



Gender and Number Agreement in the Oral Production of L1 Arabic Among Bilingual Arab-Americans

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Abstract

Heritage speakers have difficulty acquiring some grammatical elements in Arabic because the grammars in Arabic and English are not homogenous; for instance, gender in Arabic and English is totally different. English gender is natural and more related to pronouns, whereas Arabic gender is grammatical and related to nouns, pronouns, verbs, and adjectives. Hence, the differences between the two languages may cause negative transfer from the primary language to the heritage language. This study investigates Arabic heritage speakers' knowledge of gender and number agreement and concord morphology in two syntactic contexts: subject-verb agreement and subject-adjective agreement. The dominant language, English, may affect the correct usage of gender and number agreement in the two syntactic contexts in Arabic. The researcher found that the most difficult categories encountered by the heritage speakers regarding subject-verb and subject-adjective agreements were human-plural feminine and human-plural masculine. Most heritage speakers of Arabic over generalized human-singular masculine to human-plural masculine in the subject-verb agreement. The participants made a negative transfer from singular masculine verb to singular or plural masculine verbs, and this transfer happened due to the lack of gender in the dominant language. In terms of subject-adjective agreement, most of heritage speakers had difficulty with the subjects of human-plural masculine and human-plural feminine.

Keywords: Acquisition; Gender; Overgeneralization; Negative transfer; Heritage speakers;

Academic Disciplines: Morph syntactic; Gender and Number Agreement in Arabic; Language Acquisition;

Council for Innovative Research

Peer Review Research Publishing System

Journal: **Journal of Advances in Linguistics**

Vol.6, No 1

editor@cirjal.com

jaleditoronline@gmail.com, www.cirjal.com



1. Introduction:

Bilingualism means the ability to communicate in two languages and in some cases, with better skills in one language versus the other. Most bilinguals have one language that is more dominant than the other due to sequential acquisition. That is, the dominant language is used in everyday communication and in school. Heritage languages are immigrant languages and heritage speakers are second-generation who were born to first-generation (adult) immigrants who speak these languages or who immigrated with their parents when they were very young children. Heritage speakers lack exposure and complete acquisition to their heritage language. Some of them use their heritage languages only at home with their parents, and they do not receive any knowledge or instructions on their heritage language, whereas some of them do not even use their heritage languages at all. This may cause language attrition or loss of such areas as the lexicon and inflectional morphology in the heritage languages. With regard to grammars in both languages, if the L1 and L2 have different rules, interference occurs. Ortega points out that more marked elements in the L2 than L1 will cause difficulty, while the elements which have less marked in the L2 than L1 will not cause difficulty (38). Thus, heritage speakers will face difficulty if their heritage language and dominant language have different elements

Heritage speakers have difficulty acquiring some grammatical elements in Arabic because the grammars in Arabic and English are not homogenous; for instance, gender in Arabic and English is totally different. English gender is natural and more related to pronouns, whereas Arabic gender is grammatical and related to nouns, pronouns, verbs, and adjectives. Hence, the differences between the two languages may cause negative transfer from the primary language to the heritage language. This study investigates Arabic heritage speakers' knowledge of gender and number agreement and concord morphology in two syntactic contexts: subject-verb agreement and subject-adjective agreement. The dominant language, English, may affect the correct usage of gender and number agreement in the two syntactic contexts in Arabic.

2. Literature Review:

This literature review shows many studies about bilinguals and heritage speakers in general, and it focuses on the acquisition of grammatical elements in heritage languages. Additionally, it concentrates on the reasons that may hinder the acquisition of heritage languages.

According to Albirini, Benmamoun, and Chakrani, heritage speakers are susceptible to language depletion of particular elements of L1 and L2 acquisition and linguistic theory in general. They claim that another preponderant use of specific elements lack equivalent parts or aspects within a single linguistic area. For example, "heritage speakers have been reported to over-generalize what has been termed "default" and "unmarked" forms across such linguistic phenomenon as aspects, gender, number, and word order" (2).

