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Stance Markers in Academic Writing: Native Vs. Non-native (Iranian) Authorship in Hard and Soft Sciences Research Articles

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Abstract: The meticulous examination of discourse analysis, particularly the scrutiny of language application in academic writing, carries significant weight in the realm of Applied Linguistics. A critical aspect of this exploration revolves around the deployment of stance markers, which function as linguistic tools for articulating the personal viewpoints and assessments of writers concerning the assertions they proffer. The primary objective of this study was to juxtapose the overall and categorical distribution of stance markers in academic research articles authored by native (English) and non-native (Iranian) academic writers across the spheres of soft and hard sciences. The analytical framework of Hyland (2005b) on interactional metadiscourse was utilized to delineate the specific taxonomy of stance markers employed in the academic research articles written by two groups of authors. The results of the research revealed significant differences in the overall and categorical distribution of stance markers between the two sets of datasets, highlighting the potential impacts of disciplinary and cultural variations on their usage. The study advocates for an enriched understanding and integration of the rhetorical norms inherent in academic genres, including the deployment of stance markers, to enhance the creation of educational materials and elevate the language proficiency of students in linguistic studies.

Keywords: Stance Markers; Hard Sciences; Interactional Metadiscourse; Soft Sciences.

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1. Introduction

Within the realm of scholarly discourse, the act of writing has long been viewed as a collaborative endeavor, allowing authors to assert their authority within their literary works while establishing a profound sense of rapport with their readership. This endeavor is considered a persuasive art, emphasizing not only the composition of written pieces but also the nurturing of interpersonal connections through the medium of language (Thompson, 2001). According to Hyland (2005b), the establishment of a social bond between the writer and the reader is achieved through the deliberate use of stance markers (SMs). By skillfully employing these linguistic tools, authors can adjust the extent of their presence in their writings and foster a deep level of engagement with their audience. The utilization of SMs is influenced by a myriad of factors including the conventions of the academic field as well as the linguistic and cultural milieu within which writers operate (Blagojevic, 2004; Dahl, 2004). Numerous studies have reinforced the notion that the linguistic inclinations of academic writers are molded by the influences of their respective disciplines (Hyland, 1998, 2001, 2003, 2008). In other words, academic writing is far from being a uniform entity; rather, it encompasses a rich array of subject-specific literacies. Hence, scholars utilize a wide range of linguistic mechanisms that resonate with the standards and anticipations of their specific disciplinary cohorts (Hyland, 2002).

The interplay between knowledge grounded in scientific principles and culture-specific beliefs gives rise to a diverse spectrum of intellectual styles in the articulation and engagement within a particular discourse (Hinds, 1987; Sheldon, 2009). The impact of culture on writing has sparked a scholarly discourse, generating divergent viewpoints. One perspective underscores the universality of academic writing, championed by Widdowson (1979), while another accentuates the cultural nuances in textual modalities (Connor, 2004; Dontcheva-Navratilova, 2021; Grabe & Kaplan, 1996; Hinkel, 2002; Mauranen, 2001; Seyri & Rezaee, 2021). It is widely acknowledged that writing and the identities of writers are intricately linked, with writers imbuing their written discourse with traces of their cultural heritage. The influence of writers' native language culture and the academic sphere in which they are immersed shapes their dissemination of insights to their readership (Swann et al., 2004). Consequently, when employing English as a global language, the cultural frameworks of individuals from diverse first language (L1) backgrounds profoundly shape their writing in English as a second language (L2) (Bazerman, 1988; Bhowmik et al., 2021; Hind, 1987; Paltridge, 2006; Sheldon, 2009, Tan et al., 2022; Zhao, 2019).

In spite of the copious amount of research dedicated to SMs as linguistic tools influenced by disciplinary diversity and authors' cultural backgrounds, there remains a noticeable gap in understanding their utilization in English-medium research articles across various disciplines, authored by both native (English) and non-native (Iranian) academic writers. The disparities in the usage of these markers have not received extensive exploration. Consequently, the current study seeks to address this void in the scholarly literature by examining the prevalence of SMs in the discussion sections of academic research articles in both hard and soft sciences, authored by native (English) and non-native (Iranian) writers.

