# Metadiscourse in Arabic and English Research Article Abstracts

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## Abstract

The rhetorical device of metadiscourse has been perceived to be crucial in understanding the dynamic nature of the academic text. Studies on this rhetorical strategy in Arabic academic texts or in those written by Arabic-speaking writers are limited. This study fills this gap by examining 44 paired abstracts (Arabic and English) published in English research articles by Arab scholars. Using Hyland's (2005) model, the findings indicate the overuse of interactive markers compared to the interactional ones in both sets of abstracts. Within the interactive category, Arabic abstracts relied on transition markers while their English counterparts relied on frame markers and code-glosses. Regarding the interactional category, the English texts employed them more with exception to self-mentions as they were given similar attention in both language groups.

**Keywords:** *abstract; Arabic; boosters; hedging; metadiscourse*

## 1. Introduction

The dynamic nature of genres has attracted the attention of researchers to examine the ways discourse is constructed and to elucidate the similarities as well as differences between discourse communities. Swales (1990), for example, argued that the rhetorical moves in the introduction section of the research article serve as communicative purposes that are designed by writers based on the conventions of the discourse community that they write within. Hyland (2000) argued the same for the abstract, showing that each move of the five rhetorical components (introduction, purpose, method, product, conclusion) performs a certain rhetorical function.

The understanding of genre as a social activity can be clearly attained through the application of the notion of metadiscourse, which according to Hyland (2005), functions as "an important concept for analysing the ways writers engage with their subject matter and readers, allowing us to compare the strategies used by members of different social groups" (p. 41). Hyland proposed a model which he developed from earlier works such as Crimsone et al. (1993) and Vande Kopple (1985). The model consists of two main categories of metadiscourse: interactive and interactional. The interactive category consists of transitions, frame markers, endophoric markers, evidentials, and code glosses. These features function in providing organized and coherent text based on writers' expectations from their readers. The interactional category consists of hedges, boosters, attitude markers, self-mentions, and engagement markers. These features function in providing a lively text that enables the reader to find the voice of the writer.

Researchers who examined metadiscourse in academic discourse have disparate purposes. Some researchers sought to find how metadiscourse markers are distributed in the genre of the research article. Salek (2014), for instance, examined research articles written by English native speakers in the field of ELT and found that the abstract as well as the discussion/ conclusion section included a high percentage of metadiscourse resources compared to other sections. Farrokhi and Ashrafi (2000), on the other hand, who focused on the textual/interactive metadiscourse resources, found that the introduction section included significantly more instances of metadiscourse markers as opposed to the rest of the sections.

The possible influence of the academic discipline on the distribution of metadiscourse resources has also attracted the researchers' attention. Hyland and Tse (2004) examined L2 postgraduate dissertations and found that texts in humanities and social science disciplines employed more metadiscourse markers than those in natural science. They

also found that the interactive metadiscourse resources were more frequent than the interactional ones, and the most employed sub-types were transitions and hedges. Farrokhi and Ashrafi (2009) also found some variations between three disciplines: mechanical engineering, medicine, and applied linguistics. Specifically, they found that medical papers used more metadiscourse markers than the other disciplines. On contrary, Rashidi and Alihosseini (2012) found insignificant variation between sociology and engineering RA abstracts.

The examination of the cultural/linguistic impact on the distribution of metadiscourse markers was also a source of interest in several studies. In Farrokhi's and Ashrafi's (2009) study, Persian texts included more metadiscourse occurrences in medical papers as opposed to those written by English native speakers while the opposite occurred in the applied linguistics papers. Perez-Llantada (2010) examined the introduction and the discussion sections of biomedical papers written by three language groups: Spanish scholars writing in Spanish, Spanish scholars writing in English, and North-American scholars writing in English. She found that the overall distribution of Metadiscourse markers across the three cultural groups seems identical. Yet, she found that the variations were significant at the micro level in terms of the "lexicogrammatical realisations of metadiscourse units, different preferences for personal/impersonal metadiscourse as well as preferred textual developments in the construction of dialogism through metadiscourse" (p. 61). In Crismore's and Abdollehzadeh's (2010) review of the contrastive studies that compared the use of metadiscourse in English and Persian, English writers were found to employ more textual metadiscourse than Iranians. Crimsore and Abdollehzadeh hypothesized "that Anglo-American writers publishing in leading international journals need to create more forcefully a research space for themselves in order to persuade an expert audience of a new interpretation or need to anticipate the consequences of being approved wrong" (p. 207).

