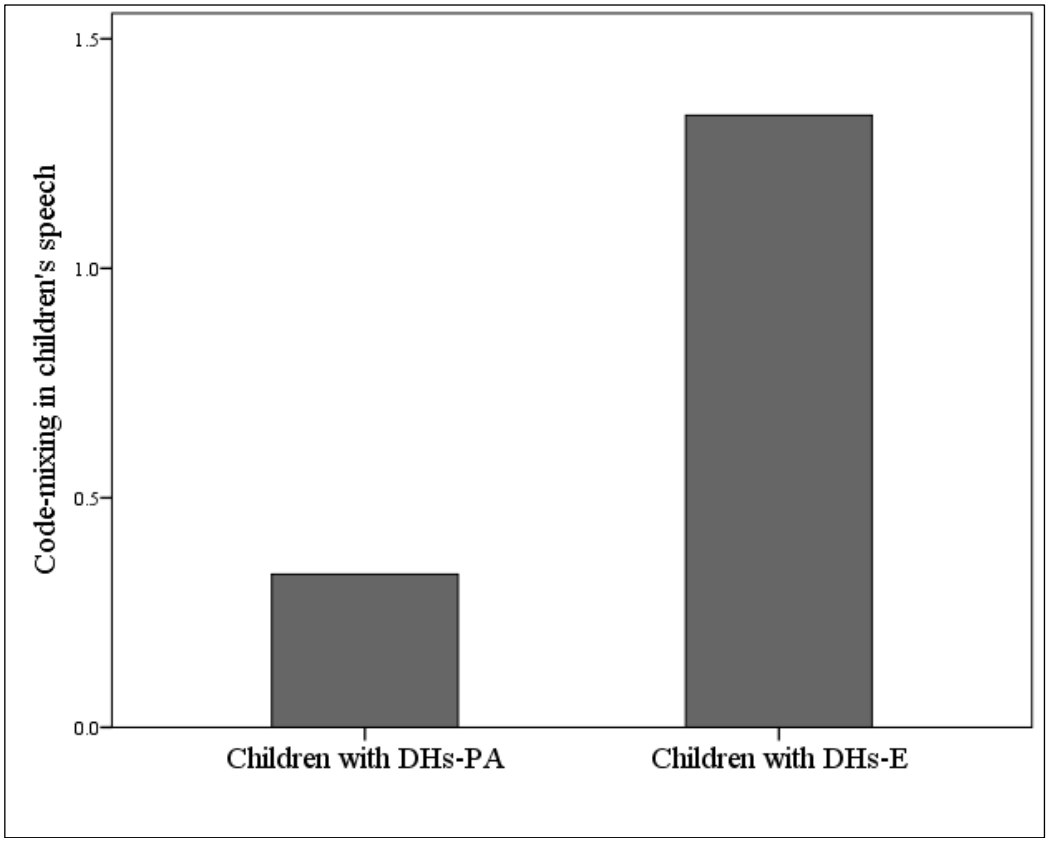

Figure 7.8: The percentage of code-mixing in the speech of children with DH-E and with DH-PA in the sticker book activity

7.6. Conclusion

To sum up, no relationship was found between the presence of foreign DHs, regardless of the language they speak, and the *reported*

attitudes towards languages. Similarly, there was no relationship between the *reported* input children receive and the presence of DHs, whether they speak English or pidgin Arabic.

On the other hand, a significant relationship was found between the *recorded* input and the presence of DH, by which Arabic is used more by mothers in households with no DH compared to households with DH. The language spoken by the DH is also linked to the percentage of English used by the mothers; mothers use English more in households with DH-E. Whether it is the presence of DHs speaking English that triggers more English or that parents who favour English prefer to have DHs speaking English, children raised in households with DHs speaking English seem to receive more input in English and less in Arabic.

The findings show that the presence of foreign DHs (regardless of the spoken language) is linked to children's errors in pronunciation, assimilation of the definite article /al/, forming numbers and gender agreement according to the data of the naturalistic session. The other three elicitation tasks reflect this influence mainly in pronunciation. This is due to the relatively long utterances spoken by children in the naturalistic session compared to those in the elicitation tasks. The long utterances made it possible to look at many variables.

By looking at the language spoken by DHs, the results of the naturalistic session mainly show that there is a relationship between the presence of DH-E and children's errors in the assimilation of the definite article /al/, forming duals and plurals and choosing the gender of the second person pronoun. The memory game and the story-telling activities, however, do not show a significant difference based on the language spoken by the DHs, perhaps due to the short utterances provided in them. In the sticker book activity, although not clear, children raised in households with DHs speaking English mix between English and Arabic more than children with DHs speaking pidgin Arabic.

Mothers in households with DHs speak more Arabic, we can say that children whose mothers speak more Arabic and raised in households with no DHs make fewer errors in the assimilation of /al/ and forming dual and plural forms. On the contrary, mothers in households with DH-E tend to speak more, so children in households with DH-E and their mothers speak more English are found to have more errors in assimilation of /al/ and forming duals and plurals.

Chapter 8: The Picture Vocabulary Test (PVT)

The present chapter reports the methodology and the results of the picture vocabulary test (PVT) added as a post test for the children under study. This test was conducted to look at the vocabulary size of the children under study around two years after the main recordings took place. This test is different in the nature and in the time it took place, so I chose to discuss it in a separate chapter. An overview of the test, and the need for it, is presented in the first section (8.1). Details about the participants are provided (8.2), followed by an explanation of the design of the test (8.3) and the procedure of test (8.4). The results of the tests are presented and discussed in relation to the extra-linguistic factors explained earlier in chapter 3 (8.5). Finally, a summary is provided along with the limitations of the test in the conclusion section (8.6).

8.1. Overview

Previous picture vocabulary tests for Arabic speaking children were usually based on adapted English tests, researchers' knowledge of their language, and feedback from clinicians (Shaalan, 2010). To the best of my knowledge, one of the earliest attempts of comprehension tests in Arabic designed for typically developing children was established by Al-Akeel (1998) for ages 3;0-6;0 in Saudi Arabia. This test was basically designed to assess morpho-syntactic structures using different regional dialects of Saudi Arabia. Recently, an adaptation of CDI in Arabic is being developed by Dashash and Basaffar (not sure if it is dialect-specific).

Shaalan (2010) designed a test to assess receptive vocabulary among typically developing children and SLI children in Qatar. Shaalan's Arabic Picture Vocabulary Test (APVT henceforth) included 132 items arranged in terms of difficulty into 11 groups of 12 items. Each page consisted of 4 pictures mostly taken from the British Picture Vocabulary Scale (BPVS) and other non-

copyrighted materials. The test was delivered to 107 children (81 typically developing children and 26 children diagnosed with SLI) in Qatar ranged in ages between 4;6 and 9;4. Due to having a wide range of ages and to reduce fatigue, especially among young children, Shaalan employed a ceiling criterion where the test stopped when the child made a minimum of 8 errors in one group.

Children's results were recorded on a score sheet. In his study, the mean raw score of typically developing children aged 4;6-5:11 (close to the age of the children in the current thesis) in APVT according to Shaalan was 52.9, and their scores ranged between 37 and 89 out of 132. Shaalan argued that his test was developed de novo; explaining the procedure he followed to create the test based on asking adults to rate 600 words in terms of familiarity, then he chose 132 words out of them. However, Shaalan explained later that there were items demonstrated in the test not used in the Gulf, such as /tˤa:biʕ/ 'post stamp' which is familiar in the Western culture but not in the Arabic culture. Furthermore, the researcher used words that are familiar to adults but not necessarily for children.

After looking at the Arabic language of the children in the current study to test the influence of certain extra-linguistic factors, it was worth looking at their receptive vocabulary size in a post test. The main aim behind this test was to see if the children in my study behave like monolinguals and bilinguals, and will catch up later or not. Since bilinguals' combined vocabulary tends to be equivalent to or sometimes larger than that of monolinguals (see Bialystok et al., 2009), I attempted to measure children's vocabulary size in both languages. All of the children under study were asked to take part in this test.

To this end, Shaalan's (2010) test was the best test I could find to adapt and use for the current study because it was a recent test and designed in Arabic. A revised version of Shaalan's test was used with children in Jordan taking into consideration all the limitations mentioned in his study and the recommendations

provided, in addition to other required changes (explained in the methodology) to meet the need of the current study (see appendix 4).

8.2. Participants

The 22 typically-developing children recruited earlier for this study were contacted after about two years for a post test. Some of the families left the country and others were unreachable, and thus, not all of the children who took part in the study undertook this vocabulary test. The PVT in both languages; Arabic and English, was administrated to 12 children (out of the 22 tested earlier). In order to test the children at a similar age, children were divided into three groups according to their date of birth. Children born in the first, second and last third of the year 2008 were tested in January, March and June 2014 respectively. Four children were tested in January, six in March and two in June. The children were between 5;7 and 6;0 years old at the time they were tested. Table 8.1 below shows the number of children tested in each group.