2. Review of Related Literature

2.1. Stance Markers

In academic writing, the role of interaction is paramount, serving as a foundational pillar that enables authors to strategically position themselves in the discourse, construct compelling arguments, and sustain reader engagement throughout the text. Central to this notion is the fundamental role of SMs as integral elements of interactional metadiscourse within academic discourse. SMs serve as crucial elements that encapsulate the writer's voice, opinions, evaluations, and commitments, thereby shaping the writer's presence within the text (Hyland, 2005a). By strategically employing SMs, writers can not only acknowledge their readers but also effectively persuade them with their arguments, engross their attention, engage them as active participants in the dialogue, and adeptly guide them towards a nuanced understanding of the text. In his recent model Hyland (2005b), classified SMs into four sub-categories namely hedges, boosters, self-mention, and attitude markers.

Hedges: Hedges are linguistic devices that writers employ to express uncertainty or tentativeness regarding a particular claim or statement. Examples of hedges include words and phrases such as "possible", "perhaps" and "mainly" (Hyland, 2004).

Boosters: Boosters are linguistic devices that writers utilize to emphasize certainty and eliminate alternative viewpoints on the part of the audience. Examples of boosters include words such as "certainly", "clearly" and "demonstrate" (Hyland, 1999).

Self-mentions: Self-mention devices in academic writing serve as a crucial means for writers to assert their professional authority, establish their identity, and convey their familiarity with a specific discipline (Sheldon, 2009). Self-mentions can be measured by the frequency of the first person singular and plural pronoun, such as "I" and "we" (Hyland, 2001).

Attitude markers: Attitude markers are linguistic devices that enable writers to convey their personal feelings, judgments, and affective positions towards the propositions and readers. Examples of attitude markers include words such as "I agree", "I prefer" and "in my opinion" (Hyland, 2005a).

2.2. Review of Empirical Studies

SMs, as pivotal element of persuasive written discourse, have garnered significant attention from both cross cultural and interdisciplinary point of view (e.g., Abdi, 2009; Crismore et al., 1993; Dafouz-Milne, 2008; Dahl, 2004; Dobakhti, 2012; Faghih & Rahimpour, 2009; Ghafoori & Oghbatalab, 2012, Gillaerts & Vande Velde, 2010; Hyland, 1998, 1999, 2004; Vassileva, 2001; Dobakhti & Zohrabi, 2017). In their scholarly inquiry, Faghih and Rahimpour (2009) meticulously analyzed linguistics research articles to delve into the multifaceted dimensions of academic written discourse. The discerning outcomes of their investigation revealed a discernible disparity in the utilization of SMs between native English speakers and Iranian counterparts, with the former exhibiting a more pronounced propensity for SMs incorporation. Regarding overall distribution of SMs, the same results were obtained in the study that was conducted by Abdollahzadeh (2011) and Abdi (2009). Regarding categorical distribution, it was found, all instances of SMs subcategories were detected in academic research papers written by native authors (Abdi, 2009). Gholami and Ilghami (2016) by conducting an inter-lingual study reached the same results.

Hyland (2005b) conducted a study on the use of SMs in research articles across 10 different disciplines. He found that the frequency and type of SMs used varied across disciplines, reflecting the different epistemological and rhetorical traditions within each discipline. In other words, when writers are part of a specific group or community where they engage in discussions and conversations, they should understand and follow the specific rules, preferences, and ways of communication that are unique to that particular discourse community. These rules and preferences may vary depending on the field of study or profession the community belongs to. Therefore, it is important for the members of a specific discourse community to be aware of these norms and adapt their behavior accordingly (Dobakhti & Zohrabi, 2017).

In another interdisciplinary study, Farnia and Gerami (2021) by conducting a descriptive study examined the frequency of hedges and boosters in academic research articles across hard and soft sciences. The results of the analysis revealed that *hedges* were more frequent in soft sciences disciplines, while writers employed more instances of

boosters in hard sciences. They justified their claim by declaring that soft sciences are more subjective that make authors employ more hedges. In contrast, hard sciences are more objective and lead authors to use more boosters to express the propositional meaning. In a more recent study, Seyri and Rezaee (2021) by analyzing research articles examined the frequency of SMs across soft and hard sciences. They found that both native English authors and non-native Iranian authors used more SMs in soft sciences disciplines compared to hard ones. Regarding categorical distribution of SMs, such devices were more prevalent in soft sciences disciplines research articles written by both native and non-native Iranian authors. From cross cultural point of view, native authors drew more on SMs compared to non-native counterparts. It is worth mentioning that all SMs subcategories were significantly used more by native than non-native academic writers.

