DIALECT CHANGE IN ANI IRAQI ARABIC: LEVELLING OR MAINTENANCE?

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Abstract

This study investigates the change in current phonological patterns in the variety of Arabic spoken in Anah, Iraq so as to determine whether levelling, triggered mainly by dialect contact between *qeltu* and *gilit* speakers, is occurring in this dialect or not. The study provides a quantitative sociophnetic description of the speech of 60 (30 males and 30 females) AIA (Arabic Iraqi Ani) speakers. This study investigates the change in three phonological processes: Kaf affrication, vowel raising and vowel epenthesis under the effect of informants' age, gender and attitude towards the gilit dialect and their own dialect as well. Following Labov's (1984) conversational network method, all informants were interviewed individually to collect the linguistic variables required for analysis. Results show that according to the increasing adoption of *gilit* features by Ani speakers, levelling is occurring in the AIA. Results also revealed that levelling has not yet reached the completion level, yet it is in a very advanced phase.

1. Introduction

Evidence from the literature on phonological variation and change has been accumulating that particular Iraqi Arabic dialects such as the one spoken in Anah are experiencing a change, particularly a levelling process. Such a change is thought to be a result of extensive change in the demographic structure of those parts of the country following a sequence of sociopolitical and economic events. The aims of the current study are stimulated by the sporadic findings in the literature, which pointed to an abandonment and rejection in the use of traditional Iraqi Arabic dialects in favour of a

more prevalent prestigious dialect, i.e. to a levelling process. However, the study of dialect change and variation in Iraq has not been a prominent field of research. Most of the existing studies on IA (Iraqi Arabic) dialects were made decades ago and they need to be updated now. Thus, it is very probable that there will be some recognizable changes in the linguistic, most probably the phonological, situation of the location under study.

The concept of dialect levelling has been one of the excessively investigated concepts within the variationist research. In general, dialect levelling, or supralocalisation, is the superseding of local native linguistic forms of a dialect in favour of other equivalents of broader regional or national dominance. In other words, this phenomena leads to the progressive abandoning (in some instances, total eradication) of classical linguistic differences existing between dialects of a certain language. One of the earliest definitions of leveling is the one proposed by Trudgill who defines levelling as "the reduction or attrition of marked variants" (Trudgill, 1986: 98). He further pointed out that the 'marked variants" are those forms which are in minority or unusual in a community as a whole (ibid).

The literature on levelling reveals that there are a number of factors hypothesized to be the main causes of such a process. These factors involve linguistic convergence and divergence (Hinskens, 1998), spatial mobility (Britain, 2002, 2009), speakers' Social Network Integration (SNI) (Milroy, 1980, 2002), and communities of practice (Eckert, 1988, 2000) to name but a few.

In view of the considerable researches investigating its occurrence in different languages and dialects around the world such as French (Hornsby, 2007), English (Cheshire et al., 1999; Kerswill and Williams, 2000b; Milroy, 2002; Kerswill, 2003; Torgersen and Kerswill, 2004; Britain, 2009), Scottish English (Dyer ,2002), Limburg (Hinskens,1998), Norwegian (Hilton, 2010), Luxembourgish (Gilles, 1998), Romani (Leggio & Matras ,2017), Mandarin (Hsu, 2009), and Arabic (Versteegh, 1993; Hachimi,2007 ; Al-Rojaie, 2013; Manfredi, 2013; Al-Azraqi, 2016 ; Ahmed, 2018; Mohammed, 2018), the concept of dialect levelling has come to be perennial subject in variationist researches.

2. Iraq's Linguistic Profile

Linguistically speaking, Iraq has a heterogeneous population of religious and ethnic diversity resulting in a great linguistic variation. Of all the varieties found in Iraq, Mesopotamian Arabic or as generally known as Iraqi Arabic (henceforth IA) is the major variety spoken in Iraq as it is the mother tongue of more than 80% of Iraqi people (Peoples & Bailey 2011: 298). The *qəltu-gilit* classification set up by Blanc (1964) is the first main and widely used classification of Iraqi Arabic dialects. It has been used in the literature to refer to the division of Arabic dialects spoken in the Mesopotamian area. Jastrow (2006 d) classifies the *qəltu* dialects group to further three subgroups (as shown Figure 1 below): Euphrates, Tigris, and Anatolian. The Euphrates group expands along the Euphrates River in Iraq (Hīt [hiːt] and ʿĀna [ʕaːna]) and in Syria (Dayr al-Zawr). The Tigris group includes Christian Baghdadi Arabic (CBA), Jewish Baghdadi Arabic (JBA), dialects spoken by Muslims of the region between Mosul down to the city of Sāmarra, and the dialects spoken by Jewish and Christian communities in the entire qəltu-speaking zone. Finally, the Anatolian group consists of the dialects of Diyarbakir, Daragözü, Mardin and Siirt in Turkey.
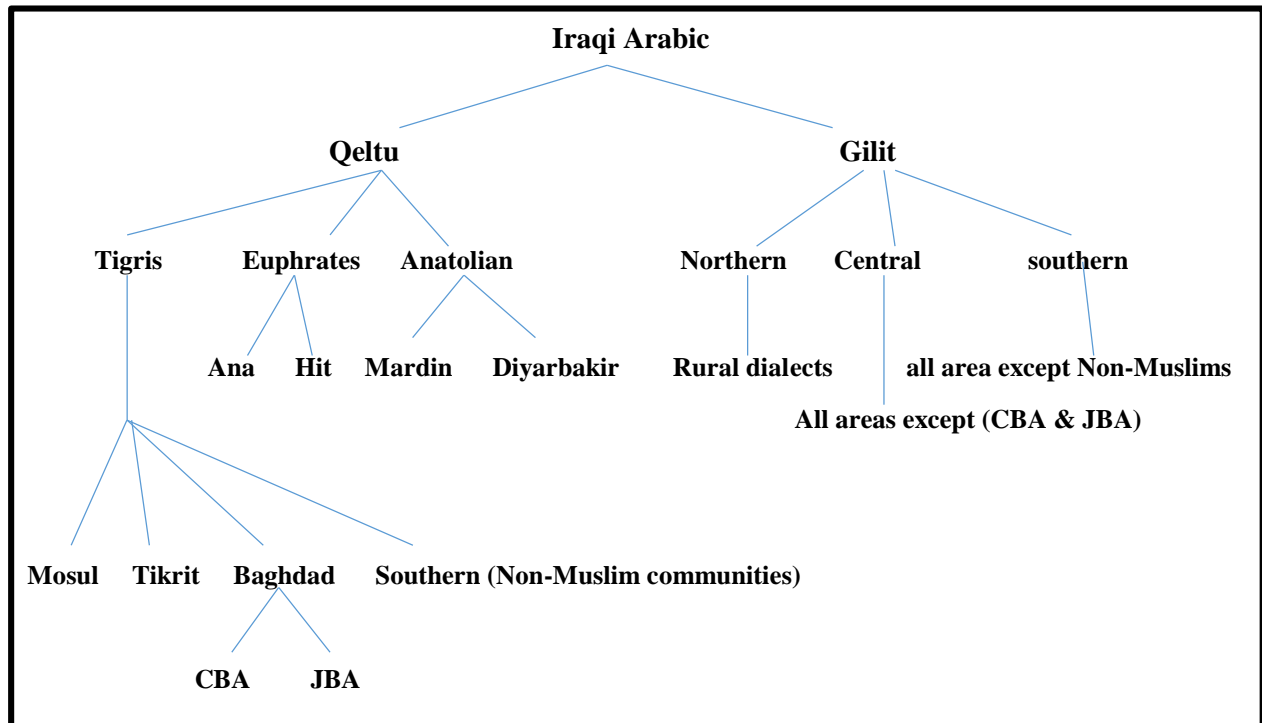

Figure (1): Overall classification of Iraqi Arabic dialect based on Blanc (1964) and Jastrow (2006 d)

3. Anah

The research site of this study is Anah (as shown in figure 2), also known as Anna, which is an Iraqi town that lies on the Euphrates river and is the capital of Anah district. It is located 90Km east of the Syrian border and 250 Km northwest of Baghdad. It is considered one of the ancient cities in Iraq and it is one of the main urban centers of Al-Anbar governorate in the western part of Iraq. (Al-Hatab, 2013: 272).
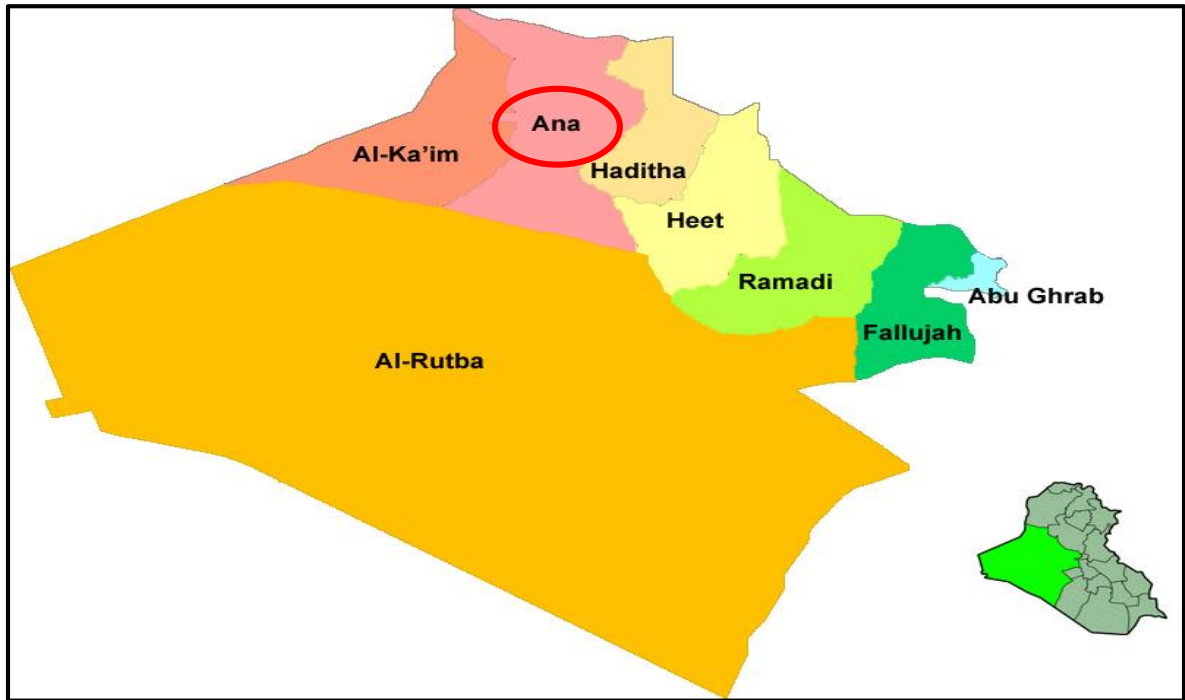