Albirini, Benmamoun, and Chakrani conducted two separate experiments. The first experiment comprised forty heritage speakers and twenty-four Arabic native speakers. The researchers asked the participants to describe forty pictures (8). The researchers discovered that heritage speakers were less competent in producing the correct forms of agreement than Arabic native speakers. Yet, heritage speakers performed better in terms of verbal agreement than adjectival agreement (9). The second experiment involved twenty heritage speakers and twenty Arabic native speakers. The researchers examined the participants and asked them to educe narrative based on the Frog Story. The researchers found that the native speakers performed within shorter time than the heritage speakers. In general, the heritage group produced fewer verbs and more adjectives than the other group (11-13).

Polinsky demonstrates that heritage speakers are dissimilar from monolingual L1 speakers in the way they acquire heritage language. This indicates that heritage speakers are unequivocally interrupted when they switch to the dominant language. Also, as heritage speakers grow up, they use their dominant language for everyday communication while they have limited opportunities to practice their heritage language outside their homes (45-46).

Bar-Shalom and Zaretsky examined Russian-English bilinguals: ten children and ten adults. Some of the participants were born or have lived in the United States from an early age. They analyzed the agreement, lexical, and case errors in the Russian language. In this study, they used two tasks. The first task was to listen to a sentence in Russian and decide whether it is correct or incorrect. The second task was to narrate a story based on a group of pictures. The results showed that the children committed more gender errors in the second task and more lexical errors in the first task than the adults (288).

Martínez-Gibson examined forty-four subjects and classified them into three groups: first-generation heritage speakers, second-generation heritage speakers, and second language learners (184). The author conducted interviews with participants naturally and informally and provided two different sets of pictures with different cultural registers. All subjects had to name and describe each picture based on their life experiences. The researcher elicited and highlighted nouns and adjectives with gender markings (185). Martínez-Gibson discovered that second language learners of Spanish performed higher number of noun tokens than the first-generation heritage speakers. However, the lowest number of noun tokens were performed by the second-generation heritage speakers (185-186). In terms of article/noun gender assignment errors, second language learners made 75.75% errors, the second-heritage speakers 16.75%, and the lowest errors were 7.5% by the first-generation heritage speakers. The second language learners committed the highest percentage 49.25%, the first-generation heritage speakers committed the lowest percentage 5%, and the second-generation heritage speakers provided 13.5% of errors. Most of the masculine noun and feminine adjective gender agreement errors were made by the second language learners (187-189).

Ortega points out that the influence of L1 on the L2 acquisition can not only be negative transfer, but also it can be positive transfer, so both of them are important to investigate how second language acquisition works. However, negative effects



are more noteworthy and often discovered by researchers (42). According to Ortega, there is an improper concept that L1 transfer, whether positive or negative, is always directly caused by translation from L1 form into L2 form (44). "Crosslinguistic influences go well beyond form-form or form-function correspondences, and that L1 knowledge across all layers of language can influence L2 solutions at the levels of form, meaning, and function" (46- 47).

Benmamoun et al. state that Arabic is known for its difficult root and pattern morphology system that is strikingly different from English, which is the dominant language for Arabic heritage speakers in the United States (90). Benmamoun et al. assert that Arabic heritage speakers have learned their first language which is Arabic since childhood at home. However, this language becomes weak compared to the dominant language when they reach adolescence (91). The researchers point out that there is clear fossilization in the heritage language and transfer from the dominant language to the heritage language. The reasons of this transfer are imperfect acquisition and the lack of exposure to the heritage language since infancy (91).

Montrul et al. assert that there is a difference between heritage language speakers and first- and second- language learners in terms of learning academic literacy in a formal setting. To clarify, first language learners receive input in their native language and improve literacy and metalinguistic skills through school. Second language learners learn the L2 in a classroom setting and improve their L2 skills. Heritage language speakers have little or no literacy experience in their L1 until they relearn the heritage language in a formal setting (506-507).

