Discourse Markers of Causality in Maghrebi and Egyptian Dialects: A Socio-Pragmatic Perspective

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Abstract: Discourse markers in this paper are examined from a relevance theoretic perspective which highlights their contribution to the process of inference and are considered elements that encode procedural meaning. A total of 24 participants from three Arabic speaking countries: Morocco, Algeria, and Egypt took part in the study. The data used for the study was elicited through two tasks: informal multi-party conversation and structured interviews. The results show how the meaning of causality as a pragmatic variable (Schneider & Barron 2008; Terkourafi 2011) is realized by means of different pragmatic variants. Using a Relevance Theoretic framework (Sperber & Wilson 1986, 1995; Blakemore, 1987), this paper argues that DMs signal pragmatic inferences that are performed by the addressee. The choice of variants is found to be shaped by broad social categories as well as socio-psychological choices made by the individual (Le Page & Tabouret-Keller 1985).

Keywords: pragmatic variable, Acts of Identity, Arabic discourse markers, socio-pragmatics

1 Introduction

The focus of the study is on discourse markers (DMs henceforth). Many terms have been used to refer to DMs. Some linguists have used terms such as connectives (Stukker & Sanders, 2012), discourse particles (Bayer et al. 2016), and discourse markers (Tanghe 2016; Marmorstein 2016), while others have used the term pragmatic markers. The choice of one term or another varies depending on whether the focus is on the formal or functional aspect of DMs. Hence, if they are looked at from a formal angle the term DPs is used, but if they are viewed from a functional angle the term DMs is used. Fischer (2006), for instance, used the term DPs if the expression involves only one word and used the term DMs if it involves one or more words. In this paper, I use the term DMs because the Arabic DMs I am analyzing can be both one word and more than one word and also because I am interested in the functional aspect of DMs rather than in their formal aspect.

Discourse Markers (DMs) have traditionally been downplayed because they are viewed as elements which do not contribute to the truth-conditional meaning of an utterance, or to the syntax and semantics of a sentence. Dealing with DMs in this way is likely to engender a “risk of creating a ragbag class of leftovers” (Lewis 2006: 44). The view I am taking in this paper is that the dominant discussion should not be about merely showing that DMs do not express propositional content, do not contribute to truth-conditional meaning, have little semantic value, or are outside syntax, but should be about their significance to research in linguistics as well. Contrary to linguists who downplayed the importance of DMs, Grice (1989) considered DMs such as therefore to carry a conventional implicature as they allow “a speaker to indicate
though not to say that a certain consequence holds” (Grice 1989: 121). Building on the Gricean view and working with a Relevance Theory (RT) framework (Sperber & Wilson 1986, 1995), Blakemore (1987) argued that DMs do not have a conceptual content but instead signal pragmatic inferences that are performed by the addressee. That is, DMs are better understood as triggers of inferential processes that serve to shape the cognitive environment of the listener.

DMs in this paper are examined from a RT perspective which highlights their contribution to the process of inference. They are considered elements that encode procedural meaning. RT provides a cognitive account for the understanding and interpretation of utterances. This model considers utterances to be “acts of ostensive communication” that serve to modify the communicators’ mutual cognitive environment. Utterances are considered inputs to inferential processes that constrain the hearer’s interpretation. In line with Terkourafi (2011), I argue that the notion of procedural meaning, offered by RT (Sperber & Wilson 1995, Blakemore 2002, Carston 2016) can be used as a theoretical tool to account for the use of pragmatic variants. In RT, procedural meaning is defined as “as a set of instructions guiding the inferential phase of utterance interpretation” (Terkourafi 2011: 343). Terkourafi’s use of the notion of procedural meaning to account for the social distribution of pragmatic variants enables the analysis of DMs from both a pragmatic and sociolinguistic perspective.

The study of DMs from a socio-pragmatic perspective is achieved through examining how the meaning of causality is expressed in the language use of 24 participants representing three varieties of Arabic: Moroccan, Algerian, and Egyptian. Based on the sociolinguistic landscape in the Arab world in general and in these countries in particular, it is hypothesized that these participants may use different DMs to express the meanings of causality due to the heterogeneous linguistic situation characterizing Morocco, Algeria, and Egypt.

Since the focus of this paper is on causality DMs, I start by presenting how Lagerwerf (1998) and Sanders (2005) define causality. Lagerwerf (1998:49) distinguished between semantic and epistemic interpretation of causality:

(1)

a. Theo was exhausted, because he had run to the university.

b. Theo was exhausted, because he was gasping for breath.

While (1a) expresses semantic causality relationship, (1b) expresses epistemic relationship. Lagerwerf explains that the difference between these two types of causality is that while (1a) is accepted as a real-world connection, (1b) is not. That is ‘gasing for breath’ and “being exhausted” do not establish a cause and effect connection in the real world, but is related to the speaker’s conclusion. In this way, the terms ‘semantic’ and ‘epistemic’ causality can be used to label the distinction Sanders made between a causal relationship, which is localized outside in the world or pertains to a speaker’s conclusion. The causality DMs in my paper are viewed as signaling epistemic connection as they are used by the speaker to guide the inferential process of the listener when the causality relationship is not already out there in the world.

As to causality DMs, Sanders (2005: 1) considers them to be means signaling a causal relationship, which can be either localized outside in the world (a) or pertaining to a speaker’s conclusion (b):

(2)

a. The sun was shining. The temperature rose quickly. (As a result)

b. The neighbors’ lights are out. They are not at home. (So)

Causality for Sanders does not include only ‘ordinary’ Cause-Consequence relations, but also the causality involved in explanation, in reasoning and argumentation. Causal relations can be expressed in the order antecedents, consequent – as in X so Y · or in reverse order · Y because X.” (2005: 1). Sanders used a cognitive perspective to account for causality connectives as they are used to signal to “readers how information they are currently processing can be integrated with the previous or preceding discourse segments.” (2005: 10).
On the assumption that the DMs that are the topic of this paper share the procedural meaning of causality, the goal of this paper is to raise questions and attempt to provide answers that may help us better understand pragmatic variation in the use of DMs among participants from three Arabic speaking countries. This paper explores the following research questions:

1. What are the pragmatic variants realizing the procedural meaning of causality in the context of participants representing Maghrebi and Egyptian dialects?
2. What are the (social) factors that determine the choice of a variant over another?