Figure 2. Map showing the geographical location of Anah in Iraq

4. This Study

This study is a sociophonetic investigation that has been carried out following the variationist framework pioneered by William Labov and colleagues in 1960s. The variationist study aimed to figure out how a variety of factors (linguistic and nonlinguistic) interact with each other to control change of language varieties. The pioneers of this field proposed that linguistic variation occurs not in a haphazard but rather a structured and patterned manner or as they labeled it "orderly heterogeneity". Variationists attempt to trace not just the changes in linguistic forms that came to an end (completed) but also and more importantly those that are in progress (Schilling, 2013: 4). Therefore, researchers try to capture ordered patterns of variation by quantitatively displaying the interaction and correlation of linguistic structures with social ones. As such, this study presents some of the preliminary results of a larger research investigating the change and variation in the current phonological situation by

examining the change and variation in the use of three stigmatized phonological processes: Kaf affrication, vowel raising and vowel epenthesis in the Ani Iraqi Arabic dialect so as to determine whether the process of levelling is occurring in this dialect or not.

5. Study Aims and Questions

This study is hoped to contribute to the already existing studies by examining the change in three phonological processes which are hypothesized to be showing variation and change in the dialect under investigation. Accordingly, this study aims to:

1- Provide a quantitative account of the current patterns of the phonological change and variation in the dialect spoken in Anah Iraq in respect of three phonological processes so as to determine whether the process of dialect levelling is occurring in this dialect or not.
2- Determine whether the process of dialect levelling, if found, in the AIA has reached completion or not.
3- Determine whether informants' age and gender and attitude have an effect on their adoption of gilit variants.
4- Determine if there is a gender difference regarding the adoption of the gilit variants (features).

In doing so, this research aims to answer the following questions:

1- Does the dialect spoken in Anah experiencing a levelling process?
2- Does phonological levelling reach completion or not?
3- Is dialect leveling in Anah lead by male or female speakers?
4- How does Ani speakers' age, gender and attitude influence their linguistic behavior?

6. Methodology
6.1 Sample size, design & sampling method
The sample in this study has been selected by using two sampling methods: purposive (judgment) and snowball. The judgment method was firstly implemented according to a set of predetermined criteria. Accordingly, informants, who were born and raised in Anah, aged over fifteen and who might have contacted with gilit speakers in different situations and degrees were chosen. After that the snowball method was implemented. The researcher started by contacting with 6 Ani persons who introduced me to their

families, relatives and friends, then those in turn introduced me to their relatives and families and so on until the required number was recruited.

The sample of the present study is composed of 60 speakers (30 males and 30 females), who were born and raised in Anah. Their ages range between 15-60+ years stratified into three age groups: 15-29, 30-59 and 60 and over. Table (1) shows the number of informants participated in this study classified by age groups and gender.

Age group	Males	Females	Total
15 - 29	10	10	20
30 - 59	10	10	20
Over 60	10	10	20
Total	30	30	60

Table (1): The distribution of informants by gender and age

6.2 The Variables

6.2.1 Affrication of Kāf

Affrication is defined as the process in which the voiceless velar plosive /k/ is realized as a voiceless palatoalveolar affricate [tʃ]. The first documented observation of such feature is traced back to some pioneering Arabic linguists like Abu Bishr Sibawayh (757 - 796 CE) and Ibn Jinnī(932 - 1002 CE) who labeled it as kaškaša. Affrication is a phonological feature that exhibits in Arabic Bedouin, old and modern, dialects. It is one of the differentiating characteristics of gilit dialects while the qəltu dialect group is characterised by the absence of affrication. While the variable (k) is realized as /tʃ/ by speakers of the gilit dialect (Khan, 1997: 55), it is retained as /k/ by qəltu dialect speakers (Abu-Haidar, 2004).

6.2.2 Vowel Epenthesis

Crystal (2008:171) defines epenthesis as a 'term used in phonetics and phonology to refer to a type of intrusion, where an extra sound has been inserted in a word'. Vowel epenthesis is the process by which a vowel is inserted within a word. This process denotes the addition of a vocalic segment creating a new syllable and acting as the core of that newly formed syllable. Such process is often used to facilitate pronunciation.

There are two types of epenthesis: anaptyxis and prosthesis. The former resembles vowel injection between two consonants while the later denotes an extra-

sound intrusion initially added in a word mainly in connected speech. Some of the observed reasons for using epenthesis are that "Epenthetic vowels often break up 'difficult' consonant clusters" (McMahon, 1995: 15) or "the function of epenthesis is to repair an input that does not meet a language's structural" (Hall, 2011: 1577).

Since epenthesis is utilized to split consonant cluster, epenthetic vowel location is language specific as the insertion of the vowel vary according to the dialect it is being used in. Accordingly, it can be inserted in initial, middle or final consonant cluster.

Al-Ani (1970: 87) set forth that IA has five types of syllables: CV, CVC, CVV, CVVC, and CVCC with C, V and VV stand for consonants, vowels and long vowels respectively. In terms of syllabification, Arabic dialects are classified into two groups: CV (onset dialect) and VC (coda dialect). In the CV type, the second consonant is syllabified as an onset. This means that the epenthetic vowel is added after the second consonant (C2) such as in Egyptian Arabic /ʔul-t-l-u/ [ʔul.ti.lu] 'I said to him'. On the other hand, in the VC type, the second consonant is syllabified as coda which means that the insertion of epenthetic vowel occurs before the second vowel (C2) such as in Iraqi Arabic /gil-t-l-a/ [gi.lit.la] 'I said to him'. Thus, this means that IA belongs to the VC-dialect type since it breaks up consonant clusters of three consonant by adding a vowel before the second consonant. (Broselow,1992; Kiparsky, 2003; Watson, 2007 as cited in Hall, 2011: 1580)

6.2.3 Vowel Raising: Raising of Low [a] to High [i]

Vowel raising is defined as "any phonological process in which the articulation of a vowel is moved to a higher point in the mouth" (Trask, 1996:300). Vowel raising is also identified as the process by which a vowel is produced in a higher place within the vowel place than its original place (Carr, 2008:192).

In this process, short guttural vowel /a/ in an open syllable is raised to a dorsal vowel /i/. Acoustically speaking, such process denotes the lowering of F1 and raising of F2, where F1 stands for close/open tongue position and F2 for front/back tongue position (Benkirane, 1982; Barkat, 2009). The qəltu dialects are characterized by the absence of raising of low vowels while it is a characteristic feature of the gilit group dialects such as in [samak] vs. [simatʃ] 'fish' or [dʒabal] vs. [dʒibal] 'mountain'.

6.3 Data Collection

The data of the current study were collected by utilizing two methods: interviewing informants from Anah and recording these interviews and assigning them to fill in a questionnaire. The data were collected by recording the speech of people from Anah by employing the conversational network method followed by Labov in his Philadelphia study (Labove,1984: 35). The informants were interviewed individually and each interview lasted for 20-30 minutes. The interview included two parts. In the first one informants were asked to talk about different topics and discuss them at length. These topics include childhood, neighborhood and schooldays memories, memories of the old town of Anah, games, jobs and works, marriage customs, war times, cooking, fasting in Ramadan and Eid customs, etc. while the second part of the interview consists of a picture naming task in which informants were given a set of pictures that included one or more of the variants under investigation and asked to provide a description of each picture.

The second method used in this study is a questionnaire which was employed to gain information regarding informants' attitude towards the gilit dialect and their own dialect as well. It consisted of 22 close-ended questions. These questions aimed to check informants' attitudes towards using the gilit dialect, their realization of linguistic differences between their Ani dialect and the gilit dialect, their realization of the impact of the gilit dialect on their linguistic behaviour, their realization on the overall change the Ani dialect is experiencing and their attitude towards it.

6.4 Measuring Informants' Attitude

To calculate informants' attitude scores, they were scored along a five-point continuum according to their attitudes concerning the gilit dialect. The overall score of the 22 attitudes questions was 25. The lowest score was zero whereas the highest score was twenty. Along the five-point continuum, informants' were divided to five groups. Informants scoring 0-5 points from the overall score were given point 1 on the continuum (this comprised 22 informants), informants scoring 6-10 points were given point 2 (this comprised 10 informants), informants scoring 11-15 points were given point 3 (this comprised 19 informants), informants scoring 16-20 points were given point 4 (this comprised 9 informants), and finally informants who scored 21-25 points were given point 5 (this comprised 0 informants).

