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The Use of Stance Markers in Chinese and International Journal Abstracts in Aerospace

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Abstract

Stance in academic discourse refers to the writer-oriented approach to interact with readers by commenting on the credibility of propositions, expressing their own attitudes or mentioning themselves. This study compares and analyzes the overall distribution and differences of the use of stance markers in Chinese and international journal abstracts. The corpus includes 200 journal abstracts from the both top 10 Chinese and international academic journals of aerospace discipline from 2018 to 2022. The results show that Chinese and international journal abstracts frequently use stance markers to express author's attitudes and the following pattern appears in both journals according to the frequency of use, that is, epistemic stance markers> attitude markers > self-mention. Meanwhile, Chinese and international journals differ significantly in the use of approximators, shields, affect markers, first person self-mention and third person self-mention. International journals also seem to adopt more hedges than boosters, while Chinese journals adopt more boosters than hedges. A comparative analysis of stance markers could provide some reference for Chinese authors in writing academic abstracts.

Keywords

academic abstracts, stance markers, comparative analysis

1. Introduction

Abstracts are concise summaries of research papers that provide an overview of the study's purpose, methods, results, and conclusions. They serve as a crucial tool for readers to quickly understand the key points of a paper without having to read the entire document. In addition to conveying factual information, abstracts also express the author's evaluation, attitude, and emotions towards the

proposition, aiming to persuade readers to accept its viewpoint or research results. Writing academic paper abstracts requires mastering an appropriate way of constructing discourse to help authors express their positions and viewpoints. The evaluative and interactive meta-discourse plays an important role in abstract writing, and stance markers, being an important meta-discourse rhetorical device, are an indispensable way to enhance academic discourse interaction which enables authors to engage readers and persuade them to accept the research findings (Hyland, 2005a; Li & Cheng, 2020). For non-native English authors, however, the appropriate use of stance markers to express their stance may be of great challenge.

During the past decade, studies on stance markers mainly fell into three categories. The first category of research focuses on the classification of stance. For instance, Biber *et al*. (2007) classified stance into three categories including epistemic stance, attitudinal stance and style of speaking. Hyland (2005b) systematized stance into four types including hedges, boosters, attitude markers and self-mention. Both of their classifications of stance are from the perspective of functionalism but are slightly different. The second category of studies were conducted to compare stance markers used in different disciplines, which reveal that stance markers are discipline-oriented (e.g., Abdi, 2002; Stotesbury, 2003; Hyland, 2011; Xu, 2015; Lancaster; 2016; Crosthwaite, *et al*., 2017; Hyland & Jiang, 2018; Zhao, *et. al*., 2019; Zhong & Guo, 2020). Hyland (2011), for example, collected 240 research articles from eight disciplines in both 'soft' fields and 'hard' fields. The results showed that stance markers are more frequently adopted in 'soft' fields than those in 'hard' fields. Hyland & Jiang (2018) conducted a diachronic study to explore the changes in meta-discourse in four disciplines involving applied linguistics, biology, engineering and sociology in the past 50 years. They found that interactional features decrease significantly overall, with the most striking decrease in boosters and in attitude markers, and a converse increase in self-mention. The third category of research studies were carried out to compare the use of stance markers between first language (L1) and second language (L2) learners in using stance markers in academic discourse. International studies generally reveal that L2 learners are not as proficient as L1 learners in using stance markers (e.g., Hyland, 2002; Abdollahzadeh, 2011; Xu, 2011; Xu, 2012; Zhao & Zhang, 2014; Lee & Deakin, 2016; Leedham & Fernandez-Parra; 2017; Gilmore & Millar, 2018; Chen & Qin, 2019; Li & Cheng, 2020; Liu & Chen, 2020; Zhong & Guo, 2020; Chen, 2021; Chen, 2022).

On the other hand, relatively a few studies concentrated on the comparative analysis on the use of stance markers between Chinese and international journals. For instance, Wu (2010) examined the use of stance markers in the concluding sections of 30 linguistic journal articles in English and Chinese respectively, and the results showed significant differences between the two discourses. Pan (2012) compared the use of stance adverbs in English articles between Chinese and international mechanical journals and found that Chinese scholars tend to use stance adverbs significantly less than native speakers. Qian and Mu (2017) conducted a comparative analysis of the use of stance markers in the introduction sections between Chinese and international journals, and they found that the use of stance

markers in Chinese journal articles may not be flexible enough to express rigorous and objective stances appropriately. Li and Cheng (2020) investigated the overall distribution and differences of stance markers with 200 Chinese and international journal abstracts in total from environmental discipline. The results showed that Chinese and international journal abstracts frequently use stance markers to express author's attitudes and follow the same pattern according to the frequency of use, that is, hedges > boosters > self-mention > attitude markers. Chen and Shi (2024) carried out a diachronic analysis of the stance markers over the past 20 years of the English abstracts of linguistic research articles. The results showed that stance-making strategies and the way of knowledge construction in linguistic studies in China had shifted in the past 20 years and were becoming internationalized.