2 Background

2.1 From the linguistic variable to the pragmatic variable

Before dealing with pragmatic variation, it is important to briefly discuss the linguistic study of variation in general. Eckert (2009, 2012) divides the study of variation into three waves. The first wave studied variation in the light of the correlation between the linguistic variable and social categories such as economic status, ethnicity, gender, and age. This wave was launched by Labov’s (1966b) New York study and showed that the choice of linguistic forms is in correlation with, first and foremost, socioeconomic class. That is, the linguistic choices speakers make stand as an indication of their social status and that variation is the result of a social class hierarchy. The second wave examined local categories that constitute these broad social categories using ethnographic methods. The second wave is characterized by relying on discovering rather than predicting local forms. This wave was launched by Labov’s (1963) Martha’s Vineyard study. Studies in the second wave consider the vernacular to have a positive social value (Labov 1963, Milroy 1980, Rickford 1986, Schilling-Estes 1998) and show that people in the lower socioeconomic status are the ones who promote local forms. Eckert explained that the goal of the second wave studies was to “explore the nature of class in local communities, seeking the motivations for those in the lower socioeconomic regions to lead in the use of local variants” (2009, p. 11). In this way, studies in the second wave go beyond the more deterministic definition of social categories in studies of the first wave.

While the variation in the second wave was meant to reflect social meaning, third wave studies consider variation to construct rather than just reflect social meaning. Eckert argued that in the third wave the focus of the study of variation is on practice (Bourdieu 1977). Practice is meant to bring “meaning into the foreground” with focus on “what speakers are doing on the ground” (Eckert 2009:14). Eckert illustrated the third wave of variation in her (1989) paper with her analysis of the linguistic behavior of the Jocks, school oriented and middle class students, and Burnouts, locally oriented and lower class students. The study shows that the linguistic behavior is not only accounted for in terms of a correlation between the linguistic behavior and social categories, but in terms of practice as well.

The study of variation did not remain limited to phonological and syntactic variation, but has taken in pragmatic variation as well. Though the term pragmatic variation is a new one, studies of the actual phenomenon go back several years. An attempt to provide a sketch of the development of the study of pragmatic variation in particular and pragmatics in general was the focus of Schneider and Barron (2008). They claimed that prior to linguists’ interest in the variationist perspective, pragmatics was mainly concerned with universal features of verbal communication such as the universality of theoretical frameworks, i.e. the universality of Brown and Levinson (1978, 1987) politeness theory and also in the universality of speech acts. The universality claims were critiqued early on by the Cross-Cultural Speech Act Realization Project CCSARP (Blum-Kulka et al. 1989) which provided counter-examples from different cultures.

Schneider and Barron posited that the credit for a shift from a universalist perspective to a variationist perspective goes to Wierzbicka (1985)1. The latter, based on a comparison of pragmatic differences between

1 However, outside the field of pragmatics, the study of pragmatic variation started even earlier, with Lavandera among others in the 70’s. Lavandera (1978: 147) showed that variants may be “identical in reference or truth value, but opposed in their social and/or stylistic significance”.

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English and Polish, concluded that “features of English which have been claimed to be due to universal principles of politeness are shown to be language specific and culture specific.” (Wierzbicka 1985: 145). Though Schneider and Barron (2008) launched the study of pragmatic, their model lacks a clear definition of the pragmatic variable.

Terkourafi (2011) showed the difficulties lying in the application of Schneider and Barron’s (2008) model with respect to defining what constitutes a pragmatic variable and proposed new ways in which pragmatic variation may be defined and studied. Terkourafi focused on the extension of Labov’s variationist model to account for pragmatic variation. Labov (1966a, 1972) listed six properties of the linguistic variable:

\[(3) \]

a. ordered along a continuous dimension.
b. highly frequent.
c. immune to total suppression.
d. codable.
e. widely distributed throughout the population.
f. their position should be determined by an independent linguistic or extra linguistic variable. (cited in Terkourafi, 2011)

Reviewing the applications of the six requirements listed above, Terkourafi argued that only two requirements (3a and 3f) are in fact systematically applied in studies of variation. For Terkourafi, the reduction of the number of requirements on linguistics variation has made it possible to study variation beyond the phonetics/phonology perspective. Another issue that Terkourafi considers problematic is the requirement that linguistic variants should be based on semantic or truth-conditional equivalence. Labov’s proposal that linguistic variants must have the same meaning has been implemented in terms of semantic equivalence. Semantic equivalence for Labov meant truth-conditional equivalence. Truth-conditional equivalence is problematic as its scope is limited to the linguistic context and does not take into consideration the “real-world situation” (Terkourafi 2011: 351). Semantic equivalence was later extended to mean functional equivalence. Terkourafi argued for an understanding of functional equivalence that focuses on the different perlocutionary effects an expression may achieve in context. This resulted in the view that “linguistic variants are considered equivalent if they can be used interchangeably in order to achieve similar perlocutionary effects in discourse” (Terkourafi 2011: 355). Terkourafi’s understanding of functional equivalence in terms of perlocutionary effects signals a shift of focus from the representational use of language to the argumentative use of language (2011: 366).

Finally, Terkourafi (2011) also provided a revision of variational pragmatics (Schneider & Barron 2008), taking into consideration the theoretical implications of Labov’s model. The problem that Terkourafi identified with Schneider and Barron’s proposals is that they did not give a basis for defining the pragmatic variable. Terkourafi argued that pragmatic meanings cannot provide a basis for the pragmatic variable since they differ according to context. To rectify this, Terkourafi proposed procedural meaning as a tool for defining the pragmatic variable. Procedural meaning, developed within RT (Blakemore 1987, 2002, Sperber & Wilson 1995) and defined as a kind of encoded meaning, serves to account for pragmatic variation which encompasses either variation in terms of a single form expressing different pragmatic meanings or variation in terms of different forms expressing the same pragmatic meaning (Schneider & Barron 2008: 10). Terkourafi proposed that the variants of a pragmatic variable should have the same procedural meaning “defined as a set of instructions guiding the inferential phase of utterance interpretation” (2011: 343). She further posited that factors behind a choice of a pragmatic variant over another are socially conditioned. In this paper, I use the procedural meaning as a substitute for semantic equivalence to account for variation in the use of causality DMs.

