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Exploring Metadiscourse Markers in Medical English Research Article Abstracts Written by Native English vs. Non-native Iranian Scholars

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Abstract: This study examines the use of metadiscourse markers (MDMs) in English research article abstracts by Iranian non-native and English native medical scholars. Using Hyland and Tse's (2004) classification system, 102 abstracts-51 written by native English speakers and 51 authored by non-native Iranian speakers-published between 2008 and 2023 in prestigious ISI journals, were analyzed. Findings indicate both groups predominantly use interactive MDMs over interactional ones. No significant difference was found between groups in interactional MDM usage. However, non-native writers (NNWs) used more interactive MDMs compared to native writers (NWs). While no disparity was noted in interactional subgroups (hedges, boosters, self-mentions, attitude markers, engagement markers), a significant difference was observed in frame markers, an interactive MDM subset. No differences were noted in the use of transition markers, code glosses, evidentials, and endophoric markers. Hedges were most frequently used among interactional MDMs, followed by boosters, self-mentions, attitude markers, and engagement markers. Frame and transition markers were predominant among interactive MDMs, followed by code glosses, with evidentials and endophoric markers being the least used. These results underscore the importance of MDMs in enhancing coherence and organization in medical academic writing. However, the MDM usage between the two groups shows similarities, which may be specific to the medical field, indicating the need for tailored curricula to promote effective MDM use. Additionally, it is essential to consider cultural and educational backgrounds when designing training programs to enhance academic writing skills.
Keywords: Metadiscourse markers (MDMs), interactive MDMs, interactional MDMs, article abstracts, native and non-native medical scholars.

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1. Introduction

Texts have been rigorously investigated and analyzed across diverse historical epochs and through a multitude of theoretical frameworks by scholars, such as Kheirabadi and Kheirabadi (2017) and Zamani et al. (2018). Researchers in the field of English for Academic Purposes, such as Boginskaya (2022) and Crismore et al. (1993), have long examined the use of English by native writers (hereafter NWs) versus non-native writers (hereafter NNWs). For Iranian medical scholars seeking promotion within their disciplinary communities, publishing research articles in prestigious English-medium journals is essential, necessitating a high level of academic English proficiency. Familiarity with metadiscourse features and their application enables non-native English academic writers to conform to established writing norms (Supranont, 2012). This paper investigates the differences in the use of metadiscourse markers (hereafter MDMs) in article abstracts written by native and non-native (Iranian) medical scholars .The selected journals were indexed in ISI and additionally indexed in either PubMed, Scopus, or both, regardless of their impact factor.

Research article abstracts play a critical role in determining the success of academic articles as they provide the initial impression and influence decisions regarding the acceptance or rejection of the research. Thus, as Bondi (2014, p. 244) notes, “abstracts have become essential gatekeeping and screening elements in academic and professional communication.” They highlight the relevance of the research and demonstrate the author's competence to editors and reviewers.

Academic texts, once regarded as impartial and objective in prioritizing content alone (Hyland, 2005), are now recognized as non-neutral. As Pearson et al. (2023, p. 1) note, “metadiscourse is one of the most prominent approaches to analyzing academic writing,” enabling writers to mark their presence, negotiate knowledge claims, and engage with their audience. Academic writers employ various linguistic strategies, rooted in their disciplines and sociocultural contexts, to construct arguments, present evidence, and evaluate claims convincingly (Hu & Cao, 2011). Vande-Kopple (1985) defines metadiscourse as the linguistic elements that “signal the presence of the author in the text” without adding propositional content (p. 83).

Hyland's (2005) concept of metadiscourse emphasizes how writers use language to interact with their audience, organize the text, express their stance, and guide readers' understanding and engagement. His metadiscourse model, employed in this study, classifies MDMs into two main types: interactive metadiscourse markers which, guide the reader through the text and, interactional metadiscourse markers, which ensure the text is clear and engaging for the reader.

Despite significant research (e.g., Ajideh et al. 2024; Boginskaya, 2022; Gholami & Ilghami, 2016; Binmahboob, 2022) on MDM usage across various fields, there is a gap in examining differences between the use of MDMs by English native authors and Iranian non-native medical scholars in their academic articles. This gap necessitates a more comprehensive inquiry to further the goals of discourse analysis and the teaching of medical academic writing.

In an effort to enrich the literature on the linguistic and discursive features of RAAs, this study examines English RAAs authored by non-native Iranian medical researchers and native English-speaking scholars. The study addresses the following research questions:

1. How were the MDMs distributed across non-native research article abstracts?
2. How were the MDMs distributed across native research article abstracts?
3. Were Iranian NNWs significantly different from NWs in the use of interactional MDMs?
4. Were Iranian NNWs significantly different from NWs in the use of interactive MDMs?

Based on these research questions, the following hypotheses were formulated:

1. NWs and NNWs are not significantly different in the use of interactional MDMs.
2. NWs and NNWs are not significantly different in the use of interactive MDMs.

2. Literature Review

2.1. Theoretical framework

Metadiscourse markers are linguistic tools that help writers structure their texts, express their attitudes, and engage with readers. Various frameworks have been proposed for analyzing metadiscourse in academic texts, such as Vande Kopple's (1985)

model. Among these, Hyland's (2005) framework is preferred due to its contemporary relevance, greater precision, and enhanced suitability for academic metadiscourse analysis. Hyland and Tse's (2004) work can be seen as a precursor or a refined version of the ideas fully developed in Hyland's (2005) book. While the 2004 paper specifically addressed academic discourse, the 2005 book generalized the framework to encompass a broader range of texts and contexts. In this study, both sources are used interchangeably. According to Hyland's taxonomy, MDMs are classified into two main categories: interactive and interactional.

Interactive Metadiscourse

Interactive MDMs help writers organize content to ensure clarity and coherence for the reader. As the name suggests, these markers facilitate interaction and engagement with the readers. This aspect of metadiscourse includes:

1. ***Transitions***: Indicate the semantic relationships between main clauses and ideas. Examples: "therefore," "similarly," "however."
2. ***Frame Markers***: Represent text structure by signifying text boundaries, sequences, topic shifts, stages, and discourse goals. Examples: "first," "in conclusion," "finally."
3. ***Evidentials***: Refer to sources of information outside the current text. Example: "according to X (2022)," "studies indicate."
4. ***Endophoric Markers***: Point to references within the current text. Examples: "see Fig." "as mentioned above," "in the present report."
5. ***Code Glosses***: Restate ideational information in another way. Examples: "e.g.," "in other words," "for instance."

Interactional Metadiscourse

Interactional MDMs are linguistic devices used by writers or speakers to engage with their audience, express their stance, and guide the reader's interpretation of the text.These markers include:

1. ***Hedges***: Indicate the writer's uncertainty or hesitation in presenting information. Examples: "perhaps," "possibly," "might."
2. ***Boosters***: Express the writer's certainty in the information. Examples: "undoubtedly," "definitely," "clearly."
3. ***Attitude Markers***: Convey the writer's opinion and attitude towards the information. Examples: "I agree," "interestingly," "unfortunately."