Children with no DHs	Children with DHs-PA	Children with DHs-E	Total
3	5	4	12

Table 8.1: Classification of participants in the PVT

8.3. Design

Shaalan's (2010) 132-item Arabic Picture Vocabulary Test (APVT) was adapted to meet the needs of the current study. Forty-two pictures used in Shaalan's study were excluded either because they were confusing or children in Jordan would be unlikely know them, such as names of plants familiar in the Gulf area. By looking at Shaalan's recommendations, some of the pictures were also taken out as he stated that most of the children did not know them as they are culture-specific since they were taken from the BPVS. I looked at the proportions of correct responses for children aged 8 years old (because it is the

only measurement available in Shaalan's study). I took out most of the pictures with low proportion of correct responses according to Shaalan, given that children in the current study are even younger than 8 years old.

Amendments were made to the test too; some words were changed to more familiar ones in Jordan due to differences between dialects, such as /baskaleit/ in JSA instead of /sajkil/ 'bicycle' which was used in Shaalan's test. In addition, Shaalan mentioned that clarity of pictures may hinder children from choosing the correct picture, and thus, some of the pictures were replaced to make them clearer for the children. In few incidents, new words were used that I expected children in Jordan would be familiar with.

The revised version of the test consists of 90 pages and two pages for practice. Each page contains four pictures mostly taken from Shaalan's test or non-copyrighted material (e.g. clip arts in Microsoft Word). Each page contains one target picture and three distracters. The 90 items were divided into 8 groups of 12 items (with the last group containing 6 items) ranked according to their familiarity in Arabic. Items were shuffled within the same group in the English version in order to make the test look different from the Arabic one. However, items ranked as difficult for children of their age were kept in the final group in both versions.

After testing the first two children, it was noticed that children were able to remember the pictures in the EPVT from the APVT, which they took earlier, as they started to point at the picture before I said the word. Therefore, most of the target pictures were replaced with other pictures of the same item, for instance two different pictures of the word 'baby' were used in the tests. Distracters were shuffled too within the same page and sometimes the distracters were even changed in order to avoid the influence of children's visual memory.

8.4. Procedure

With the first two children, I had two hard copies of the test; one in Arabic and one in English. Testing was done in a quiet room in the children's house. Each child was presented 92 pages. I explained to each child that, in this game, I would say a word and s/he needed to guess the picture that corresponds with the word on every page (out of four pictures). It was also explained to the child that we would try a couple of pages together before starting the game. None of the children had any difficulties with the instructions for the tests.

Children were presented with four pictures on each page and asked to point at the right picture. After the child pointed at a picture, whether it is the correct one or not, I marked the answers on a scoring sheet, then we moved into the next page. We started with the Arabic test followed by the English test. The time it took to finish both tests ranged between 30-35 minutes, depending on the child's speed and interaction. Similar to Shaalan (2010), a ceiling criterion was employed, so after the child made 8 errors in the same group of items, the test stopped. The majority continued the test. Only few children reached a ceiling item. In which case, I counted the rest of the items as errors. Children received "1" point for a correct answer and zero for an incorrect answer. The total raw score was calculated by counting the correct responses the child made from the last ceiling item. For instance, a child who reached the ceiling at item number 84 and total correct responses of 70 would have a raw score of 70 out of 90.

Despite the simplicity of the procedure, I decided to change it a little bit after testing the first two children. In addition to changing some of the pictures and shuffling them, I also decided to do the Arabic test on a hard copy and the English test on an iPad. This change was because I thought changing the medium may make the children believe they are different games, so they would not guess the picture. This helped a lot in distracting children's visual memory, yet some of the children still felt the tests were alike and stated so clearly. All in all, children enjoyed the tests and were praised for their cooperation and performance. At the

beginning of the session, children received gifts in order to relieve them from pressure.

8.5. Results and Discussion

In this section, I shall look at the results of the APVT and EPVT and link them to the extra-linguistic factors discussed earlier in chapter 3. First, I aim at testing the potential influence of the *reported* parental attitudes towards Arabic and English on children's results in the vocabulary test. After that, I look at the correlation between children's results in the PVTs and the amount of input children receive in Arabic and English, as reported by parents in the questionnaires earlier. The presence of foreign DHs is linked to children's results in the PVTs. Finally, I answer the last research question concerning the vocabulary size of bilinguals and monolinguals. Figure 8.1 below summarizes the results of all children in the APVT and EPVT from the lowest to the highest scores in the APVT.

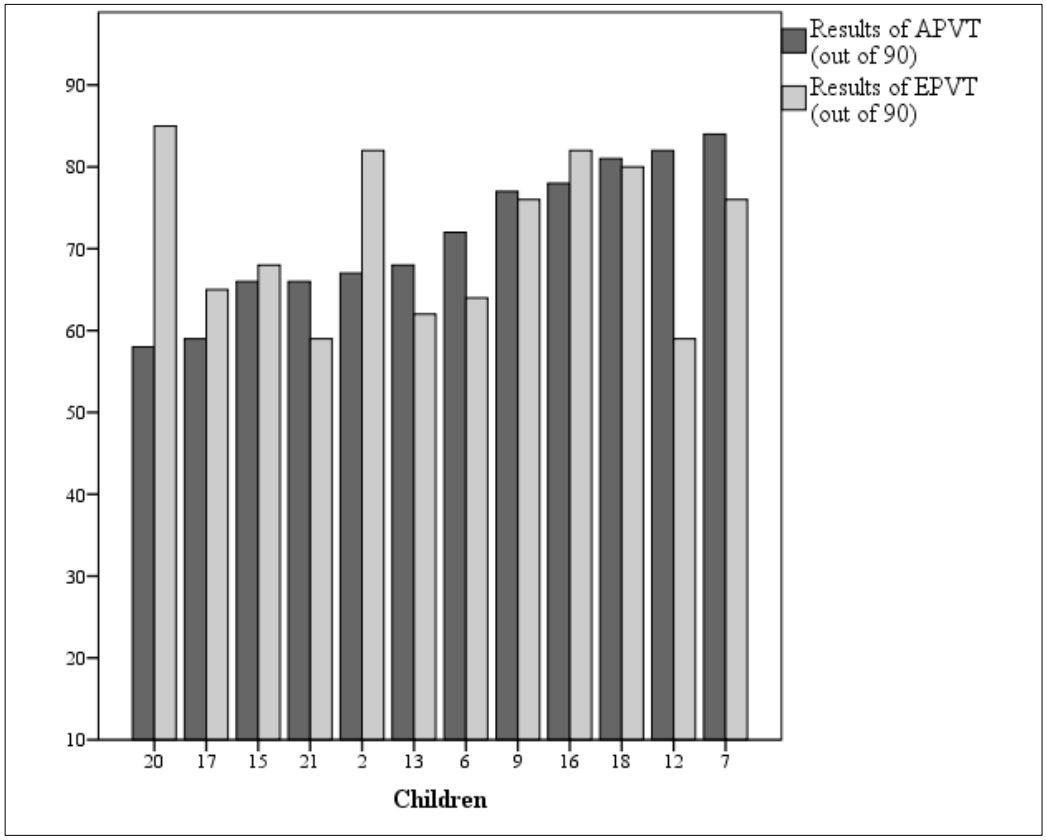

Figure 8.1: A summary of children's results in the APVT and EPVT

Children's scores in the APVT ranged between 59 and 84 out of 90, and their scores ranged between 59 and 85 in the EPVT. The mean of their results in the APVT was 71.5 out of 90, which is higher than the mean scores of children in their age group in Shaalan's (2010) study; which was 52.9 out of 90. The mean of their scores in the EPVT was exactly the same (71.5 out of 90). The highest score in the APVT was 84 scored by child #7 who is raised in a household with no DH. On the other hand, the lowest score in APVT was scored by child #20 who is raised in a household with DH-E, and who got the highest score in EPVT (85 out of 90). The lowest score in the EPVT was 59, scored by child #12 who has a DH-PA and child #21 who does not have a DH. See appendix 5 for children's scores.

8.5.1. PVT results and *reported* attitudes

It was anticipated that the higher the parental attitudes towards Arabic the higher the children's scores in the Arabic test, and the higher the attitudes towards English the higher the children's scores in the English test. However, similar to previous results, there was no significant relationship between the *reported* attitudes and children's scores in the APVT and EPVT.

8.5.2. PVT results and *reported* input

It was also expected that the more Arabic children are exposed to the higher their scores in the Arabic test, and the more English they hear the higher their scores in the English test. However, there was no significant relationship between the *reported* input and children's scores in the APVT and EPVT.

8.5.3. PVT results and the presence of DHs

In the APVT, there was no significant result in regards to the presence of DHs or not, and whether the DHs speak pidgin Arabic or English. In the EPVT, however, children in households with DHs speaking English scored higher (M= 78, SE= 4.45) than children in households with DHs speaking pidgin Arabic (M= 65.8, SE= 2.93). This difference, 12.20, 95% CI [0.48, 24.35], was significant *t*(7)= 2.37, p= 0.049 (two-tailed), and it represents a large–sized effect, d= 1.59, as shown in figure 8.2 below. Results show that having a DH speaking English at home is likely to enrich children's vocabulary in English.