To account for the social motivation behind variation in the use of DMs, the notion of Acts of Identity proposed by Le Page and Tabouret-Keller (1985) is used. This model considers the linguistic behavior to be

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2 The call for functional equivalence was introduced by many linguists starting with Lavandera in the 1970’s.
loaded with social meanings. Thus, if linguistic items are used by an individual it is “because they are felt to have social as well as semantic meaning in terms of the way in which each individual wishes to project his/her own universe and to invite others to share it”. That is, linguistic decisions are made depending on how an individual wants to project himself or herself, and on the desire and ability to identify with a given group (Le Page & Tabouret-Keller 1985). As argued by Le Page and Tabouret-Keller, language should be seen as “a concept we form as individuals, and to the extent to which, and the manner in which, we project our concepts on to those around us and establish networks of shared suppositions determines the nature of the groups in our society and their mode of operation” (1985: 247). This paper uses Le Page and Tabouret-Keller model to account for variation because of its inclusion of both the social as well as the psychological factors.

2.2 Discourse markers and Relevance Theory

Since my analysis of Arabic DMs expressing causality is seen from a relevance perspective, this section is going to give an idea about how DMs have been discussed under Relevance Theory (RT) framework by Blakemore (1987, 2002), Rouchota (1998), Andersen (1998), Ler (2006), and Schourup (2011). RT marks a departure from the Gricean model by considering the hearer’s interpretation of utterances to be based on a need for minimizing the cost of interpretation rather than a need to conform to the known maxims of conversation. This departure is also seen in a call to revise how propositions are looked at. Grice’s focus was on what is said versus what is implicated. In the following utterance, for instance, the DM therefore is part of what is implicated not of what is said:

(4) Bill is a philosopher, therefore he is brave.

Grice argued that “the semantic function of the word therefore is to enable a speaker to indicate, though not to say that a certain consequence holds” (1989: 21). By saying that therefore is not part of what is said, Grice meant that it does not affect the truth conditional content of (=the proposition) expressed by the utterance in (4).

The claim that DMs do not affect the truth conditions of an utterance implies that they have pragmatic rather than semantic meaning. For instance, in example (5):

(5) a. Sheila is rich but she is happy.
   b. Sheila is rich and she is happy. (Rieber 1997, cited in Blakemore 2002: 12)

The truth conditions of (5a) are the same as the truth conditions of (5b). This means that although but implies contrast, it does not have a word in deciding about the truth conditions of (5b).

Within RT, the focus shifted from a distinction between truth conditional and non-truth conditional meaning to a focus on how linguistic expressions contribute to the process of inference. Blakemore (1987) used English DMs to show that the distinction between truth conditional and non-truth conditional as the basis of the study of linguistic expressions should be abandoned. Instead of the truth-conditional and non-truth-conditional distinction, Blakemore called for a distinction between conceptual and procedural meaning, which she illustrated through an alternative analysis of Gricean conventional implicatures. She argued that linguistic terms, in general, encode either conceptual information or procedural information. The latter serves to constrain the inferential processing of utterances. Hence, the focus should be on the procedural information that they encode rather than on their contribution to truth conditions. Later, Blakemore (2002) tried to broaden the notion of procedural meaning to incorporate more expressions that encode constraints on relevance. She posited that arguing that some DMs encode concepts while others encode procedures makes it difficult to combine all the DMs in one class.
Building on Blakemore (1987) and based on DMs such as but, therefore, and after all, Rouchota (1998) also argued against coherence as a basis for defining DMs and instead argued for a distinction between conceptual and procedural meaning to better account for the use of DMs. While the DM because is provided as an example of an expression that encodes conceptual meaning, moreover exemplifies an expression that encodes procedural meaning. This is seen in these two examples:

(6)
1 a. Mary resigned. Her boss insulted her.
   b. Mary resigned because her boss insulted her. (1998: 33)
2 John started a small business; moreover his wife took a course on creative writing.
   (Rouchota 1998: 33)

Rouchota argued that because affects the truth conditions of utterance (1b), whereas moreover does not affect the truth conditions of utterance (2). That is, because encodes a concept while moreover encodes a procedure. She also argued that dividing DMs into two types depending on the kind of meaning they encode was problematic as it succeeded for some DMs but failed for others. Therefore, for instance, was considered to encode conceptual meaning but also to contribute to procedural meaning as it is used to trigger the inference that the content of utterance (6b) is a consequence of the content of utterance (6a). Rouchota concluded that some DMs can have both conceptual and procedural meaning.

Contrary to Rouchota, Andersen (1998) considered DMs to have a core procedural meaning. Andersen examined the use of like in a corpus of conversations between London teenagers. The author, focusing on like, used the term “pragmatic markers” as they are used to show pragmatic aspects of communication. Like performs many functions, among which suggesting an alternative or marking reported speech. Yet, the core meaning of like is to signal a loose use of language. Within RT, Andersen argues that like guides the reader to the inference of a loose interpretation of an utterance. Hence, like is viewed as a procedural marker.

Ler (2006) examined the Discourse Particles (DPs) lah and meh in Singaporean English. In line with RT, Ler argued that DPs have a procedural meaning and that even if they have various uses they share one description. DPs can be used to indicate functions such as turn-taking, stance, and propositional attitude. For Ler, DPs encode cognitive information that guide the hearer to understand an utterance based on inference and context. Lah, for instance, marks informal style and is used for different uses such as intimacy or persuasion. As to meh, it is used to question presupposition or express surprise. Meh encodes procedural meaning and is non-truth conditional as it can be deleted without altering the truth conditions of a sentence. The analysis provided by Ler in terms of arguing that DPs have both procedural and a social meaning aligns with the analysis of DMs provided in this paper. What might be missing from Ler’s paper is not engaging in a theoretical discussion that may account for the study of DMs from both a pragmatic and a sociolinguistic perspective.