Lee reports that when heritage speakers start schooling, the exposure to heritage language becomes inadequate and limited. Heritage speakers use their L1 only at home which leads to interference between L1 and L2. The researcher points out that the age of arrival in the US plays an important role "to consider that it coincides with the onset age of formal exposure to English in many cases" (51). Nevertheless, it is not obvious how various onset ages of exposure to English are compatible with proficiency level in the heritage language. Thus, if the heritage speakers are exposed to a dominant language in an early age, in all probability, heritage speakers will have restricted and incomplete linguistic knowledge of the heritage language. Also, onset age of exposure to English impacts the acquisition of heritage grammar (51).

The literature indicated the acquisition of grammatical elements in the heritage languages among bilinguals and heritage speakers. Also, it seeks the role of the dominant language on the correct usage of morphosyntactic elements in the heritage language in general. The literature illustrated that the heritage speakers make errors by using the strategies of generalization and avoidance of grammatical rules in the heritage language. This study concentrates on the negative influence of the dominant language, English, on the correct usage of gender and number agreement in Arabic among the heritage speakers. Furthermore, the researcher will show the most difficult categories facing heritage speakers in the two syntactic contexts in Arabic and reasons that underlie these errors.

3. Gender and Number Agreement in Arabic:

Standard Arabic divides its nouns based on quantity. Hence, nouns can be singular when they refer to one, dual when they refer to two, and plural when they refer to three or more. Nouns can be either human or non-human. Non-human refers to animals and objects. In this paper, the researcher focuses only on human-singular and human-plural nouns. There are two genders in Arabic: masculine and feminine. Commonly, feminine nouns are marked with *-a* and sometimes with prefix *al-* and suffix *-ah* when they are singular and with *-aat* if plural. Some feminine nouns lack the feminine markers and some masculine nouns may have them. Masculine nouns are marked with *-al* when they are singular. In plurality, masculine nouns can be sound plural nouns and marked with the suffix *-oon* as in example (7), or irregular plurals known as "broken plural nouns". The broken plural form is expressed by changing the stem of the singular form as in the following example (3). In terms of subject-verb agreement in Arabic, nouns require verb agreement as the following examples:

- (1) al-rajulya-kul
the-man eats
- (2) al-bint ta-kul
the-girl eats
- (3) al-rejalya-kul-oon
the-men eat
- (4) al-banaatya-kul-n
the-girls eat
- (5) al-mofakirya-ktab
the-thinker (M) writes
- (6) al-mofakir-ah ta-ktab
the-thinker (F) writes
- (7) al-mofakir-oonya-ktab-oon
the-thinkers (M) write
- (8) al-mofakir-aatya-ktab-n



the-thinkers (F) write

All eight examples contain a subject and the stem of the verb *kuf'eat*, or *ktab* "write," which are marked for gender and number by attaching different prefixes and suffixes based on the gender and number of the subject. If the subject is human-singular masculine, the verb is marked by the prefix *-ya* as in the examples (1) and (5), and if the subject is human-singular feminine, the verb is marked by the prefix *-ta* as in (2) and (6). On the other hand, if the subject is human-plural masculine, the verb is marked by the prefix *-ya* and suffix *-oon* as in (3) and (7), and if the subject is human-plural feminine, the verb is marked by the prefix *-ya* and the suffix *-n* as in (4) and (8).