Metadiscourse in Arabic research articles as well as in those written in English by Arab writers is under-researched. Hinkel (2002) examined English essays written by different cultural groups including Arab students, and found that there is an overuse of interactive metadiscourse markers, especially transition and frame markers, and also a high frequency of interactional markers, particularly boosters. Alharbi and Swales (2011) examined paired abstracts (Arabic and English) written by Arab scholars, focusing on move structure, pronoun use, and promotional features. They found a simple move structure, mainly the background and findings, and also a limited use of self-mentions. The only study that applied a metadiscourse approach on Arabic research articles was Sultan (2011) who compared the discussion sections of Arabic and English linguistics research papers written by native speakers of Arabic and English. Sultan found that Arab writers used significantly more metadiscourse makers than their English counterparts did. As for the interactive types, the Arab scholars used more transitions and code glosses, while the frame and endophoric markers as well as evidentials were found to be more frequent in English texts. Likewise, all the sub-types of interactional metadiscourse were more frequent in Arabic texts as opposed to those in English with exception to self-mentions. Despite the novelty of Sultan's study in terms of comparing English and Arabic texts using a metadiscourse approach, the study fails to fill the research gap as it did not support the quantitative results with examples, from both languages. In other words, it is still unclear whether the metadiscourse expressions used in Arabic, such as the transitions, were the same or different from those used in English.

Since some of previous studies provided conflicting results regarding the distribution of metadiscourse uses in the research article part-genres, the current study focuses exclusively on one part-genre to delineate the metadiscourse uses. Also, due to the paucity of contrastive studies (Arabic and English) using a metadiscourse approach, the current study examines the bilingual abstracts (Arabic and English) written by Arab scholars. The main purpose is to find whether the Arab professional writers perceive the use of metadiscourse to be the same while writing both in their native language and in English as well.

## 2. The Corpus and Method of Analysis

The data comprise 44 bilingual (Arabic and English) abstracts for English research articles in the field of linguistics drawn from the *Arab Journal for the Humanities* and were written by Arab scholars. This journal was selected because it requires inclusion of two versions of the abstract (Arabic & English) for each paper. This editorial requirement, I believe, encourages writers to produce highly competitive versions and thus makes it an important research area to compare the rhetorical components between the two sets of abstracts. The selected journal has a long history and is quite popular in the Arabic world as it includes publications from writers across the Arab world. The texts were written within a span of 13 years (2000-2013) by Arab scholars with the exception of one article for which the second author is from England.

The identification of metadiscourse resources follows Hyland's (2005) taxonomy, provided in Table 1. This framework was adopted because it was found to be successful in previous studies that examined the RA abstract such

as Rashidi and Alihosseini (2012) and Salek (2014). As explained by Hyland (2005), the model has overcome some deficiencies in previous models such as Crimsone et al. (1993) and Vande Kopple (1985. The analysis considers each metadiscourse usage even when two instances are merged together. For example, a phrase like "and concerning" would be counted as two: a transition marker (and) and a code-gloss (concerning). This decision is adopted because the abstract is a concise text and thus it will be misleading to ignore a marker. In addition, move openings such as *the purpose of the study is* and *the results show* are counted as frame markers. In fact, this was not clearly stated in the model but I found it fulfils the function of frame markers as illustrated by Hyland. In order to validate the interpretations made by the researcher, a rater, who is a native speaker of Arabic and holds a Ph.D. in English with a focus on linguistics and writing studies, was asked to go through the analyses and mark what he agrees or disagrees with. The percentage of agreement initially was 87%. The elements that were disagreed upon had been discussed until a percentage of agreement reached a satisfactory point, 96%. Finally, the rhetorical organization of abstracts was measured by using Hyland's (2000) model, which consists of five rhetorical moves: Introduction, Purpose, Method, Product, and Conclusion. The benefit of identifying the rhetorical moves helps in understanding the distribution of metadiscourse markers in the abstracts.