4. ***Engagement Markers***: Explicitly involve the readers in the text. Examples: "note that," "you can see that," "your."

5. ***Self-Mentions***: Explicit references to the writer. Examples: "I," "we," "the author."

2.2. Related studies

Native and non-native speakers differ significantly in their use of language, encompassing aspects such as linguistic complexity, error patterns, and discoursal features. According to Mancilla et al. (2017), native English writers tend to employ more complex sentence structures, a broader range of vocabulary, more idiomatic expressions, and nuanced language. In contrast, non-native English writers often use simpler sentence structures and straightforward vocabulary, avoiding idiomatic expressions and complex grammatical constructions for the sake of clarity.

A significant body of research has focused on the metadiscoursal features of academic writing Some studies have compared the use of metadiscoursive adjectives by NWs and NNWs, while others have analyzed nouns in perspective (Yakut, 2022). Comparisons have also been made between the metadiscoursal features employed by Arab (Alsubhi, 2016), Turkish (Çapar & Turan, 2020), Norwegian (Blagojevic, 2010), Iranian (Vasheghani Farahani & Sabetifard, 2017), and Chinese (Wei & Duan, 2019) writers in their English writing versus native English writers. Zarei (2015) examined the use of metadiscourse elements in Persian and English research articles, highlighting differences in their application. The study revealed that Persian articles predominantly employed interactive resources to ensure textual coherence, while English articles balanced interactive and interactional resources to enhance reader engagement.

Ghafoori and Oghbatalab (2012) identified significant differences in the deployment of interactive and interactional metadiscourse features between male and female native English writers. Their research indicated that male authors predominantly utilized interactive metadiscourse elements to structure the discourse and direct the reader through the text. Conversely, female authors were more inclined to use interactional metadiscourse elements, which serve to engage the reader and involve them in the argument. Shirzadi et al. (2017) compared Iranian and American M.A. EFL writers. The study focused on the use of stance strategies,

such as hedges, boosters, attitude markers, and self-mentions, in the introduction and discussion sections of their papers.They found that Iranian M.A. EFL writers used more hedges and attitude markers compared to their American counterparts, who employed more boosters and self-mentions. This suggests that Iranian writers tend to be more cautious and less assertive in their academic writing, while American writers are more confident and self-assured.

Pérez-Llantada's (2010) research presented a cross-cultural and cross-linguistic examination of metadiscourse elements within the introduction and discussion sections of research articles. The study uncovered both shared conventions in academic writing and distinct cultural and linguistic characteristics. By analyzing the employment of interactive and interactional metadiscourse features, the study revealed that English writers tended to utilize more interactional metadiscourse to engage readers directly. In contrast, writers from other linguistic backgrounds preferred interactive metadiscourse to structure their texts and guide readers through the content.

Some studies have found that research articles authored by native speakers contain more metadiscourse elements than those authored by non-natives (e.g., Moghadam, 2017). Conversely, other research has shown that articles written by non-natives include more MDMsthan those by native speakers (e.g., Tavanpour, Goudarzi, &Farnia, 2016). On the metadiscoursal level, Wei and Duan (2019) compared the writings of native hard science scholars with their non-native counterparts, finding that non-native scholars used more interactive devices (with code switches being the most used interactive items and with self-mentions as the least used interactional items), while native English writers employed more interactional items.

In a comparative study, Keshavarz and Kheirieh (2011) examined the use of metadiscourse elements in research articles authored by native English and non-native Iranian scholars in applied linguistics and civil engineering. They aimed to investigate the influence of discipline on the use of metadiscourse elements in research articles. Their findings revealed that applied linguists utilized metadiscourse elements more frequently than civil engineering scholars, with higher usage of code glosses, evidentials, frame markers, attitude markers, boosters, engagement markers, and hedges.

Mowlood, Tahriri, and Razmjoo (2024) explored the discrepancies in the use, type, and frequency of interactional MDMs in English academic articles written by political science and religious scholars. They found slight differences in the use, frequency, and types of interactional MDMs. However, "hedges were the most and attitude markers were the least frequently used MDMs in both political science and religious studies disciplines" (p. 222). Tajeddin and Alemi (2012) investigated the use of interactional metadiscourse markers by male and female engineering students. They discovered that females used these markers slightly more often, though gender did not significantly influence their usage. Engagement markers and self-mentions were the most commonly used.

Yulita et al.'s (2021) study highlighted the similarities and differences in how native and non-native speakers use MDMs in English speeches, identifying ten sub-categories used by non-native speakers and nine sub-categories used by native speakers. This comparison underscored the importance of understanding how different groups utilize MDMs to achieve coherence and logical flow in their communication.

Highlighting the native versus non-native status of scholars, Al-zubeiry (2019) investigated differences between NEWs and NNEWs in scientific articles, finding that NEWs employed more metadiscourse resources than Arab English writers. In a cross-cultural analysis of applied linguistics research articles, Ahmadi (2022) found that authors, regardless of their native languages (English or Persian), used hedging devices more frequently in English research articles. In contrast, native Persian authors used more attitude markers in their Persian articles to express stance.

Farrokhi and Ashrafi (2009) examined the use of various MDMs, including frame markers, transition markers, and endophoric markers, across Mechanical Engineering, Medicine, and Applied Linguistics. Medical Research Articles utilized MDMs more frequently than those in the other two fields. Applied Linguistics Articles used MDMs moderately but less frequently than medical articles, while Mechanical Engineering Articles had a lower frequency of MDMs with a more technical writing style. They also found that NNWs used MDMs more frequently than NWs, particularly in Mechanical Engineering and Medicine, whereas in

Applied Linguistics, native writers used MDMs more frequently. These variations were attributed to distinct writing conventions and the influence of the authors' native languages.

VasheghaniFarahani and Sabetifard (2017) found that native English news writers relied more on metadiscourse features than Persian writers, with interactional MDMs used more frequently than interactive features. Hedges were the most frequently used interactional features, while transitions were the most common interactive metadiscourse features. Rababah et al. (2024) examined the use of MDMs in EFL virtual classrooms during the pandemic, focusing on code glosses and evidentials as interactive markers, and attitude markers and engagement markers as interactional markers. Their findings revealed that instructors predominantly used interactional markers to engage students and convey attitudes, underscoring their significance in virtual learning environments. Jones and Smith's (2023) study examined the use of MDMs in the discussion sections of both quantitative and qualitative applied linguistics research articles. It found significant differences in the frequency of these markers between the two types of articles, indicating that the type of research influences the use of MDMs.