Overall score	1-5 point continuum	Attitude category	Number of informants
0-5	1	Very negative	22
6-10	2	Negative	10
11-15	3	Neutral	19
16-20	4	positive	9
21- 25	5	Very positive	0

Table (2): Informants' attitudes scores

6.5 Data Analysis

After completing the interviews, the researcher started the analysis by listening to the audio file of each informant separately and counting the frequencies of each variants on the basis of auditory judgment. After that the data were subjected to acoustic study using the latest version of PRAAT open-source freeware phonetic analysis software (Boersma and Weenink 2017). Then the extracted data were set to statistical analysis by using a set of tests to measure the correlation between the dependent and independent variables with regards to individual informants and as groups as well. All the statistical work was achieved by using IBM SPSS statistics 26 software. Bivariate test (Pearson Correlation Coefficient) was used to measure the relationship between one dependent and one independent variable individually and multivariate tests (ANOVA and T-test) were implemented to check the difference between the use of the variables as groups.

7. Results and Discussion

7.1 Distribution Across Age Groups

This section presents the results of the variation in the use of the three phonological processes under investigation in relation to age. Figure (3) shows the overall distribution of the two dependent variants in terms of informants' age groups.
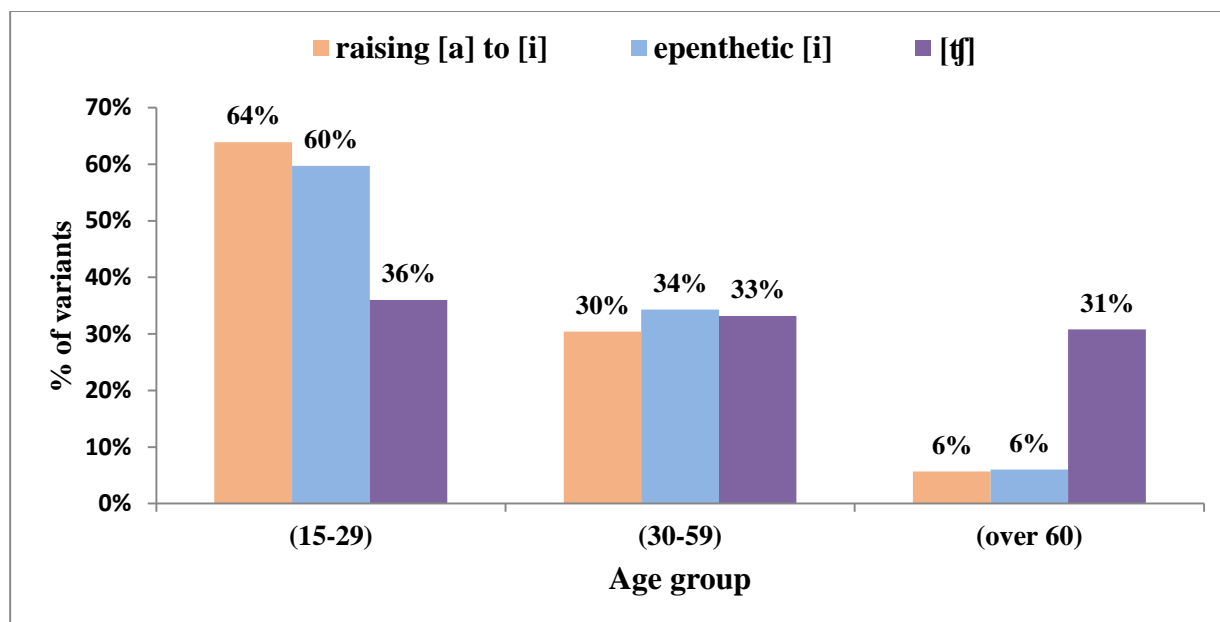
Figure (3): Overall age-related distribution of variants

Figure (3) displays an obvious pattern of variation for all the three variables in relation with age. From the figure, it can be clearly noticed the considerable difference in the rates of informants' use of the three variants in all age groups. As the figure shows, it can be clearly observed that there is a consistent, to some extent, increase in the use of *gilit* forms among younger informants concerning the variants [ʧ], epenthetic [i] and raising [a] to [i] in accordance with age. Table (3) below presents the correlation coefficients (r) and the P value of each of the three variants.

Variants	Correlation coefficient (r)	Sig. (P value)
[ʧ]	-0.694**	0.000 < 0.01
Raising [a] to [i]	-0.964**	0.000 < 0.01
Epenthetic [i]	-0.933**	0.000 < 0.01

Table (3): correlation of variants with informants' age

From the previous table, it seems that there is an association between informants' use of each variable in accordance with their age since the differences proved to be highly statistically significant at a significance level of (P=0.000). Hence, the differences concerning each variant will be discussed separately.

7.1.1 Affrication of Kaf

As shown previously in Figure (3), the analysis of the relationship between informants' use of the variant /tʃ/ and their age shows that there is a low rate of variation ranging from 36% in the younger age group to 33% in the middle-aged group and then goes down to 31% in the older age group. The negligible and approximate differentiation between rates in using this variant among the three age groups indicates that this variant is not a new acquired feature from the *gilit* dialect but is an already existing one in the Ani dialect, which approves with Khan's observation that the *qəltu* dialect in Anah exhibits both /k/ and /tʃ/ as reflexes of [k]. (Blanc,1964:27 ؛ Jastrow,1978:42-43 as cited in Khan, 1997:55). However, Pearson Correlation test result reveals that differences among age groups are statistically significant (P= 0.000) at the 0.01 level. The results also point out that the relationship between informants' use of /tʃ/ and their age is a negative strong one (r = - 0.694) which means that the younger the informants, the more frequent they use of this variant.

In order to examine these differences, ANOVA test has been carried out to present the differences in (k) affrication among the three age groups as shown in Table (4) below. Results of this test show that there are statistically significant differences between the averages of participants' use of the variant /tʃ/ in relation to age group, since (F= 31.363) with a significance value of (P= 0.000), which is considered to be statistically significant at the significance level (0.05).

Age group	Percentage of /tʃ /	Percentage of /k/	Subtotal
Over 60	73% (398tokens)	27% (150 tokens)	548
30 – 59	79% (428 tokens)	21% (115 tokens)	543
15 – 29	87% (465 tokens)	13% (67 tokens)	532
ANOVA: F= 31.363 ; P= 0.000 < 0.05			Total= 1623

Table (4): Distribution of (k) reflexes according to age group

Furthermore, Multiple Comparison (Tukey HSD) test result, presented in Table (5) below, shows that there are statistically significant differences in the use of the variant /k/ among the three groups in favor of the younger age group (15-29) with a mean difference of (1.850) and (3.350) in contrast to the middle-aged group (30-59) and the older group (over 60) respectively at a significant level of 0.05. The test also shows

that there is a significant difference between the middle- aged group and the older aged group in favor of the middle-aged group with a mean difference of (1.500).

Age group	Mean difference	Sig.	Statistical difference
(15 − 29) vs. (30 − 59)	1.850	0.000 < 0.05	significant
(15 − 29) vs. (over 60)	3.350	0.000 < 0.05	significant
(30 − 59) vs. (over 60)	1.500	0.02 < 0.05	significant

Table (5) : Differences in the use of / ʧ / among age groups

As a result of these analyses, it appears that the progressive adoption of this variant is most apparent among younger age speakers. Also, the ascending gradation in the rates of affricating /k/ among the three age groups, as shown in Fig. (4), indicates a case of dialect leveling.
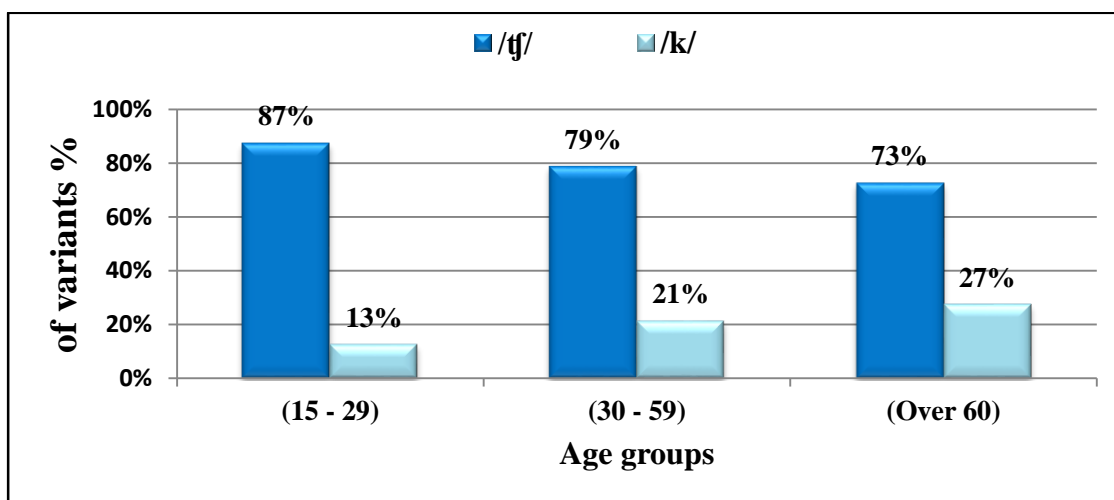

Figure (4) : Age-related distribution of /k/ reflexes

Consequently, it can be concluded that age has an impact on informants' increasing use of this variable even though it is considered negligible in comparison with its considerable impact on the previous variable, [q] velarisation. This finding goes in line with a recent study which indicated that males and females in the older age group affricated (k) to /ts/ and /dz/ more frequently than younger age speakers. (Al-Essa,2008 as cited in Mohammed, 2018: 156). However it contrasts with the most recent study

conducted by Mohammed (2018), who asserted that the age factor does not have a significant effect on informants' affrication of /k/.