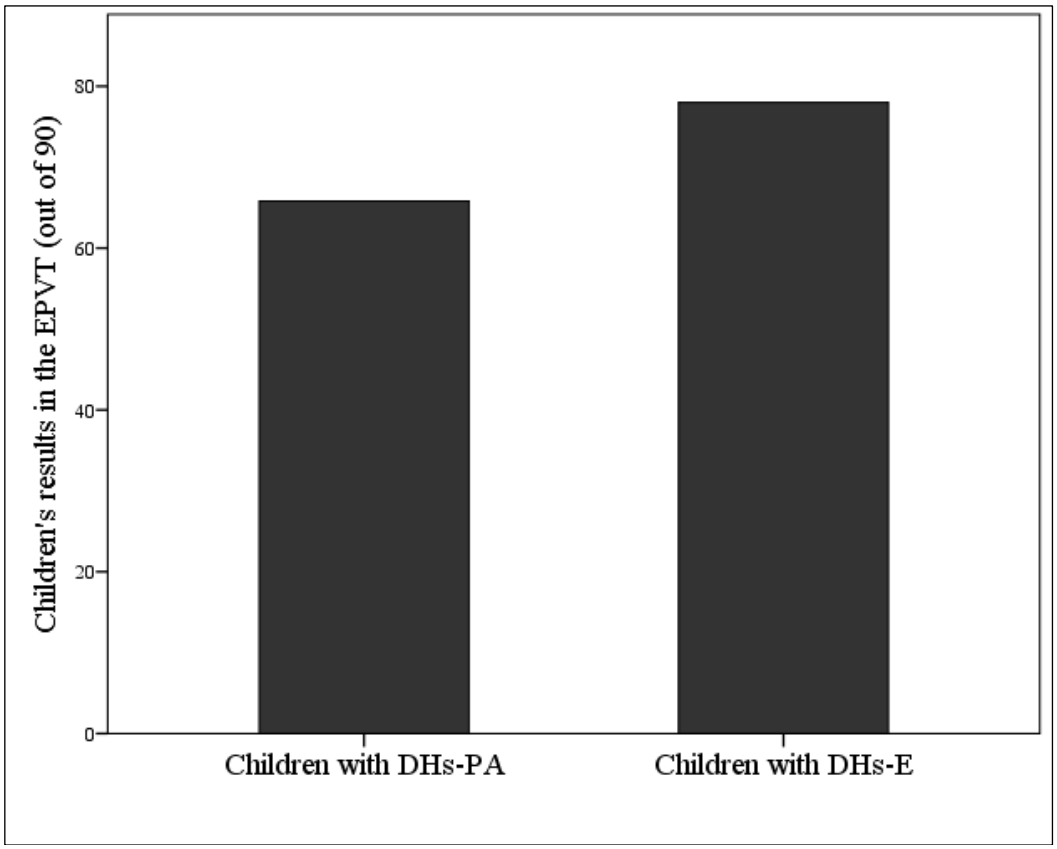

Figure 8.2: A summary of children's results in the EPVT and the presence of DHs speaking pidgin Arabic and DHs speaking English

8.5.4. Total vocabulary size

It is known that bilingual children's joint lexicons equal or exceed monolingual children's lexicon in a single language. In this section, I attempt to test whether children exposed to more English than Arabic at

home are a little late, like any bilingual children (Patterson, 2004; Patterson & Pearson, 2004; Bialystok et al., 2010; Hoff et al., 2012). Since all of the children in this study are exposed to English and Arabic in different degrees, the total vocabularies (their raw APVT and EPVT scores) were calculated for all of the children to examine the total vocabulary knowledge.

Given that the *recorded* input is found to be the most reliable factor in the present study, the estimates of the Arabic percentage of the *recorded* input were used to classify children. Three out 12 children had *less* than 50% of their total language exposure in Arabic, whereas 9 had *more* than 50% of their total language exposure in Arabic. The total scores represent all of the children's results in the APVT and EPVT. Results revealed no difference between the children exposed to more Arabic and children exposed to less Arabic. In addition, the results of the APVT of the two groups revealed no significant difference in terms of the vocabulary size.

8.6. Conclusion and limitations

The PVT was added as a post-test to investigate children's vocabulary size after roughly two years of the main study. Only 12 out of the 22 children under study took part in this test because the rest had either left the country or were out of reach. The twelve children took the PVT in both Arabic and English. The results of the tests were linked to the extra-linguistic factors tested earlier in this study in order to find out any potential influence of the factors on children's results.

There was no significant relationship between children's results in the tests and the *reported* parental attitudes and the *reported* input children receive in both Arabic and English. The presence of DHs does not seem to affect the results

of children in the APVT and EPVT at the time of the post-test, except for the DHs speaking English, in which case children scored higher in the EPVT.

In addition, the test aimed at testing the vocabulary size of children exposed to *more* Arabic and others exposed to *less* Arabic. By looking at the Arabic vocabulary size and the joint vocabulary of all of the children, no difference was found between the two groups. Thus, the children with less than 50% Arabic language exposure do not have significantly fewer words in each language compared to children with more Arabic exposure. In other words, children who hear a lot of Arabic do not outperform their peers who hear less Arabic in terms of vocabulary.

Despite the advantages of examining children's vocabulary afterwards, the test does not show if the children caught up or not. It was not possible to test children's development using this test since the children under study were not tested in vocabulary in the main study. Thus, comparing their results in pronunciation and morpho-syntax with their results in lexical items later on was not done. It is still, however, interesting to test the children in terms of pronunciation and morpho-syntax and compare their results with the results of the main study in future studies. Unfortunately, this was not doable in the current study due to time limitations. In addition, not all of the children who took part in the first round of data collection took this test.

The test had handful of challenges and weak points. First, children should have undertaken the APVT and the EPVT in different sessions in order to minimize the role of visual memory. Some of the children pointed at the picture in the English test before I uttered the target word; simply because they remembered the pictures from the Arabic test. Even after I shuffled and changed the distracters, the children still used to point before they heard the word. It is also suggested to have the children say the words instead of pointing at the pictures.

It has been observed that some of the children chose the same wrong picture, so it is worth revising these pictures in any future studies using this test. For example, children were supposed to point at a picture with a lady sitting on a sofa with her hands dangling as a correspondent for the item no. 52 in the APVT /taʕba:ne/ 'she is tired/exhausted'. Instead, some children chose a picture of a girl hugging her mother for that word. This may be due to the fact that for children being tired would make them go and hug their parents. In addition, any possible revisions of the test should take these notes into consideration, besides other test factors, such as using clearer and coloured pictures to make the test better. A re-test is also recommended after a week or so for reliability purposes.

Chapter 9: Overall Discussion and Conclusion

This chapter presents a summary and a discussion of the results of the current thesis. In the first section, the main results of the study are presented generally (9.1). Then, the sociolinguistic factors under study are discussed (9.2). Children's results in Arabic are summarized and discussed in relation to: the attitudes parents hold towards Arabic and English (9.2.1), the input children receive in both languages (9.2.2), and then the presence of foreign domestic helpers (9.2.3). The picture vocabulary test in both languages, alongside the children's results, is discussed (9.3). Finally, the chapter concludes with insights for future research based on the work done in the present thesis (9.5).

9.1. Overall results

The first part of the study consisted of four way of data collection: naturalistic session, memory game, sticker book and story-telling activity. In the naturalistic session, 40 minutes were recorded with each child interacting with his/her mother or sibling. The three elicitation tasks took altogether around 40 minutes which were recorded mainly with the researcher. Since the naturalistic sessions were recorded with the people who are familiar to the children, the children were more comfortable and spoke more. On the other hand, some of the children were still shy to speak freely and spontaneously in the following activities because they were interacting with a stranger; hence there was not much speech to elicit from in this task (see their raw scores in chapter 5). Therefore, I selected the results of the naturalistic session to discuss in this chapter.

I attempted to link all the social factors with all the linguistic variables under study in order to have a wider image of the findings. The errors children made in pronunciation are mainly linked to the presence of DHs. A look at children in households with DHs-E, children in households with DHs-PA and children in households with no DH shows that those raised in households with DHs-E make more errors in almost

all the variables. The presence of DH-PA is also found to be in relation with some errors made by children too.

Gender agreement is found to be affected mainly by code-switching in mothers' speech. Forming numbers is affected by the presence of DHs-E and the *reported* and *recorded* input in English. *Reported* input in English also affects the second person pronoun. Word order errors seem to occur due to reported input in English and the code-switching in mothers' speech. Finally, code-mixing in children's speech occurs when mothers' speak more English. In sum, input received in English and the presence of DHs-E are the two main influential social factors.

On the other hand, the factor that is found to correlate negatively with children's errors is the percentage of Arabic in mothers' speech. The more Arabic mothers' speak the fewer errors their children have in the assimilation of /al/, forming numbers and the second person pronoun. In addition, code-mixing in children's speech is less when mothers speak more Arabic.