The last study in this literature review is a paper by Schourup (2011). Schourup advocated a relevance approach where comprehension is relevance-based and where “the hearer’s goal in processing an utterance is to construct a hypothesis about the speaker’s meaning that satisfies the presumption of optimal relevance conveyed by the utterance” (2011: 2128). Based on the following example, Schourup justifies the utility of his view:

(8) Context: A speaker is describing a visiting day at her son’s school.
   “He was giving a spelling test. Now to me, if you are inviting parents, y’don’t give a spelling test.”

Now in example (8) contributes to relevance as it prompts the reader to have access to a new context and to signal a move from neutral description to an evaluative opinion. DMs, for Schourup, also reduce the effort required to process the utterance inferentially by facilitating the derivation of contextual effects. The relevance approach provided by Schourup makes sense as it does justice to the pragmatic meanings of DMs and does not consider them to be merely a type of glue that connects utterances.
3 The study

3.1 Participants

The Participants in the study are native speakers of Arabic who live in a town in the Midwest of the US. A total of 24 male participants from three Arabic speaking countries Morocco, Algeria, and Egypt took part in the study. The Moroccan and Algerian participants represent what is referred to as Maghrebi variety, while the Egyptian participants represent the Egyptian variety. Table (1) below provides a breakdown of the participants in the study by nationality, education, and age.

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Moroccan</th>
<th>Algerian</th>
<th>Egyptian</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Education</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of Participants</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Age of participants</td>
<td>25-34</td>
<td>26-45</td>
<td>31-58</td>
</tr>
</tbody>
</table>

In what follows, the Moroccan participants will be referred to as M, the Algerian participants will be referred to as A, while the Egyptian participants will be referred to as E. The participants who studied in the US are listed from 1 to 4, while those who did not study in the US are listed from 5 to 8.

3.2 Methodology

The data used for the study was elicited through two tasks: informal multi-party conversations and structured interviews. While participants in the informal multi-party conversation engaged in spontaneous conversations, in structured interviews participants were asked questions about their childhood, education, hobbies, and life experiences. In this task, the participants interacted with the investigator, a native speaker of Moroccan Arabic. The interactions included in the informal multi-party conversation are divided into two types: same nationality and mixed nationality. The reason for dividing this task into two types is that linguistic choices when talking to people from the same nationality may differ from talking to people from a different nationality because of intelligibility and relative prestige of the varieties involved.

For the informal multi-party conversations, a total of 8 mixed nationality interactions and 4 same nationality interactions were collected. The duration of each interaction was 30 minutes. In addition, 21 sessions of structured interviews were collected. The duration of each interaction in structured interviews was 20 minutes. Before taking part in these tasks, participants were asked to give consent and fill out a background questionnaire.

3.3 Causality DMs and procedural meaning

The results are discussed from a pragmatic perspective in light of procedural meaning (Sperber & Wilson 1995, Blakemore 2002, Terkourafi 2011) and from a sociolinguistic perspective in light of Le Page and Tabouret-Keller’s (1985) theoretical notion of Acts of Identity. The overall results of the participants from the three nationalities indicate the use of seven causality DMs: five endoglossic (Arabic-origin) and two exoglossic (foreign-origin). Liʔanna “because” is the most frequent DM followed by parce que “because”.

Table (2) below presents the overall results of causality DMs broken down by nationality:

3 The goal of this distinction is to track the effect of education on the choice of DMs.
Discourse Markers of Causality in Maghrebi and Egyptian Dialects

Table 2. The results of causality broken down by nationality

<table>
<thead>
<tr>
<th>Variants</th>
<th>Algerian</th>
<th></th>
<th>Egyptian</th>
<th></th>
<th></th>
<th>Moroccan</th>
<th></th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
</tr>
<tr>
<td>liʔanna</td>
<td>6</td>
<td>6.32%</td>
<td>43</td>
<td>75.44%</td>
<td>20</td>
<td>40.00%</td>
<td>96</td>
<td>41.92%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>liʔannu</td>
<td>35</td>
<td>36.84%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>35</td>
<td>15.28%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hit</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>22</td>
<td>44.00%</td>
<td>22</td>
<td>9.61%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>laħqaʃ</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>6</td>
<td>12.00%</td>
<td>6</td>
<td>2.62%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ʕaʃan</td>
<td>0</td>
<td>0.00%</td>
<td>13</td>
<td>22.81%</td>
<td>1</td>
<td>2.00%</td>
<td>14</td>
<td>6.11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>parce que</td>
<td>53</td>
<td>55.79%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>53</td>
<td>23.14%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>because</td>
<td>1</td>
<td>1.05%</td>
<td>1</td>
<td>1.76%</td>
<td>1</td>
<td>2.00%</td>
<td>3</td>
<td>1.31%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>100.00%</td>
<td>57</td>
<td>100.00%</td>
<td>50</td>
<td>100.00%</td>
<td>229</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The participants from the three nationalities used a shared endoglossic causality DM liʔanna which overranked the other variants. It is no surprise that liʔanna is a shared DM as the same form is used in Standard Arabic. In addition to liʔanna, the results show that each group has its own dialectal variants. The most frequent DM for the Algerian participants is the exoglossic DM parce que, followed by the dialectal DM liʔannu. The Egyptian participants favored the Standard endoglossic DM liʔanna, followed by ʕaʃan. As to the Moroccan participants, the dialectal DM hit outranked the Standard form liʔanna. The Moroccan participants also used another dialectal DM laħqaʃ.

For a clear understating of how DMs were used in the data, consider the following example of liʔanna used by an Egyptian participant, E2:

(9) Context: E2 is comparing the situation of Egypt before and after the Arab spring.
   1 hadˁritak gibt lklam Sˁ -Sˁaḥ
      “Sir, you brought.2ms the-speech the-right
   2 liʔanna, law huwa bilmaqajis l-ʔiqtisˁadija, jbʔa kan Husni MubaraK ʔafdˁal
      DM if he with-measure the-economic become was Husni Mubarak better
      “Because, if we are to talk in economic measures, then the period of Husni Mubarak was better.”