Drawing upon the synthesized literature, it is apparent that, extant scholarly inquiries have predominantly concentrated on inter-lingual or cross-disciplinary investigations, with a dearth of comprehensive examinations encompassing cultural and disciplinary variances simultaneously. To steer the research endeavor, the ensuing research questions have been formulated.

3. Research Questions

1. Are there any significant differences in the frequency of the use of ***total stance*** employed by native (English) and non-native (Iranian) academic writers in their research articles discussion sections of ***soft*** sciences?

2. Are there any significant differences in the frequency of the use of ***stance markers subcategories*** employed by native (English) and non-native (Iranian) academic writers in their research articles discussion sections of ***soft*** sciences?

3. Are there any significant differences in the frequency of the use of ***total stance*** employed by native (English) and non-native (Iranian) academic writers in their research articles discussion sections of ***hard*** sciences?

4. Are there any significant differences in the frequency of the use of ***stance markers subcategories*** employed by native (English) and non-native (Iranian) academic writers in their research articles discussion sections of ***hard*** sciences?

4. Methodology

4.1. Corpus of the Study

The current study utilized a corpus of sixty academic research articles drawn randomly from six diverse sub-disciplines, comprising 30 articles authored by native English

speakers and an equivalent number by non-native Iranian authors. The selection criteria for the content corpus involved the application of Becher's (2001) taxonomy of disciplines which bifurcates academic fields into soft and hard sciences. Applied linguistics, sociology, and marketing were identified as representative fields within the soft sciences disciplines, whereas physics, biology, and medicine were deemed as emblematic of the hard sciences disciplines. It is worth mentioning that, this study did not examine disciplines individually, but rather compare and contrast a group of disciplines that have been labeled as soft and hard.

The comparability of the corpora was meticulously ensured by focusing exclusively on data-based research articles, as elucidated by Swales (2004), who delineates between data-based and theory-based articles. Table 1 represents the corpus employed in the present study.

Table 1:

Text corpora

Sub corpora	Number of document	Number of words		
Native English	30	Soft disciplines:14851	Hard disciplines: 13152	28003
Non-native Iranian	30	Soft disciplines:16111	Hard disciplines: 11768	27879
Total	60	30962	24920	55882

4.2. Data Collection Procedure

A meticulous selection of esteemed journals across diverse disciplines was undertaken to curate a collection of reputable articles. Within this selection, 30 articles each from the domains of soft sciences and hard sciences were randomly extracted, representing a decade-long span of data collection. The meticulous enumeration of SMs within the PDF articles facilitated the determination of their frequency, culminating in a thorough transposition of data into an Excel spreadsheet for subsequent quantitative and statistical analyses. The utilization of Chi-square statistical tests ensued to evaluate the statistical significance of variations in observed values, with a predetermined level of significance established at <0.05 .

4.3. Data Analysis Procedure and Framework

The selected academic research articles were converted to Word format and stored digitally. A thorough search for interactional metadiscourse, including stance markers, was conducted through both electronic and manual analyses. This process ensured the

accurate identification of types and frequencies of elements, emphasizing a context-sensitive evaluation to reinforce the validity of the results.

Following data analysis, a quantitative approach was used to examine the frequency of different interactional metadiscourse types. To standardize comparisons across the varied corpus lengths, all stance markers were calculated per 1000 words, consistent with established methodologies. Descriptive statistics summarized the data, while inferential statistics, specifically the Chi-square (χ^2) test at a $p = 0.05$ significance level assessed the significance of differences in stance markers distribution between hard and soft sciences academic research articles written by native (English) and non-native (Iranian) authors.

Grounded in Hyland's (2005b) seminal Interactional Model of Metadiscourse, this examination delves into the realm of overt writer-reader interaction facilitated by the strategic deployment of SMs. Within the purview of this study, the attention is squarely directed towards a nuanced analysis of SMs, comprising elements such as hedges, boosters, self-mentions and attitude markers (for the categories of the analysis refer to Appendix).