Based on the above analysis, it is quite clear to see that comparative studies on the use of stance markers in Chinese and international journal articles are relatively limited, especially in the abstract section. As Dahl (2009) proposed, the quality of an abstract, to some extent, determines readers' first impression on the paper and influences their decision to delve into the full paper and download it or not. Therefore, this study, focusing on aerospace discipline, collects 200 English abstracts of journal articles written by Chinese scholars and English-native scholars respectively for analysis with the purpose to figure out whether there are significant differences in the use of stance markers in English abstracts of journal articles between Chinese and English-native scholars, in order to provide some internationalized reference for Chinese journal authors to write English abstracts.

2. Analysis Framework

From the perspective of meta-discourse analysis, stance is concerned with writer-oriented approaches to interact with readers and it refers to how academics make comments on the accuracy or credibility of a proposition, to what extent they are committed to it, or their attitudes toward an object, a claim, or readers (Hyland, 2005a). That is to say, stance markers help to construct the authorial stance in academic discourse, which is an important means to express the author's views, attitudes, evaluations and judgments.

Biber and Finegan (1989) systematized stance into three semantic categories involving epistemic stance, attitudinal stance, and style of speaking stance (Biber *et al*., 2007). Hyland (2005b) also put forward his classification of stance into three main components, that is, evidentiality, affect and presence. In order to analyze the differences in the use of position markers by Chinese and international journal authors in a more detailed manner and clarify the classification boundaries of stance markers, this study subdivided the classification framework of stance markers on the basis of the categories proposed by Biber *et al*.'s (2007) and Hyland (2005b).

The stance markers in the current study are categorized into epistemic stance markers, attitude markers and self-mention. To put it more specifically, epistemic stance markers involve hedges and boosters, which refer to writer's comments on the status of information in a proposition (Hyland, 2005b, please

see Table 1).

Table 1. Framework of Epistemic Stance Markers

Hedges	shields	plausibility shields	Modal verbs: may, might
			Adv: perhaps, possibly Verbs: suggest, indicate, seem Adj: possible, likely Phrases: from my perspective, in my opinion, in my view, tend to, to my knowledge
		attribution shields	Verbs: X states/mentions Prep: according to
	approximators		Adj: typical Adv: about, almost, approximately, broadly, around, essentially, fairly, frequently, generally, largely, mainly Phrases: certain amount, in general, on the whole
Boosters	fact-asserting boosters		Nouns: fact, truth, evidence Verbs: prove, demonstrate, show
	certainty-indicating boosters		Modal verbs: must, will Adj: obvious, sure, undeniable, certain, clear, definite Adv: never, obviously, of course, really, admittedly Verbs: realize, think, believe, know Nouns: no doubt Phrases: without doubt, beyond doubt, in fact

Attitude markers are grouped into affect markers and evaluation markers in the current study (Biber *et al*., 2007, please see Table 2).

Table 2. Framework of Attitude Markers

Attitude markers	affect markers	Verbs: agree, disagree, prefer
		Adj: amazed, astonished, curious, desirable, disappointed, disappointing
		Adv: curiously, desirably, even X
		Punctuation: !
	evaluation markers	Adj: interesting, remarkable, amazing, astonishing
		Adv: interestingly, strikingly, amazingly, astonishingly, disappointingly, dramatically

Modal verbs: should, must

Self-mention involves first person self-mention and third person self-mention, which follows Hyland's (2005b) classification directly (please see Table 3).

Table 3. Framework of Self-Mention

Self-mention	First person	I, my, me, we, us, our, mine
	Third person	the author, the author's, the writer, the writer's, the authors, this paper, this study, this research

3. Research Design

3.1 Research Questions

Based on the analysis of 200 English abstracts of aerospace academic articles in Chinese and international journals in the past five years (2018-2022), this study attempted to answer the following two questions:

1) How is the use of stance markers in English abstracts of Chinese and international journals distributed?