7.1.2 Vowel Raising

Analysis of the correlation between raising of [a] to [i] and age, as presented previously in this chapter in Fig. (3), shows a considerable difference in the rates of informants' use of this variants among the three age groups. The analysis results reveal that younger informants scored the highest rate among the three groups with a rate of 64% which then drops down to 30% in the middle-aged group then further descends to 6% in the older age group. These obvious variations in the rates of informants' use of this variant in terms of their age alongside with results of Pearson Correlation Coefficient show that there are statistically significant differences (P= 0.000) at the 0.01 level among the three groups. The results also set forth that the relation between age and raising of [a] to [i] is a strong negative one (r = - 0.964). This means that the younger the informants the more frequent they seem to raise [a] to [i].

So as to check these differences, ANOVA test has been carried out. Table (6) below presents percentages of raising the vowel [a] to [i] among the three groups. Results of this test show that there are statistically significant differences between the averages of participants' raising [a] to [i] in accordance with their age. Although the variation in the rate (43 %) between the older and middle-aged speakers in raising [a] to [i] was less than that (32 %) between the younger and middle-aged speakers, it was statistically significant since the significance value was less than the 0.05 level (P= 0.000 < 0.05).

Age group	Raising [a] to [i]	No raising	Subtotal
Over 60	9% (31tokens)	91% (329 tokens)	360
30 – 59	41% (166 tokens)	59% (239 tokens)	405
15 – 29	84% (349 tokens)	16% (68tokens)	417
ANOVA: F= 255.537 ; P= 0.000 < 0.05			Total= 1182

Table (6) : Distribution of vowel raising across age groups

In addition to these results, Multiple Comparison (Tukey HSD) test result, presented in Table (7) below, shows that there are statistically significant differences in the use of raising the vowel [a] to [i] among the three groups in favor of the younger age group (15-29) with a mean difference of (9.150) and (15.900) in contrast to the middle-aged group (30-59) and the older group (over 60) respectively at a significant level of 0.05. The test also shows that there is a significant difference between the middle- aged group and the older aged group in favor of the middle-aged group with a mean difference of (6.750).

Age group	Mean difference	Sig.	Statistical difference
$(15 - 29)$ vs. $(30 - 59)$	9.150	$0.000 < 0.05$	significant
$(15 - 29)$ vs. (over 60)	15.900	$0.000 < 0.05$	significant
$(30 - 59)$ vs. (over 60)	6.750	$0.000 < 0.05$	significant

Table (7) : Differences in vowel raising among age groups

According to the progressive rates in the use of vowel raising among the three age groups, presented in Fig. (4) below, it can be concluded that age has a significant impact on the increasing adoption of this feature from the *gilit* dialect which again asserts that the Ani dialect is being levelled.
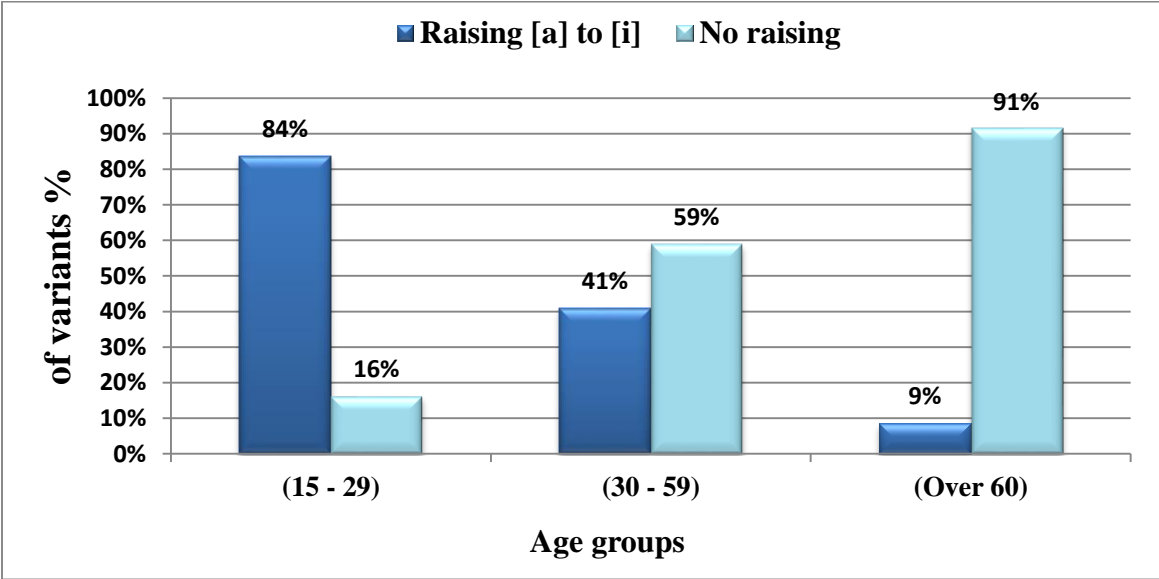

Figure (4): Age-related distribution of /a/ reflexes

14

7.1.3 Vowel Epenthesis

Result of the correlation between epenthetic /i/ in onset consonant cluster and age, presented at the beginning of this chapter in Fig. (4.1), shows a huge difference in the rates of informants' use of this variants among the three age groups. As the figure shows, older age informants scored the lowest rate among the three groups with a rate of only 6% which then raises to 34% in the middle-aged group then further jumps to 60% in the younger age group. These obvious variations in the rates of informants' use of this variant in terms of their age alongside with results of Pearson Correlation Coefficient show that the differences among the three age groups are statistically significant since (P= 0.000) at the 0.01 level. The results also prove that the relation between informants' age and their use of epenthetic /i/ is a strong but negative one (r= -0.933) which denotes that informants' acquisition of this variant and their age gradate in opposite directions, i.e. the younger the informants the more frequent they get to use it.

In order to test the differences observed in Pearson Correlation Coefficient test, ANOVA test has been carried out. Table (8) below presents percentages of using epenthetic /i/ among the three groups. Result of this test reveals that there are statistically significant differences between the averages of informants' usage of epenthetic /i/ in accordance with their age. The rate of epenthetic [i] in word initial consonant clusters are higher than the non-epenthetic ones in terms of the younger and middle-aged groups while it was lower than the non-epenthetic forms in the older age group. The differences proved to be statistically significant as (P= 0.000 < 0.05) at the 0.05 level with a higher rate of variation (63 %) between older and middle-aged groups than that (14 %) between the younger and middle-aged ones.

Age group	Epenthetic [i] CiC	No epenthesis	Subtotal
Over 60	11% (23 tokens)	89% (180 tokens)	203
30 – 59	74% (131 tokens)	26% (46 tokens)	177
15 – 29	88% (228 tokens)	12% (32tokens)	260
ANOVA: F= 317.832 ; P= 0.000 < 0.05			Total= 640

Table (8) : Distribution of vowel epenthesis across to age group

Post Hoc, Multiple Comparison (Tukey HSD) test, result as presented in Table (9) below shows that there are statistically significant differences in using epenthetic [i] among the three groups in favor of the younger age group (15-29) with a mean difference of (4.850) and (10.250) in contrast to the middle-aged group (30-59) and the older group (over 60) respectively at a significant level of 0.05. The test also shows that there is a significant difference between the middle- aged group and the older aged group in favor of the middle-aged group with a mean difference of (5.400).

Age group	Mean difference	Sig.	Statistical difference
(15 – 29) vs. (30 – 59)	4.850	$0.000 < 0.05$	significant
(15 – 29) vs. (over 60)	10.250	$0.000 < 0.05$	significant
(30 – 59) vs. (over 60)	5.400	$0.000 < 0.05$	significant

Table (9) : Differences in epenthetic [i] among age groups

Accordingly, it can be easily concluded that informants' age also highly affects their adoption of epenthetic [i] as younger informants seem to progressively use it more frequently in comparison with middle-aged and older groups as shown in Fig.(5).
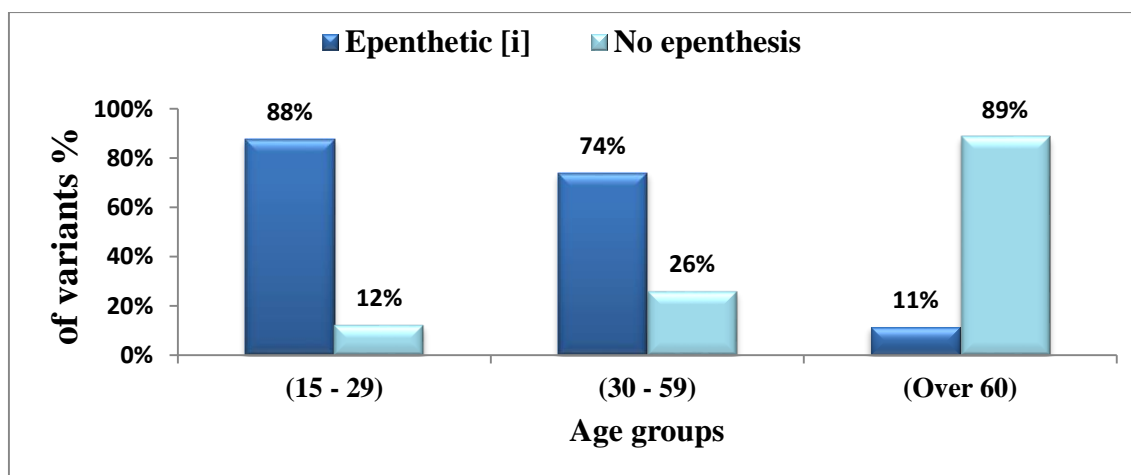