5. Results

5.1. Overall Distribution of SMs in Soft Sciences Research Articles

In order to examine whether native (English) and non-native (Iranian) authors differ in their use of total SMs, first the frequency of examined category per 1000 words was calculated in the discussion sections of soft sciences academic research articles written by two groups of writers. As it is shown in the table 2, SMs employed by native authors were 810 out of 14851 corpus words and the average frequency was 54.541 per 1000 words. However, non-native Iranian authors employed 584 SMs in their soft sciences research articles out of 16111 corpus words with the average frequency of 36.248 per 1000 words.

Table 2:

<i>Total Frequency of SMs across Native Vs Non-Native Soft Sciences RAs</i>		
	Native	Non-native
Total words	14851	16111
SMs in soft sciences RAs	810	584
Frequency per 1,000 words	54.541	36.248

To examine the significance of the difference between two sets of corpora the second Chi-square test was conducted. As it is shown in table 3, the value of observed Chi-square ($\chi^2 = 36.64$) was significant at α level ($p = .000$) with degree of freedom of ($df = 1$) indicating that there was a significant difference between these two groups in their use of SMs ($p < 0.05$).

Table 3:

Chi-square Test of SMs across Native Vs Non-Native Soft Sciences RAs

Category	Observed N native	Observed N non-native	Expected N	Residual native	Residual non-native	Chi-square	df	sig
SMs	810	584	697.0	113.0	-113.0	36.640	1	.000

Note: N = Number

As it is evident, native (English) academic authors tend to incorporate more instances of SMs in their soft sciences research articles compared to non-native (Iranian) counterparts. It seems that native (English) academic writers have more inclination to present themselves in the written prose and convey their value and stance toward both the unfolding text as well as the intended audiences compared to non-native counterparts. This is shown by a chart bar as displayed in Figure 1.

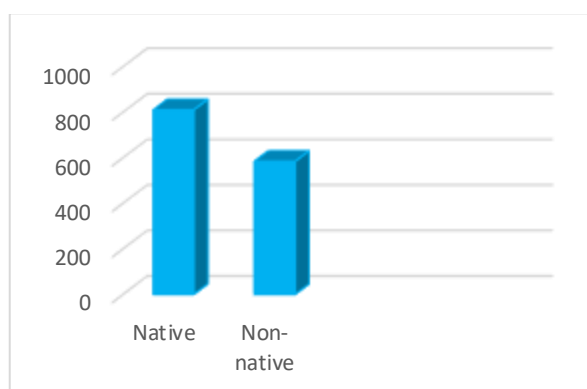


Figure 1: Overall distributions of SMs across soft sciences RAs

The cultural influence on the use of SMs in soft sciences academic research articles was confirmed by the results of the analysis. Native English authors, exhibited a greater focus on projecting themselves into their text through commentary on claim accuracy and credibility, as well as conveying attitudes towards the discussed topic and readers. The same results were observed in the works of Abdi (2009), Deliry Moghadam (2017), Al-Zubeiry (2019), and Seyri and Rezaee (2021), suggest that native writers effectively

engage with their imagined readers, considering them throughout the development of their prose.

5.2. Categorical Distribution of SMs in Soft Sciences Research Articles

In order to find out the distribution of four subcategories of SMs in soft sciences research articles written by two groups of writers, the frequency of SMs in each category per 1000 words and also their percentage was calculated. Table 4 displays the distribution of these four subcategories.

Table 4:

Categorical Distribution of SMs Across Native Vs Non-Native Soft Sciences RAs

	Native			Non-native		
Total words	14851			16111		
Categories of SMs	F per1000w	Percent	Raw	F per1000w	Percent	Raw
Hedges	20.335	37.28	302	12.227	33.732	197
Boosters	11.783	21.60	175	11.979	33.047	193
Self-mentions	11.851	21.72	176	2.668	7.363	43
Attitude markers	10.571	19.38	157	9.372	25.856	151
Total	54.541	100	810	36.248	100	584

Note: F = Frequency W = Words

The findings presented in Table 4 reveal distinct patterns in the utilization of SMs subcategories within soft sciences research articles authored by native (English) and non-native (Iranian) writers. This divergence in the use of these subcategories between two groups of writers is shown in Figure 2.