The causality DM liʔanna serves to help the hearer construe line (2) as a cause of line (1). Any given expression from the RT perspective that creates the most cognitive effects for the least cognitive effort is the most relevant (Sperber and Wilson, 1995: 158). In this sense, the causality DM yields the most cognitive effects when understood as an expression serving causality and it yields these effects for the least effort. This renders Liʔanna, in example 9, the most relevant expression the communicator could have used to convey the causality meaning. Hence, the DM liʔanna contributes to the procedural meaning as it helps in triggering the inference that the content of utterance (2) is in a causal relationship with the content of utterance (1).

Here is another example of the use of Liʔanna taken from a Moroccan participant, M3:

(10) Context: M3 talks about the dangers some high school teachers in minority neighborhoods may face.
   1 laʔsatida li kajqariw f-l-minority neighborhoods kajxaʃu lla rashum
      The-teachers that teach.3mp in-the-minority neighborhoods be.worried on head.them
      “Teachers who teach in minority neighborhoods are worried about their safety.”

Since the expression liʔanna is used in Standard Arabic, I will refer to it as a Standard form.
liʔanna, katlqa 90% djal talamid members f-l-gangs
DM present-find.2ms 90% of students members in-the-gangs
“Because, you may find 90% of the students members in gangs.”

As shown in example (9), in (10) the DM liʔanna contributes to relevance as it guides the hearer to the causal meaning which is contingent on the use of the causality DM. Consider the utterances in (11) which reproduce (10) without the DM liʔanna:

(11)
1 Teachers who teach in minority neighborhoods are worried about their safety.
2 You may find that 90% of the students are members in gangs.

The utterances in line 2 in example (10) and line 2 in (11) give rise to the same Basic level explicature:

(12)
Basic Level Explicature of Line 2 in (10) and line 2 in (11):
“90% of the students at schools in neighborhoods with minority populations are members in young people’s gangs.”

However, deleting the causality DM in line 2 in example (11) generates a different higher level explicature compared to (10).

(13)
(1) Higher level explicature of line 2 in (10):
“I am stating that the reason why teachers who teach in minority neighborhoods are worried about their safety is that 90% of the students at schools in neighborhoods with minority populations are members in young people’s gangs.”
(2) Higher level explicature of line 2 in (11):
“I am stating that 90% of the students at schools in neighborhoods with minority populations are members in young people’s gangs.”

As we can see there is no mention that what is described in line (2) is the reason for what is described in line (1) in example (11). By dropping the DM liʔanna, the utterances in example (11) do not mention the causality claim made in (10). This means that adding liʔanna contributes this information and makes a claim that can be true or false. It is important to note at this point that liʔanna does not contribute to the truth conditions of the utterance hosting it. This is because the basic level explicature of line 2 in both (10) and (11) does not change. What changes is the higher level explicature as just explained. Liʔanna should then be seen as an instance of “encoding constituents that enter into the representational mode of the utterance” (Carston 2002: 162). Thus, we can say that the causality DM liʔanna encodes conceptual meaning. In addition, liʔanna also encodes procedural meaning as it guides the listener to construe the causal relationship between the utterance hosting the causal DM and the utterance signaling the effect.

While liʔanna is a shared DM among the participants representing the three nationalities, each nationality has its own dialectal variant. The Algerian participants, for instance, used the DM liʔannu, a dialectal term derived from liʔanna. Consider an example of liʔannu taken from mixed nationality interactions:

(14) Context: A1 explains the situation in Algeria in the 90’s.
1 ħna f-tisʕinat kant ħalt ħarb, yaʕni
   we in-90’s was state war, DM
   “In the 90’s we were at a period of war, I mean.”
2 ka-jaxkduk ʔiʒbari biʔism l-xidma lwatanija
   Present-take-you with-name the-service the-national
   “They take you by force to serve the army.”
liʔannu, ma-jxaliwlək choice
DM neg-leave.you-neg choice
“Because, you are not given another choice.”

In example (14), the Algerian speaker used the DM liʔannu as a dialectal choice to express the procedural meaning of causality. A dialectal choice in this context is favored since all the participants represent the Maghrebi variety.

The Moroccan participants used two dialectal forms, hit and laḥqaʃ. Consider the use of hit by M5 in structured interviews:

(15) Context: M5 talking about the challenges he faced to join Parkland College.
1 l-matˁ lqit muʃkil mʕah bzaf
   the-mathematics find.2s problem with.it a lot
   “I faced many problems with Mathematics.”
2 hit l-muʃkil l-mustawa ʕali
   DM the-problem the-level high
   “Because the level is high.”

M5 used only dialectal DMs (hit and laḥqaʃ) to express causality. In order to test that the DM hit signals the procedural meaning of causality, I substitute it by liʔanna in example (16):

(16)
1 l-matˁ lqit muʃkil mʕah bzaf
   the-mathematics find.2s problem with.it a lot
   “I faced many problems with Mathematics.”
2 liʔanna, l-muʃkil l-mustawa ʕali
   DM the-problem the-level high
   “Because the level is high.”

The higher explicature of line 2 in both (14) and line 2 in (15) is the same. Both lines give rise to the following higher level explicature:

(17)
“I am stating as a reason why I faced many problems with Mathematics the fact that the level of Math classes is high.”

This stands as evidence that the DM hit expresses the procedural meaning of causality in the same way liʔanna does.

The other dialectal variant used for causality is ʕaʃan. This DM was used by the Egyptian participants. Here is an example of ʕaʃan:

(18) Context: E1 talking about the need for a translation department for civil engineering offices
1 bitlaʔi kuli mʔawil ʃuɣlitha Ɂinaha titargim min lɁinglizi lɁarabi
   find all contractor have.he department job.it that.it translate from the-English the-Arabic
   “You find each contractor has department who job to translate from English to Arabic.”
2 ʕaʃan muhandisin lmawʔik Ɂinahas Ɂarabi Ɂinaha titargim min lɁinglizi
   DM engineers locations deal.3mp with workers
   “Because engineers of the location deal with the workers.”

5 The DM ʕaʃan has two meanings: “because” and “in order to”. In this paper, only instances where ʕaʃan means “because” were included in the data. This also shows that liʔanna and ʕaʃan are not semantically identical.
In example (18), the speaker used the dialectal DM ʕaʃan to express the procedural meaning of causality. Though the interaction where example (18) occurred involves both Egyptian and Moroccan participants, E1 opted for the dialectal DM ʕaʃan not the shared one. Due to the hierarchical relationship between the varieties of the Maghreb and those of the Mashreq *Atiqa Hachimi 2013*, a dialectal form for the Egyptian participants may be chosen even with non-Egyptian participants.

