Interactional metadiscourse markers in political science and creative arts journal abstracts

Noor Afifah Nawawi and Su-Hie Ting
Faculty of Education, Language and Communication, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia

Abstract

Purpose – This study examined interactional metadiscourse markers in Q1 and Q3–Q4 political sciences and creative arts abstracts.

Design/methodology/approach – The corpus comprised 80 abstracts of articles published in Social Science Citation Index journals from 2011 to 2022 (40 in creative arts; 40 in political science). An analysis was conducted using Hyland's (2005) interpersonal model for the distribution of hedges, boosters, self-mentions, attitude markers and engagement markers.

Findings – The analysis identified 598 interactional markers, with 61.9% in political science abstracts and 38.1% in creative arts abstracts. The political science writers were more into getting the readers involved in the argument (60.2 interactional markers per thousand words) than the creative arts writers (32.9 interactional markers per thousand words). For both disciplines, booster was the most frequently used marker followed by hedging, self-mention, attitude marker and engagement marker. Based on the total number and type of interactional marker, the creative arts abstracts in Q1 and Q3–Q4 journals were similar. However, the Q1 political science abstracts had a stronger authorial presence than the Q3–Q4 political science abstracts. The greater visibility of the Q1 political science writers was reflected in more frequent boosters, hedges and self-mentions. They were stronger in asserting their propositions with confidence.

Research limitations/implications – As is evident from past studies, each discipline has its own uniqueness in writer-reader engagement. The study did not investigate possible influences of cultural background on the use of interactional markers for engagement by referring to the background of the writers.

Practical implications – Academic writing courses can employ the findings on interactional metadiscourse markers for teaching college and university students to produce research reports that fit the conventions of the community of practice.

Social implications – The findings indicate that differences in interactional metadiscourse use by discipline and journal tier was more obvious in the political sciences than creative arts. This means that there is a greater focus on authorial identity in the political sciences. As for journal tier, the creative arts researchers are similar in the style and there is less demarcation in the quality of writing with respect to reader-writer engagement.

Originality/value – The study provides new insights on greater reader interaction by discipline and journal tier in the political sciences than in the creative arts.

Keywords Interactional, Metadiscourse, Political science, Creative arts, Abstract

Paper type Research paper

Introduction

In academic writing, rhetorical sections (e.g. introduction, method, results, discussion, conclusion) of a research article contain specific functions that differ from one another. Considering the contextual nature of interactional metadiscourse markers (Li and Wharton, 2012), it is important to analyse how the markers are distributed and used in a certain rhetorical section. Metadiscourse markers are words or parts of sentences that connect the writer to the reader such as connectors, and help the reader organise, interpret and evaluate information in a text (Sanford, 2012).

The abstract section is an integral part of research articles. Abstracts appear at the beginning of an article where editors and readers assess if the article is worth their attention. Abstracts in research articles can determine the impact level of the articles (Boginskaya, 2023). Novice writers are not yet equipped with the skills needed to write an appropriate abstract (Bourbeau and Rich, 2007).

A question which arises is whether abstracts contain the interactional markers that characterise the rhetorical sections in a research article. Interactional markers involve the readers in the text using hedges, boosters, attitude markers, engagement markers and self-mentions. On the other hand, interactional markers project authorial presence in journal articles. An authorial presence is how the authors chose to present themselves in English academic writing (Li, 2021).

There is a strong indication that novice and experienced researchers may use interactional markers differently. Studies show that abstracts in high-impact journal articles contain more attitude markers than hedges and engagement markers (Boginskaya, 2023; Gustilo et al., 2021; Suntara and Chokthawikit, 2018). Thesis abstracts written by students (novice researchers) display more variability in interactional marker use in various soft and hard disciplines (Hu and Liu, 2022; Ruonan and Al-Shaibani, 2022). Social science writers use more interpersonal markers than natural science writers (Abdi, 2002). Soft disciplines generally view academic knowledge as contextual and rely on critical thinking while hard disciplines view knowledge as something that can be verified through methodology and principles (Neumann, 2001).