Figure (5): Age-related distribution of epenthetic [i]

In the collected data set, the insertion of the vowel [i] in initial consonant cluster appeared in three types of syllables: Type 1(CCVC), Type 2 (CCVCVC), and Type 3 (CCVCV) as shown in Table (10).

qəltu (AIA) : No epenthesis		gilit : Epenthesis		English gloss
Syllable Structure	**Example**	**Syllable Structure**	**Example**	
CCVC	[θxi:n]	CiCVC	[θixi:n]	Thick (masc.)
	[bʕi:r]		[biʕi:r]	Camel
CCVCVC	[ktabit]	CiCVCVC	[kitabit]	I wrote
	[bseti:n]		[bisa:ti:n]	Groves
CCVCV	[sba:ħa]	CiCVCV	[siba:ħa]	Swimming
	[fti:la]		[fiti:la]	Wick

Table (10) : Epenthetic [i] according to syllable type

The insertion of epenthetic [i] in monosyllabic words (Type 1), as Figure (6) shows, scored the highest rates among the three age groups beginning with 11% in the older age groups then increasing to 31% in the middle-aged group and further increasing to 53% in the younger age groups. While vowel epenthesis Type 2 started with 9 % in the older age group, which increased to 24% in the middle-aged group and then to 32% in the younger age group, the insertion of epenthetic [i] in Type 3 scored the lowest rates among the types in the three age groups as the rate stared with only 5% in the older age group, then increased to 21% in the middle-aged group and finally increased to 30% in the younger age group.
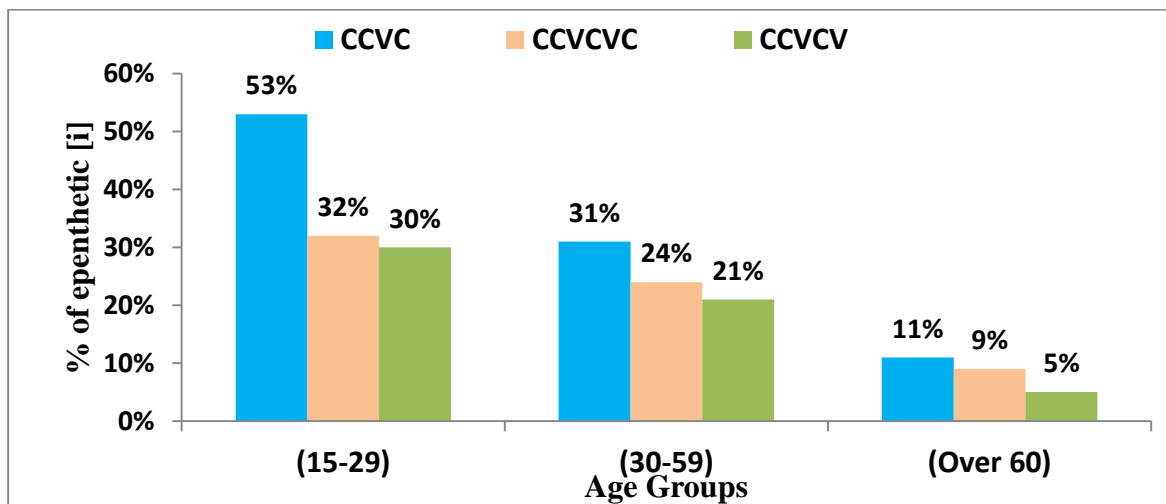

Figure (6): Age-related distribution of epenthetic [i] according to syllable type

7.2 Distribution According to Gender

This section presents the correlation between the two variants and gender starting by discussing the use of each variants in relation to gender individually then as groups. Figure (7) shows the overall distribution of informants' use of the three dependent variants in terms of their gender.
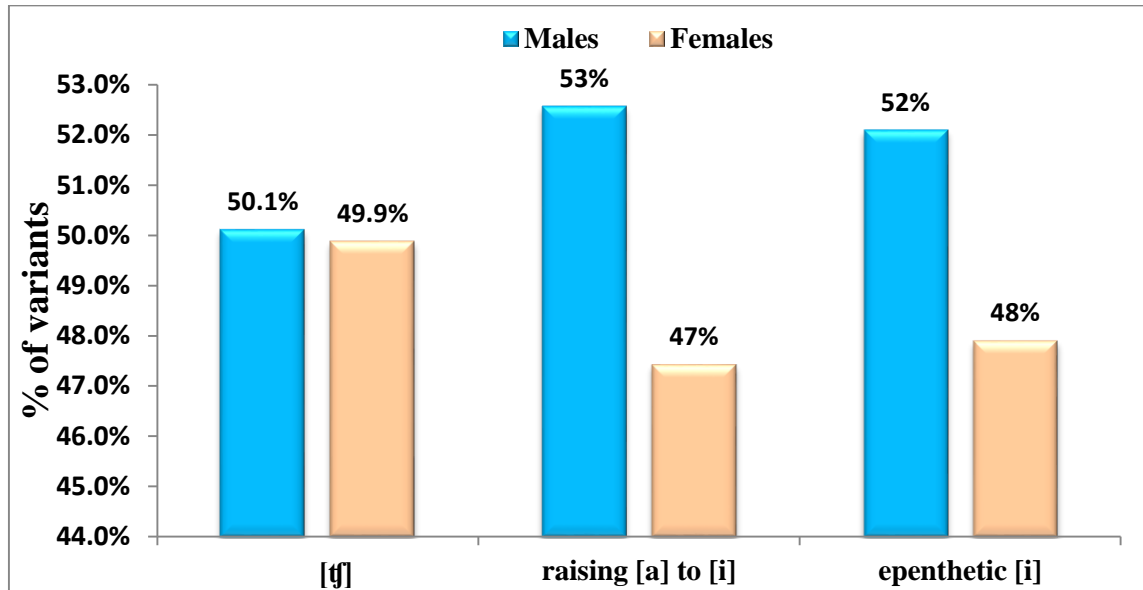

Figure (7): Overall gender-related distribution of variants

Figure (7) displays the overall pattern of variation for all three variables according to gender. From the figure, it can be clearly noticed that male informants used all the variants in higher rates than females did. This observation agrees with that presented by Mohammed (2018) but contrasts with the hypothesis that women acquire the new prestigious dialect feature more than men (Jassem, 1987 as cited in Mohammed, 2018:164). Table (11) below presents the correlation coefficients (r) and the P value of each of the three variants in terms of gender.

Variants	Correlation coefficient (r)	Sig. (P value)
[ʧ]	- 0.026	0.841 > 0.01
Raising [a] to [i]	- 0.068	0.606 > 0.01
Epenthetic [i]	- 0.061	0.643 > 0.01

Table (11): Correlation of variants with gender

Generally, as shown in Table (11), it seems that there is no association between informants' use of each variable and their gender since the differences proved to be insignificant at a significance level of (P=0.000). Hence, these differences will be discussed separately for each variable.

7.2.1 Affrication of kaf

Analysis of the individual relationship between the informants' use of /ʧ/ and their gender by using Pearson Correlation Coefficient test shows that there are no significant statistical differences between males and females in the use of this variant as (P= 0.841 > 0.05) at the 0.05 level and (r = - 0.026) which shows that it is a negative weak relation.

The data are further examined to show if there are differences between males and females as groups in /k/affrication. To do so, an independent T-test was implemented. Results of this test are presented in Table (12).

Gender	Mean	T value	P value (sig.)	Statistical significance
Males	21.57	0.201	0.841 > 0.05	insignificant
Females	21.47			

Table (12) : T-test results of informants' use of /ʧ/ in terms of gender

Data presented in Table (12) show that the mean of male informants' use of the variant /ʧ/ scored (21.57) which is slightly higher than that of female ones which was (21.47) with a t-value of (t= 0.201) and a significance value of (P= 0.841) which is greater than the significance level (0.05). It can be vividly concluded that there are no statistical significant differences between males and females in /k/ affrication in terms of their gender.

Gender	[ʧ]	[k]	Total
Males	79% (647tokens)	21% (172 tokens)	819
Females	80% (644tokens)	20% (160tokens)	804

Table (13) : Percentage of /k/ affrication according to gender

Results presented in Table (4.17) show that both males and females seem to prefer the gilit dialect by adopting the variant /ʧ/ in higher rates than /k/ as males informants used it 79% while females used it 80%. In addition, both males and females scored higher rates in the use of the variant /ʧ/ than those of the variant /g/. These findings again show that gender does not affect informants' use of this variant, which once again contradict with findings of previous works on IA presented by Abdul-Hassan (1988: 190) and Mohammed (2018:169) who both revealed that gender has an impact on the affrication of (k) as they found out that the differences were statistically difference in the /k/ affrication in relation with informants' gender.

7.2.2 Vowel Raising

Analysis of the individual relationship between the informants' raising the vowel [a] to [i] and their gender by using Pearson Correlation Coefficient test shows that there are no individual significant statistical differences between males and females in the use of this variant as (P= 0.606 > 0.05) at the 0.05 level and (r = - 0.068) which shows that it is a negative weak relation.