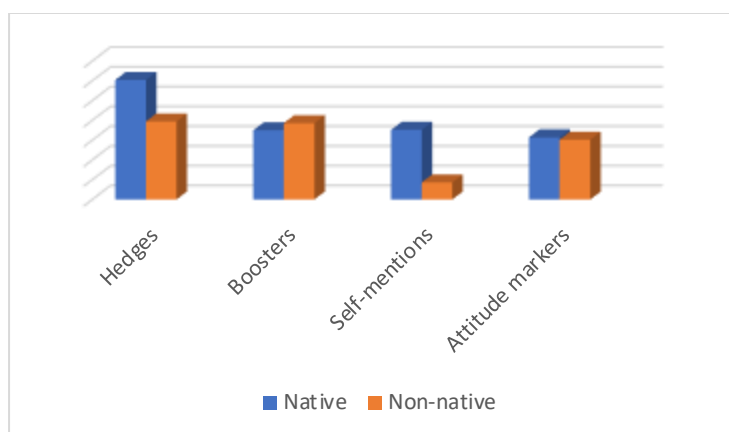


Figure 2: Categorical distribution of SMs across soft sciences RAs

The examination of the significance of differences in the utilization of SMs subcategories between the two distinct groups of writers in soft sciences research articles has raised questions regarding the statistical importance of these disparities. In order to assess the significance of these variances, a Chi-square test was employed to compare the frequencies of SMs subcategories, namely hedges, boosters, self-mentions, and attitude markers. The summary of the Chi-square test results is presented in Table 5.

Table 5:

Chi-Square test for SMs Subcategories Across Native Vs Non-Native Soft Sciences RAs

Categories	Observed N Native	Observed N Non- native	Expected N	Residual Native	Residual Non-native	Chi- square	df	sig
Hedges	302	197	249.5	52.5	-52.5	22.094	1	.000
Boosters	175	193	184	-9	9	.880	1	.348
Self- mentions	176	43	109.5	66.5	-66.5	80.772	1	.000
Attitude markers	157	151	154	3	-3	.117	1	.732

Note: N = Number

In soft sciences research articles authored by two distinct groups of writers, significant disparities were uncovered in the employment of SMs subcategories, specifically hedges and self-mentions, as indicated by the results of the Chi-square test presented in Table 5 ($p = .000 < .05$). Native English writers exhibited a higher frequency of these linguistic devices in their research articles compared to Iranian writers, highlighting a marked contrast in writing styles between the two groups.

Notably, no significant variances were observed in the usage of boosters ($p = .348 > .05$) and attitude markers ($p = .732 > .05$) across the examined texts.

5.3. Overall Distribution of SMs in Hard Sciences Research Articles

The investigation into the divergence in the use of total SMs within hard sciences research articles authored by two distinct groups of writers necessitated the computation of the overall distribution of this category per 1000 words. Table 6 meticulously delineates the distribution of SMs across the respective corpora. Evident from the table, native authors strategically employed 563 SMs out of a total of 13152 corpus words, yielding an average frequency of 42.807 occurrences per 1000 words. By contrast, non-native Iranian authors integrated 449 SMs within their hard sciences research articles spanning 11768 corpus words, resulting in an average frequency of 38.154 per 1000 words.

Table 6:

<i>Total Frequency of SMs across Native Vs Non-Native Hard Sciences RAs</i>		
	Native	Non-native
Total words	13152	11768
SMs in hard sciences RAs	563	449
Frequency per 1,000 words	42.807	38.154

The Chi-square test was employed to assess the disparity in the utilization of SMs within hard sciences research articles penned by native (English) and non-native (Iranian) authors. Table 7 illustrates the results, with the observed Chi-square value of 12.842 proving statistically significant at α level ($p = 0.000$) with one degree of freedom ($df = 1$). This outcome signifies a noteworthy distinction between the two writer cohorts in their application of SMs, with the p-value being less than 0.05, further affirming the presence of a substantial variance in their respective usage patterns.

Table 7:

<i>Chi-square Test of SMs across Native Vs Non-Native Hard Sciences RAs</i>								
Categor y	Observed N native	Observe d N non- native	Expecte d N	Residual native	Residual non- native	Chi- square	df	sig
SMs	563	449	506.0	57.0	-57.0	12.842	1	.000

Note: N = Number

As it is evident native (English) authors used more instances of these categories in their hard sciences research articles compared to non-native counterparts. It seems that

native (English) academic writers have more inclination to present themselves in the written prose and convey their value and stance toward both the unfolding text as well as the intended audiences compared to non-native counterparts. This is best shown in figure 3.