**Table 1.** A model of Metadiscourse in Academic Texts (Hyland, 2005: 49)

| Category | Function | Examples |
|---|---|---|
| **Interactive** | **Help to guide the reader through the text** | **Resources** |
| Transitions | expresses relations between main clauses | in addition; but; thus; and |
| Frame markers | refer to discourse acts, sequences or stages | finally; to conclude; my purpose is |
| Endophoric markers | refer to information in other parts of the text | noted above; see Fig; in section 2 |
| Evidentials | refer to information from other texts | according to X; Z states |
| Code glosses | elaborate propositional meanings | namely; e.g.; such as; in other words |
| **Interactional** | **Involve the reader in the text** | **Resources** |
| Hedges | withhold commitment and open dialogue | might; perhaps; possible; about |
| Boosters | emphasize certainly or close dialogue | in fact; definitely; it is clear than |
| Attitude markers | express writer's attitude to proposition | unfortunately; I agree; surprisingly |
| Self-mentions | explicit references to author(s) | I; we; my; me; our |
| Engagement markers | explicitly build relationship with reader | consider; note; you can see that |

### 3. Results

The rhetorical organization of the abstracts appears to be identical between the two language groups. The component of announcing the study or the purpose is employed 100 per cent of the time in both sets of abstracts. The product move was the second most frequent component that was employed in 20 abstracts in each language group, and then the method in 14 texts. The introduction was the least employed construct in each language group as it appeared only in seven Arabic texts and in six English abstracts. Concerning the conclusion move, it exhibited some variations as it was employed more in the English corpus with 13 cases compared to 10 in the Arabic group. Overall, the analysis of the results regarding the move structure shows that mostly when a move appears in one pair of the abstract it appears in the other, as explicated in Table 2, which provides the distribution of moves in the texts of both languages.

**Table 2.** Move Structure in Arabic and English Abstracts

| Article # | Intro A | Intro E | Purpose A | Purpose E | Method A | Method E | Product A | Product E | Conclusion A | Conclusion E | Total A | Total E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 4 | 4 |
| 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | 4 | 4 |
| 3 | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 4 | 4 |
| 4 | | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 3 | 3 |
| 5 | | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 3 | 3 |
| 6 | ✓ | | ✓ | | | | ✓ | | | ✓ | 3 | 3 |
| 7 | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | 3 | 4 |
| 8 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | 4 |
| 9 | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | 3 | 3 |
| 10 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 5 | 5 |
| 11 | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | 3 | 4 |
| 12 | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | 3 | 4 |
| 13 | | | ✓ | | | | ✓ | | | | 2 | 2 |
| 14 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 5 | 5 |
| 15 | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | 3 | 3 |
| 16 | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | 3 | 3 |
| 17 | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 4 | 4 |
| 18 | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | 3 | 3 |
| 19 | | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 3 | 3 |
| 20 | | | ✓ | | | | ✓ | | | | 2 | 2 |
| 21 | ✓ | ✓ | ✓ | | | | | | | | 2 | 2 |
| 22 | | | ✓ | | ✓ | ✓ | | | ✓ | ✓ | 3 | 3 |

The examination of metadiscourse usages, as shown in Table 3, indicates that both sets of abstracts employed the interactive metadiscourse markers more than the interactional ones. At the same time, the interactive markers were employed more in the Arabic abstracts (no=229) compared to the English counterparts (no=179). The opposite occurred with the interactional markers as they were employed in the English texts more than in Arabic papers (46 to 26).