Blagojevic (2010) researched based on the theoretical assumption that metadiscourse in academic writings varies across cultures, aligning with traditional writing habits and rhetorical inclinations. Rhetorical habits from one's native writing culture often transfer to writing in a foreign language, potentially leading to misunderstandings and diminishing the validity of the propositional content. However, there is a notable gap in research concerning the differences in the use of interactive and interactional metadiscourse features between NWs and NNWs in medical research articles.

3. Method

3.1. Corpus

This study investigated the differences and similarities between English research articles authored by native English-speaking and non-native Iranian medical scholars, focusing on their use of interactive and interactional MDMs. The corpus consisted of 15,000 words extracted from the abstracts of 102 research articles: 51 authored by Iranian medical scholars and 51 by native English-speaking scholars in the medical sciences. To gather data for the study, the author identified Iranian ISI journals endorsed by the

Iranian Ministry of Health and Medical Education and indexed in either Web of Science, PubMed, or both. From these journals, articles authored by Iranian researchers were randomly selected across various issues. The full text of each article was downloaded for comprehensive analysis, with a specific focus on MDMs in the abstract sections.

To establish a comparative dataset from native English speakers, the author examined the reference sections of the selected Iranian-authored articles. Several topically related articles authored by native English speakers were identified and included as potential data sources. The ISI papers affiliated with institutions in countries where English is the predominant language were identified. Native English speakers from the United States, United Kingdom, Australia, New Zealand, and Ireland were classified as NWs, regardless of the subtle differences in their academic writing conventions. The authors of the selected papers were contacted to confirm that English was their native language, ensuring the reliability of the dataset for comparative analysis.

Upon receiving positive confirmation from the NWs, their abstracts were included in the corpus. In the event that the researcher did not receive email confirmations verifying the authors were native English speakers, she proceeded to contact both the other authors of the article and the authors of other articles to ensure they were indeed native English writers. The study encompassed a broad range of topics, including nursing and midwifery, surgery, medicine, and health, and covered publications from 2008 to 2023.

Both native and non-native authors were notified via email that their papers were being used as data for this research. Abstracts were selected over other sections because they are the key representation of a research paper, offering the first impression to evaluators or readers, which significantly influences the acceptance or rejection decisions. Moreover, abstracts are easily accessible without requiring the purchase of the full article.

3.2. Procedure

This study utilizes Hyland's (2005) metadiscourse taxonomy, which provides a comprehensive framework for writer-reader interaction. Adopting document analysis as the primary research method (Creswell & Poth, 2005), the study employed corpus-based and computational techniques, as well as quantitative and

qualitative analyses. The data were categorized according to the frameworks of Hyland and Tse (2004), Hyland (2005), and Vande Kopple (1985). To ensure interrater reliability and reduce subjectivity, an expert linguist reviewed the data coding and categorization. Any discrepancies were discussed and resolved by the raters before proceeding with data analysis. AI tools also played a crucial role in resolving inconsistencies. Metadiscourse devices were qualitatively analyzed within their context to accurately determine their functions. The frequency of occurrence for each category was then calculated using SPSS.

4. Results and Discussion

To test for the normality of data distribution, the Kolmogorov-Smirnov test was conducted. As the significance level of the Kolmogorov-Smirnov test for all research variables was below 0.05, the data distribution was determined to be non-normal. Consequently, the non-parametric Mann-Whitney test was employed to examine the hypotheses.

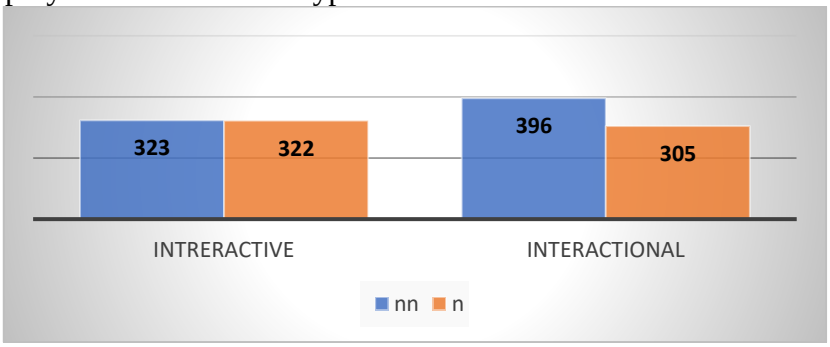

Figure 1: Distribution of Interactional and interactive MDMs Used by NWs and NNWs

Table 1: Comparison of Mean Ranks and Sum of Ranks for Interactive and Interactional Markers Used by NWs and NNWs

	group	N	Mean Rank	Sum of Ranks
Metadiscourse Markers	Interactional	102	93.84	9572.00
	Interactive	102	111.16	11338.00
	Total	204		

Mann-Whitney U= 4319 sig= 0.035

As shown in table 1, the Mann-Whitney U test indicates a significant difference between the use of interactive and interactional markers. The mean rank for participants using

interactive markers is 111.16, which is higher than the 93.84 for those using interactional markers. The sum of ranks for the interactive group is 11338.00, compared to 9572.00 for the interactional group. With a significance value of 0.035, which is below the 0.05 threshold, this difference is statistically significant. This suggests that participants use interactive markers more frequently than interactional markers.

Table 2: Mann-Whitney U Test Results for Interactional MDMs

	Group	N	Mean Rank	Sum of Ranks
Interactional MDMs	NNWs	51	56.52	2882.50
	NWs	51	46.48	2370.50
	Total	102		

Mann-Whitney U= 1044.500 sig= 0.085

Table 2 presents the results of the Mann-Whitney U test, comparing the use of interactional MDMs between NNWs and NWs. The data include the mean ranks and sum of ranks for each group, along with the total number of samples. The Mann-Whitney U value is 1044.500, with a significance level (sig) of 0.085. Given that the significance level is above 0.05, there is no statistically significant difference between the two groups in their use of interactional MDMs.

Table 3: Mean Difference Test - Mann-Whitney U

	Group	N	Mean Rank	Sum of Ranks
Interactive MDMs	NNWs	51	59.31	3025.00
	NWs	51	43.69	2228.00
	Total	102		

Mann-Whitney U= 902.500 sig= 0.007

Table 3 presents the results of the Mann-Whitney U test comparing the use of interactive MDMs between NNWs and NWs. The mean ranks and sum of ranks for each group are provided, along with the total sample size. The Mann-Whitney U value is 902.500, with a significance level (sig) of 0.007. Since the significance level is below 0.05, it indicates a statistically significant difference between the two groups in their use of interactive MDMs, with NNWs using these markers more frequently than NWs.

Figures 1 and 2 indicate that NNWs employ more interactive MDMs compared to NWs. This finding aligns with Ajideh et al. (2024), who found that the proportion of interactive markers exceeded that of interactional markers in both native and non-native

writings. Similarly, Gholami and Ilghami (2016) observed no significant difference between NNWs and NWs in their use of interactive and interactional MDMs, although both groups used interactive markers more frequently.