The focus in the present study is on political science and creative arts because these are less researched disciplines where research articles are concerned. Thus far, there have been extensive studies on applied linguistics and languages (Boginskaya, 2023; Gustilo et al., 2021; Mazidah and Masruroh, 2024). In fact, Paltridge et al. (2012) emphasised the paucity of research regarding the creative arts. The subjective nature of the creative arts makes it a compelling field to analyse as the researchers rarely use data that can be analysed for objectivity, reliability, and validity (Foster, 2012). Political science, on the other hand, involves generalisation (Holmes, 1997), and researchers often take positions on the issues. Other studies on interactional markers in political science were on speeches (e.g. Abusalim et al., 2022) but not on research articles. Considering that research articles in both creative arts and political science disciplines involve subjectivity, these are selected for comparison. In addition to analysing possible disciplinary differences, it is crucial to consider whether journal ranking influences use of interactional markers.

The present study examined interactional metadiscourse markers in Quartile 1 (Q1) and Quartile 3-Quartile 4 (Q3–Q4) political sciences and creative arts abstracts. Q1 abstracts are published in high rank journals, and Q3–Q4 are published in low rank journals. The objectives of the study were to:

(1) Compare the distribution of interactional markers between the political science and creative arts abstracts, and

(2) Compare the distribution of interactional markers between Q1 and Q3–Q4 abstracts.

Theoretical framework

Due to its proven reliability in past studies (Asadi et al., 2023; Ashofteh et al., 2020; Estaji and Vafaeimehr, 2015; Hu and Cao, 2015), the present study used Hyland's (2005) metadisourse model as the theoretical framework, focussing on interactional markers which allow writers to connect with their readers within a formal context. To Hyland (2005), metadiscourse markers are tools that help writers to address readers' knowledge, their experience and their response. There are five interactional metadiscourse markers. The functions and examples are summarised in Table 1.

Literature review

Studies on interactional marker use in abstracts in journal articles and theses show cultural influence. For instance, Boginskaya's (2023) analysis of 96 English abstracts published in

Table 1. Functions of interactional markers

Interactional marker	Function	Example
Hedges	To reduce their commitment to their claims and signal that it is an opinion rather than a fact. To show the writer's acknowledgement of alternative interpretations	Adverbs (e.g. "possibly"), modal verbs (e.g. "could"), verbs (e.g. "seem"), and adjectives (e.g. "probable")
Boosters	To highlight the writer's confidence towards their proposition (statements). To assert the validity of the presented fact and show the readers there are no other possible answers	Adverbs (e.g. clearly, obviously, certainly)
Self-mentions	To establish the writer's identity as a knowledgeable member of the academic community. To report data collection and analysis procedures but these do not represent an assertion of authorial identity	First-person pronouns (e.g. "I", "me", "we"). and possessive adjectives (e.g. "ours", "mine")
Attitude markers	To reveal the writer's reaction towards a proposition such as agreement, displeasure and admiration	attitude verbs (e.g. "disagree", "favour"), adverbs (e.g. "unexpectedly", "surprisingly") and adjectives (e.g. "insightful", "novel")
Engagement markers	To direct the reader's attention to a specific point in the articles or engage them to carry out a visual action	Reader pronouns (e.g. "you", inclusive "we"), interjections (e.g. "on that note"), questions, directives (e.g. "consider this"), and obligation modals (e.g. "have to")

Source(s): Authors' own work

Quartile 1 and Quartile 2 linguistics journals showed that Spanish scholars assert their identity more than Russian scholars by incorporating attitude markers more frequently. In both corpora, there is more frequent use of hedges than boosters and attitude markers than self-mentions. The writers are still expressive in their writing and share their opinions explicitly. Similarly, Gustilo *et al.* (2021) found extraordinarily frequent use of engagement markers and hedges in the writing of Indonesian scholars in applied linguistics, engineering, business and medicine. In the study, 300 abstracts in impact factor journals were analysed. Cultural influence is also seen in the writing of the research article. Vassileva (2001) showed differences in the degree of commitment and detachment in Bulgarian, English and Bulgarian English articles.