In addition to endoglossic DMs, causality was also expressed by the exoglossic DM *parce que* “because” which was used only by the Algerian participants. Here is an example of *parce que* from mixed nationality interactions:

(19) Context: A3 is talking about his inability to speak and understand Berber.

1. *bsˁaħ ʔana ma nefhamha*  
   “In reality, I don’t understand.”

2. *Par contre mon père jəfhamha*  
   “On the contrary, my father understands it.”

3. *parce que l’origine taʕna qbajəl*  
   “Because our origin is Berber.”

In line 2, the speaker relates his father’s ability to understand Berber to having a Berber origin. The causality DM helps the listener conceive of line 2 as an effect and line 3 as a cause. Though this example happens in mixed nationality, this interaction included only Maghrebi participants.

So far, I have shown that causality in my data is expressed by both endoglossic and exoglossic DMs. Though the variants are not semantically identical, the common feature between these DMs is the procedural meaning of causality. Nationality seems to be an important factor shaping the choice of variants. In addition to the effect of nationality on the choice of variants, social factors such as type of interaction shape the participants’ linguistic choices as it is shown in the next section.

### 3.4 The effect of type of interaction and individual choices

For clarity, the effect of type of interaction on the choice of variants is going to be discussed for each nationality separately. A salient feature among Algerian participants in same nationality and structured interviews is the high frequency of the exoglossic causality DM, *parce que*. This feature is an indication that the use of French is a common feature in Algerian Arabic. Consider the following example which shows both the use of *parce que* and the use of French in general in Algerian Arabic:

(20) Context: A3 explains the difficulty a person from Saudi Arabia faced when he tried to understand Algerian Arabic.

1. *bdina nhadru avec une rapidité terrible*  
   “We started to talk with high speed.”

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6 The Maghreb varieties are represented here by Moroccan and Algerian Arabic, while the Mashreq variety is represented by Egyptian Arabic.
hadak Saʕudi qaʕd jʃuf qalina: “samhu li ʔaf mon luya katatkalmu? that Saudi stay look.1s told.us excuse me what from language talk.3mp
“That Saudi guy was looking and asked us: Excuse me, what language were you speaking?”

Parce que, hna luya taʃna tellement était rapide yqul wahed 40% kant Français DM we language of.us very was fast Say.3ms one 40% was French
“Because our language was so fast and one can say 40 % was in French.”
donc huwa tbaḥar so he sailed
“So, he was lost.”

In example (20), it is not only the use of the DM which shows that French is part of the Algerian identity (Benrabah 2007); this information is clearly and explicitly stated by A3 who mentions in line 4 that 40% of their speech was in French. Hence, the use of French by A3 should be considered as an Act of Identity. The exoglossic choice is also “the most relevant one compatible with the communicator’s abilities and preferences” (Sperber & Wilson 1995: 270). A3 uses parce que as an ostensive stimulus (which makes an intention manifest) because for him an exoglossic DM is preferred as he grew up in Algeria, a community where French is widely used. The use of an exoglossic DM is further shown in this example (21):

(21) Context: A4 talking about the use of French
1 j’ t’ai dit j’ai rêvé parce que il m’est arrivé un truc I you.aux said I.aux dreamed because it me.aux arrived a thing
“I told I had a dream because something happened to me.”
2 J’étais dans un café avec des collègues on parlait en Français I.was at a café shop with colleagues we talked in French
“I was at a café shop with some friends and we were talking in French.”
3 Parce que on avait une éducation française DM we had an education French
“Because we had a French education.”

Though example (21) was not included in the instances of the use of parce que because the whole conversation is in French, it is worth stopping at. The speaker talks about the use of French and says that even in his dreams he uses French to converse with his friends. Here is another example from A5 who was working as a water and gas plumber in Algeria before coming to the US:

(22) Context: A5 talks about his ability to understand all the regional dialects in Algeria.
1 ana f-ʃaʃajer law kan nruḥ win nruḥ nefham luyat I in-Algeria if was go where go understand languages
“In Algeria wherever I go I can understand the dialect.”
2 Parce queʕlah ʕendi l’expérience DM why have the-experience
“Because I have experience.”
3 taʃʃ-fʃarq, taʃ ʃ-yarb, taʃʃ-fʃamal of the.east of the.west of the.north
“ Of the East, or the West, of the north.”
4 Parce que mʃit ana voyaʒ-it ʔu ʕraft n-nas DM went I travelled.2s and know the.people
“ Because I have tralled and came to know people.”

The two examples from A4 and A5 differ in the sense that while the former shows pure French the latter shows code switching between Algerian Arabic and French. In example (22), the exoglossic language use does not go beyond one word, and there is also code-switching within the same word as is the case of
voyag-it where the verb is in French while the suffix is in Arabic. This helps us understand that the social meaning does not result only from the use of the DM, but should be considered in conjunction with other words in the utterance. While language use by A4 (example 21) portrays the speaker as someone who is knowledgeable and well educated, this is not the case for A5 (example 22). While A5 has a good mastery of French shown in the use of complete sentences in French, the use of French for A4 is limited to single words. This conclusion is not drawn from only examples 21 and 22 but also from other examples in the data collected for this study.

The exoglossic causality DM was also used in mixed nationality interactions as can be seen from the following example:

(23) Context: An Algerian participant, A3, explains that he cannot use the term “octopus” because of respect to the investigator.

1 bsˁaħ nta ?ana manqulak-ʃ kif hadi
   in.reality you I    tell.you-neg like this
   “In reality I cannot talk to you in this way.”
2 Parce que, kajən respect entre nous
   DM be respect between us
   “Because there is respect us.”

In line (1), the speaker says that he cannot use the term “octopus” to address the investigator. In line (2), he explains that because of mutual respect between him and the investigator he cannot use a slang word such as qarnit “octopus”. The assumption of causality is created by the lexical item parce que. The fact that parce que is used in mixed nationality interactions does not mean that it also targets participants outside of the Maghrebi dialects because it occurred only in mixed interactions that involve only Maghrebi participants.