2) Is there a difference in the use of stance markers in English abstracts between Chinese and international journals, and what specific aspects are reflected in?

3.2 Data Collection

In this paper, two corpora were established named Chinese Scholar Abstract Corpus (CSAC) and English-Speaking Country Scholar Abstract Corpus (ESAC). For each corpus, 100 English abstracts from 2018-2022 were respectively selected from the top 10 academic journals of aerospace discipline whose impact factors rank top ten. The top ten Chinese and international journals are listed in the following table (Table 4).

Table 4. Top 10 Chinese and International Journals in Aerospace Discipline

No.	CSAC	ESAC
1	Journal of Aeronautical Materials	Progress in Aerospace Science
2	Acta Aeronautica ET Astronautica Sinica	Aerospace Science and Technology
3	Navigation Positioning and Timing	IEEE Transactions on Aerospace and Electronic System
4	Journal of Chinese Inertial Technology	ACTA Astronautica
5	Astronautical Systems Engineering Technology	The Journal of the Astronautical Sciences
6	Journal of Astronautics	Journal of Guidance Control and Dynamics
7	Aeronautical Manufacturing Technology	Advances in Space Research
8	Acta Aerodynamica Sinica	AIAA Journal

9	Journal of Deep Space Exploration	Journal of Propulsion and Power
10	Spacecraft Recovery & Remote Sensing	Journal of Aerospace Engineering

In order to select the requisite abstracts from academic journals, three principles were followed. First, all abstracts were selected randomly, except the abstracts in ESAC, for which special attention should be to ensure that only abstracts written by the scholars from English-speaking countries were selected. Second, the word count of each abstract was limited between 150 and 300, in order to guarantee its completeness and also to avoid its redundancy. Third, both book reviews and conference notices were excluded from the two corpora. In the end, there were 21,636 words in CSAC, and 21,551 words in ESAC.

3.3 Data Processing

After these two corpora were established, data processing followed, which mainly involved three steps. The first step was to identify and tag different types of stance markers with the assistance of the software Wmatrix4. The identification of stance markers was based on the aforementioned framework of stance proposed in this study, and different types of stance markers were encoded with different labels as Table 5 shows.

Table 5. Labels for Different Types of Stance Markers

HSP	plausibility shields
HSA	attribution shields
HA	approximates
BF	fact-asserting boosters
BC	certainty-indicating boosters
AA	affect markers
AE	evaluation markers
SF	first person self-mention
ST	third person self-mention

The second step was to retrieve stance markers in the two main corpora and eight sub-corpora to collect the raw frequency of each type of stance markers with the help of AntConc. Since these two corpora have different sample sizes, the raw frequency was calculated through the following formula into standard frequency (per thousand words) for the convenience of comparison: Standard Frequency=Raw Frequency/Word Count*1000.

Finally, the chi-square test in SPSS was taken to verify whether there is a significant difference between these two groups of scholars in using each type of stance markers.

4. Results and Discussion

4.1 The Overall Distribution of Stance Markers in CSAC and ESAC

The overall frequencies of stance markers in CSAC and ESAC are compared. As Table 6 shows, the standard frequencies of stance markers in CSAC and ESAC are 24.74 and 35.18 respectively, which reveals that stance markers were much more frequently adopted by English scholars than Chinese scholars. Meanwhile, the result of Chi-square test verifies this difference as significant (p=.000).

Table 6. Frequencies of Stance Markers in CSAC and ESAC

Stance Markers	CSAC	ESAC	*p*-value
Sum	535 (24.74)	758 (35.18)	.000***

(***sig. < 0.001).

Then, the distribution of three categories of stance markers (i.e., epistemic stance maker, attitude marker and self-mention) in CSAC and ESAC is examined. Table 7 illustrates that the frequencies of these three categories of stance markers in CSAC and ESAC seemed to follow the same order: epistemic stance markers > attitude markers > self-mention. In other words, epistemic stance markers were the most frequently adopted type of stance markers, while self-mention was the least frequently adopted type in both corpora.

Table 7 further shows that English scholars adopted each category of stance markers more frequently than Chinese scholars, and the results of Chi-square test also demonstrates significant differences between these two groups of scholars in the use of these three categories of stance markers, with the p-values being .000, .018 and .000 respectively. In light of self-mention, English scholars tended to adopt it nearly eight times as many as Chinese scholars do. According to Hyland & Jiang's (2018) study, there is a growing tendency for self-mention to be adopted in the research articles of international journals. However, it seems that Chinese scholars seldom adopted this type of stance in their research articles.