Aside from cultural influences, disciplinary conventions also influence use of interactional markers. Gustilo *et al.* (2021) reported that abstracts in the soft sciences (applied linguistics, business) had more interactional markers than the sciences (engineering, medicine), but less in the results and discussion of the engineering abstracts. Suntara and Chokthawikit (2018) found that public health journals are inclined towards hedging and attitude markers. There is little self-mention, and hedges are more frequent than boosters. Novices have not learnt the disciplinary conventions in interactional marker use, as indicated by Ruonan and Al-Shaibani's (2022) findings on the frequent use of boosters in abstracts of Malaysian undergraduate theses (mass communication, psychology). The students did not know the value of hedging and had too many self-mentions because of the overuse of the active voice to report the method of the study. The materials science thesis abstracts in Hu and Liu (2022) were also filled with more boosters than hedges, except for the applied linguistics abstracts, perhaps due to better awareness of language. In another study, Ozdemir and Longo (2014) showed less frequent use of evidential, endophorics, code glosses, boosters, attitude markers, self-mentions in Turkish students' master thesis abstracts than those written by United States students in the English language department. However, Turkish students used more metadiscourse transitions, frame markers and hedges than the native speakers of English. Meanwhile,

Mazidah and Masruroh (2024) reported that students from the English department utilise interactional markers in abstracts more frequently than those from the mechanical engineering department in an Indonesian university. A comparison of these three findings indicates that there are disciplinary differences and novice writers tend to overuse interactional discourse markers in abstracts.

Similarly, Abdi (2002) compares the usage of interpersonal metadiscourse markers ("hedges", "emphatics" and "attitude markers") in the discussion section of social science and natural science research articles. The findings showed that hedges were used more than emphatics in both groups of research articles, but social science writers used interpersonal markers more frequently than the natural science writers. The discipline influenced the use of interpersonal metadiscourse markers. Even disciplines which are close like applied linguistics and literature showed differences such as absence of hedges in the literature articles and more frequent use of modals in applied linguistics articles although there is similarity in the frequent use of the stance complement clause (Alghazo et al., 2021a).

The discourse convention of the writers' disciplines influences usage of self-mentions. McGrath and Kuteeva (2012) analysed pure mathematic articles and found a low number of hedges and attitude markers. Interestingly, there were many references to readers and shared knowledge. The interviews conducted with authors of the articles revealed that they are aware of the writing conventions of their discipline that they need to adhere to. Khedri's (2016) analysis of 40 journal articles showed differences in exclusive first-person pronouns and the functions of pronoun use between the soft (applied linguistics, psychology) and hard (environmental engineering, chemistry) disciplines. Khedri and Kritsis (2020) discovered that writers from the two soft sciences frequently used first-person plural pronouns (e.g. "we") to convey their authorial persona while writers from the two hard sciences preferred periphrastic passives (e.g. "this was not found in") rather than abstract references (e.g. "this article").

Next, some researchers compared use of hedges in research articles and abstracts written in different languages. Vold (2006) highlighted that while the frequency of hedges in linguistics and medicine research articles was similar, the type of hedges differed. The analysis showed the Norwegian and English articles feature hedges more frequently than the French articles. For instance, in the French linguistic articles, the epistemic marker San doute was frequently used, but the marker was almost absent in the French medical articles. Similarly, in the English linguistic articles, the writers avoid using the epistemic marker could but in the English medical articles, the marker was used frequently. Gender did not influence the use of hedges. On the other hand, Hu and Cao (2011) showed the English medium abstracts featured hedging strategies more frequently than Chinese medium abstracts. Their findings showed that boosters are used more frequently in empirical research than non-empirical research.