Twelve of the children under study took a vocabulary test in Arabic and English in a second round of data collection. Three of those children had no domestic helpers, four of them had DHs-E and 5 had DHs-PA. The mean of their results in the APVT and the EPVT was 71.5 out of 90, which is a high score for children in the age of 6. No significant difference was found between the children in the total scores of the tests in both languages and in the Arabic test; however, children raised in households with DHs-E scored the highest in the English test. Thus, the presence of DHs-E may familiarize children with the English vocabulary.

9.2. Sociolinguistic factors

9.2.1. Analysis of the data provided in the questionnaire

Parents were asked to fill in the questionnaire in order to elicit as much information as possible about the children and the parental attitudes

towards English and Arabic. Unfortunately, most of the parents returned the questionnaire with lots of questions empty; hence, I could not make use of all the questions in the questionnaire. However, I tried to get the main two information needed: attitudes towards language and the input children receive in both languages.

According to the attitudes elicited from the questionnaires, parents in Jordan value English more than Arabic. This positive attitude towards English could be attributed to the fact that it is a global and prestigious language. Parents in Jordan might encourage their children to acquire English in their early childhood due to their awareness of the benefits of bilingualism and learning English (see section 2.1.3).

It was hypothesized that the higher the parental attitudes of this socio-economic group towards a language, the more input children receive in that language, and perhaps less input is received in the other language. However, the relationship is not as direct and clear as it could be. Surprisingly, a significant 'positive' relationship is found between parents' attitudes towards Arabic and the *reported* input children receive in English; indicating that parents who speak more English to their children seem to give Arabic a high rank. This finding shows a sharp contrast with other studies in the literature (e.g. Tannenbaum & Howie, 2002; Park & Sarkar, 2007; Carson, 2012) which highlighted the positive relationship between attitudes and language use as reported by speakers (see section 2.1.2). Parents in the current study might have provided such information perhaps because they may have noticed the importance of Arabic for their children or because they knew the aim behind this study.

By looking at the *reported* input provided by parents in the questionnaires, a negative correlation was anticipated between input children receive in English (*in hours*) and in Arabic (*in hours*). However, no significant relationship is found between the two *reported* inputs, r= -0.211, p= 0.186 (one-tailed), as shown in figure 9.3. This leaves the *reported* input provided by parents in the questionnaire questionable,

which calls for a more reliable measure to justify children's results in Arabic.

In order to get an insight into what parents actually do, I decided to analyse the *recorded* input in the naturalistic session by counting the number of Arabic-only, English-only and code-switched utterances. To test both the *reported* attitudes and the *reported* input, they were linked to the *recorded* input which serves as a reliable measure to what parents actually do. No relationship was found between *reported* attitudes and the *recorded* input, which means that the *reported* attitudes do not go along with what parents actually do. This discrepancy between *reported* attitudes and actual parental behaviour was also found in a study of motherese in Kuwait by Haggan (2002). She found that mothers who reported in the questionnaire that they do not use motherese language with their children actually do use it when she analysed their actual speech (Haggan, 2002).

Some sociolinguistic studies tended to depend on information provided by participants using questionnaires and/or interviews, without measuring their actual speech. However, the above findings and Haggan's (2002) study call for more reliable instruments to test attitudes and language use. Therefore, the present thesis examined the actual language used by parents and the actual productions of children in Arabic.

By looking at the percentages of the two types of input, we find a correlation between the *reported* input and the *recorded* input (see chapter 4). There was a positive correlation between the percentage of Arabic in mothers' speech and the percentage of input in Arabic parents reported the children hear, and even a negative correlation with the percentage of English reported by parents. Similarly, a positive relationship is found between the percentage of English in the mothers' speech and the percentage of English they reported their children hear, and a negative relationship with the percentage of Arabic they hear. It is

also found that the percentage of code-switching in mothers' speech correlates positively with the percentage of English in the *reported* input and negatively with the percentage of Arabic in the *reported* input. This indicates that the *reported* input, unlike the *reported* attitudes, is reliable.

9.2.2. The *recorded* input

As for the recorded input, six out of 22 mothers used Arabic with their children in less than half of their utterances in the naturalistic session. English was the dominant language in the speech of three mothers, whereas three other mothers used English in approximately 30% of their utterances. This was mainly due to the children refusing to speak in Arabic. One of the mothers stated in the naturalistic session that it is even difficult for her to speak in Arabic all the way through. Ten mothers tended to code-switch within the same sentence in around 10-30% of their speech. See figure 6.1 for more details.

In an attempt to see if the percentage of code-switching in the mothers' speech is related to the percentage of English in their speech, no significant relationship was found, r= -0.37, p= 0.288 (two-tailed). Similarly, no correlation was found between code-switching the percentage of Arabic in the mothers' speech, r= -.237, p= 0.26 (two-tailed). On the other hand, figure 9.1 shows the negative correlation between the percentage of Arabic and English in mothers' speech. The more English the mothers spoke the less Arabic they used in their speech, r= -0.962, p= 0.00 (two-tailed). This linear relationship adds to the reliability of this factor.

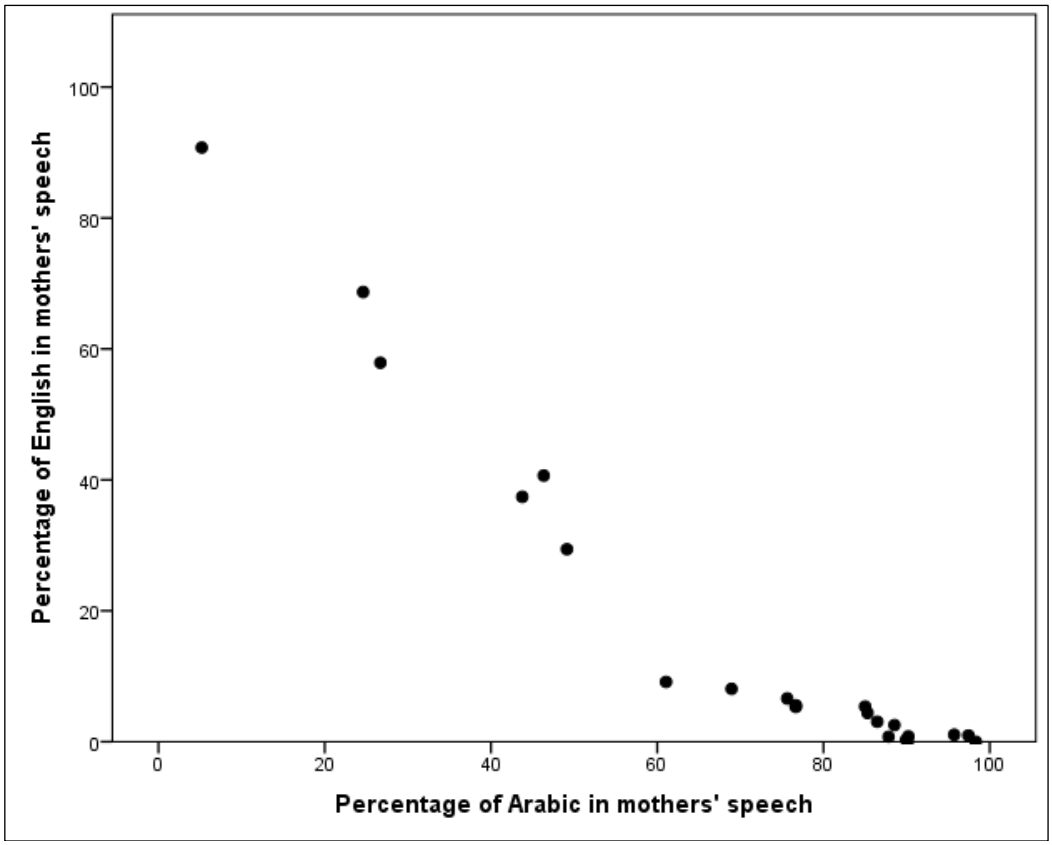

Figure 9.1: The correlation between the percentage of Arabic and the percentage of English in mothers' speech

9.2.3. The presence of domestic helpers

It was hypothesized that the presence of DHs would correlate with parents' attitudes. However, chapter 7 explains that no correlation was found between these two factors. Another hypothesis was that the linguistic input children receive will be related to whether they are raised in households with DH or not. The *reported* input does not show a relationship between these two factors, however, the *recorded* input proved otherwise.

In households with no DH, mothers tended to use Arabic more with their children, whereas in households where a domestic helper speaking English is present, mothers tended to use more English with their children. Since these two factors are linked to each other, children's results may be linked to more than one factor at the same time. Similarly, Haggan's (2002) study showed that parents used Hindi and English

words, taken from foreign domestic helpers, while speaking to their children.

9.3. Children's results in the naturalistic session

9.3.1. Parental Attitudes

Parental attitudes were measured in an attempt to explain children's results. However, no relationship is found between parents' attitudes towards Arabic and English and children's results in Arabic. Therefore, the answer to the first research question, related to whether parental attitudes towards English and Arabic influence children's acquisition of Arabic, is that the *reported* parental attitudes towards both languages do not seem to relate to children's results Arabic in the current study. This is due to the fact that they are not quite reliable.