**Table 3.** The Frequency of Interactive and Interactional Metadiscourse Markers in Arabic and English

| Metadiscourse Resources | | Intro A | Intro E | Purpose A | Purpose E | Method A | Method E | Product A | Product E | Conclusion A | Conclusion E | Total A | Total E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| interactive | Transitions | 6 | 3 | 18 | 5 | 26 | 4 | 68 | 28 | 9 | 6 | 127 | 46 |
| | Frame M. | 1 | 1 | 18 | 17 | 6 | 10 | 24 | 31 | 8 | 5 | 57 | 64 |
| | Endophoric M. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 |
| | Evidentials | 7 | 6 | 2 | 0 | 6 | 7 | 4 | 1 | 0 | 0 | 19 | 14 |
| | Code glosses | 8 | 5 | 6 | 17 | 4 | 14 | 8 | 15 | 0 | 0 | 26 | 51 |
| | **Total** | **22** | **15** | **44** | **39** | **42** | **35** | **104** | **79** | **17** | **11** | **229** | **179** |
| Interactional | Hedges | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 10 | 1 | 6 | 6 | 16 |
| | Boosters | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 4 | 1 | 2 | 3 | 8 |
| | Attitude | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 4 |
| | Self-mentions | 0 | 1 | 3 | 3 | 3 | 3 | 8 | 9 | 3 | 2 | 17 | 18 |
| | Engagement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Total** | **0** | **2** | **4** | **4** | **3** | **3** | **14** | **26** | **5** | **11** | **26** | **46** |

Overall, the results of the interactive metadiscourse markers show that Arabic texts relied heavily on transition markers while the English ones favored frame markers and code glosses. In Arabic texts, transition markers mostly belong to the additive types such as *and*, *in addition*, and *also*. Occasionally, the marker *and* is followed by قد (*Qad*) which is used for stress. This marker often is preceded by the letter ل (L) which functions in adding another layer of stress. On the other hand, the transition markers in English texts gave equal weight to the additive type (mostly

*moreover*) and adversative type (mostly *however*).

In both language groups, most transition markers were used in the product move. While the English texts gave similar distribution to the rest of moves, the method move in Arabic was the second highest followed by the purpose move, and the introduction and conclusion included a similar number of transition markers.

Frame markers, which appeared slightly more in the English texts, were the second most interactive sub-type to be used in both sets of abstracts. In both language groups, the most common strategy in using a frame marker was to employ it as a move opening. This function occurred most frequently in the purpose move (e.g. *this aim of the study is*), followed by the product move (e.g. *the findings indicate*), as shown in Table 4. The Arabic papers used the move openings more in the conclusion move than for the method, while the opposite occurred in the English texts. Overall, while the frame markers were employed more in the English texts, usages of these markers as move openings occurred more in Arabic texts. The second common strategy was to use frame makers as sequencing (e.g., *first*, *second*, *finally*, *consequently*). This strategy was used quite often in the English texts as opposed to the Arabic ones. The product move, again, in both language groups hosted most instances of frame markers followed by the purpose move. The least move was the introduction in both groups with only one example each.

**Table 4.** The Frequency of Using Frame Markers as Move Openings

|  | Intro | | Purpose | | Method | | Product | | Conclusion | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Language | A | E | A | E | A | E | A | E | A | E | A | E |
| No. Move opening | 0 | 0 | 14 | 12 | 3 | 5 | 14 | 11 | 6 | 3 | **37** | **31** |

The evidentials appeared slightly more in the Arabic groups. Both language groups favored the non-integral citation form, as to say, *metadiscourse is crucial in academic writing (Hyland, 2005)*. A few English abstracts employed another strategy of reference such as *according to X*. Unlike the case found with the transition and frame markers where the product move included most of the cases, the introduction and the method moves in both sets of abstracts hosted most of the evidentials. Unsurprisingly, neither of the two languages included evidentials in the conclusion move.

The code glosses, which were significantly employed more in the English corpus, functioned in both sets of texts to provide clarification (e.g., *which means*, *namely*) or to provide examples (e.g., *for example*, *such as*). Yet, the use of code glosses as translations of certain terms appeared only in Arabic abstracts. On the other hand, the use of acronyms which are considered to be kinds of code glosses were employed only in English papers (such as *ESL* for *English Second Language*). While the conclusion move had no code glosses, the English texts distributed them almost equally in the purpose, product, and method moves. The introduction in Arabic, unlike in English, along with the product included most of code glosses.

Finally, the endophoric markers appeared only in the English texts, and particularly in the product move. One instance referred to a single part of the study (e.g., *in this report*) and the rest occurred in one abstract, underlined in Example 1, and functioned in making reference to examples in the article.