In contrast, the findings of this research differ from those of Çapar and Turan (2020), who found that American academic writers used significantly more interactional MDMs, particularly engagement markers and self-mentions, in their English research articles than their Turkish counterparts. Çapar and Turan, along with Boginskaya (2022), attributed these differences to the distinct cultural preferences of the two groups.

Wei and Duan (2019) reported that L1 Chinese scholars generally employed fewer metadiscoursal resources compared to their L1 English counterparts. Nonetheless, both our study and that of Wei and Duan demonstrated that, within the two dimensions of interaction, L1 scholars predominantly utilized interactive devices, whereas L1 English scholars favored interactional items in their research articles. Similarly, Pérez-Llantada's (2010) study revealed a tendency among English writers to employ more interactional metadiscourse to engage readers directly. Conversely, writers from other linguistic backgrounds exhibited a preference for interactive metadiscourse to organize their texts and guide readers through the content. These findings indicate that NNWs exert greater efforts to guide their readers through their papers, while NWs prioritize establishing author identity and engaging their readers. Rababah et al. (2024) found that instructors primarily employed interactional than interactive markers to foster student engagement and express attitudes, highlighting their critical role in virtual learning environments.

Sorahi and Shabani (2016) examined the use of MDMs in research articles written in Persian and English. They discovered that the introductions of these research articles were more interactive than interactional. Zarei (2015) indicated that Persian articles primarily utilized interactive resources to maintain textual coherence, whereas English articles balanced both interactive and interactional resources to better engage readers. VasheghaniFarahani and Sabetifard (2017) found that native English news writers relied more on interactional MDMs than interactive features. Our findings align with their observation,

demonstrating that NNWs were predominantly interactive rather than interactional in their English medical research articles. It seems that English writers tend to use more interactional metadiscourse to engage readers directly, while writers from other linguistic backgrounds prefer interactive metadiscourse to organize their texts and guide readers through the content. These findings suggest that NNWs make greater efforts to guide their readers through their papers, whereas NWs focus on establishing author identity and engaging their readers.

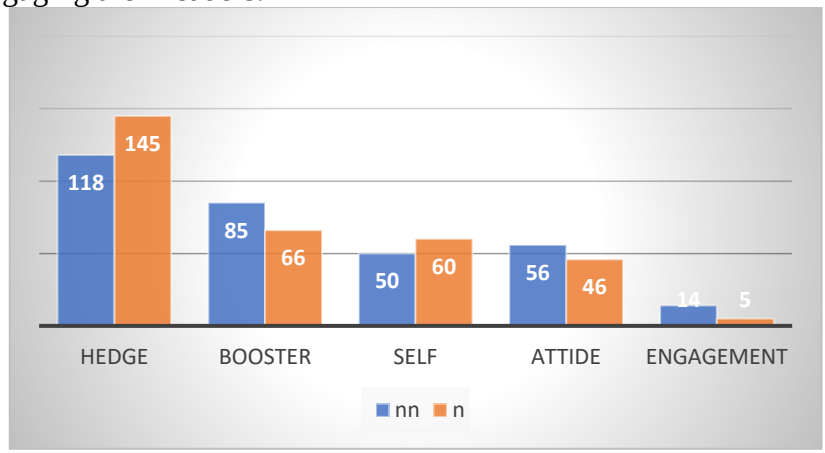

Figure 3: Distribution and Frequency of the Five Types of Interactional MDMs used by NWs and NNWs

Figure 3 illustrates the distribution and frequency of the five aspects of interactional MDMs used by NNWs and NWs. The data depicted in the figure provide a visual representation of the use of these markers, facilitating a clearer comparison between the two groups.

Table 4: Comparison of Interactional MDM Usage between NWs and NNWs

Variable	Mean Rank		Sum of Ranks		Mann-Whitney U	sig
	NNWs	NWs	NNWs	NWs		
hedge	50.76	52.24	2589	2664	1263.500	0.799
booster	55.56	47.44	2833.50	2419.50	1093.500	0.150
self-mention	54.66	48.34	2787.50	2465.50	1139.500	0.244
attitude	54.45	48.55	2777.00	2476.00	1150	0.287
engagement	53.06	49.94	2706.00	2547.00	1221	0.323

4.1. Hedges

As shown in Table 4, the Mann-Whitney U test for hedges indicates no statistically significant difference between the groups. Non-native participants have a mean rank of 50.76, slightly lower than the 52.24 of native participants. The sum of ranks is 2589 for non-native participants and 2664 for native participants. The significance value of 0.799 indicates that the difference is not statistically significant, suggesting that both groups use hedges at comparable levels.

Regarding hedges, Shokouhi and Talati Baghbani (2009) (cited in Gholami& Ilgami, 2016) posited that the extensive use of hedges is a common practice in scientific writing as academic writers increasingly employ tentative language to make their statements appear more objective and to reduce the risk of criticism from readers and peers. Ahmadi (2022) discovered that authors, irrespective of their native languages (whether English or Persian), employed hedging devices more frequently in English research articles.

Table 4 suggests that the current research revealed no statistically significant difference between the two groups under study in their use of hedges to express uncertainty or caution, qualify statements, and avoid making absolute claims. This finding suggests that the non-native participants in this research were well-aware of the roles hedges play in a professional and academic text. Conversely, Shirzadi et al. (2017) found that Iranian M.A. EFL writers employed more hedges. Additionally, similar to Mowlood et al. (2024), who found that hedges were the most frequently recurring class of interactional MDMs in political science and religious studies articles, this research also identified hedges as the most frequently occurring interactional MDMs in medical science articles.

Farrokhi and Emami (2008) found similarities between NWs and NNWS in their use of hedges in applied linguistics articles, yet significant differences in their use of hedges within the Electrical Engineering discipline. This variation across disciplines suggests that the field or discipline may influence how writers employ hedges in their writing.

4.2. Boosters

As illustrated in Table 4, the Mann-Whitney U test for boosters shows a noticeable difference between the groups. Non-native

participants have a higher mean rank (55.56) compared to native participants (47.44). The sum of ranks for non-native participants (2833.50) surpasses that of native participants (2419.50). With a significance value of 0.150, the difference is approaching significance but is not statistically significant.

Figure 3 illustrates that boosters are the second most commonly used interactional MDMs in medical research articles. In contrast, Mowlood et al. (2024) found that boosters were the least frequently used category of interactional MDMs in academic papers on political sciences and religious studies, irrespective of the authors' nativity.