9.3.2. Input

Some bilingual children may hear as much speech in each language as some monolingual children hear in the one language (De Houwer, 2009). However, Hoff et al. (2012) pointed out that generally when children are exposed to two languages on a daily basis, it is logical that they will hear less of each of the languages compared to children exposed to one language. Thus, it is hypothesized that the less input the children receive in Arabic the more errors they make.

In the current thesis, the input children receive in English and Arabic is divided into *reported* and *recorded* input, hence the relationship between these two classifications of input and children's results is investigated separately below to answer the second research question related to whether the amount of input the children hear in each language is related to their results.

9.3.2.1. *Reported* input

The second research question was devoted to the role of input received in both languages in children's Arabic. By looking at the results of the naturalistic session, we find that children who were exposed to more English show more errors in forming duals and plurals, the second person pronoun and word order. In addition, children who hear a lot of English tend to code-mix more between English and Arabic in their speech.

I tried to divide children into two groups depending on the percentage of input they receive; so the first group received more than 50% of the input in Arabic (14 children out of 20), and the second group received less than 50% of the input in Arabic (6 children out of 20). I tested the children in the two groups to see if the group who receive more than 50% of Arabic input will make fewer errors. No significant result was found between the two groups. Children who receive more than 50% of Arabic input did not outperform their peers in any of the linguistic variables tests.

9.3.2.2. *Recorded* input

The *recorded* (actual) input children receive from their mothers correlates with children's errors in Arabic. The more Arabic children are exposed to in the recorded input, the less errors they have in the assimilation of the definite article /al-/, forming duals and plurals and the gender in the second person pronoun. Whereas the more English children hear in the *recorded* input, the more errors they made in the assimilation of /al-/ and forming the duals and plurals.

When children are exposed to more Arabic, they will be able to acquire the assimilation rules of the definite article /al-/. As for forming dual and plural nouns in Arabic, it is not an easy task for children as they first acquire the feminine sound plural by

the age of 3, and till the age of 5 the acquisition process of the masculine and the broken plural forms are still incomplete, as noted by Farah (1999). As for the dual form, young children form the dual by adding the number two to the noun (Ravid and Hayik, 2003), which is what some children in my study did. In addition, forming plurals in English may be simpler than it is in Arabic which has three types (two sound forms and many broken forms), besides the dual form which is found in Arabic but not English. In order to have a better image of what children at this age do, I had a control group (more Arabic input/no DH) to compare children who hear more English with in order to examine the factors under study. This shows that the more input in English children receive, the harder it is for them to form the dual and plural form in Arabic.

Code-mixing is found more in the speech of children who are exposed to English, while children who are exposed to more Arabic are less likely to code-mix. This finding supports Genesee's (2001) input-based hypothesis which attributes code-mixing in children's speech to the input they receive, either by hearing the parents code-mix a lot or the parents approving code-mixing. Thus, children under study code mix because they receive more input in English alongside Arabic. It could be also due to not knowing the word in Arabic since they are exposed to a lot of English, which supports Genesee's (2001) other explanation; the proficiency-based hypothesis which suggests that children code-mix because they do not know the word in that language. Hence, code-mixing does not occur in children's speech when they hear more of Arabic.

Although code-switching and borrowings from other languages is normal (Bialystok, 2001), it has been found that children whose mothers code-switch a lot between the two languages have phonological and morpho-syntactic errors. For

example, children make more errors in the assimilation of the definite article /al-/ in terms of phonology, and in gender agreement, the gender of the second person pronoun and word order in terms of morpho-syntax. Regarding gender agreement, Arabic-speaking (Saudi) children master gender agreement between the age of 8 and 10 according to Moawad (2006). However, some children in the current study got the gender agreement right.

Children exposed to code-switching may lose information related to gender agreement. When children, for example, hear /walad.MS smart/ 'a smart boy', they will not be able to know that the adjective has to agree with the noun in gender in Arabic unlike English. Similarly, those mothers who tended to code-switch, their children will hardly be able to notice gender in the second person pronoun in Arabic because English uses the second person pronoun 'you' with no gender.

Regarding syntax, children in this study were exposed to mixing between the word order in English and Arabic because their mothers switch between the two languages within the same sentence. When a mother, for instance, says /small tˤaabe.FS/ 'small ball', she may construct it according to the English or Arabic grammar.

The results of children exposed to both languages in the current study can be explained through Paradis and Genesee's (1996) hypothesis of deceleration (delay), as the performance of some of those children in Arabic was lower than their peers who were exposed to more Arabic. Thus, the importance of English for children's future and the benefits of bilingualism cannot be denied, yet this could happen without ignoring their native language (Arabic).

I also tried to divide children into two groups depending on the percentage of Arabic in their mothers' speech; so the first group whose mothers spoke more than 50% of their speech in Arabic (16 children out of 22), and the second group whose mothers spoke less than 50% of their speech in Arabic (6 children out of 22). I tested the children in the two groups to see if the group, whose mothers spoke more Arabic, makes fewer errors. No significant result was found between the two groups in all the linguistic variables. Therefore, children whose mothers use Arabic in 50% or more of their speech did not outperform their peers in any of the linguistic variables tests.

9.3.3. The presence of foreign domestic helpers

In households where DHs are present, domestic helpers actually interact with children when parents are away, so their language is considered as one of the main linguistic inputs children receive. The third research question is about the influence of foreign domestic helpers working in Jordan on Jordanian children's acquisition of Arabic. In chapter 7, I attempted to compare at first between children in households with DHs and children in households with no DHs in order to see the potential relation between the presence of DHs regardless of their language and children's errors. Then, I compared between the errors made by children raised in households with DHs-E and those raised in households with DHs-PA to see if the language spoken by the DH is linked to children's errors.

The results of the current study show that children in households with domestic helpers (regardless of the language they speak) compared to children growing up with no domestic helpers make more phonological and morpho-syntactic errors in Arabic. It has been found that they make errors in pronunciation, assimilation of the definite article, besides forming duals and plurals, gender agreement. Regardless of the language

spoken by the DH, these variables in Arabic are different from English or Pidgin Arabic.

Since the domestic helpers working in Jordan speak either English or pidgin Arabic, I investigated the relationship between the language spoken by the domestic helpers and children's errors. It has been found that children with domestic helpers speaking English compared to those with domestic helpers speaking pidgin Arabic make more errors in the assimilation of /al-/, forming duals and plurals, and the gender of the second person pronoun. In addition, they tend to code-mix more between Arabic and English.

Here, I attempted to draw a three-way comparison between all the three groups (i.e. children raised with DHs-E, children raised with DHs-PA and children raised in households with no DHs) in order to see which group makes more errors in the linguistic variables mentioned earlier (i.e. pronunciation, errors in the assimilation of the definite article, gender and number, 2nd person pronoun, word order and count of code-mixing). It is found that children raised in households with DH-E make more errors in almost all the variables. One-way ANOVA test shows a significant effect of DHs-E on the assimilation of /al/, $F(2,20)= 2.75$, $p= .004$. Forming numbers is another variable significantly affected by the presence of DHs, $F(2,20)= 7.28$, $p=.005$. The table below figure 9.2 summaries the results.

The presence of DH-PA is found to be in relation with some errors too. Since the descriptive analysis of varieties of pidgin Arabic (spoken by domestic helpers) show that they have different pronunciation and other morpho-syntactic aspects (see section 2.1.4). For instance, foreign domestic helpers would find it difficult to pronounce some Arabic sounds, like the emphatics and pharyngeals (Smart, 1990; Shaalan, 2009, among others). This may be transmitted to children who spend a long time with foreign DHs.