*Ex. 1.*

The first statement (in 15 below) shows the verbal devices that related the marked to the unmarked ESs. The second formal statement (in 17 a&b below) accounts for the grammatical ESs in focus using these verbal devices. And, the third statement in (in 21 below) excludes the ungrammatical (ill-formed) ESs usages and accounts only for the grammatical. [Eng11]

Interestingly, the order number of interactive metadiscourse markers based on their employment in the moves is consistent in both language groups. The product move included the highest number of instances with a wide gap between the two language groups. The purpose held the second position and the method the third, with a similar number of cases. In the fourth position was the introduction and lastly came the conclusion, with limited gap between these two moves.

Unlike the case with interactive metadiscourse, the interactional ones were less employed in both language groups and were more present in the English texts. Yet, similar to the findings with the interactive type, the product move included most of the cases in both language groups. The most surprising results were the scarce use of attitude markers and absence of engagement markers.

Concerning the hedges, the two language groups employed them in only two moves, namely, the product and the conclusion. The only marker used in Arabic is قد (Qad) which does not have a direct equivalent in English and the closest meaning is *may* (the direct meaning of *may* in Arabic is ربما). The hedging m*ay* is the most used marker in the English corpus, although a few cases included expressions such as *seem*, *likely*, and *it can be argued that*.

Unlike the hedges, the boosters were employed scarcely in both languages. In the English corpus, the product move included four cases while the method section did not include any example. In the Arabic texts, only three moves included a single case of boosters, namely, the product, the purpose, and the conclusion. Unlike in Arabic, the cases in English were diverse such as *clearly*, *widely*, and *it is a fact*.

Three cases of boosters were mentioned in each pair of three abstracts. As shown in Example 2, the conclusion move appears to be identical in the two language groups. In some articles, however, the boosters were used in one pair but not in the other. Example 3 shows the conclusion move where it includes a booster in the English version but not in Arabic one; in fact, the conclusion move in this article is very different in the two pairs.

*Ex. 2.*

نعتقد أن هذه الدراسة مفيدة ومهمة للنحوي الراغب في تحليل نحوي معمق لتراكيب صلة الوصل في العربية والإنجليزية، وكذلك للمترجم الأكاديمي وطلبة الترجمة الأجانب، ومتعلمي اللغة العربية من الاجانب.  [Ar22]

We believe that this paper is of prime interest to those interested in deep syntactic analysis of relative structures in both Arabic and English in the Government and Binding theory and to academic translators as well as foreign learners of Arabic. [Eng22]

*Ex. 3.*

ونختم البحث بإعطاء فكرة عن كيفية الاستفادة من هذه الدراسة في مجال تعليم اللغة الإنجليزية بوصفها لغة أجنبية.

*A:    (We conclude the research by giving an idea on how to benefit from the study in the field of English language as a foreign language.)* [Ar17]

B: I believe that such a conclusion is worth pursuing. [Eng17]

The attitude markers appeared only in the English abstracts, mostly in the product move. In Example 4, there are two cases that conveyed obligation, while the case in Example 5 indicated importance.

*Ex. 4.*

In addition to the general principles, there should be language specific mechanisms to cater for special cases. Moreover, there is a need to go beyond a structural analysis and take usage-related aspects into account. [Eng4]

*Ex. 5.*

It is worthwhile mentioning that Farsi is heavily spoken by many Kuwaitis either at home or in other domains. But I would like to assume that Farsi speakers are shifting more and more to Arabic. [Eng14]

The instances of Self mentions were given the same attention in both sets of texts, and were employed mostly in the product move. It is important to note that these instances were distributed among 6 articles out of 22. The cases that carried the singular form are six in the Arabic set and 12 in the English one, while those with the plural form are seven in Arabic and four in English, and finally the cases that carried the objective form, *the researcher*, are four in Arabic and one in English. The occurrences of self-mentions are not identical in the pair of abstracts. For instance, as shown in Table 5, the RA no. 17 included four cases in the plural form in the Arabic abstract while it had eight cases in the singular form in its English version.