As illustrated in Table 4, the NN participants in this study employed boosters slightly more frequently than the NWs. However, this difference was not statistically significant, suggesting that NWs and NNWs in the medical field tend to use boosters with almost similar frequency in their academic writings. Consistent with our findings, Gholami and Ilghami (2016) examined biological research papers and discovered that NNWs used a higher frequency of boosters. This observation suggests that both their participants and ours demonstrated greater confidence in their study results or the material they presented. Wei and Duan (2019), in their study of hard disciplines, and Zarei & Mansoori (2011), in their research comparing humanities and non-humanities fields, both supported the findings of the present study. They indicated that there is no significant difference between NNWs and NWs in their use of boosters in research articles.

Contrary to our findings, Ajideh et al. (2024) reported that NWs in applied linguistics employed more boosters, interpreting this as an indication of their desire to enhance the certainty of their claims and statements. Çapar and Turan (2020) and Shirzadi (2017) in the field of teaching a foreign language, also corroborated their finding. Farrokhi and Emami (2008) found that the distribution of boosters was similar between electrical engineering articles written by N and NNWs. However, a disparity was observed in the use of boosters in applied linguistics research articles authored by NWs and NNWs. This finding, which aligns with Ajideh et al., (2024), suggests that the utilization of different types of MDMs, particularly boosters, may be discipline- or field-specific.

4.3 Self-Mentions

As demonstrated in Table 4, for self-mentions, the Mann-Whitney U test indicates non-native participants have a higher mean rank (54.66) than native participants (48.34). The sum of ranks for non-native participants (2787.50) is higher than that of native participants (2465.50). However, the significance value of 0.244 indicates that the difference is not statistically significant.

Table 3 indicates that while NNWs used slightly more self-mentions compared to NWs, this difference was not statistically significant. As figure 3 indicates, self-mentions are moderately used by scholars, in contrast to the more widely employed hedges and boosters. This finding aligns with the results of Ajideh et al. (2024) and Gholami and Ilghami (2016).

Conversely, Çapar and Turan (2020), and Shirzadi (2017) observed that NWs extensively used first-person pronouns, whereas NNWs used them less frequently in English. In Çapar and Turan's study, the NN Turkish participants demonstrated a preference for the collective construction of self, influenced by an academic culture that values impersonal reference, as noted by Ramanathan and Atkinson (1999) based on the perception that academic research should be purely empirical and objective.

Another contributing factor could be the cultural norms in Eastern, particularly Islamic, societies where it is considered polite and humble to avoid emphasizing the self. This cultural perspective often discourages overt self-reference, in favor of a more collective or impersonal approach (Hyland, 2002). Considering their cultural similarities with the Turkish people, it was expected that Iranian NNWs would also use fewer self-mention markers. Nonetheless, it appears that Iranian medical academic writers, who made comparatively extensive use of self-mentions in this study, have successfully adapted to the conventions of English scholarly writing. In summary, writers should not only be cognizant of the conventions of English academic writing, but they should also be mindful of their own cultural backgrounds. These cultural influences can impact their academic work, which is intended for an international and culturally diverse audience.

4.4 Attitude Markers

As presented in Table 4, the Mann-Whitney U test for attitude markers reveals a higher mean rank for non-native participants

(54.45) compared to native participants (48.55). The sum of ranks for non-native participants (2777.00) exceeds that of native participants (2476.00). The significance value of 0.287 shows that the difference is not statistically significant. As illustrated in figure 3, like self-mentions, attitude markers are also used moderately by both participant groups.

Regarding the statistical analysis, Table 3 shows that NNWs employed attitude markers slightly more frequently than NWs, but the difference was not statistically significant. This result aligns with Hyland's (2005) findings in natural and social sciences. Hyland observed that social science writers used attitude markers more often, attributing this to their need to establish a "convincing discourse, personal credibility, critical insight, and disciplinary competence" (Hyland, 2005: 151), which can be achieved through the use of attitude markers. Consistent with our findings, Shirzadi (2017) also identified differences between native and non-native M.A. EFL writers. The study demonstrated that Iranian writers utilized more attitude markers compared to their American counterparts. But this distinction was statistically significant in Shirzadi's findings.

4.5. Engagement Markers

As highlighted in Table 4, for engagement markers, the Mann-Whitney U test shows non-native participants have a higher mean rank (53.06) compared to native participants (49.94). The sum of ranks for non-native participants (2706.00) surpasses that of native participants (2547.00). The significance value of 0.323 indicates that the difference is not statistically significant.

As depicted in Figure 3, engagement markers are the least frequently utilized interactional MDMs by both native and non-native participants, with NWs demonstrating the lowest usage. Similar to this research, studies by Çapar and Turan (2020), Ajideh et al. (2024), and Wei and Duan (2019) found nuanced differences between native and non-native scholars in their use of engagement markers. However, this does not imply that the importance of educating academic writers on the use of engagement markers in academic discourse should be overlooked.

Figure 4: Distribution and Frequency of the Five Types of Interactional MDMs used by NWs and NNWs

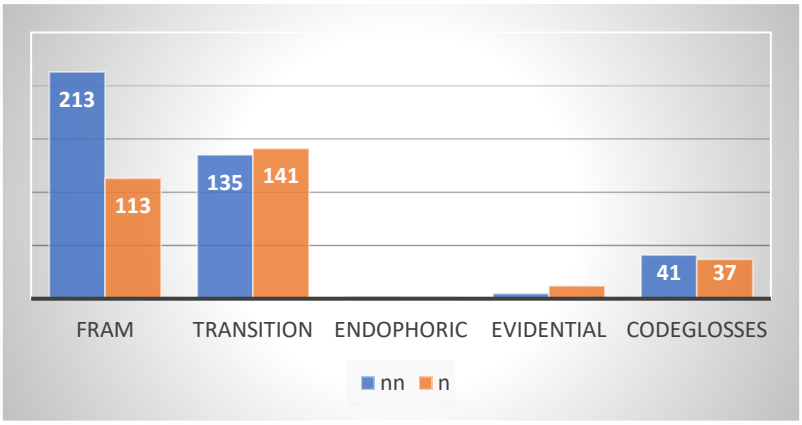

Table 5: Comparison of interactive MDM Usage between NWs and NNWs

variable	Mean Rank		Sum of Ranks		Mann-Whitney U	sig
	NN	N	NN	N		
frame	63.42	39.58	3234.50	2018.50	692.500	0.000
transition	50.31	52.69	2566	2687	1240	0.682
endophoric	51.50	51.50	2626.50	2626.50	1300.500	0.842
evidential	49.53	53.47	2526	2727	1200	0.229
codeglosses	53.39	49.61	2723	2530	1204	0.482

4.6. Frame Markers

As shown in Table 5, the Mann-Whitney U test reveals a significant difference between the groups. Non-native participants have a higher mean rank (63.42) and sum of ranks (3234.50) compared to native participants (39.58 and 2018.50, respectively), indicating a greater use of frame markers among non-native participants. The significance value of 0.000 confirms that this difference is statistically significant.