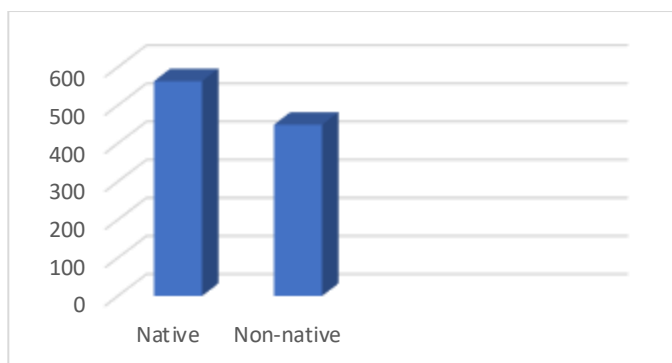


Figure 3: Overall Distributions of SMs Across Hard Sciences RAs

As the results of the analysis confirmed, the use of SMs in hard sciences academic research articles can be affected by writers' culture. The results of the present study coincided with those of Abdi (2009), Deliry Moghadam (2017), and Seyri and Rezaee (2021) who found that native writers effectively engage with their imagined readers, considering them throughout the development of their prose.

5.4. Categorical Distribution of SMs in hard Sciences Research Articles

To examine categorical, distribute on of SMs in hard science research articles written by two groups of authors, the frequency of each category per 1000 words and their percentage were calculated. Table 8 displays the distribution of these four subcategories.

Table 8:

Categorical Distribution of SMs Across Native Vs Non-Native Hard Sciences RAs

	Native			Non-native		
Total words	13152			11768		
Categories of SMs	F	Percent	Raw	F	Percent	Raw
	per1000w			per1000w		
Hedges	16.423	38.365	216	13.511	35.412	159
Boosters	7.907	18.472	104	9.007	23.608	106
Self-mentions	10.416	24.333	137	7.307	19.153	86
Attitude markers	8.059	18.827	106	8.327	21.826	98
Total	42.807	100	563	38.154	100	449

Note: F = Frequency W = Words

The results depicted in Table 8 unveil discernible trends in the utilization of SMs subcategories within hard sciences research articles crafted by native (English) and non-native (Iranian) writers. The distinct disparity in the adoption of these subcategories between the two writer groups is visually showcased in Figure 4, emphasizing the contrasting patterns of usage prevalent in their scholarly works.

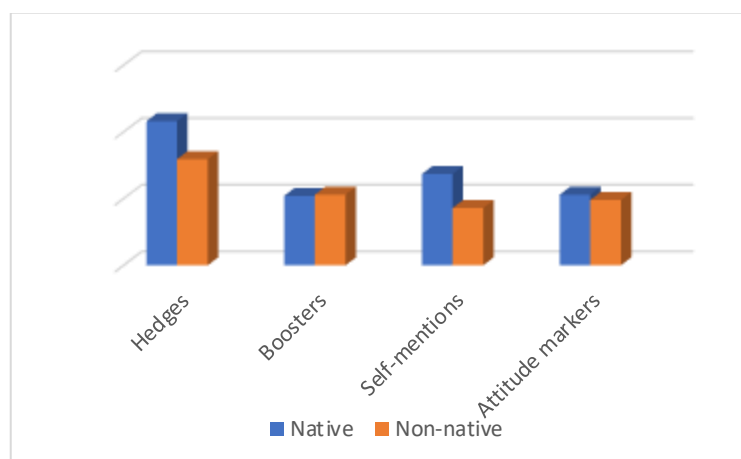


Figure 4: Categorical distribution of SMs across hard sciences RAs

While the contrast in the utilization of SMs subcategories in hard sciences research articles authored by native (English) and non-native (Iranian) writers has been addressed, the crucial inquiry into the significance of these differences remains unresolved. A Chi-square test was consequently undertaken to assess and compare the frequency of SMs subcategories across the two corpora. The summary of these pivotal findings is consolidated and elucidated in Table 9, shedding light on the nuanced variations in the usage of these linguistic devices within the respective research contexts.