**Table 5.** The Forms of Using Self-Mentions

| Article # | Number of authors | I | | We | | Researcher | |
|---|---|---|---|---|---|---|---|
| | | **A** | **E** | **A** | **E** | **A** | **E** |
| 1 | 1 | | | | | 2 | 1 |
| 6 | 1 | 6 | 4 | | | | |
| 8 | 1 | | | | | 1 | |
| 14 | 1 | | 1 | | | 1 | |
| 17 | 1 | | 8 | 4 | | | |
| 22 | 1 | | | 3 | 4 | | |
| **Total** | **-** | **6** | **13** | **7** | **4** | **4** | **1** |

### 4. Discussion and Conclusion

The results showed that while the two sets of abstracts demonstrated evident homogeneity in terms of the rhetorical organization, they showed great divergence in their use of metadiscourse markers. This deviance may suggest that the professional authors perceived the rhetorical structure between Arabic and English abstracts to be homogenous but not the distribution of metadiscourse resources. The finding regarding the high frequency of interactive metadiscourse in both language groups over the interactional markers is in accordance with the finding reported in Salek (2014) for English abstracts written by native English writers, and also in the discussion sections in English and Arabic papers in Sultan (2011). This uniformity clearly suggests the importance of textual metadiscourse elements in the genre of the research article over the interactional ones.

The cross-linguistic examination of the interactive metadiscourse markers showed that they were more preferable in Arabic texts compared to English ones. The most used interactive sub-type in the Arabic corpus was the use of transition markers, while it was the use of frame markers in the English set. Sultan (2011) found that the transition markers were employed more than the frame markers in the discussion sections of Arabic and English articles. At the same time, he found that the occurrences of transition markers were more frequent in the Arabic texts and the frame markers were more in the English texts. Salek (2014) found the transition markers and frame markers were distributed similarly in the abstracts written by English native speakers. These findings altogether indicate the importance of transition markers over the frame markers in academic texts, especially in the Arabic texts.

Most transition markers in Arabic texts belong to the additive type. Kaplan (1966) noted that the high presence of these resources in Arabic prose influences the development of the argument. Specifically, he argued that the focus on additive markers in Arabic prose is due to the fact that writers in Arabic are more concerned with building up facts rather than developing arguments. In contrast, he argued that the focus on adversative markers in English prose results from the writers' concern with developing arguments. While it was true that English texts in this study employed adversative markers more than Arabic texts did, both sets of abstracts demonstrated similar rhetorical structures (i.e. the employment of moves). The congruence of rhetorical organization certainly problematizes Kaplan's view of how arguments are developed in Arabic prose. In fact, a clause in Arabic can be a counterargument to a previous one and still be commenced with the connective *and.* In general, the conjunction *and* helps develop the flow of the text and it is odd in Arabic to begin a sentence without it.

Other than the presence of *and* as an additive marker, several Arabic texts used كما (*kama*) as a synonym to *also*. However, this usage is informal because according to formal Arabic grammar, *kama* has only two functions: draws similarity (similar to *as*) and gives the reason (similar to *because*). Regardless of its main function in formal grammar, I have considered it as it was intended by authors, as a synonym to also, which apparently has increased the number of the additive markers. Another informal usage by writers was the use of وذلك (*wathalik*) as a replacement of *because,* while both are not interchangeable according to formal Arabic grammar. The authors' informal usages of these markers in academic texts can be attributed to the fact that they are not specialists in Arabic language. Specialists of Arabic would reject such usages because they produce redundant texts. It is thus vital for future studies to choose texts written not only by native speakers but mainly by specialists in the language. Unfortunately, such methodology cannot be applied to studies, like the current one, that examine a pair of texts written by the same authors. In fact, the most apparent difference is that Arabic begins with *Qad* which stresses the point, and also *Laqad* which further stresses the point. Thus, Arabic texts are not merely telling about the components of the article but underscore these components which can be considered as a rhetorical usage that calls the audience's attention and seeks their trust.