Frame markers are the most frequently utilized MDMs by NN medical scholars compared to their native counterparts in the present study. Farrokhi and Ashrafi's (2009) findings align with our results, indicating that NWs were more inclined to use frame

markers in the fields of medical sciences and mechanical engineering compared to applied linguistics.

They attributed these differences to variations in writing conventions and the influence of the authors' native languages. However, our study provides additional insights, suggesting that these differences in the frequency and usage of frame markers in academic writing are more accurately attributed to discipline-specific conventions and communicative needs, rather than the nativity of the participants.

Additionally, it can be argued that the increased use of these markers by NNWS could reflect the structural format of the journals publishing medical research articles in Iran. Although both sets of journals are standard ISI publications, the non-native journals mandate specific framework markers, such as methods, results, and conclusions. These requirements shape their structure and simultaneously increase the number of frame markers among interactive MDMs used by NNWs. In other words, the higher number of interactive MDMs does not necessarily indicate that NNWs use them more. It is advisable for Iranian medical ISI journals to realign their framework mandates to adhere to international English standards, particularly if they intend to publish in English and target an international audience.

4.7. Transition Markers

As shown in Table 5, non-native participants have a slightly lower mean rank (50.31) and sum of ranks (2566) for transition markers compared to native participants (mean rank 52.69, sum of ranks 2687). However, the significance value of 0.682, being above 0.05, indicates no statistically significant difference between the groups. Thus, there is no meaningful difference in the use of transition markers between NWs and NNWs based on this data.

As illustrated in Figure 4, transition markers are the second most frequently used interactive MDMs, following hedges. Both native and non-native medical scholars effectively employed these markers in nearly equal measures to enhance coherence and ensure a logical flow of thought in their academic presentations. However, our findings diverge from those of Farrokhi and Ashrafi (2009). Their study revealed significant differences in the use of transition markers between NWs and NNWs in medical articles. Specifically, they found that NNWs used transition markers less frequently than

their native counterparts, likely due to the influence of their native language writing conventions.

Yulita et al. (2021) also approved Farrokhi and Ashrafi (2009) reporting that non-native speakers employed transition markers less often than native speakers in their English speeches. Specifically, non-native speakers made 301 utterances containing transition markers, compared to 269 utterances by native speakers. This discrepancy likely stems from the influence of native language writing conventions on non-native speakers. Furthermore, it is suggested that native speakers are more proficient in using transition markers to improve the coherence and logical flow of their speech. Overall, our findings indicate that Iranian medical scholars are equally cognizant of the significance and utility of transition markers as their native counterparts.

4.8. Code Glosses

As shown in Table 5, non-native participants have a slightly higher mean rank (53.39) and sum of ranks (2723) for code glosses compared to native participants (mean rank 49.61, sum of ranks 2530). However, the significance value of 0.482, which exceeds 0.05, indicates that the difference is not statistically significant. Therefore, there is no meaningful difference in the use of code glosses between NWs and NNWs based on this data. Code glosses were the third most widely used interactive MDMs by both participant groups. Although NNWs used code glosses slightly more than their native counterparts, the difference is not statistically significant.

Yulita et al. (2021) explored the similarities and differences in the use of discourse markers, including code glosses, in English speeches by non-native and native speakers. Similar to the present research they found that non-native speakers used code glosses slightly more frequently than native speakers, but this difference was not statistically significant. Farrokhi & Ashrafi (2009) also found no significant difference in the frequency of code glosses used by Iranian and native English authors in medical articles. This indicates that non-native medical scholars are equally well-aware of the functions and importance of code-glosses in making their writing accessible and coherent.

Ajideh et al. (2009) examined the use of code glosses in academic writing by Iranian and native English authors. Their

findings indicated that Iranian authors employed code glosses more frequently than their native English counterparts in applied linguistics articles. This reliance on code glosses suggests that NNWs use them to enhance clarity and comprehension within their field. Additionally, we imply that the difference between native and non-native authors in their use of code glosses may be field-specific, similar to other MDMs previously discussed.

4.9. Endophoric Markers

As shown in Table 5, both non-native and native participants have an identical mean rank (51.50) and sum of ranks (2626.50) for endophoric markers, indicating no difference in their prevalence. The significance value of 0.842, well above 0.05, confirms the difference is not statistically significant. Therefore, there is no meaningful difference in the usage of endophoric markers between NWs and NNWs based on this data.

Given that the present study focused solely on the abstracts of medical research articles, it is understandable that endophoric markers were not prevalent. This is because, in the body of articles, writers typically reference other sections of the text, a practice that is not common in abstracts.

4.10. Evidential Markers

As shown in Table 5, non-native participants have a slightly lower mean rank (49.53) and sum of ranks (2526) for evidential markers compared to native participants (mean rank 53.47, sum of ranks 2727). However, the significance value of 0.229, which is above 0.05, indicates that the difference is not statistically significant. Therefore, there is no meaningful difference in the usage of evidential markers between NWs and NNWs based on this data.

Figure 4 demonstrates that evidential markers were the second least utilized MDMs among all participants, with NNWs showing a higher usage. Yulita et al. (2021) and Lee (2004) both found similar results: non-native speakers used evidential markers slightly more than native speakers. However, the difference was not statistically significant in both studies. This aligns with our study's findings, which also indicate a higher use of evidential markers by NNWs. Consistent findings suggest that NNWs rely more on external sources of information to persuade readers and enhance credibility. This pattern, observed across multiple studies, highlights that non-native speakers frequently use external sources to support their

arguments, thereby strengthening the persuasiveness of their writing.

Although some researchers attribute the differences in the application of MDMs to cultural and stylistic variations and consequently believe that instructional intervention may not be necessary, the author posits that Iranian academic writers should be educated about MDMs, their functions, and their appropriate uses especially in MA and PhD programs to enable more informed choices. An understanding of metadiscourse features and their practical application allows non-native English academic writers to align with established writing conventions (Supranont, 2012).

The education system in Iran provides limited support in academic writing for its learners. Consequently, Iranian scholars often lack systematic and formal training in this area. They typically acquire these skills through trial and error, often after experiencing multiple rejections of their articles in international journals. While some workshops may be available, they are not consistently offered. Therefore, it is essential to incorporate a structured and mandatory curriculum to formally educate scholars in academic writing. Each culture has its own set of norms, and writers do not need to conform to the norms of the target language. Nevertheless, for academic writers aiming to publish in international journals, understanding the academic writing conventions of the target language is crucial. This necessitates comprehensive formal training to ensure their work meets the required standards.

However, despite the emergence of applications like *Grammarly* and the recent huge advancements in *AI*, which make the writings of non-native academicians more similar to those of native speakers, the need for awareness and education on MDMs remains crucial as part of language learning. The application of such tools as *Grammarly* and *AI* may have influenced the findings of the present research and other studies, which suggest a resemblance in the use of MDMs by nonnative and native academicians. This observation warrants further exploration to compare the impact of these tools on recent academic works with writings produced before their advent. The date of the advent of these tools is clear, however, the exact date of their being extensively used is not clear to decide that the similarity between the N and NNWs may be attributed to them.