The data are further analyzed to show whether there are significant differences between males and females as groups in using this variant. To do so, an independent T-test was implemented. Results of this test are presented in Table (14).

Gender	Mean	T value	P value (sig.)	Statistical significance
Males	9.57	0.519	0.606 > 0.05	insignificant
Females	8.63			

Table (14) : T-test results of informants' vowel raising in terms of gender

Data presented in Table (14) show that the mean of male informants' raising of the vowel [a] to [i] is (9.57) which is higher than that of female ones which is (8.63) with a t-value of (t= 0.519) and a significance value of (P= 0.606) which is higher than the significance level (0.05). These results indicate that there are no statistically significant differences between males and females in using this variant in relation with their gender.

Gender	Raising	No raising	Total
Males	48% (287tokens)	52% (315 tokens)	602
Females	45% (259 tokens)	55% (321 tokens)	580

Table (15) : Percentage of vowel raising according to gender

Results presented in Table (4.19) show that males raised the vowel [a] to [i] 3% more than women did with a rate of 48% and 45% for men and women respectively. However, in both cases they scored higher rates in using the local AIA form (not raising the vowel [a] to [i]) with a rate of 52% for men and 55% for women. These findings again reveal that gender does not affect informants' adoption of this variant.

7.2.3 Vowel Epenthesis

Analysis of the individual correlation between informants' use of epenthetic [i] in initial consonant cluster and their gender by utilizing Pearson Correlation Coefficient test shows that there are no individual significant statistical differences between males and females in the use of this variant as (P= 0.643 > 0.05) at the 0.05 level and (r = -0.068) which means that it is a negative weak relation.

The data are further analyzed to show whether there are significant differences between males and females as groups in using this variant. Hence, an independent T-test was carried out. Results of this test are presented in Table (16)

Gender	Mean	T value	P value (sig.)	Statistical significance
Males	6.63	0.466	0.643 > 0.05	insignificant
Females	6.10			

Table (16): T-test results of informants' use of epenthetic [i] in terms of gender

Data presented in Table (16) show that the mean of male informants' in using epenthetic [i] is (6.63) which is a bit higher than that of female ones which is (6.10) with a t-value of (t= 0.466) and a significance value of (P= 0.643) which is higher than the significance level (0.05). These results indicate that there are no statistical significant differences between males and females in using this variant in relation with their gender. Therefore, it can be concluded that gender does not affect informants' adoption of this gilit variant.

Gender	Epenthesis	No epenthesis	Total
Males	52% (199tokens)	48% (183tokens)	382
Females	66% (259 tokens)	34% (131 tokens)	390

Table (17): Percentage of epenthetic [i] according to gender

In contrast to the rates of usage of the previous variants, results presented in Table (17) show that males and females used the gilit forms with epenthetic [i] more than the non-epenthetic local forms as males used it 52% while women 66%.

Notwithstanding the insignificant difference between males and females in using epenthetic [i], analysis of data in terms of syllable structure, as shown in Figure (8) below, reveals a kind of variation between males and females since males informants scored higher rates in using the epenthetic [i] in initial consonant cluster in the three syllable types (§ 6.2.2) more than women did. As the figure shows, males informants inserted epenthetic [i] 55% , 24% and 38% in syllable Type1(CCVC), Type2 (CCVCVC) and Type3 (CCVCV) respectively while females use it 53%, 21% and 33% in syllable Type1, Type2 and Type3 respectively. In addition, the rate in terms of syllable structure Type1 reflects to some extent the age-related pattern discussed previously, where informants in all groups used it in this syllable type the most. In terms of syllables Type2 and Type3, the rates of using epenthetic [i] contrast with those appeared in the age-related pattern where using epenthetic [i] in syllable Type3 scored the least rate while in the gender-related pattern using epenthetic [i] in syllable Type2 is least used one.
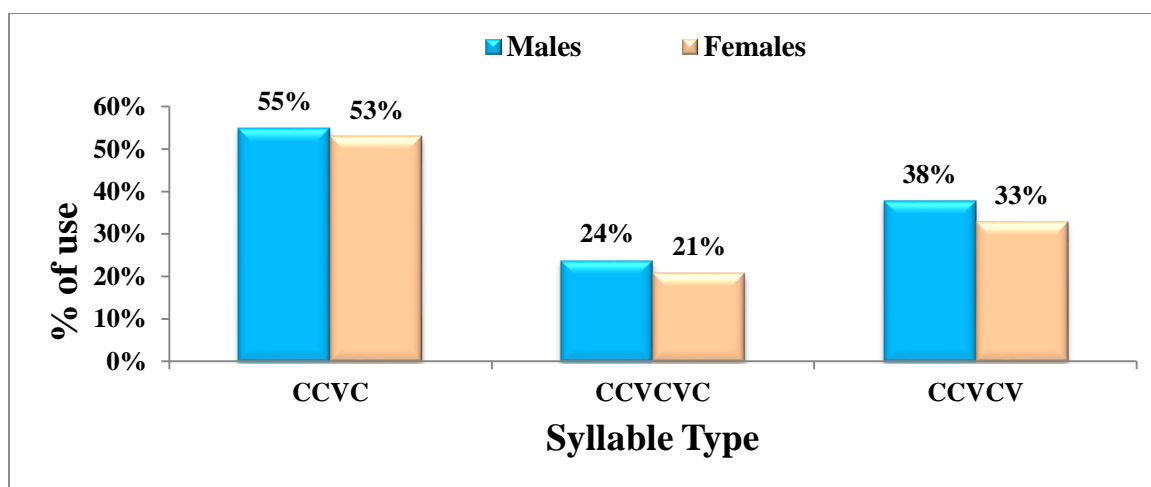

Figure (8): Gender-related use of epenthetic [i] according to syllable type

7.3 Distribution According to Speakers' Attitude
7.3.1 Distribution Across Informants' Individual Attitude

This section presents informants' individual linguistic differences in the use of the three dependent variables in accordance with their individual attitude scores. In order to do so, Pearson Correlation Coefficient test is implemented with each of the three variables.

In terms of /k/ affrication, analysis shows that there is a strong correlation between informants' use of the variant /ʧ/ and their attitude as (r= 0.663** ; P= 0.000 < 0.01). This means that informants' attitude affect their use of /ʧ/, i.e. the more their attitude score the more frequent they get to adopt this variant. This strong positive relation between these two variables is shown in figure (9) as the markers of males and females are distributed equally and very tightly around the trend line.
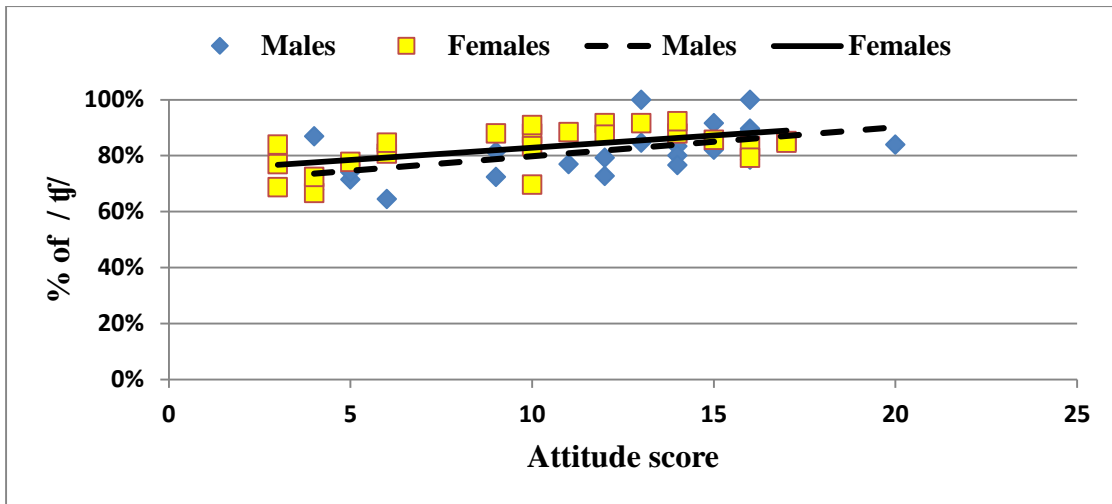

Figure (9): Informants' individual use of /ʧ/ according to attitude

According to the use of epenthetic [i], analysis of individual correlation between informants' use of epenthetic [i] and their attitude scores reveals that there is a very strong positive correlation between these two variables since (r= 0.880**; P= 0.000 < 0.01). These results again proves that informants' attitude affect their progressive usage of epenthetic [i] as shown in figure (10) below.
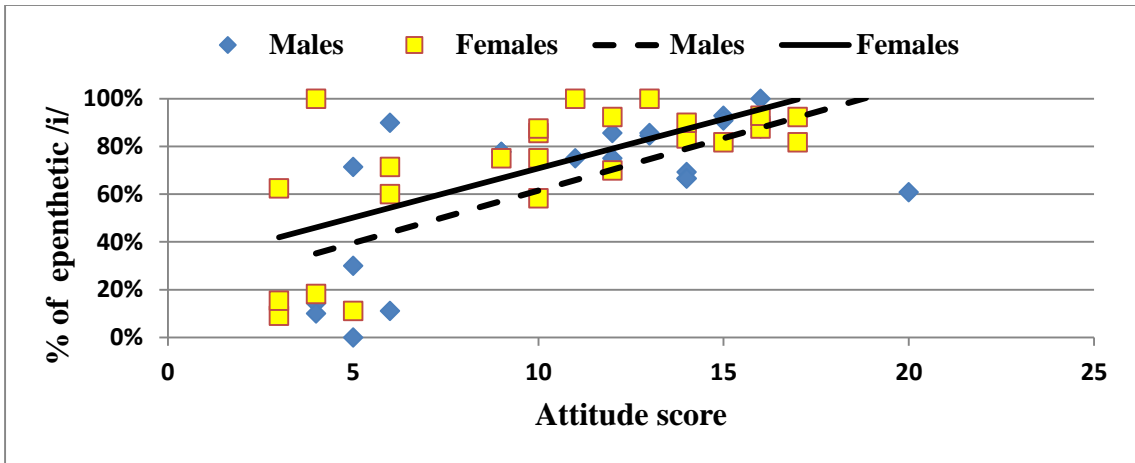
Figure (10): Informants' individual use of epenthetic /i/ according to attitude