These findings on novice research writing in thesis abstracts do not show a clear pattern in the use of interactional markers based on either discipline or writer cultural background. For language and applied linguistics abstracts, hedging ranks the highest and booster ranks the second highest in some studies (Boginskaya, 2023; Gustilo et al., 2021; Mazidah and Masruroh, 2024) but not in others (Hu and Liu, 2022; Ozdemir and Longo, 2014; Ruonan and Al-Shaibani, 2022). However, studies on research articles indicate that the frequency and use of interactional markers can be influenced by disciplinary conventions (Abdi, 2002; Khedri, 2016; Khedri and Kritsis, 2020; McGrath and Kuteeva, 2012; Vold, 2006). Additionally, there is a pattern of cultural influences in research articles (Hu and Cao, 2011). Thus far, little is known about the interactional marker use in the political sciences and creative arts, because these have not been investigated.

Method of study
Corpus
The corpus comprised 80 abstracts from political science and creative arts journals (40 each) published in 2011–2022. This time period was chosen because this was the data collection

period for the first researcher who was a masters candidate at the time of the study. Journals selected were Quartile 1 (Q1) and Quartiles 3–4 (Q3–Q4) in the Web of Science: Social Science database. Quartile 2 journals were excluded to ensure a distinct boundary between the two categories. The Q3–Q4 category was due to insufficient Q4 journals. Table 2 shows 16 journals from which five abstracts each were selected.

The selection criteria were the following:

(1) The journal articles (from which the abstracts were taken) were published in 2011–2022.

(2) The scope for the political science abstracts is the general area of public policy and international politics while the scope for the creative arts abstracts is the general area of visual and performing arts. This is to ensure that the subject matter is general and not overly technical.

The abstracts can be either unstructured or structured abstracts. They do not have to strictly adhere to a specific format, such as the Introduction, Method, Results, Discussion (IMRD) layout proposed by Swales (1990). As for the research paradigm, the abstracts include studies that employed qualitative or quantitative data. It should be noted that this was not an exclusion criterion. We acknowledge the limitation in this respect as epistemological assumptions associated with quantitative and qualitative paradigms are believed to not only govern the conduct of empirical research in each tradition (Carter and Little, 2007) but also shape the discourse and rhetorical conventions in which empirical research is presented (Holliday, 2007; Madigan et al., 1995). Details concerning the authors such as the number of authors, their nationality and whether they were native speakers of English were not considered in the selection of the abstracts for the study.

Data collection procedures
The articles (including the abstracts) for the Creative Arts and Political Science corpuses were compiled by browsing the Scimago Journal and Country Rank website (https://www.scimagojr.com/journalrank.php). The creative arts journals were accessed by selecting the "Arts and Humanities" option in the "All subject Areas" menu, followed by the "Visual arts and performing arts" option. Subsequently, the search word "design" was used to locate relevant articles that fit the selection criteria.

Table 2. List of political science and creative arts journals ($N = 80$)

Field	Tier	Journal titles
Political science	Q1	*Journal of Experimental Political Science*
		Journal of Peace Research
		Research and Politics
		The Journal of Politics
	Q3–Q4	*Journal of Public and International Affairs*
		International Journal: Canada's Journal of Global Policy Analysis
		International Journal of Public Policy
		Studies in Indian Politics
Creative arts	Q1	*Cultural Trends*
		Empirical Studies of the Arts
		Fashion Theory
		Visual Communication
	Q3–Q4	*Dress*
		South African Theatre Journal
		Journal of Historical Research in Music Education
		Street Art and Urban Creativity

Source(s): Authors' own work

Similarly, the political science journals were retrieved by selecting the "Social Sciences" option in the "All subject Areas", followed by the "Political Science and International relations". The identification of Q1 and Q3-Q4 journals was made by referring to the corresponding icon in the SJR column. The search word used was "public policy" and five articles that fit the selection criteria were downloaded.