5. Practical Applications in Language Teaching

The findings of this study have significant implications for language teaching, particularly in the context of English for Academic Purposes (EAP). First, the research underscores the importance of incorporating MDMs into academic writing instruction. Language teachers and curriculum designers can develop targeted materials and activities to help students, especially NNWs, effectively use MDMs to enhance coherence and organization in their writing.

Second, the study highlights the influence of cultural and educational backgrounds on MDM usage, suggesting that language instructors should raise awareness of these influences and provide comparative examples of MDM usage in texts written by native and non-native writers. Discipline-specific writing instruction is also crucial, as MDM usage may vary across fields. Teachers can collaborate with subject experts to create writing guides and exercises tailored to specific disciplines. Furthermore, support for NNWs can be enhanced through workshops, tutorials, and detailed feedback on MDM usage in their writing. The integration of technology, such as corpus-based learning and automated writing tools, can further aid students in mastering MDMs. Finally, professional development programs for teachers can deepen their understanding of MDMs and equip them with strategies to effectively teach these elements, ensuring that academic writing instruction is both culturally sensitive and discipline-specific.

6. Suggestions for Further Research

Future research should focus on the comparative analysis of native and non-native research articles before and after the adoption of Grammarly, AI and other academic writing assistance tools. This investigation can provide valuable insights into the impact of these technologies on the use of second or foreign languages. Future research should also investigate a range of factors including cultural, linguistic, experiential, and educational backgrounds of participants to provide a comprehensive understanding of their language use, particularly in terms of metadiscourse.

As demonstrated throughout this study, metadiscourse usage can vary significantly across different academic fields and disciplines, underscoring the need for extensive exploration to draw robust conclusions. Moreover, it is crucial to explore strategies to support

NNWs in achieving academic English proficiency. Longitudinal studies tracking the development of metadiscourse proficiency over time among both NWs and NNWs can further inform the design of effective training programs. By addressing these research directions, future studies can contribute to a deeper understanding of metadiscourse in academic writing and support the development of effective instructional strategies. Future researchers could also investigate the correlation between a research paper's impact factor and the use of metadiscoursal elements. The exploration could provide valuable insights into how the prominence of a journal influences metadiscourse in academic writing.

7. Conclusion

This study highlighted the differences and similarities in the use of MDMs in English research article abstracts authored by native English-speaking and non-native Iranian medical scholars. Our findings revealed that both groups predominantly employed interactive MDMs over interactional ones. NNWs utilized interactive MDMs more extensively than their native counterparts, although no significant differences were found in the use of interactional MDMs between the two groups.

The research showed that both groups had similar usage patterns for interactional MDM subgroups, including hedges, boosters, self-mentions, attitude markers, and engagement markers. However, a significant difference was observed in the use of frame markers, a subset of interactive MDMs, with NNWs using them more frequently. On the other hand, no differences were noted in the usage of transition markers, code glosses, evidentials, and endophoric markers. Hedges emerged as the most frequently used interactional MDM, followed by boosters, self-mentions, attitude markers, and engagement markers, while frame and transition markers were the most commonly used interactive MDMs, followed by code glosses, with evidentials and endophoric markers being the least used.

These findings underscored the crucial role of MDMs in enhancing coherence and organization in medical academic writing. Despite the overall similarity in MDM usage patterns, the differences observed indicate the importance of cultural and educational backgrounds in shaping academic writing practices. This study suggested the need for tailored curricula that promote

effective MDM use, considering the unique requirements of different disciplines. Language instructors and curriculum developers can create tailored materials and activities to assist students, particularly NNWs, in mastering the effective use of MDMs in their academic writing. Additionally, the study emphasized the importance of considering cultural and educational backgrounds when designing training programs to improve academic writing skills for both NWs and NNWs.

Overall, this research contributed to a better understanding of metadiscourse usage in academic writing and underscored the necessity of incorporating metadiscourse elements into academic writing instruction, particularly for NNWs. Future research could explore the impact of disciplinary differences further and investigate strategies to support NNWs in achieving academic English proficiency.

References

– Ahmadi, L. (2022). Interactional metadiscourse markers in scientific texts**.***Journal of Volgograd State University. Linguistics*, 21(4), 102-115. https://doi.org/10.15688/jvols2.2022.4.7

– Alsubhi, S. A. (2016). Knowledge and attitude of first aid skills among health science students at Taibah University, Al-Madinah, Saudi Arabia. *International Journal of Advanced Research, 4*(7), 298-305. https://doi.org/10.21474/IJAR01/918

– Al-zubeiry, H. (2019). Metadiscourse devices in English scientific research articles written by native and non-native speakers of English. *International Journal of Linguistics, 11*(1), 46. https://doi.org/10.5296/ijl.v11i1.14259

– Ajideh, P., Ansarin, A., Zohrabi, M., & Nouri, Z. (2024). An analysis of interactive and interactional metadiscourse: Native vs. non-native author dichotomy. *Teaching English as a Second Language Quarterly (Formerly Journal of Teaching Language Skills), 43*(2), 31-48. https://doi.org/10.22099/tesl.2024.49202.3253

– Ajideh, B., Jalilifar, A., & Ahangari, Z. (2009). Code glosses in academic writing: A comparison of Iranian and native English authors. *Journal of Language Teaching and Research, 5*(6), 1234-1245.

– Binmahboob, T. (2022). The use of metadiscourse by Saudi and British authors: A focus on applied linguistics discipline. *English Language Teaching*, 15(2), 78. https://doi.org/10.5539/elt.v15n2p78

– Blagojevic, S. (2010). Metadiscourse in academic prose: A contrastive study of academic articles written in English by English and Norwegian native speakers. *Studies about Languages, (H 30),* No. 5, 60-67.

– Boginskaya, O. (2022). Metadiscourse patterns in academic prose by non-native English writers: A cross-disciplinary perspective. *Discourse and Interaction, 15*(2), 5-27. https://doi.org/10.5817/DI2022-2-5

– Bondi, M. (2014). Changing voices: Authorial voice in abstracts. In M. Bondi & R. LoresSanz (Eds.), *Abstracts in academic discourse: Variation and change* (pp. 243-270). Bern: Peter Lang.

– Çapar, M., &Turan, U. (2020). Interactional metadiscourse in research articles by Turkish and native speakers. *Anadolu Journal*

of Educational Sciences International, 10(1), 324-358. https://doi.org/10.18039/ajesi.682042

– Farrokhi, F., & Ashrafi, S. (2009). Textual metadiscourse resources in research articles. *Journal of English Language Teaching and Learning, 1*(212), 39-75.