Regarding the interactional metadiscourse resources, the results showed that English texts were more cautious (by using more hedges), more certain (by using more boosters,) and more expressive of their attitudes (by using more attitude markers) than Arabic texts. These results are in contrast with those in the discussion sections in Sultan (2011) where Arabic texts employed these resources more than their English counterparts. These interactional instances were not only low in frequency in Arabic texts but also were less varied. For example, the only marker used for hedging was *Qad* (similar to *may*) while they were various in English texts, e.g. *seem*, *may*, *might*, *could*, and *likely*. Arab writers' restriction of the use of hedging to only use the marker *Qad* may result from their awareness that *Qad* is considered in Arabic to be all inclusive and therefore it may sound redundant to replace it with any other hedging markers. It is important to note that this marker, as noted above, functions also to stress the proposition and in this case it cannot be considered as a hedging marker; thus, researchers examining metadiscourse markers in Arabic should be careful when applying this model to Arabic texts.

Concerning self-mentions, their uses were restricted to a limited number of abstracts, as the case was in Alharbi and

Swales (2011); yet, unlike the limited variations detected in their study, the first person pronoun is more common in the English corpus while the plural form as well the objective form are more common in Arabic. The overall instances were very similar in both sets of texts which is in contrast with the findings in Sultan (2011) where the English discussions included quite more cases than their Arabic counterparts. These findings altogether suggest that Arabic-speaking writers tend to avoid self-mentions whether they are writing in their first language or in English.

As for the engagement markers, their absence is incompatible with the case found in Salek (2014) in which they were found to be abundant in English abstracts. Yet, it is somewhat consistent with that in Sultan (2011) where the engagement markers were found to be the least employed category, although he found Arabic discussions employed them markedly more than their English counterparts. The absence here may indicate that Arab writers perceive the genre of abstract, whether the English or the Arabic one, to be free from any engagement with the reader as this may project a conversational and an informal tone.

Finally, before making generalizations about the use of metadiscourse in Arabic texts or in English texts written by Arab-speaking writers, a study of a larger corpus of data is required. In addition, researchers are encouraged to interview the writers regarding their perspectives of using metadiscourse markers. That is because pedagogical implications of rhetorical devices such as metadiscourse are quite relevant to both classroom instructors and writing program designers.

## References

Alharbi, L. M., & Swales, J. M. (2011). Arabic and English abstracts in bilingual language science journals: Same or different?. *Languages in Contrast*, *11*(1), 70-86. http://dx.doi.org/10.1075/lic.11.1.06alh

Crismore, A., & Abdollehzadeh, E. (2010). A review of recent metadiscourse studies: The Iranian context. *Nordic Journal of English Studies*, *9*(2), 195-219.

Crismore, A., Markkanen, R., & Steffensen, M. (1993). Metadiscourse in Persuasive Writing: A study of texts written by American and Finnish University students. *Written Communication, 10*(1), 39-71. http://dx.doi.org/10.1177/0741088393010001002

Farrokhi, F., & Ashrafi, S. (2009). Textual metadiscourse resources in research articles. *Journal of English Language Teaching and Learning*, *52*(212), 39-75.

Hinkel, E. (2002). *Second language writers' text: linguistic and rhetorical features*. Lawrence Erlbaum Associates, New Jersey: Mahwah.

Hyland K., & Tse P. (2004). Metadiscourse in academic writing: A reappraisal. *Applied Linguistics*, *25*(2), 156-177.

Hyland, K. (2000). *Disciplinary discourses: Social interactions in academic writing*. Ann Arbor: University of Michigan Press.

Hyland, K. (2005). *Metadiscourse: Exploring Interaction in Writing*. London: Continuum.

Pérez-Llantada, C. (2010). The discourse functions of metadiscourse in published academic Writing: Issues of Culture and Language. *Nordic Journal of English Studies*, *9*(2), 41-68.

Rashidi, N., & Alihosseini, F. (2012). A contrastive study of metadiscourse markers in research article abstracts across disciplines. *Bulletin of the Transilvania University of Brasov*, *5*(54), 17-23.

Salek, M. (2014). A diagram of interactive and interactional markers in different parts of English research articles. *Journal of Language Sciences & Linguistics*, *2*(3), 55-66.

Sultan, A. (2011). A contrastive study of metadiscourse in English and Arabic linguistics research articles. *Acta Linguistica, 5*(1), 28-41.

Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge, UK: Cambridge University Press.

Vande Kopple, W. (1985). Some exploratory discourse on metadiscourse. *College Composition Communication*, *36*, 82-93. http://dx.doi.org/10.2307/357609