Data analysis procedures
The analysis was conducted based on Hyland's (2005) interpersonal metadiscourse model (Table 1). Both researchers carried out a pilot analysis on three journal articles, namely, Political Science 1 (PS1) Creative Arts 1 (CA1) and Creative Arts 2 (CA2). The pilot test revealed discrepancies in the past findings regarding the function of metadiscourse markers, particularly "should". For instance, "should" was categorised as hedges by Hyland (2005, p. 80) and the example given was as follows: "however it would appear that local infrastructure projects . . . should take up most of any slack caused by slower growth rates in the PRC." However, Hyland (2005, p. 54) identified "should" as an engagement marker. The example given was as follows: "These functions are mainly performed questions, directives (. . ... and obligation modals such as should, must . . .)". In the present study, "should" was coded as an engagement marker instead of a hedge as it was utilised to caution the readers when interpreting the results in "However, this result should be interpreted with caution due to the aforementioned low sample size of the image stimuli leading to somewhat unreliable statistical effects" (CA2).

The two researchers independently coded three articles and compared their coding. They discussed why the coding was different and made reference to the analysis framework. The inter-rater reliability rate was 94.67%, calculated using the following formula:

$$\frac{\text{Number of similar interactional markers} \times 100}{\text{Total number of interactional markers coded by 2 researchers}}$$

The practice of reporting interactional markers out of per thousand words follow Boginskaya's (2023) study and Gustilo *et al.* (2021).

Results
In this section, excerpts from the political science abstracts are referred to as PS1 to PS40 while those from the creative arts are referred to as CA1 to CA40.

Distribution of interactional markers in political science and creative arts abstracts
Table 3 shows that 598 interactional markers were used in 80 abstracts, of which 370 (61.9%) were in the 40 political science abstracts, and 228 (38.1%) were in the 40 creative arts abstracts. Based on the number of interactional markers per thousand words, the political science abstracts (60.2) clearly had more reader engagement devices than creative arts abstracts (32.9).

Table 3. Word count for political science and creative arts corpus

	Word count of abstract			Total interactional marker in abstract			Frequency per 1,000 words		
	Q1	Q3–Q4	Total	Q1	Q3–Q4	Total	Q1	Q3–Q4	Average
Political science	3,105	3,039	6,144	214	156	370	68.9	51.3	60.2
Creative arts	3,201	3,719	6,920	117	111	228	36.6	29.8	32.9
Total	6,306	6,758	13,064	331	267	598	105.5	81.2	93.2

Source(s): Authors' own work

In both disciplines, the most used marker was booster, followed by hedging (Table 4). Political science abstracts had 20.8 boosters per thousand words and 17.3 hedges per thousand words. Meanwhile the creative arts abstracts had 9.7 boosters and 8.2 hedges. In comparison, self-mention and attitude marker were moderately used. The political science abstracts had 10.9 self-mentions per thousand words and 9.1 attitude markers per thousand words while the creative arts abstracts had 7.8 self-mentions and 5.7 attitude markers. Engagement marker was the least frequently used marker in both political science and creative arts abstracts (2.1 and 1.4 per thousand words respectively).

Boosters in political science and creative arts abstracts. The abstracts in both disciplines were inclined towards emphasising the certainty of propositions (booster) rather than withholding commitment to the propositions (hedge). Boosters such as "show" and "find" were often used to establish the validity of the writers' claims and emphasise the importance of the study. Example 1 shows a creative arts writer highlighting the contribution of their study.

(1) This research, based mainly on questionnaires, highlights the disparities in the representations (CA 40).

Hedging in political science and creative arts abstracts. In contrast to boosters, hedging is mostly used to describe the implications of the findings. Modal verbs were used to reduce the intensity of the claim (e.g. The findings suggest that . . .").

Engagement in political science and creative arts abstracts. Lastly, engagement markers are mostly limited to aligning the reader with the writers' goal, usually using inclusive pronouns like "we". Example 2 shows an uncommon use of an engagement marker to state the purpose of the paper.

(2) . . . so that we can reframe how we define and theorise activism (CA 34).