Concerning the raising of [a] to [i], analysis of individual correlation between informants' individual use of it and their attitude scores reveals that there is a high strong positive correlation between these two variables since (r = 0.937** ; P= 0.000 < 0.01). These results again reveal that informants' attitude impacts their progressive usage of this variant as shown in figure (11) below.
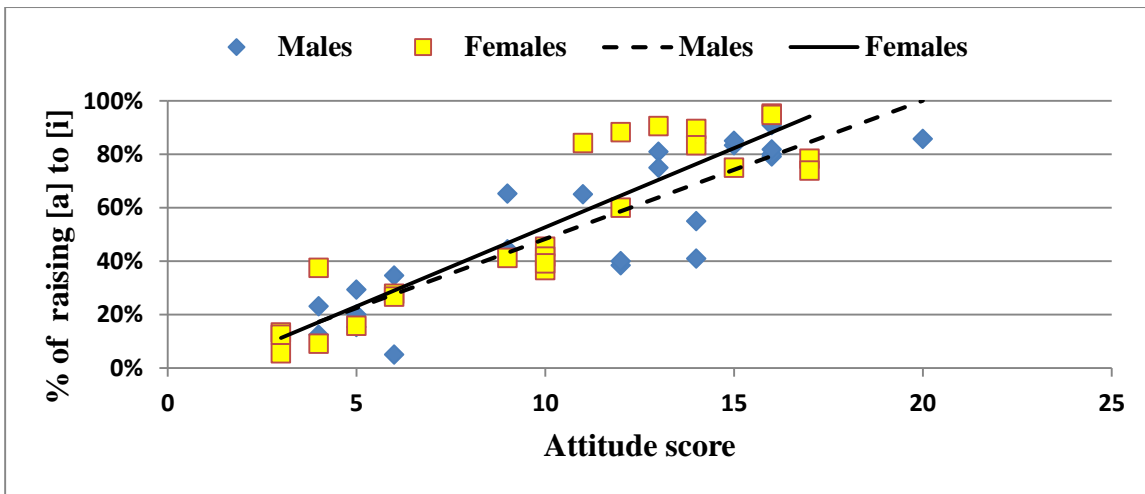

Figure (11): Informants' individual use of raising according to attitude

7.3.2 Distribution Across Attitude Groups

To examine variation in terms of attitudes on the group level and to present the general pattern of this variation, I start by presenting this difference in figure (12).
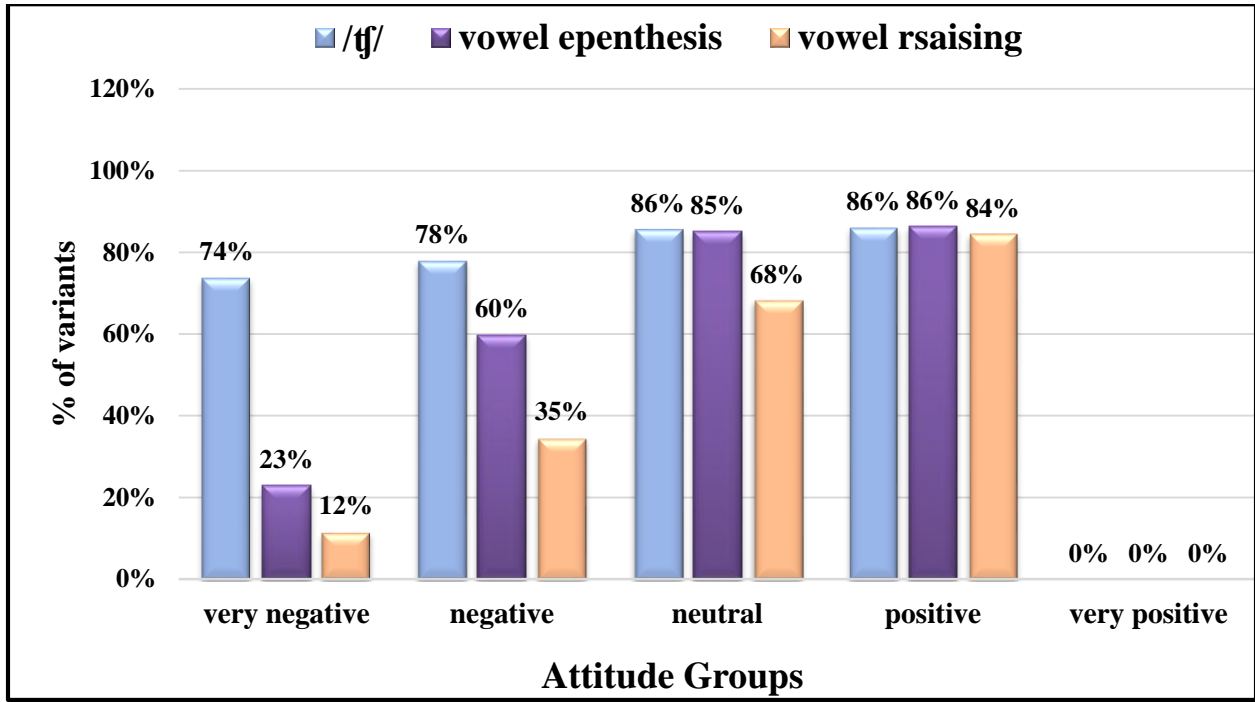

Figure (12): Percentages of variants according to speakers' attitudes

The first thing to note from Figure (12) is that the fifth attitude sub-group (very positive) scored 0% regarding all the variants, therefore it was excluded from analysis. The second thing that can be observed is that informants' used the gilit features increasingly as their attitude towards the gilit dialect becomes more and more positive. ANOVA test has been implemented to discover the variation in the use of each variant according to the attitude sub-group. Thereby, I start to discuss the variation in the use of each variant in terms of attitude at the group level.

In terms of the variant /ʧ/, result of ANOVA test shows that there are statistically significant differences between the averages of participants' use of this variant according to the four attitude sub-groups, where the (F=13.134) with a significance value of (P= 0.000), which is statistically significant at the significance level (0.05). Table (18) presents the distribution of the reflexes of (k) according to attitude groups along with results of ANOVA test.

Attitude sub groups	Percentage of /ʧ/	Percentage of /k/	Subtotal
Very negative	74% (504 tokens)	26% (178 tokens)	682
Negative	76% (629 tokens)	24% (194 tokens)	823
Neutral	83% (718 tokens)	17% (143 tokens)	861
Positive	87% (394 tokens)	13% (57 tokens)	451
ANOVA: F=13.134 ; P= 0.000 < 0.05			Total= 2817

Table (18) : Distribution of reflexes of (k) according to attitude group

In addition to ANOVA test results, Multiple Comparisons (Scheffe) test, as shown in Table (19) below, has been implemented to discover between which groups differences occur. As the table shows, there are statistically significant differences in the use of the variant /ʧ/ between the groups: very negative vs. neutral, very negative vs. positive, negative vs. neutral and negative vs. positive, while there was no significant difference between the very negative vs. negative and neutral vs. positive groups due to the approximation in their means: 20.23, 21 , 22.32 and 23.56 for the very negative, negative, neutral and positive group respectively.

Attitude sub-groups	Mean difference	Sig.	Statistical difference
Very negative vs. negative	-0.773	0.613 > 0.05	insignificant
Very negative vs. neutral	-2.089*	0.001 < 0.05	significant
Very negative vs. positive	-3.328*	0.000 < 0.05	significant
Negative vs. neutral	-1.316*	0.000 < 0.05	significant
Negative vs. positive	-2.556*	0.006 < 0.05	significant
Neutral vs. positive	-1.240	0.256 > 0.05	insignificant