In terms of noun-adjective agreement in Arabic, nouns precede adjectives, and each noun requires adjective agreement as the following examples:

(9) *al-rajul* *ḍaki*

the-man intelligent

(10) *al-bint* *ḍaki-a*

the-girl intelligent

(11) *al-rejalsarii* *ḍ -iin/ sarii* *ḍ -oon*

the-men fast

(12) *al-banatsarii* *ḍ -aat*

the-girls fast

In (9), "the adjectival phrase lacks overt gender and number markers, which is a characteristic of singular masculine nouns and adjectives" (Albirini, Benmamoun, and Chakrani 3). In (10), the noun is human-singular feminine, and the adjective is marked by the suffix *-a*. If the noun is human-plural masculine, the adjective is marked by the suffix *-iin* as in (11). Also, if the noun is human-plural feminine, the adjective is marked by the suffix *-aat* as in (12). Generally, "the plural suffixes vary according to gender in the context of agreement with adjectives but not in the context of agreement of the verb" (Albirini, Benmamoun, and Chakrani 3).

4. Hypothesis:

There is a negative influence of the dominant language, English, on mastering gender and number agreement in Arabic among heritage speakers.

5. Methodology:

5.1 Participants:

The researcher gathered ten bilinguals of Arabic heritage speakers: six females and four males. There were five of second-generation heritage speakers and five of third-generation heritage speakers. They were originally from Arab countries: Iraq, Syria, Palestine, and Lebanon. They were born in the United States to either one Arab parent or to two Arab parents. The age of the participants ranged from twenty-one to forty-five years old. According to language background questionnaire responses, three participants were monolinguals in their Arabic until age six, and the rest of the participants were acquiring Arabic and English at the same time from birth. Two participants reported that they do not use Arabic at home, whereas eight participants use Arabic at home. Eight participants reported that the language they use predominantly is English, and two participants use Arabic only at home and study it at the university. All participants acknowledged that English is now their dominant language. In terms of Arabic competence, two of the heritage speakers reported that they have "good," one "excellent," three "poor," and four "limited" competence in Arabic. Four participants were able to read Arabic script whereas the rest were not able to read.

5.2 Data Collection:

The researcher used a Discourse Completion Test (DCT). This test is a form of questionnaire and was originally designed by (Albirini, Benmamoun, and Chakrani 15) (see appendix A). The questionnaire contained several questions about the heritage speakers' language backgrounds with some adjustments by the researcher. All participants were asked to fill out the questionnaire in a separate session before the actual test. The researcher printed copies for Arabic heritage speakers. Some participants preferred sending the questionnaire through email, rather than writing them by hand. The researcher began distributing the questionnaire to be filled out in the library on the campus at Indiana State University, and at the participants' homes. Also, the researcher sent electronic copies for the participants who do not live in Terre Haute to fill out and resend via email. The questionnaire was designed to be completed between fifteen to twenty minutes.

The researcher used two elicited oral-production tasks. In the first task, the participants had to describe ten pictures presented via PowerPoint. Each picture was presented on individual slide and had verb action related to a noun. With regard to nouns, the researcher focused on human-singular masculine, human-singular feminine, human-plural masculine and human-plural feminine. One action verb was presented twice, once with a singular noun and once with a plural noun. There were twenty actions used in this task, such as clean, buy, drive, eat, and play. The researcher provided the participants the directions to complete the task. After showing these pictures on the PowerPoint, the researcher asked each participant to describe the subject in the picture. The goal of using this task was to elicit twenty examples of subject-verb agreement in Arabic.



The second task included ten pictures presented via PowerPoint. Each picture was presented on individual slide and had an adjective related to a noun, such as beautiful, tall, short, clever, and thin. With regard to nouns, the researcher focused on human-singular masculine, human-singular feminine, human-plural masculine and human-plural feminine. Each adjective was used twice, once with a singular noun and once with a plural noun. The researcher provided the participants the directions to complete the task. After showing these pictures on the PowerPoint, the researcher asked each participant to describe the subject in the picture using one adjective. The goal of using this task was to elicit examples of subject-adjective agreement in Arabic. Each participant had to answer the two tasks individually and his or her responses were recorded. For those who are not in Terre Haute, the researcher contacted them through Skype and emailed them the two tasks. Also, their responses were recorded.