Distribution of interactional markers in Q1 and Q3–Q4 abstracts
Table 5 shows that writers publishing in higher tier journals (Q1) seem to have more reader engagement than writers publishing in lower tier journals (Q3–Q4).

Political science abstracts: Q1 versus Q3–Q4
The analysis of the 40 political science abstracts showed Q1 abstracts ($n = 214$) used more interactional markers than the Q3–Q4 abstracts ($n = 156$). Based on the number alone, the writers of the Q1 political science abstracts had more active engagement with readers and were not merely presenting facts about their study (Table 5).

In terms of self-mentions, the Q1 political science abstracts had a stronger authorial presence than the Q3–Q4 abstracts (14.2 and 7.5 per thousand words, respectively). The Q1 political science writers made explicit references to themselves using either first person pronouns or expressions like "the researcher". In Example 3, the writer stated "Our results show" instead of writing the conventional "The results show" to show ownership and confidence in their results.

(3) Our results show, first, that refugees are far more likely to agree to a ceasefire proposed by a civilian . . . (PS6)

Another indicator that the writers of the Q1 abstracts were more confident about asserting their arguments and findings is by using boosters more frequently than the writers of Q3–Q4 (25.4 and 14.74 per thousand words, respectively). A booster such as "reveals" emphasise the significance of the researcher's analysis (Example 4).

Hedging was used less than boosters in political science abstracts. The frequency of hedging is similar in Q1 and Q3–Q4 abstracts (17.1 and 17.4 per thousand words respectively). For instance, modal verbs like "may" were used to show the subjectivity of their claim (Example 5).

Table 4. Frequency of interactional markers in political science and creative arts abstracts ($N = 598$)

Field	Hedges			Boosters			Self-mentions			Attitude markers			Engagement markers		
	Freq.	%	Freq per 1,000 words	Freq.	%	Freq per 1,000 words	Freq.	%	Freq per 1,000 words	Freq.	%	Freq per 1,000 words	Freq.	%	Freq per 1,000 words
Political science (n = 370)	106	28.6	*17.3*	128	34.6	*20.8*	67	18.1	*10.9*	56	15.1	*9.1*	13	3.5	*2.1*
Creative arts (n = 228)	57	25.0	*8.2*	67	29.4	*9.7*	54	23.7	*7.8*	40	17.5	*5.8*	10	4.4	*1.4*
Total	*163*	*27.26*	*12.5*	*195*	*32.6*	*14.9*	*121*	*20.2*	*9.3*	*96*	*16.1*	*7.3*	*23*	*3.8*	*1.8*

Source(s): Authors' own work

Table 5. Frequency of interactional markers in Q1 and Q3–Q4 political science and creative arts abstracts ($N = 598$)

Field	Tier	Hedges Freq.	%	Freq per 1,000 words	Boosters Freq.	%	Freq per 1,000 words	Self-mentions Freq.	%	Freq per 1,000 words	Attitude markers Freq.	%	Freq per 1,000 words	Engagement markers Freq.	%	Freq per 1,000 words
Political science	Q1 ($n = 214$)	53	24.8	17.1	79	36.9	25.4	44	20.6	14.2	30	14.0	9.7	8	3.7	2.6
	Q3–Q4 ($n = 156$)	53	34.0	17.4	49	31.4	16.1	23	14.7	7.5	26	16.7	8.6	5	3.2	1.6
	Total	106	28.6	17.2	128	34.6	20.8	67	18.1	10.9	56	15.1	9.1	13	3.5	2.1
Creative arts	Q1 ($n = 117$)	36	30.8	11.2	37	31.6	11.6	25	21.4	7.8	15	12.8	4.7	4	3.4	1.2
	Q3–Q4 ($n = 111$)	21	18.9	5.6	30	27.0	8.1	29	26.1	7.8	25	22.5	6.7	6	5.4	1.6
	Total	57	25	8.2	67	29.39	9.7	54	23.68	7.8	40	17.54	5.8	10	4.39	1.4

Source(s): Authors' own work

(4) My analysis <u>reveals</u> that the main group-level triggers of early conflict onset are perceptions of backwardness ... (PS8)

(5) ... differences between the two solitudes on issues of defence policy <u>may</u> be less significant than often stated (PS30).