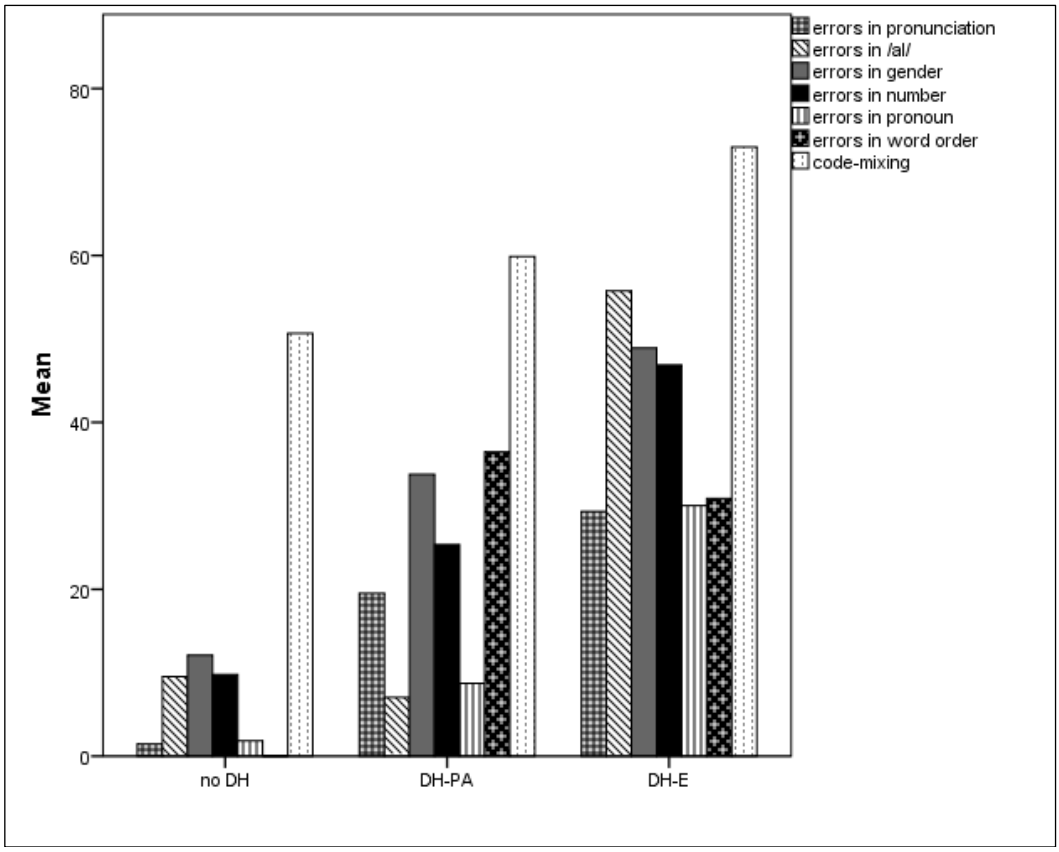

Figure 9.2: The percentage of errors made by children raised in households with no DH, with DH-E and with DH-PA in the naturalistic session

	df	f	p
pronunciation	2 18 20	2.75	.09
/al/	2 18 20	7.7	.004
Gender	2 18 20	1.95	.17
Number	2 18 20	7.28	.005
Pronoun	2 18 20	2.8	.085
Word order	2 18 20	2.38	.121
Code-mixing	2 18 20	.5	.6

Table 9.1: The *degrees of freedom*, *f-value* and *p-value* in a series of one-way ANOVAs, with errors children in the 3 groups made in each linguistic variable shown in figure 2 as dependent variable.

9.3.4. Vocabulary post test

In an attempt to answer the final research question related to the vocabulary size of children exposed to English and Arabic compared to children exposed to more Arabic, I measured the vocabulary size of children under study using Shaalan's (2010) Arabic Picture Vocabulary Test (APVT). The 12 tested children were classified into two groups (3 children with less exposure to Arabic and 9 with more exposure to Arabic) according to the percentage of Arabic they were exposed to in the *recorded* input. The total scores in the APVT and EPVT were calculated for all of the children. No difference is found between the two groups. This supports the findings of several studies on the vocabulary size of bilinguals vs. monolinguals (Patterson, 2004; Patterson & Pearson, 2004; Hoff et al., 2012).

Furthermore, the results of the APVT of the two groups revealed no significant difference in terms of the vocabulary size, unlike Hoff et al.'s (2012) finding of monolinguals outperforming bilinguals when compared on their single-language accomplishment.

No significant results were found in regards to the presence of DHs or not, and whether the DHs speak pidgin Arabic or English and children's scores in the APVT. The results show that children who are raised in households with DHs speaking English scored higher in the EPVT. This may be attributed to the fact that those children are exposed to English from the DH and also because mothers speak more English in such households. Although the English they are exposed to is considered as accented English, the children still managed to get higher scores in English compared to their peers. This goes hand in hand with Leung's (2012) finding which suggested that the accented English spoken by DH did not negatively affect children's English, but actually it was an additive effect for those children.

9.4. Further Research

Studies on first language acquisition of JSA and other spoken varieties of Arabic are still rare. It is recommended that future research concentrate on the acquisition of Arab children in terms on pronunciation and grammar. This is mainly important when the other language acquired has a different system from Arabic. This would help comparing between monolinguals and bilinguals' acquisition. Code-switching in children's speech is another interesting field for research. We could look at the types of code-switching in their speech and reasons behind these switches.

In addition, the influence of parental attitudes could be investigated thoroughly not just through questionnaires and interviews. It is also important to study children's proficiency in their language in light of the input they receive at home. Attitudes, language use and language proficiency should be tested using the most available, reliable measures to ensure objectivity, such as recordings.

Several new questions raised by this study need to be explored in further research in order to better understand the current phenomenon. While the present thesis sheds light on the recent trend of favouring English over Arabic and its influence on children's Arabic, another study could investigate the purported influence of English on the Arabic of those children after few years. Furthermore, the case of foreign domestic helpers, and the effect of their language on Arab children, is worth studying in the Middle East.

Appendix 1: The information sheet given to the parents

THE UNIVERSITY of York

DEPARTMENT OF
LANGUAGE AND
LINGUISTIC SCIENCE
Heslington, York YO10 5DD, UK

Enquiries (01904) 432650
Fax: (01904) 432673

Phone number: +447796991613 / +962795343828
E-mail: daam500@york.ac.uk

INFORMATION SHEET
PLEASE KEEP THIS INFORMATION SHEET AND A SIGNED COPY OF THE CONSENT FORM FOR YOUR RECORDS

You are invited to take part in a research study. Before you decide whether to participate it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully. If there is anything you do not understand, or if you want more information, please ask the researcher.

Title of study: The Speech of Monolingual vs. Bilingual Arabic-Speaking Children in Jordan: A Linguistic and Sociolinguistic Study

Researcher: Dima Al-Malahmeh

What is the research about?
This study aims at investigating the linguistic and sociological aspects of your child's speech development. In particular, this study looks at how bilingual children in Jordan, who acquire English through foreign domestic helpers, acquire the spoken dialect of Arabic.

Why is the research being carried out?
I am hoping to use the results to analyze the development of Arabic in bilingual children compared to that of monolingual children. I also want to know parents' attitudes towards languages and what languages they prefer their children to learn.

Who is carrying out the research?
I am the one who will be carrying out the research. I am a PhD student at the University of York in the Language and Linguistic Science Department. I am conducting this research for my PhD thesis.

Who can participate?
I will choose as participants in my study three to four-year-old children living in Amman, some of whom are attached to foreign housekeepers who speak English to them, and some who are not, and are not hearing much English.

What does the study involve?
If you agree to participate, I will visit your home probably 3 times to record your child interacting with you in regular play activities. Each visit will last for approximately 60 minutes. During the home visits you and your child will be asked to wear a wireless microphone. The child's microphone will be hidden in a special vest or bag, depending on his/her preference. You will be audio- and video-recorded just playing together. I, or my mother who may help me with the recording sessions, will also play with your child. For bilingual children, I will also administer a short language test to your child (in English).

Do I have to take part?
You do not have to take part in the study. If you decide to take part, you will be given this information sheet to keep and will be asked to sign two copies of the consent form (one copy is for you to keep). If you decide to take part, you will still be free to withdraw at any time without giving a reason. If you withdraw from the study, we will destroy your data and will not use it in any way.

What are the possible risks of taking part?
There will be no risk, according to my expectations, in taking part in this study. However, if you or your child feel uncomfortable at any time, you can ask to turn the camera off. You can also choose to withdraw your participation at any time without giving any reason or even contact my supervisor, Dr Tamar Keren-Portnoy.

Are there any benefits to participating?
There is no direct benefit to the participants. However, such studies are usually found to be beneficial and interesting to most parents who participate in them. This study might give an insight into the advantages and disadvantages of children acquiring English from a foreign domestic helper and how to make the most of this process. You and your child will receive a gift as a way to thank you for your time and cooperation.

What kind of information do I have to give?
As for the personal data needed, I will need the name and age of your child, in addition to few information needed for bilingual children regarding their relationship with the house keeper. I will need your personal address, phone number and e-mail (if you wish to receive the group results at the end). The core information required is the linguistic input that I will get from the child during his/her interaction with a family member. I will be looking at their sound production, order of words and style of language.

What will happen to the data I provide?
Your and your child's speech will be written down and analysed. The questionnaires will be also analyzed.

What about confidentiality?
All names will be changed to pseudonyms in the transcript and in file names to preserve anonymity. However, please note that your child may be recognizable in the video by people who know him/her, and his or her name may be mentioned in the recording unless you ask for the recordings to be edited. The video-recordings will be stored securely, and they will not be labelled with your child's name. In addition, you will be asked to fill in a short questionnaire about your attitudes towards languages and how you feel about your child acquiring their native language and other languages, mainly English. Any publication of the data I collect will maintain strict confidentiality as to your identity and that of your child. In the unlikely event of any complaints arising concerning this research, please address them to Dr. Tamar Keren-Portnoy, Department of Language and Linguistic Science.

You will also be asked for your permission to use the data in presentations, teaching and future research. You can still take part in the study if you do not agree to use of your child's recordings in teaching or presentations. You may also withdraw your permission at any time during the study. Even if you refuse to be video-recorded, and only agree to be audio-recorded, you can still take part in the study.