Table 9:

Chi-Square Test for SMs Subcategories Across Native Vs Non-Native Hard Sciences RAs

Categories	Observed N Native	Observed N Non- native	Expected N	Residual Native	Residual Non-native	Chi- square	df	sig
Hedges	216	159	187.5	28.5	-28.5	8.664	1	.003
Boosters	104	106	105.0	-1.0	1.0	.019	1	.890
Self- mentions	137	86	111.5	25.5	-25.5	11.664	1	.001
Attitude markers	106	98	102.0	4.0	-4.0	.314	1	.575

Note: N = Number

Table 9 presents the results of the Chi-square test, indicating significant disparities in the distribution of hedges ($p = .003 < .05$) and self-mentions ($p = .001 < .05$) within hard sciences research articles authored by native (English) and nonnative (Iranian) writers. However, no significant differences were observed in the frequency of boosters ($p = .890 > .05$) and attitude markers ($p = .575 > .05$) between the two groups.

6. Discussion

In the exploration of intercultural disparities, the research illuminated the distinctions between native (English) and non-native (Iranian) scholarly writers in their utilization of SMs across soft and hard sciences research articles. Clyne (1987) posited that the standards and practices within the academic discourse genre are intricately intertwined with the writers' cultural milieu, exerting influence on their deployment of linguistic tools.

Regarding overall distribution of stance markers in both soft and hard sciences, the findings underscored that native (English) writers demonstrated a greater propensity for employing SMs to imbue their texts with a sense of authorial presence and engage with their audience, whether through directing attention or integrating them as active participants in the discourse, in contrast to their non-native counterparts. The outcomes of the current investigation align with the research conducted by Abdi (2009), Deliry Moghadam (2017), Al-Zubeiry (2019), and Seyri and Rezaee (2021), all of which indicated that native English speakers exhibited a higher frequency of SMs compared to their non-native counterparts. As posited by Gholami and Ilghami (2016), this pattern can be ascribed to the adeptness and cognizance of native writers in integrating SMs into their written compositions, enabling them to effectively engage with their readership.

Regarding categorical distribution of SMs in both soft sciences and hard sciences research articles, hedges and self-mentions predominantly emerged in the scholarly works crafted by native English writers. According to Crismore et al. (1993), the abundant use of hedges may signify the authors' inclination to convey a degree of uncertainty pertaining to the discussed subject matter, fostering a dynamic of interaction between writer and reader by imbuing the claim with an element of interpretive openness. Such linguistic devices afford writers the ability to assert their arguments with a sense of cautiousness, potentially shielding them from potential criticisms from their audience (Gholami & Ilghami, 2016). Furthermore, the extensive incorporation of self-mentions serves as a means for authors to embed traces of their persona within their academic manuscripts. As previously noted, these devices empower writers to establish

their unique voice, authority, and stance within their academic domain and the discourse community, guiding readers through the narrative structure. These elements play a pivotal role in elucidating the authors' motives and perspectives (Hyland, 2005b).

It is worth noting that no significant differences were observed in categorical distribution of boosters and attitude markers in two sets of corpora. In other words, both groups of writers employed identical numbers of boosters and attitude markers to strengthen their claims and represent their views and attitudes toward the readers as well as unfolding text. Regarding boosters, the results of the present study went against those of Abdi (2009), Al-Zubeiry (2019) and Seyri and Rezaee (2021) who found that native (English) academic authors employed more instances of boosters in their academic writing compared to non-native (Iranian) counterparts. It is worth mentioning that the results of the present study ran against the study of Gholami and Ilghami (2016), who detected more instances of boosters in non-native Iranian academic research articles. They attributed their findings to non-native (Iranian) authors' confidence in the deduction of the material they were declaring. This turned out to be in line with the study of Deliery Moghadam (2017), Farzannia and Farnia (2016) and Marandi (2003) who did not find any significant difference in the frequency of the use of boosters in academic prose written by native (English) and non-native (Iranian) authors.

In relation to attitude markers, the results of the present study went against those of Abdi (2009), Al-Zubeiry (2019), Gholami and Ilghami (2016) and Seyri and Rezaee (2021), who found that instances of stance markers namely attitude markers are prevalent in the academic research articles written by native (English) authors. But it was in line with that of Deliery Moghadam (2017) and Salek and Yazdanimogaddam (2014) who found no significant differences in the distribution of attitude markers in academic research papers written by native (American) and non-native (Iranian) authors. It seems that both groups of writers, regardless of their cultural background, represented their views and attitudes toward the readers as well as unfolding texts.