5.3 Data Analysis:

The researcher later revised the data according to certain criteria. He used two tables, the first one for subject-verb agreement task and the second one for subject-adjective agreement task. Each table was divided into four categories: human-singular masculine, human-singular feminine, human-plural masculine and human-plural feminine. In each part, there were five possible answers, that is, the total answers for each participant were twenty. The researcher counted an error/errors in subject-verb agreement and subject-adjective agreement in all the four categories. The main goal of using these tables was to see how many errors in the two tasks were committed by heritage speakers. Also, the researcher investigated the most frequent errors, and how the dominant language, which is English, affect the correct usage of gender and number agreement in the two syntactic contexts in Arabic. Finally, the researcher wanted to test the hypothesis which was created earlier and compare the results to other studies about this topic (see Table 1 and Table 2).

6. Results:

Table 1: The frequency of errors in subject-verb agreement task.

Participants	Human-singular masculine	Human-plural masculine	Human-singular feminine	Human-plural feminine
1	1	2	1	3
2	3	3	0	1
3	0	2	0	2
4	2	3	3	3
5	3	4	3	4
6	3	4	3	5
7	4	4	4	4
8	5	5	5	5
9	3	3	5	5
10	5	5	5	5
Mean	2.9	3.6	2.9	3.7

Based on the participants' responses in the data obtained from the subject-verb agreement task, as shown in the table above, the frequency of errors seems to vary from one participant to another. The mean of errors in human-singular masculine in subject-verb agreement was 2.9, whereas the mean of errors in human-plural masculine was 3.6. In terms of educating human-singular feminine, the mean of errors was 2.9, while the mean errors of educating human-plural feminine was 3.7. Also, there were two participants who did not respond to all categories in the first task. Based on the mean errors in the four categories, the most difficult categories encountered by heritage speakers were human-plural feminine and human-plural masculine.

Table 2: The frequency of errors in subject-adjective agreement task.

Participants	Human-singular masculine	Human-plural masculine	Human-singular feminine	Human-plural feminine
1	0	3	0	0
2	0	2	0	3
3	1	1	1	1
4	3	4	3	5
5	2	3	2	5
6	4	5	4	5
7	3	5	3	5
8	5	5	5	5
9	3	3	4	5
10	5	5	5	5
Mean	2.6	3.6	2.7	3.9

Based on the participants' responses in the data obtained from the subject-adjective agreement task, as shown in the table above, the number of errors seems to vary from one participant to another. The mean of errors in human-singular masculine in subject-adjective agreement was 2.6, whereas the mean of errors in human-plural masculine was 3.6. In terms of eliciting human-singular feminine, the mean of errors which was 2.7, while the mean of errors in human-plural



feminine was 3.9. Also, there were two participants who did not response to all categories in the second task. Based on the mean errors in all categories, the most difficult categories faced by heritage speakers were human-plural feminine and human-plural masculine.

7. Discussion:

Most of the heritage speakers overgeneralized human-singular masculine to human-plural masculine in the first task. To clarify, they figured out one grammatical rule and applied it generally as in the following examples:

**al-waladya-koul* instead of *al-awaladya-kuloon*.

the-boy eats the-boys eat

* *al-rajulya-lʿ ab* instead of *al-rejalya-lʿ ab-oon*.

the-man plays the-men play

That is, the third masculine form is the easiest form because it does not carry any phonologically overt agreement marker, and it does not require retrieving any morpheme within the paradigm because it includes the bare form of the adjective or verb. Sometimes, there was a negative transfer made by heritage speakers, and this transfer was from the singular masculine verb to singular and plural feminine verbs. In other words, they treat feminine verbs as masculine verbs, as in the following example:

- The singular masculine verb *ya-jierr*(run) with human-singular feminine as in:

**al-bintya-jierr* and with human-plural feminine as in, *al-banaatya-jierr*.

the-girl runs the-girls run

In English, one verb form is used for masculine and feminine, whereas in Arabic, two different forms of a verb are used for masculine and feminine. Thus, the interference between the heritage language and the dominant language occurs among heritage speakers.