Table 7. Frequencies of Three Subcategories of Stance Markers in CSAC and ESAC

Stance Markers	CSAC	ESAC	*p*-value
epistemic stance markers	373 (17.25)	480 (22.27)	.000***
attitude markers	151 (6.98)	194 (9.00)	.018*
self-mention	11 (0.51)	84 (3.90)	.000***

(*sig. < 0.05; ***sig. < 0.001).

Moreover, nine types of stance markers used in CSAC and ESAC are also compared, and the results are revealed in Table 8. The first finding is that Chinese scholars adopted attribution shields (HSA) a bit more frequently than English scholars. However, the standard frequencies of attribution shields in the two corpora are .09 and .05 respectively, which are so few that can be nearly neglected. As for the other eight types of stance markers, it seems that English scholars employed each type of them more frequently than Chinese scholars.

Table 8. Frequency of each Type of Stance Markers in CSAC and ESAC

Stance markers	CSAC	ESAC	*p*-value
HA	46 (2.13)	71 (3.30)	.020*
HSP	134 (6.20)	186 (8.63)	.003**
HSA	2 (0.09)	1 (0.05)	.566
BF	111 (5.13)	138 (6.40)	.081
BC	80 (3.70)	84 (3.90)	.736
AE	146 (6.75)	164 (7.61)	.290
AA	5 (0.23)	30 (1.40)	.000***
SF	11 (0.51)	79 (3.67)	.000***
ST	0 (0)	5 (0.23)	.025*

(*sig. < 0.05; **sig. < 0.01; ***sig. < 0.001; HA= approximates; HSP= plausible shields; HSA= attribution shields; BF= fact-asserting boosters; BC= certainty-indicating boosters; AE= evaluation markers; AA= affect markers; SF= first person self-mention; ST= third person self-mention).

A further Chi-square test reveals that the differences are all significant between Chinese scholars and English scholars in approximators (p=.020<.05), plausible shields (p=.003<.05), affect markers (p=.000<.05), first person self-mention (p=.000<.05), and third person self-mention (p=.025<.05).

However, for fact-asserting boosters (p=.081>.05), certainty-indicating boosters (p=.736>.05), and evaluative markers (p=.290>.05), no such significant differences have been found between these two groups of scholars.

Major Lexical Devices for Each Type of Stance Markers in CSAC and ESAC *Epistemic Stance Markers*

The major lexical devices for each type of epistemic stance markers in the two corpora are revealed in Table 9.

Table 9. Major Lexical Devices for Epistemic Stance Markers

Word classes	CSAC			ESAC		
	Frequency	Proportion	Type	Frequency	Proportion	Type
approximators						
adverbs	36	73%	15	60	85%	20
adjectives	6	12%	4	9	13%	5
phrases	7	15%	5	2	2%	2
In total	49	100%	24	71	100%	27
plausible shields						
Modal verbs	116	85%	6	115	62%	6
verbs	17	12%	3	27	15%	7
nouns	3	2%	2	19	10%	6
adjectives	0	0	0	20	11%	4
adverbs	1	1%	1	4	2%	2
In total	137	100%	12	185	100%	25
attribute shields						
phrases	2		1	0		0
(author)	0		0	1		1
In total			1			1
fact-asserting boosters						
verbs	111	98%	8	136	98%	15
nouns	2	2%	1	1	1%	1
phrases	0	0	0	1	1%	1
In total	113	100%	9	138	100%	17
certainty-indicating boosters						
negatives	36	46%	4	31	42%	4
adverbs	20	25%	10	18	24%	12
modal verbs	16	20%	1	15	20%	2

adjectives	4	5%	1	5	7%	2
verbs	2	3%	1	4	6%	1
phrases	0	0	0	1	1%	1
auxiliary verbs	1	1%	1	0	0	0
In total	79	100%	18	74	100%	22

As Table 9 shows, the lexical devices for approximators included adverbs, adjectives and phrases, among which adverbs took up the largest proportion, 73% and 84% of all approximators in CSAC and ESAC respectively. The most frequently adopted adverbs in CSAC were *about*, *mainly* and *basically,* while in ESAC the most frequently employed ones were *approximately, often, relatively, generally,* and *usually* (please see Appendix for detail). Adjectives and phrases were also used as approximators, but less frequently than adverbs. As for the lexical diversity of approximators, it can be seen that English scholars adopted slightly more various types of words as approximators than Chinese scholars, as shown in Examples 1 and 2.