Contrary to same nationality interactions and structured interviews, mixed nationality interactions featured higher use of liʔanna compared to the use of the exoglossic DM parce que. In a context where knowledge of French is not shared among the participants, the Algerians resorted to the standard form. The notion of “the presumption of optimal relevance” (Sperber & Wilson 1995: 257), which indicate that what may be more relevant and worth processing for a given audience may differ with regard to another audience who has a different background, explains why Algerian speakers do not use the exoglossic DM in interactions that includes Egyptian participants. The use of a French DM may not be relevant to the Egyptian participants who are not known for the use of French.

Type of interaction does not seem to be of considerable weight for the Moroccan participants. The lowest use of the Standard causality DM liʔanna featured in mixed nationality interactions. Its highest use was in structured interviews which may be due to the degree of formality in this type of interaction. As an investigator, I have been asked by participants in structured interviews “which language I should use?”, or “do you want me to be formal?”. Though I always remind my participants to behave naturally and speak in the same way they would speak in daily life, these types of questions about the choice of the code were raised. I have noticed that in informal multi-party conversations, participants were more spontaneous compared to structured interviews. I believe that the chances of facing the observer’s paradox (Labov 1972) are higher in structured interviews than in informal multi-party conversations.

Structured interviews were also characterized by a high use of the dialectal DMs hit and laħqaʃ. This suggests that one has to be careful and not fall into the trap of generalizations. The claim that structured interviews may trigger Standard DMs due to their formal status does not always hold because the same type of interaction featured the highest use of the dialectal DMs hit and laħqaʃ. In the three types of interactions, the Moroccan participants did not use exoglossic DMs with the exception of one single instance of the English causality DM, because, which occurred in structured interviews. Generally speaking, the results for the Moroccans participants do not show that type of interaction plays an important role in shaping the participants’ choice of variants.

Structured interviews for the Egyptian participants showed the highest use of the DM liʔanna followed by mixed nationality interactions. As a standard form, liʔanna is the best choice to make the act of producing
the procedural meaning of causality manifest in a formal setting. Mixed nationality interactions also featured the use of the dialectal DM. The use ofʕaʃan in mixed nationality interactions may be explained by the fact that, as discussed in Bassiouney (2009), Egyptian speakers do keep their own dialect when talking to other Arab speakers because of the status of Egyptian Arabic in the Arab world. In other words, Egyptian speakers may be less likely to accommodate as they expect others to understand their dialect. Having discussed how participants behave as a group, I turn now to how individual choices help us account for the choice of DMs.

Though most Algerian participants favored the exoglossic DM, one participant, A1, produced most of the instances of the endoglossic DMs7. A1 is a nurse who came to the US 12 years ago. A1 is known for having wide networks with the Arab community. As to the other participants, their social networks are mostly limited to people from Algeria and Morocco. Here is an example of liʔannu used by A1 in mixed nationality interactions:

(24) Context: A1 explains that the city of Tlemcen differs from other cities in Algeria due to the fact that its inhabitants were once people who resided in Spain during the rule of the Muslims.

1 Tlemcen ʕandha status special djalha
   Tlemcen has.its special of.it
   “Telemcen has a special status of its own.”

2 liʔannu, bħukm t-tarix Tilmisn they people fleed from Spain
   DM with-role the-history Tilimsan they people fled from Spain
   “Because, according to history the people of Tlemcen fled from Spain”

If line (1) states that the city of Tlemcen has a special status, line (2) states that historically speaking the people of Tlemcen came from Spain. The choice of a dialectal DM lies in the identity “projections individuals make” (Le Page & Tabouret-Keller 1985: 2). In this case, the choice of the DM has something to do with the nationalities of the speaker and addressees and the fact that they are all speakers of Magherbi varieties; i.e. it can be explained as an Act of Identity by A1 which lays claim to and highlights their common linguistic background.

The effect of individual choices on the choice of variants was also seen among Moroccan participants. While most Moroccan participants used both the shared and dialectal DM, M2 used only the dialectal DM hit to express causality. The use of the dialectal DM by M2 may be due to the fact that he is not interested in showing himself as someone who is knowledgeable and educated but rather he is interested in showing modesty and increasing familiarity between him and his interlocutors. If we look at M5, we also see a preference for the dialectal DMs hit and laħqaʃ. Unlike M2 and M5, M4 who is also very educated and has been in the US for 6 years pursuing graduate studies, used only the Standard DM. M4 used the highest number of the Standard DM liʔanna in the Moroccan participants’ group. Knowing that M4 is an instructor of Arabic explains why Standard Arabic is given more weight. Language use of M4 serves to draw a picture of himself as someone who clings to the Standard use of language. What is interesting about the Moroccan participants is the total absence of the use of French DMs. As I have discussed in the introduction, it was expected that the Moroccan participants would use French DMs but that was not the case. Since the background questionnaire indicates that the Moroccan participants have a good mastery of French, their language choices may not be due to their inability to speak French but may be simply due to a desire to project Acts of Identity which can be expressed only through the use of endoglossic DMs.

If we look at the individual preferences for the Egyptian group, we see a tendency towards the Standard DM liʔanna with some individual differences. Speaker E1 showed high preference for the Standard DM liʔanna but also did use the only instance of the exoglossic causality DM for the Egyptian group. The use of the exoglossic DM is shown in example (25) taken from mixed nationality interactions:

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7 The only other Algerian participant who used the endoglossic DM liʔannu was A3.
In (25), E1 explains that since in Egypt they receive fire trucks as donations from different countries, if there is a fire, it is difficult to know what type of fire truck to expect. Hence, each building is supposed to have different types of outlets for fire trucks. E1 is a Ph.D. student in civil engineering and his use of English is meant to show how critical he is of the situation in Egypt compared to the US. E1 considers Egypt to be in need of reform at all levels. Elsewhere, he said mockingly commenting on the time difference between Egypt and the US: “That’s the only thing they are ahead of us.” The use of “us” refers to the US, and the speaker is identifying with the US. In example (25), the speaker used an exoglossic variant which may serve not only to guide the inferential process of the listener to interpret what is coming as causality but it also performs an Act of Identity on behalf of the speaker (Le Page & Tabouret-Keller (1985). The choice of an exoglossic DM serves the need to project an identity of someone who is educated and knowledgeable.