In the two tasks, it was noticeable that some heritage speakers misused the definite article *al-*(the) with the singular and plural subjects in some situations. They used the prefix *l-* with subject-verb agreement and omitted the definite article with subject-adjective agreement as the following example:

**l-walad* instead of *al-walad*.

boy the-boy

**l-banat* instead of *al-banat*.

girl the-girl

* *l-bannat* instead of *al-bannat*.

girls the-girls

This most likely occurs because the participants used their own dialects and not the standard Arabic; for example, Egyptian and Syrian dialects. In some cases, some participants did not know the meaning of the verb, thus they could not elicit the verb action in the pictures.

With regard to subject-adjective agreement, most of heritage speakers had difficulty with the subjects of plural masculine and human-plural feminine in the following example.

**al-bint* instead of *al-banat*.

the-girl the-girls

**al-mudares* instead of *al-mudarss-oon*.

The-teacher the-teachers

Also, they overgeneralized the adjective of singular masculine to singular feminine or plural feminine as the following examples:

- The adjective of human-singular feminine to human-singular masculine:

*al-bint *qasir* instead of *al-bintqasir-a*.

the-girl short the-girl short

- The adjective of human-plural feminine to human-singular feminine:

*al-nessa*samin-a* instead of *al-nessasamin-aat*.

the-women fat the women fat

In these examples, the interference between the heritage and dominant languages may have caused the overgeneralization. In English, one adjective can be used for both feminine and masculine, whereas in Arabic, masculine



and feminine have different adjectives. In general, the mean errors in both tasks were almost similar with slight differences. Based on the participants' responses on the questionnaire, the researcher found that the participants who received instructions in school and use Arabic at home performed better than the participants who did not receive instructions and do not use Arabic at home. Lastly, the responses in the two tasks supported the hypothesis which was formulated at the beginning of this study. Indeed, the results showed that there is a negative influence of the dominant language, English, on mastering number and gender agreement in Arabic among heritage speakers. To explain, gender in Arabic and English is totally different. English gender is natural and more related to pronouns, whereas Arabic gender is grammatical and relevant to nouns, pronouns, verbs, and adjectives. Also, there are differences in making singular noun to plural nouns in both languages. In Arabic, the nouns are attached by different prefixes and suffixes, whereas in English, the nouns are attached by certain suffixes in most cases.

8. Conclusion:

In short, this study investigated Arab heritage speakers' knowledge of gender and number agreement and concord morphology in two syntactic contexts in Arabic: subject-verb agreement and subject-adjective agreement. Also, this study investigated the influence of the dominant language on the correct usage of gender and number agreement in the two syntactic contexts in Arabic. At the beginning of this study, the researcher hypothesized that the dominant language (English) has a negative influence on mastering gender and number agreement in Arabic among heritage speakers.

The researcher found that the most difficult categories encountered by the heritage speakers regarding subject-verb and subject-adjective agreements were human-plural feminine and human-plural masculine. Most heritage speakers of Arabic overgeneralized human-singular masculine to human-plural masculine in the subject-verb agreement. The participants made a negative transfer from singular masculine verb to singular or plural masculine verbs, and this transfer happened due to the lack of gender in the dominant language. In terms of subject-adjective agreement, most of heritage speakers had difficulty with the subjects of human-plural masculine and human-plural feminine. Additionally, they overgeneralized the adjective of singular masculine to singular feminine or plural feminine. The mean errors in the subject-verb and subject adjective agreements were almost similar. Overall, hypothesis that was put forth earlier was supported. In other words, there was a negative influence of the dominant language, English, on acquiring gender and number agreement in Arabic among heritage speakers.

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