[1] The experiments were conducted in air at a Reynolds number of *approximately* (HA) 25,000 (based on mean chord and maximum tip speed), which is the typical operating regime of small flapping-wing micro air vehicles. (written by English author)

[2] Quaternionic elements in orbital mechanics are *usually* (HA) related to the Kustaanheimo–Stiefel transformation or to the definition of the orbital plane. (written by Chinese author)

Plausible shields can be expressed by modal verbs, verbs, nouns, adjectives and adverbs, among which the most regularly adopted ones were modal verbs such as *can, could, may, might, should* and *would.* Apart from modal verbs and verbs, which were frequently used by both groups of scholars, English scholars also employed nouns such as *potential, possibility, probability*, and adjectives such as *possible, potential* frequently as plausible shields (please see Appendix for detail). Generally speaking, compared with Chinese scholars, English scholars seemed to employ more varieties of lexical devices as plausible shields, as demonstrated in Examples 3 and 4.

[3] Hypergolic hybrid motors have the *potential* (HSP) to improve the safety, reliability, and versatility of rocket systems. (written by English author)

[4] Electrospray electric propulsion paired with mono-propellant chemical propulsion has *perhaps* (HSP) received the most recent attention. (written by Chinese author)

Table 9 also shows that both English scholars and Chinese scholars seldom adopted attribute shields in English abstracts of journal articles, and the lexical devices of attribute shields were limited to *according to X*, or listing the name of the author in the parentheses (please see Appendix for detail).

As for fact-asserting boosters, the main lexical devices were verbs for both English scholars and Chinese scholars. It is noteworthy that the number of the types of verbs adopted as fact-asserting boosters in ESAC was almost twice as many as that in CSAC. The common verbs used as fact-asserting boosters by both Chinese scholars and English scholars included *show*, *verify, find, prove,*

demonstrate, illustrate, and *clarify*. However, English scholars also adopted other verbs involving *confirm, validate, see, observe, discover,* and *manifest*. Apart from verbs, a few nouns (*fact, evidence*) and phrases (*as a matter of fact*) were also employed as fact-asserting boosters, as shown in Examples 5 and 6 (please see Appendix for detail).

[5] Since the IEZ algorithm framework is not applicable *due to the fact* (BF) that the way people carrying the mobile phone is different from that of the foot inertial unit IMU... (written by English author)

[6] Both experimental and numerical results *showed* (BF) that in this particular case, the DBD actuator created a strong reverse flow opposing the direction of tip flow. (written by Chinese author)

Lexical devices used as certainty-indicating boosters mainly included negatives (*no, not*), adverbs (*greatly, highly, very*), and modal verbs (*will, must*) for both English scholars and Chinese scholars (please see Appendix). Apart from that, adjectives, verbs, phrase, auxiliary verbs were also adopted from time to time. Compared with Chinese scholars, English scholars employed a little more various types of lexical devices as certainty-indicating boosters, as demonstrated in Examples 7 and 8.

[7] When $\lambda = 0.5$, $\varphi = 0$ °and $\lambda = 0.5$, $\varphi = 90$ °, there was an *obvious* transition from stage I to stage II in the process of crack propagation, the fracture tended to brittle fracture with brittle stripes and flat surface. (written by English author)

[8] *Naturally* occurring gravitational manifolds flowing towards the Lagrange point, as well as navigation data from previous Lagrange point missions, are used to generate a set of baseline trajectories for the primary spacecraft. (written by Chinese author)

Attitude Markers

Table 10 illustrates that the lexical devices for evaluation markers included adjectives (*significant, important, key*), nouns (*effectiveness, benefit, advantage*), adverbs (*effectively, successfully, significantly*) and modal verbs (*should, must*). Among them, adjectives were adopted most frequently, followed by nouns and adverbs, and just a few modal verbs were used as evaluation markers. It can also be seen that Chinese scholars employed nearly equivalent types of evaluation markers as English scholars in general.