Language use of E2 is totally different from that of E1. E2 is a civil engineer who works in a private engineering company. In spite of staying for 8 years in the US and the frequent use of English at work, E2 used mostly the Standard causality DM and only one instance of the dialectal DM. As to E5, the preferred choice to express the meaning of causality is through dialectal DMs. E1, E2, E5 are all Egyptian participants but they decided to choose different DMs to project different identities. In line with Le Page and Tabouret-Keller’s theoretical model, the choice of variants indicates that “Linguistic items are not just attributes of groups or communities, they are themselves the means by which individuals both identify themselves and identify with other” (1985: 5).

### 4 Conclusion

The results of this study show that causality can be expressed by the use of six variants: five endoglossic and two exoglossic. The endoglossic variants are liʔanna, liʔannu, ħit, laħqaʃ, and ʕaʃan, while the exoglossic variants are: parce que and because. The choice of one variant over another relies on nationality as a macrosocial factor and type of interaction as a microsocial variable. As far as nationality is concerned, the Algerian participants used mainly the French DM parce que which outranked the shared DM, liʔanna, and the dialectal DM, liʔanu. Both the Moroccan and the Egyptian participants used the shared and the dialectal DMs but not the French DM. There was only one instance of the exoglossic DM because used by the two groups.

Though the results of the Moroccan and Algerian participants represent the Maghrebi variety, the two groups behaved differently. The clear distinction between these two groups is the absence of use the exoglossic French DMs by the Moroccan participants. Knowing that speakers from Morocco are also known for their use of French (Bentahila & Davies, 1983), it was expected that both the Moroccan and Algerian participants may be using French DMs, not just the Algerian participants. This implies that the ability to speak a language does not guarantee that it should surface in the linguistic behavior. Language use reflects...
a projection of one’s identity and a desire to identify with a given group (Le Page & Tabouret-Keller, 1985). The Algerian speakers resorted to both endoglossic and exoglossic variants to identify with the Algerian participants as well as Moroccan participants, while the Moroccan participants resorted only to endoglossic DMs.

The other variable that affected the choice of variants is type of interaction. The three types of interactions were: mixed nationality, same nationality, and structured interviews (one-on-one interview with the Moroccan investigator). The effect of type of interaction on the choice of variants differed from one group to another. The Algerian participants used the exoglossic DMs only in same nationality interactions or interactions that involve Moroccan participants. For the Moroccan participants, the shared DM was used in interactions that involve same nationality participants and also in interactions that include non-Moroccan participants. The dialectal DMs were mainly used in structured interviews. Same nationality interviews did not trigger the use of dialectal DMs, instead the shared DMs were used. For the Egyptian participants since both the shared and the dialectal were favored in structured interviews, it is not clear if type of interaction had a clear effect on the choice of variants.

The causality DMs liʔanna, liʔannu, hit, laḥqaʃ, ʕaʃan, and parce que in this paper are viewed as pragmatic variants. The study of pragmatic variation in this paper relies heavily on Terkourafi’s model. In line with Terkourafi (2011), this paper considers the procedural meaning the basis for defining the pragmatic variable. Instead of semantic and truth-conditional equivalence as a precondition for identifying linguistic variants proposed by Labov, this paper supports the claim that “linguistic variants are considered equivalent if they can be used interchangeably in order to achieve similar perlocutionary effects in discourse” (Terkourafi 2011: 355). This paper considers liʔanna, liʔannu, hit, laḥqaʃ, and ʕaʃan, parce que and because equivalent because they share the same perlocutionary effect which lies in guiding the inferential process of the listener to construe what comes next in causal relationship with what came previously.

Working with RT and in line with Blakemore (1987), I argue that causality DMs in this paper signal pragmatic inferences that are performed by the addressee. That is, DMs are understood as triggers of inferential processes that serve to shape the cognitive environment of the listener. RT is used in this paper because it provides a cognitive account for the understanding and interpretation of utterances. This model considers utterances to be “acts of ostensive communication” that serve to modify the communicators’ mutual cognitive environment. Utterances are considered inputs to inferential processes that constrain the hearer’s interpretation. In line with Terkourafi (2011), the notion of procedural meaning, offered by RT (Sperber & Wilson 1995, Blakemore 2002, Carston 2016) is used as a theoretical tool to account for the use of pragmatic variants in this paper. In RT, procedural meaning is defined as “as a set of instructions guiding the inferential phase of utterance interpretation” (Terkourafi 2011: 343). Terkourafi’s use of the notion of procedural meaning to account for the social distribution of pragmatic variants enables the analysis of DMs in this paper from both a pragmatic and sociolinguistic perspective.

The other contribution of this paper lies in foregrounding the need to study pragmatic variation not only in the light of the correlation of the linguistic behavior with broad social categories such as nationality but also in light of psychological choices made by either the individual or the group. Le Page & Tabouret-Keller’s (1985) theoretical model predicts that if linguistic items are selected by an individual it is “because they are felt to have social as well as semantic meaning in terms of the way in which each individual wishes to project his/her own universe and to invite others to share it”, this model captures how psychological factors should be included in the study of the linguistic behavior. Thus the linguistic behavior is seen as Acts of Identity which lie in the need to “behave according to the behavioral patterns of groups we find it desirable to identify with” (Le Page & Tabouret-Keller 1985: 182).

Finally, I would like to make two suggestions for future research. This paper has investigated the use of DMs in Maghrebi and Egyptian dialects from a production perspective. It would be interesting if the use of these DMs can be studied from a perception perspective. From a production perspective, the goal was to examine how the meanings of causality may be expressed and what social meanings they carry. For the perception perspective, the goal should be to test listeners’ perception of the social meanings of these DMs. In other words, the perception study should tap into language attitudes towards the use of Arabic DMs in order to be able to evaluate their social-indexical meaning. The second point lies in the study of gender.
This paper limited the scope of the study of variation of Arabic DMs to male speakers. It would be interesting to include female participants and see how gender may have an impact on linguistic behavior. The study of gender as shown by Trudgill (1972), Nichols (1983), Deuchar (1988), Eckert (1989) and many others has always revealed interesting results.

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