Table (19) : Differences in the use of /ʃ/ among attitude groups

Hence, it can be clearly observed that although there is an instance of an increasing pattern regarding the use of this variant, it is considered very negligible in comparison with other variants as shown in Figure (13) below.
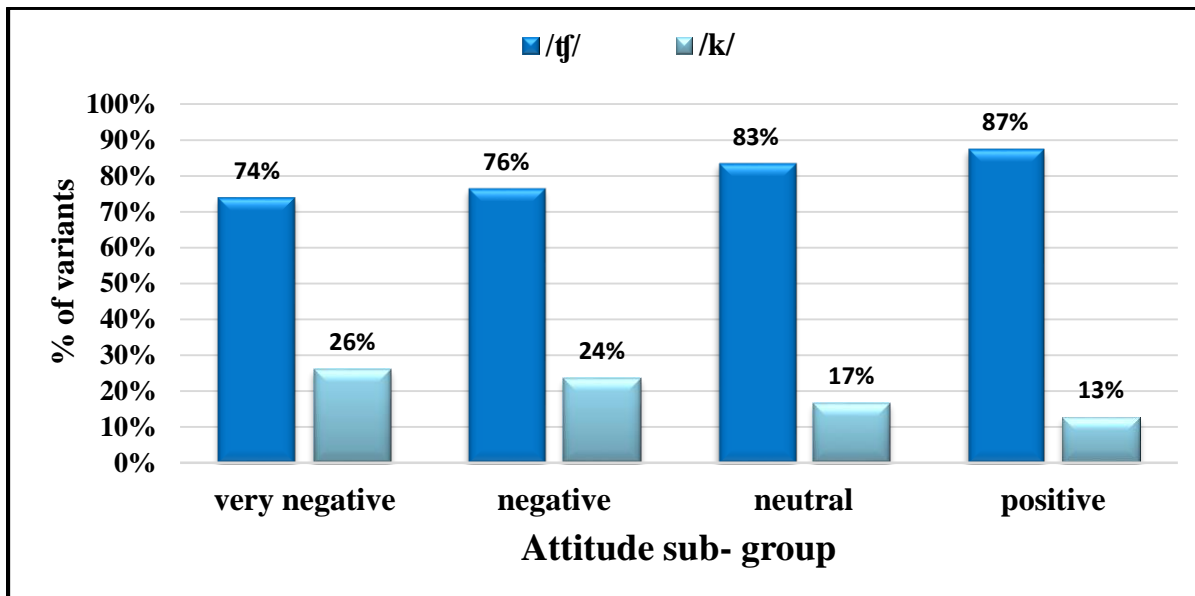

Figure (13): Attitude-related distribution of /k/ reflexes

Regarding the raising of the vowel [a] to [i], result of ANOVA test shows that there are statistically significant differences between the averages of participants' use of this variant according to the four attitude sub-groups, where the (F=103.462) with a significance value of (P= 0.000), which is statistically significant at the significance level (0.05). Table (20) presents the distribution of vowel raising according to attitude groups along with results of ANOVA test.

Attitude sub groups	Raising [a] to [i]	No raising	Subtotal
Very negative	12% (51 tokens)	88% (385 tokens)	436
Negative	30% (176 tokens)	70% (404 tokens)	580
Neutral	68% (464 tokens)	32% (223 tokens)	687
Positive	83% (301 tokens)	17% (60 tokens)	361
ANOVA: F=103.462; P= 0.000 < 0.05			Total= 2064

Table (20) : Distribution of vowel raising according to attitude group

In order to discover between which groups variation occurs, Multiple Comparisons (Scheffe) test, as shown in Table (21) below, has been implemented. As the table shows, there are statistically significant differences in the use of the variant /g/ among the four groups.

Attitude sub-groups	Mean difference	Sig.	Statistical difference
Very negative vs. negative	-5.291*	0.000 < 0.05	significant
Very negative vs. neutral	-12.196*	0.000 < 0.05	significant
Very negative vs. positive	-16.313*	0.000 < 0.05	significant
Negative vs. neutral	-6.905*	0.000 < 0.05	significant
Negative vs. positive	-11.022*	0.000 < 0.05	significant
Neutral vs. positive	-4.117*	0.007 < 0.05	significant

Table (21) : Differences in the use of vowel raising among attitude groups

Hence, it can be easily concluded that the raising of the vowel [a] to [i] is being increasingly used in accordance with the increase in informants' attitude scores. This can be shown in figure (14)
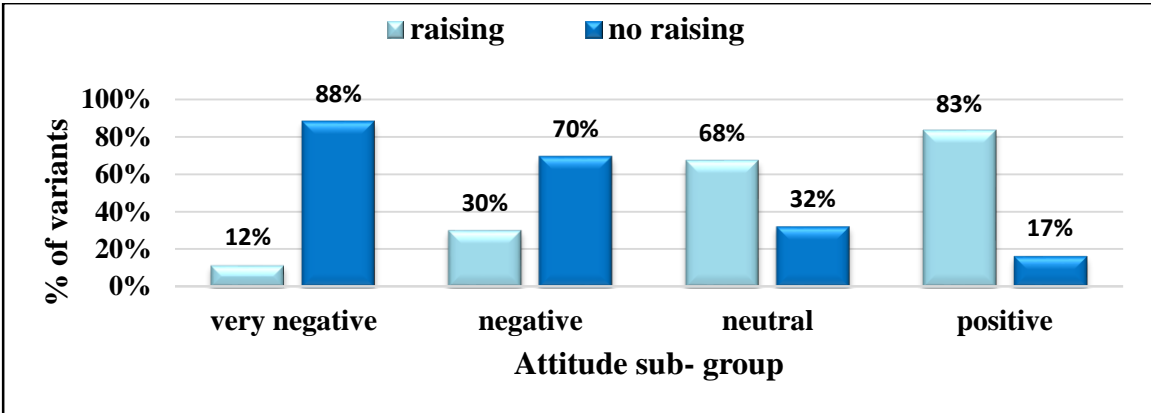

Figure (14): Attitude-related distribution of vowel raising

Concerning the epenthetic [i], result of ANOVA test shows that there are statistically significant differences between the averages of participants' use of this variant in terms of the four attitude sub-group, where the (F=68.224) with a significance value of (P= 0.000), which is statistically significant at the significance level (0.05). Table (22) presents the distribution of epenthetic [i] according to attitude groups along with results of ANOVA test.

Attitude sub groups	Epenthetic [i]	No epenthesis	Subtotal
Very negative	21% (51 tokens)	79% (188 tokens)	239
Negative	49% (134 tokens)	51% (137 tokens)	271
Neutral	83% (309 tokens)	17% (63 tokens)	372
Positive	88% (197 tokens)	12% (27 tokens)	224
ANOVA: F=68.224 ; P= 0.000 < 0.05			Total= 1106

Table (22) : Distribution of epenthetic [i] according to attitude group

To show between which groups difference takes place, Multiple Comparisons (Scheffe) test, as shown in Table (23) below, has been implemented. As the table shows, there are statistically significant differences in the use of epenthetic [i] between all duals but the neutral vs. positive group since the rates of these two groups are very close with a difference of only 1% as previously shown in figure (12).

Attitude sub-groups	Mean difference	Sig.	Statistical difference
Very negative vs. negative	-3.245*	0.002 < 0.05	significant
Very negative vs. neutral	-7.519*	0.000 < 0.05	significant
Very negative vs. positive	-9.934*	0.000 < 0.05	significant
Negative vs. neutral	-4.274*	0.000 < 0.05	significant

Negative vs. positive	-6.689*	0.000 < 0.05	significant
Neutral vs. positive	-2.415	0.054 > 0.05	insignificant

Table (23) : Differences in the use of epenthetic [i] among attitude groups

The increasing use of this variant in relation with the increasing score of informants' attitude can be shown in figure (15) which indicates the impact of this independent variable on informants' adoption of this gilit variant.
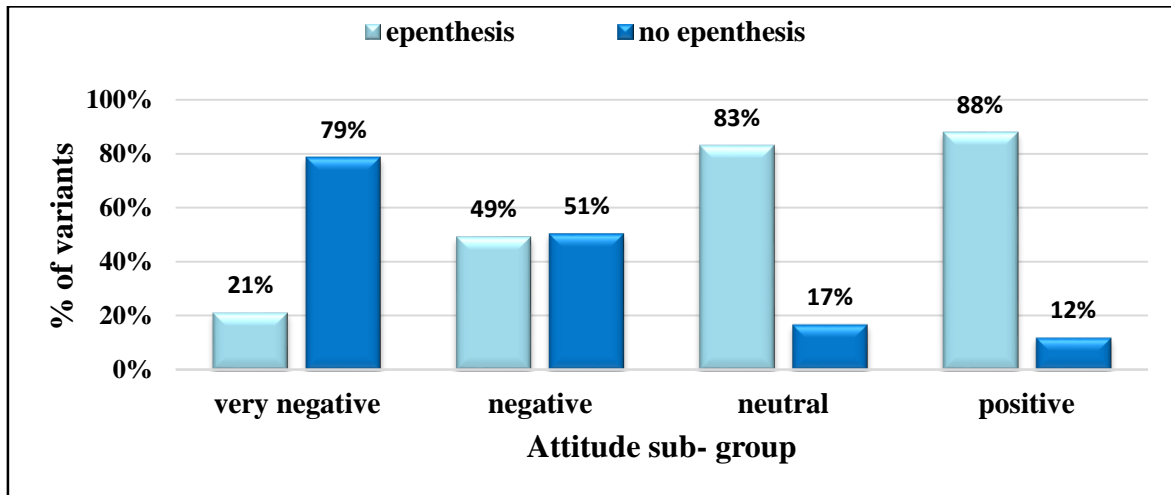

Figure (15): Attitude-related distribution of epenthetic [i]

8. Conclusion

After performing analysis, it can be concluded that according to the increasing adoption of gilit features by Ani speakers, levelling is in operation regarding the AIA dialect. Results also show that according to the rates of usage regarding the gilit variants by Ani speakers, levelling has not yet reached the completion level, yet it is in a very advanced phase. The analysis reveals that informants' age and attitude have a great impact on their adoption of the gilit dialect and consequently motivating levelling, while informants' gender show no impact on any of the variants, thus it has no impact on informants' adoption of the gilit dialect and consequently has no effect on levelling regarding the qeltu Ani dialect. Finally, findings also reveals that levelling is led by both males and females since the analysis of variants between them proved to be insignificant, i.e. there is no difference regarding their use of the variants and hence, both of them are considered as leaders of change (levelling).

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