Table 10. Major Lexical Devices for Attitude Markers

Word classes	CSAC			ESAC		
	Frequency	Proportion	Type	Frequency	Proportion	Type
evaluation markers						
adjectives	70	48%	30	105	65%	36
nouns	47	32%	17	13	8%	6
adverbs	24	17%	5	34	21%	10
Modal verbs	4	3%	1	9	6%	2

In total	145	100%	53	161	100%	54
affect markers						
adjectives	3	60%	3	25	83%	5
adverbs	2	40%	2	5	17%	2
In total	5	100%	5	30	100%	7

However, English scholars adopted more various types of adjectives and adverbs than Chinese scholars, while Chinese scholars used more types of nouns than English scholars. As for affect markers, the main lexical devices were adjectives (*desired, expected*) and adverbs (*satisfactorily, expectedly*), and only a few types of words were used as affect markers in both CSAC and ESAC, as shown in Examples 9 and 10 (please see Appendix for detail).

[9] Of all the material model laws, the continuum damage–based model law (CDM) MAT58 with 2D shell elements predicted damage zone shape and size *satisfactorily* compared with experimental data. (written by English author)

[10] It has been found that the configuration of the precombustion chamber plays an *important* (AE) role in the nature of the feed-system coupled instabilities. (written by Chinese author)

Self-mention

Self-mention consists of first person self-mention and third person self-mention. *We, us,* and *our* were the only three types of lexical expressions for first person self-mention in both CSAC and ESAC and Table 11 demonstrates that English scholars adopted them much more frequently than Chinese scholars. Apart from first person self-mention, English scholars also adopted third person self-mention, although just one type (*the authors*) was used and only 5 times in total.

Table 11. Major Lexical Devices for Self-mention

Word classes	CSAC		ESAC	
	Frequency	Type	Frequency	Type
first person				
pronouns	10	3	79	3
third person				
nouns	0	0	5	1

However, Chinese scholars did not adopt any third person self-mention at all, as expressed in Examples 11 and 12 (please see Appendix for detail).

[11] *The authors* (ST) propose a geometry that seeks to address the requirements of such a mating interface. (written by English author)

[12] *We* (SF) observe that there is a clear advantage in using an optimal transport based filtering algorithm where we (SF) represent the initial condition uncertainty and sensor noise, in the cylindrical manifold. (written by Chinese author)

5. Conclusion

In this study, both similarities and differences have been found between English scholars and Chinese scholars in the use of stance markers in English abstracts of aerospace journal articles.

First, the frequencies of three types of stance markers adopted by Chinese and English scholars seem to follow the same order: epistemic stance > attitude markers > self-mention. However, English scholars adopt stance markers much more frequently than Chinese scholars. As for the nine subcategories of stance markers, significant differences have been found between Chinese and English scholars in approximators, shields, affect markers, first person self-mention and third person self-mention. Besides, English scholars seem to adopt more hedges than boosters, while Chinese scholars adopt more boosters than hedges. This finding is consistent with Xu's (2012) study to some extent, which found that epistemic stance markers are the most frequently adopted type of stance markers, followed by attitude markers and style of speaking. That is to say, compared with expressing attitudes or mentioning themselves directly, commenting on the status of information in propositions takes a larger proportion of stance construction for both Chinese and English scholars. In other words, although there is a growing tendency for scholars to show their subjectivity in academic papers by adopting stance markers, they still prefer the indirect way to achieve it.

Meanwhile, the major lexical devices for each type of stance markers have also been examined in this study, which reveals that each type of stance makers involves words from certain word classes, and the most frequently adopted word classes for each type of stance markers in CSAC are similar to those in ESAC. However, English scholars generally adopt more various types of words to express stance than Chinese scholars, especially more various types of plausible shields and fact-asserting boosters.

As the current study analyzes, stance markers play an important role in persuading readers in English abstracts of journal articles. However, the results of the current study seem to show that Chinese scholars adopt stance markers not as proficiently as English scholars in English abstracts of journal articles. These findings may implicate that Chinese EFL (English as a foreign language) learners might have difficulties in adopting stance markers in academic discourse, which should draw the attention of both Chinese EFL teachers and Chinese EFL learners. So pedagogically, how to use various lexical devices for each type of stance markers should be highlighted in English academic writing courses, and more attention may be drawn on such stance markers as approximators, plausible shields, fact-asserting boosters, affect markers, first person self-mention and third person self-mention.

Although this study has been carefully designed, the abstracts collected for analysis are limited within the aerospace discipline, and therefore future studies are encouraged to collect data from other disciplines for analysis to provide more evidence for what has been found in this study. Diachronic

studies are also encouraged to investigate how the use of stance markers have been shifted over a period of time which may be of great significance for the internalization of Chinese journal article writing.

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