– Farrokhi, F., & Emami, S. (2008). Hedges and boosters in academic writing: Native vs. non-native research articles in applied linguistics and engineering. *The Journal of Applied Linguistics, 1*(2), 62-98.

– Ghafoori, S., &Oghbatalab, M. (2012). A comparative study of metadiscourse in academic writing: Male vs. female authors of research articles in applied linguistics. *Journal of Applied Linguistics and Language Research, 9*(1), 45-63.

– Gholami, J., & Ilghami, R. (2016). Metadiscourse markers in biological research articles and journal impact factor: Non-native writers vs. native writers. *Biochemistry and Molecular Biology Education, 44*(4), 349-360. https://doi.org/10.1002/bmb.20961

– Hu, G., & Cao, F. (2011). Hedging and boosting in abstracts of applied linguistics articles: A comparative study of English- and Chinese-medium journals. *Journal of Pragmatics, 43*, 2795-2809.

– Hyland, K. (2002). *Teaching and researching discourse markers*. Longman.

– Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. Continuum.

– Hyland, K., &Tse, P. (2004). Metadiscourse in Academic Writing: A Reappraisal. *Applied Linguistics, 25*(2), 156-177. https://doi.org/10.1093/applin/25.2.156

– Jones, P., & Smith, T. (2023). Metadiscourse markers in quantitative and qualitative applied linguistics research articles' discussions: A comparative study. *Journal of Applied Linguistics and Professional Practice, 10(2),* 67-89. https://doi.org/10.56789/jalpp.

– Keshavarz, M. H., &Kheirieh, Z. (2011). Metadiscourse elements in research articles written by native and non-native writers in Applied Linguistics and Civil Engineering. *Journal of English Studies, 13*(3), 3-15.https://doi.org/10.30466/jes.2012.12345

– Kheirabadi, R., & Kheirabadi, M. (2017). The Evaluative Semantics Model: A New Approach in CDA of Journalistic Discourse. *Journal of Linguistics and Rhetorical Studies, 15(8),* 65-88. doi:10.22075/jlrs.2017.6757. [In Persian]

– Lee, S. (2004). The use of evidential markers in academic writing: A comparison between native and non-native English speakers. *Journal of Pragmatics, 36*(4), 667-683.

– Mancilla, R., Polat, N., &Akcay, A. (2017). An investigation of native and non-native English speakers' level of written syntactic complexity in asynchronous online discussions. *Applied Linguistics, 38*(1), 112-134. https://doi.org/10.1093/applin/amv012

– Moghadam, F. D. (2017). Persuasion in Journalism: A Study of Metadiscourse in Texts by Native Speakers of English and Iranian EFL Writers. *Theory and Practice in Language Studies, 7*(6), 483-495. https://doi.org/10.17507/tpls.0706.11

– Mowlood, B., Tahriri, A., &Razmjoo, S. A. (2024). Interactional metadiscourse markers in the discussion and conclusion sections of research papers in the disciplines of political sciences and religious studies. *ZABANPAZHUHI (Journal of Language Research), 15*(49), 221-242[In Persian].

– Pearson, W., &Abdollahzadeh, E. (2023). Metadiscourse in academic writing: A systematic review. *Lingua, 293*, 1-32. https://doi.org/10.1016/j.lingua.2023.103561

– Pérez-Llantada, C. (2010). The discourse functions of metadiscourse in published academic writing: Issues of culture and language. *Nordic Journal of English Studies, 9(S2), 41-68*. https://doi.org/10.35360/njes.217

– Rababah, G., Yagi, S., &Alghazo, S. (2024). Using metadiscourse to create effective and engaging EFL virtual classrooms during the Covid-19 pandemic. Iranian Journal of Language Teaching Research, 12(3), 123–145. https://doi.org/10.30466/ijltr.2024.121421

– Ramanathan, V., & Atkinson, D. (1999). Individualism, academic writing, and ESL writers. *Journal of Second Language Writing, 8*, 45-75.

– Shirzadi, A., et al. (2017). Metadiscourse in academic writing: A comparison of Iranian and American M.A. EFL writers. *Journal of English Language Teaching and Learning, 9(1), 45-62.*

– Sorahi, M., &Shabani, M. (2016). Metadiscourse in Persian and English research article introductions. *Theory and Practice in Language Studies, 6*(6), 1175-1182. https://doi.org/10.17507/tpls.0606.06

– Supranont, S. (2012). "Genre analysis of research article abstracts in applied linguistics: Exploring sub-disciplinary variations". *International Journal of English Language & Translation Studies*, 9(3), 34-40.

– Tajeddin, Z., Alemi, M. (2012). L2 learners' use of metadiscourse markers in online discussion forums. *Issues in Language Teaching* 1 (1): 93-122.

– Tavanpour, N., Goudarzi, Z., &Farnia, M. (2016). Interactional metadiscourse markers in sports news in newspapers: A cross-cultural study of American and Iranian columnists. *The Philologist, 1*(1), 1-13.

– Vande-Kopple, W. (1985). Some exploratory discourse on metadiscourse. *College Composition and Communication, 36*, 82-93.

– VasheghaniFarahani, E., &Sabetifard, F. (2017). Metadiscourse markers in academic writing: A comparative analysis of native and non-native English speakers. *Journal of Language Teaching and Research, 8*(3), 456-465.

– Wei, D., &Duan, W. (2019). A comparative study of metadiscoursal features in English research article abstracts in hard disciplines. *Arab Journal of Applied Linguistics, 4*(1), 1-37. https://doi.org/10.11649/cs.2827

– Yakut, I. (2022). Functions of meta-discursive nouns: A corpus-based comparison of post-graduate genres in L1 and L2 English. *Cognitive Studies | Étudescognitives, 22*, Article 2827. https://doi.org/10.11649/cs.2827

– Yulita, E., Rukmini, D., & Widhiyanto, W. (2021). Comparison of the use of discourse markers in English speeches between non-native and native speakers of English. *English Education Journal (EEJ), 11*(2), 198-207.

– Zamani, M., Safavi, K., &Iranzade, N. (2018). Relation of Language and Power in the First Modern Persian Poetry (Critical Discourse Analysis of "Vafâ-ye be ʔahd" (Adherence to the

Pledge)). *Journal of Linguistics and Rhetorical Studies, 8(16),* 157-188. doi:10.22075/jlrs.2018.13977.1150

– Zarei, G. R.&Mansoori, S. (2011). A contrastive study on metadiscourse elements used in humanities vs. non-humanities across Persian and English. *English Language Teaching,4(1),* 42-55. https://doi.org/10.5539/elt.v4n1p42

– Zarei, G. R. (2015). Metadiscourse in Academic Prose: A Contrastive Analysis of English and Persian Research Articles. *Journal of English Language Teaching and Learning, 7(1), 1-15.*

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