Will I know the results?
Because the results depend on data collected from a group of children, I cannot give you any direct feedback at the time when your child is seen. However, I will be happy to send you a summary of my findings by e-mail when the study is complete. In addition, I will send you a DVD of yourself and your child once the study is complete.

*This study has been reviewed and approved by the Departmental Ethics Committee of the Department of Language and Linguistic Science at the University of York. If you have any questions regarding this, you can contact the head of the Ethics Committee, Tamar Keren-Portnoy (**email:** tamar.keren-portnoy@york.ac.uk; **Tel:** (01904) 323614).*
If you have further questions regarding this study, please feel free to contact:

Dima Al-Malahmeh
Department of Language and Linguistic Science
University of York, Heslington, York, YO10 5DD
tel: +44 7796991613 / +962 795343828
e-mail: daam500@york.ac.uk

OR

Dr Tamar Keren-Portnoy
Department of Language and Linguistic Science
University of York, Heslington, York, YO10 5DD
***Tel:** (01904) 323614*
***e-mail:** tamar.keren-portnoy@york.ac.uk*

Appendix 2.a: A copy of the Questionnaire in English

This questionnaire is part of a research conducted for a PhD thesis. It is intended to measure your attitude toward languages. Information given in this questionnaire will be dealt with confidentially.

Child's Name	
Child's Date of Birth (DD/MM/YYYY)	

I. Parents' Information:

Relationship to child	Mother ❒ Father ❒
Parents' Name	
Telephone Number	
Number and gender of children	
Age of your children	
Last academic degree	
Your mother tongue language	
Languages you can speak	
Languages you find easier to speak	

II. Language Use:

1. What language/dialect do you use at home? _____
2. What language/dialect do you use with your partner? _____
3. What language/dialect do you use with your child? _____
4. Do you use the same language/dialect with your other daughters and sons? ❒ Yes ❒ No ❒ NA

   If not, who do you use which language/dialect with?

   _____

   _____

   _____
5. What language/dialect do you use with friends? _____
6. Do you work? ❒ Yes ❒ No ❒

   If yes, what do you do? _____

   Do you work full time or part-time? _____

   If part-time, how many hours a week, more or less? _____

If you work, what language/dialect do you use at work?

_____

7. Do you mix between Arabic and English in your natural speech? ❒ yes ❒ no
8. Did your child go to a crèche? ❒ yes ❒ no

   If yes, how long has s/he been going to crèche? _____

   How many times a week did s/he used to go? _____

   How many hours does your child spend at crèche on each day that s/he goes there?

   _____

   Which languages are spoken at your child's crèche? _____
9. Does your child watch cartoons/movies/other TV programmes in Arabic or English or both? _____
10. Do you want your child to learn English language since early childhood? ❒ yes ❒ no
11. Do you want your child to learn English language from (you can mark more than one option):

    ❒ parents ❒ older siblings ❒ maid/housekeeper ❒ TV ❒ school ❒ any other medium: _____
12. Who does your child spend time with each week (including weekdays & weekends)? Please tick the appropriate column (you can add other people as necessary):

	Person	Weekdays	Weekends
1	Mother		
2	Father		
3	Grandmother – Mother's side		
4	Grandmother – Father's side		
5	Grandfather		
6	Teacher		
7	Nanny/maid/child minder		
8	Sister		
9	Brother		
10	Neighbor		
11			
12			
13			
14			

For items 13-17 please choose the four people mentioned above (in 12) with whom your child spends the most time.

13. Excluding the hours when your child is asleep or at crèche, how many hours **during the working week** (i.e., Monday to Friday) does your child spend with each person? And how many times per week?

	Person	Hours spent with child per time during working week	Number of times with child per working week
1			
2			
3			
4			

14. Excluding the hours when your child is asleep or at crèche, how many hours **during the weekends** does your child spend with each person? And how many times on the weekend?

	Person	Hours spent with child on weekend	Number of times with child on weekend
1			
2			
3			
4			

15. Which language does each person speak to the child in? If mixed please indicate the estimated percentage for each language:

	Person	Arabic	English
1			
2			
3			
4			

16. On a scale of 0 to 4, where 0 is not proficient (non-speaker) and 4 is highly proficient (native speaker level), how would you rate the **proficiency** in Arabic and English or each of the people mentioned in items 14-16?

	Person	Arabic	English
1			
2			
3			
4			

III. Personal Preferences:

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1.	Everyone in Jordan should learn Standard Arabic.					
2.	We need Jordanian Spoken Arabic (JSA) in real life.					
3.	English is becoming more important nowadays.					
4.	I make every effort to make my children acquire JSA.					
5.	I want my child to learn Standard Arabic.					
6.	It is important for me that my children learn English.					
7.	I am looking forward to seeing my children fluent in English.					
8.	I want my child to be					

	fluent in Arabic.					
9.	Children cannot easily get by in Jordan without knowing JSA.					
10.	I believe English language helps my children interact within the society.					
11.	It is easier to find a job in the future if children know Arabic.					
12.	Children need to make more effort to learn English for their future career.					

IV. Child-Related Information:

1. To the best of your knowledge, does your child have normal hearing? ❒ yes ❒ no
2. To the best of your knowledge, have your child suffered from ear infection? ❒ yes ❒ no
3. To the best of your knowledge, does your child have normal development? ❒ yes ❒ no
4. What made you choose the school you are sending your child to?

   _____

   _____
5. Do you have a domestic house helper? ❒ yes ❒ no

   If yes, please answer questions 6 - 11. If no, please answer question number 12:
6. What is the nationality of the housekeeper?

   _____
7. How long has she been staying with you?

   _____
8. What language does your housekeeper use with your child?

   _____

9. How many hours a day does your child stay with the housekeeper?

   _____

10. Did you hire a housekeeper mostly in order to do the housework or in order to look after your child or both?

    _____

11. If you hired the housekeeper to look after your child, was it important for you that she speaks a certain language, and if so, which language? And why?

    _____

12. If you do not have a housekeeper, or if you had one but have since decided to stop employing her, can you tell us what your reasons are for not employing a housekeeper?

    _____

    _____

Appendix 2.b: A copy of the Questionnaire in Arabic

استبيان
هذا الاستبيان جزء من بحث علمي خاص بأطروحة دكتوراه في مجال علم للغويات. يهدف هذا الاستبيان لقياس توجهاتكم وآرائكم حول اللغات بشكل عام. سيتم التعامل مع المعلومات الواردة هنا بسرية تامة.

اسم الطفل/ الطفلة	
تاريخ الميلاد	

1. معلومات متعلقة بالأهل

علاقتك بالطفل/الطفلة	❐ أم ❐ أب
اسم الأم/ الأب	
رقم الهاتف	
عدد الأطفال وجنسهم	
عمر الأطفال	
أعلى درجة علمية	
لغتك الأم	
اللغات التي يمكنك التحدث بها	
اللغات التي تجدها أسهل للتواصل	

2. استخدامات اللغة

1. ما هي اللغة/اللهجة التي تستخدمها/تستخدمينها في المنزل؟
2. ما هي اللغة/اللهجة التي تستخدمها/تستخدمينها مع زوجك/زوجتك؟
3. ما هي اللغة/اللهجة التي تستخدمها/تستخدمينها مع طفلك؟
4. هل تستخدم/تستخدمين نفس اللغة/اللهجة مع بقية أطفالك؟ ❐ نعم ❐ لا ❐ لا ينطبق

إذا كانت الإجابة "لا"، ما هي اللغة/اللهجة التي تستخدمها/ تستخدمينها مع كل طفل؟

_____

_____

5. ما هي اللغة/اللهجة التي تستخدمها/تستخدمينها مع أصدقائك؟
6. هل تعمل/تعملين؟ ❐ نعم ❐ لا

إذا كنت تعمل/تعملين، ما هي طبيعة عملك؟

_____

هل تعمل/تعملين بدوام كامل أم جزئي؟

_____

إذا كان عملك بدوام جزئي، كم عدد ساعات عملك تقريبًا في الأسبوع؟

_____

ما هي اللغة/اللهجة التي تستخدمها/تستخدمينها في العمل؟

_____

7. هل تدمج/تدمجين بين اللغة العربية والانجليزية في حديثك اليومي؟ ❒ نعم ❒ لا
8. هل التحق طفلك بدور حضانة (أو Preschool)؟ ❒ نعم ❒ لا
إذا كانت الإجابة نعم، كم كانت مدة التحاق الطفل بالحضانة؟

_____

كم مرة في الأسبوع كان الطفل يذهب إلى الحضانة؟

_____

كم كانت عدد الساعات التي يقضيها الطفل في الحضانة يوميًا؟

_____

ما هي اللغة/اللغات المستخدمة في الحضانة؟

_____

9. هل يشاهد طفلك برامج الأطفال أو الأفلام أو أية برامج تلفزيونية أخرى باللغة العربية أم الانجليزية أم باللغتين؟

_____

10. هل ترغبـ/ين بأن يتعلم طفلك اللغة الانجليزية منذ الطفولة المبكرة؟ ❒ نعم ❒ لا
11. هل ترغبـ/ين بأن يتعلم طفلك اللغة الانجليزية من (بإمكانك اختيار أكثر من خيار):
❒ الوالدين ❒ أطفالكم الأكبر سنًا ❒ الخادمة ❒ التلفاز ❒ المدرسة ❒ أية وسيلة أخرى، وهي _____
12. مع مَن يقضي طفلك معظم وقته في كل أسبوع (خلال أيام الدوام والإجازات)؟

الرجاء اختيار الأشخاص المناسبين (بإمكانك إضافة أشخاص آخرين حسب الحاجة):

	الشخص	أيام الدوام	الإجازات
1	الأم		
2	الأب		
3	الجدة (أم الوالدة)		
4	الجدة (أم الوالد)		
5	الجد		
6	المعلّمة		
7	الخادمة		
8	الأخت		
9	الأخ		

10	الجيران		
11			
12			
13			
14			

في الأسئلة من 13-17، الرجاء اختيار أربعة أشخاص من المذكورين أعلاه (في الفرع 12) ممن يقضي الطفل/الطفلة معهم أغلب الوقت.