7. Conclusion and Implications

The current study employed a corpus-based approach to investigate the utilization of SMs in hard and soft sciences academic research articles by authors from diverse cultural backgrounds. The research revealed discernible variations in the application of SMs in two distinct collections of academic texts. The findings not only underscore the influential role of cultural and linguistic factors in the use of SMs but also provide

valuable insights for non-native and novice scholars navigating the complexities of presenting claims in academic writing.

The study's meticulous quantitative analysis and its focus on cross-cultural and disciplinary differences contribute to a deeper understanding of stance-taking in academic discourse. Becoming cognizant of these intercultural and interdisciplinary variations enables researchers to enrich their comprehension and perceptiveness when engaging with academic work from diverse cultural and disciplinary standpoints. Awareness of effective communication strategies is essential to prevent misunderstandings, promote an appreciation for varied cognitive tasks, and enhance collaboration in academic endeavors (Hyland, 2005b). This understanding enables individuals to articulate their ideas, thoughts, and arguments in ways that are appropriate for scholarly discourse. As a result, it fosters the development of skilled writers capable of producing insightful books and articles within their fields of expertise.

In educational settings, teaching students to utilize these communication elements effectively can lead to the refinement of their writing styles and the ability to tailor their messages to meet audience expectations. Such instructional approaches support learners in organizing and connecting their ideas in both spoken and written formats, ultimately improving their communication skills and nurturing a more professional writing style (Sengupta, 1999).

Appendix:

Stance Markers investigated

Hedges: about, almost, apparent, appear, appeared, appears, approximately, argue, argues, argued, around, assumption, assumed, assume, broadly, certain amount, certain extent, certain level, claim, claims, claimed, common, could, couldn't, doubt, doubtful, essentially, estimate, estimated, fairly, feel, feels, felt, frequently, from my perspective, from our perspective, from this perspective, generally, guess, hypothesis, hypothesized, indicate, indicated, indicates, in general, in most cases, in most instances, in my opinion, in my view, in our opinion, in our judgement, in our view, largely, likely, mainly, may, maybe, might, mostly, notion, often, on the whole, ought, partly, perhaps, plausible, plausibly, possible, possibly, postulate, postulated, postulates, presumable, presumably, probable, probably, proposed, quite, rather x, relatively, roughly, seems, should, sometimes, somewhat, suggest, suggested, suggests, supposed, suppose, supposes, suspect, tend to, tended to, tends to, tentatively, to my knowledge, typical, typically,

uncertain, uncertainly, unclear, unclearly, unlikely, usually, virtually, view, would, wouldn't.

Boosters: actually, always, believe, believed, believes, beyond doubt, certain, certainly, clear, clearly, conclude, conclusively, decidedly, definite, definitely, demonstrate, demonstrated, demonstrates, determine, doubtless, emphasize, establish, established, evident, evidently, find, finds, found, in fact, hold, incontestable, incontestably, incontrovertible, incontrovertibly, indeed, indisputable, indisputably, know, known, must, never, no doubt, obvious, obviously, of course, primarily, prove, proved, proves, realize, realized, realizes, really, revealed, show, showed, shown, shows, sure, surely, think, thinks, thought, truly, true, undeniable, undeniably, underscore, undisputedly, undoubtedly, without doubt.

Attitude markers: admittedly, agree, agreed, agrees, amazed, amazing, amazingly, appropriate, appropriately, astonished, astonishing, astonishingly, best, better, complex, comprehensive, conclusively, consistent, correctly, critical, curious, curiously, desirable, desirably, difficult, disappointed, disappointing, disappointingly, disagree, disagreed, disagrees, dramatic, dramatically, essential, essentially, even x, expected, expectedly, fortunate, fortunately, hopeful, hopefully, important, importantly, inappropriate, inappropriately, interesting, interestingly, key, main, major, meaningful, necessary, only, prefer, preferable, preferably, preferred, remarkable, remarkably, robust, shocked, shocking, shockingly, significant, striking, strikingly, surprised, surprising, surprisingly, unbelievable, unbelievably, understandable, understandably, unexpected, unexpectedly, unfortunate, unfortunately, unique, useful, unusual, unusually, usual, valuable.

Self-mentions: I, we, our, us, me, my, the writer, the author, mine.

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