13. باستثناء ساعات نوم طفلك أو تواجده في الحضانة، كم ساعة يقضي طفلك مع كل شخص من هؤلاء الأشخاص أثناء أيام الدوام؟ وكم مرة خلال الأسبوع؟

	الشخص	عدد الساعات التي يمضيها الطفل معهم أثناء أيام الدوام	عدد المرات في الأسبوع
1			
2			
3			
4			

14. باستثناء ساعات نوم طفلك أو تواجده في الحضانة، كم ساعة يقضي طفلك مع كل شخص من هؤلاء الأشخاص في أيام العطل؟ وكم مرة خلال أيام العطل؟

	الشخص	عدد الساعات التي يمضيها الطفل معهم أيام العطل	عدد المرات في أيام العطل
1			
2			
3			
4			

15. ما هي اللغة التي يستخدمها كل من هؤلاء الأشخاص مع الطفل؟ إذا كانت عبارة عن مزيج من اللغتين، الرجاء ذكر النسب التقريبية التي يستخدم كل شخص فيها كل لغة مع الطفل:

	الشخص	اللغة العربية	اللغة الانجليزية
1			
2			
3			
4			

16. من 0 إلى 4، بحيث يدل الصفر على أن الشخص غير متحدث بهذه اللغة و4 تعني أن الشخص يتحدث بهذه اللغة بطلاقة (اللغة الأم)، كيف تصفون مستوى إتقان كل من الأشخاص الأربعة المذكورين أعلاه للغة العربية والانجليزية؟

	الشخص	اللغة العربية	اللغة الانجليزية
1			
2			
3			
4			

3. آراء وتفضيلات شخصية

		أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة
1	كل شخص في الأردن يجب أن يتعلم اللغة العربية الفصحى.					
2	نحن بحاجة إلى اللهجة الأردنية المحكية في حياتنا اليومية.					
3	أصبحت اللغة الانجليزية ذات أهمية بالغة في عصرنا هذا.					
4	أبذل قصارى جهدي كي يكتسب أطفالي اللهجة الأردنية المحكية.					
5	أريد أن يتعلم أطفالي اللغة العربية الفصحى.					
6	من المهم بالنسبة لي أن يتعلم أطفالي اللغة الانجليزية.					
7	أتطلع لرؤية أطفالي يتحدثون الانجليزية بطلاقة.					
8	أريد أن يتحدث أطفالي العربية بطلاقة.					
9	ليس من السهل أن يعيش الأطفال في الأردن دون معرفة اللهجة الأردنية المحكية.					
10	أعتقد أن اللغة الانجليزية تساعد أطفالي في التفاعل مع المجتمع.					
11	من السهل أن يجد الأطفال عملاً في المستقبل إذا كانوا يعرفون اللغة العربية.					
12	على الأطفال بذل كل ما في وسعهم لتعلم اللغة الانجليزية من أجل مستقبلهم الوظيفي.					

4. معلومات متعلقة بالأطفال

1. حسب معلوماتك، هل مستوى السمع عند طفلك طبيعي؟ ❐ نعم ❐ لا
2. حسب معلوماتك، هل يعاني طفلك من التهاب الأذن؟ ❐ نعم ❐ لا
3. حسب معلوماتك، هل ينمو طفلك بشكل طبيعي؟ ❐ نعم ❐ لا
4. ما الذي دفعك لاختيار هذه المدرسة لطفلك؟

_____

5. هل لديك خادمة أو عاملة منزل؟ ❐ نعم ❐ لا

إذا كانت الإجابة نعم، الرجاء الإجابة على الأسئلة من 6-11، وإذا كانت الإجابة لا، الرجاء الانتقال إلى السؤال رقم 12:

6. ما هي جنسية الخادمة لديكم؟

_____

7. كم هي المدة التي قضتها معكم؟ _____
8. ما هي اللغة التي تستخدمها الخادمة مع طفلك؟_____
9. كم عدد الساعات التي تقضيها الخادمة يوميًا مع طفلك؟ _____
10. هل أحضرت الخادمة فعليًا للقيام بأعمال المنزل أم للعناية بطفلك أم لكليهما معًا؟

_____

11. إذا كنت تريد/ين من الخادمة العناية بطفلك، هل كان مهمًا بالنسبة لك أن تتحدث الخادمة بلغة معينة؟ إذا أجبت بنعم، ما هي اللغة؟ ولماذا؟

_____

12. إذا لم يكن لديك خادمة، أو إذا كان لديك خادمة وقررت لسبب ما عدم الاحتفاظ بها، هل من الممكن إطلاعنا على سبب عدم توظيف خادمة أو عدم الاحتفاظ بها؟

_____

Appendix 3: Flyer for the recruitment

Appendix 4: APVT and EPVT word list

Group 1	
1	Drinking بيشرب
2	Baby بيبي
3	Cow بقرة
4	Eye عين
5	Running بيركض
6	House بيت
7	Reading بتقرأ
8	Cycle بسكليت
9	Bus باص
10	Cat بسة
11	Rose وردة
12	Circle دائرة
Group 2	
13	Broom مكنسة
14	Soap صابونة
15	Grass حشيش
16	Whistle صفيرة
17	Candle شمعة
18	Digging بيحفر
19	Drum طبلة
20	Finger أصبع
21	Neck رقبة
22	Nest عش
23	Tail ذيل
24	Measuring بيقيس
Group 3	
25	Hunter صياد
26	Sea horse فرس البحر
27	Climbing بيتسلق
28	Hoopoe هدهد
29	Wheat قمح
30	Chin دقن
31	Donkey حمار
32	Wooden خشبي
33	Snake حية
34	Dinosaur ديناصور
35	Dress فستان
36	Predator مفترس

Group 4	
37	Looking بتشوف
38	Imaginary خيالي
39	Melon شمام
40	Coconut جوز هند
41	Checking up بتفحص
42	Leaving بتطلع
43	Pig خنزير
44	Castle قلعة
45	Lock قفل
46	Factory مصنع
47	Broken خربان
48	Accident حادث
Group 5	
49	Heel كعب
50	Spoiling بيخرب
51	Guitar جيتار
52	Tired تعبانة
53	Hyena ضبع
54	Judge قاضي
55	Beak منقار
56	Whispering بتهمس
57	Money مصاري
58	Happy مبسوط
59	Tearing بيمزع
60	Thorny شوكي
Group 6	
61	Snail حلزون
62	Kangaroo كنغر
63	Harvesting بتقطف
64	Some شوية
65	Peacock طاووس
66	Paying بتحاسب
67	Scolding بهدلة
68	Bag شنتة
69	Doctor دكتور
70	Thin نحيف
71	Plier زرادية
72	Oval بيضاوي

Group 7	
73	Kissing بتبوس
74	Nurse ممرضة
75	Van شاحنة
76	Howl بيعوي
77	Top قمة
78	Peas بازيلا
79	Loneliness عزلة
80	Beggar شحّاد
81	Diving بتغطس
82	Parallel متوازي
83	Messy مكركب
84	Spring زنبرك
Group 8	
85	Cauliflower زهرة
86	Trunk جذع
87	Waiter جرسون
88	Blown منفوخ
89	Mushroom فطر
90	Injection إبرة

Appendix 5: Children's raw scores in the APVT and EPVT

child #	Age	APVT out of 90	EPVT out of 90
2	5;9	67	82
6	5;8	72	64
7	5;11	84	76
9	5;7	77	76
12	5;10	82	59
13	6;0	68	62
15	5;8	66	68
16	5;9	78	82
17	5;8	59	65
18	5;10	81	80
20	5;8	58	85
21	5;9	66	59

Glossary

M	masculine
F	feminine
S	singular
D	dual
P	plural
BP	Broken plural
1	First person
2	Second person
3	Third person

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