Attitude marker is hardly used by either Q1 or Q3–Q4 writers (9.7 and 8.6 per thousand words, respectively). Example 6 shows the use of "as expected" to demonstrate their awareness of the issue.

(6) ... pull incentives, which reward developers for successful R&D projects, have been advocated. <u>As expected</u>, all have their unique advantages and drawbacks (PS21)

Finally, engagement marker is the least used interactional marker. This indicates that getting readers to interact with the discourse is not a priority for the political science writers (Q1, 2.6 per thousand words; Q3–Q4, 1.6 per thousand words). The most commonly used engagement marker is questioning, found in 10 out of 13 engagement markers (7 in Q1 abstracts, 3 in Q3–Q4 abstracts). Notably, the questions are often rhetorical as a strategy to make the readers feel like the judge (Hyland, 2005). For instance, both Examples 7 and 8 appeared at the beginning of the abstract as a way of presenting the research question.

(7) How does the network of international political alliances influence trade flows (PS9)?

(8) What drives consumer activism during trade disputes (PS29)?

Creative arts abstracts: Q1 versus Q3–Q4
Table 5 shows that the 40 creative arts abstracts had a similar number of interactional markers (Q1, $n = 117$; Q3-Q4, $n = 111$) regardless of the tier of the journal.

However, there were differences in interactional marker preference. For the creative arts abstracts, the top interactional marker was booster (Q1, 11.6 per thousand words; Q3–Q4, 11.2 per thousand words). The second in frequency was hedge (Q1, 8.1 per thousand words; Q3–Q4, 5.6 per thousand words). The creative arts writers asserted certainty in propositions (boosters) more often than making allowances for alternative perspectives (hedges). Example 9 shows the use of "demonstrate" by a Q1 creative arts writer instead of the usual "show". Example 10 shows how the hedge "unlikely" is used in a Q1 creative arts abstract to minimise making a sweeping statement that coordination would not resolve ambiguities around fashion sustainability. Hedging also functions to show the writer's detachment from the proposition should readers counter it.

(9) I also <u>demonstrate</u> that attention to corporate policies and workplace dynamics is important ... (CA15)

(10) I argue that resolving the ambiguities around fashion sustainability is <u>unlikely</u> to result from greater coordination ... (CA15)

Meanwhile, the self-mention results showed that the writers of the creative arts abstracts were moderate in emphasising their perspective and took ownership of their views (7.8 per thousand words for both Q1 and Q3–Q4).

Next, for attitude markers, the Q1 creative arts abstracts had less expressions of authorial stance than Q3–Q4 abstracts (4.7 and 6.7 per thousand words, respectively). Example 11 shows how an attitude marker "esteemed" is used in a Q3–Q4 abstract to express the writer's respect for the American string music educators. The writing was less detached compared to the Q1 creative arts abstracts.

(11) ... one of the <u>esteemed</u> educators in American string music education (CA33)

Finally, engagement markers are seldom used showing that writer–reader interaction may not be a priority for the creative arts writers (Q1, 1.2 per thousand words; Q3–Q4, 1.6 per thousand words). However, when the engagement markers are used, the creative arts writers present themselves using direct personal references like "us" (Example 12) and "I" (Example 13) to

acknowledge the readers' presence and include them into the discussion. These examples are from Q3–Q4 abstracts. On the other hand, impersonal references like "the researcher" are more likely in Q1 abstracts and reflects detachment.

(12) The discussion considers how Sousa's ideas can help <u>us</u> better to examine the contemporary shift to digital music (CA34)

(13) <u>I</u> provide a qualitative analysis of how broad social and cultural movements intersect (CA15)

Discussion and conclusion

The study on interactional metadiscourse markers in political science and creative arts journal abstracts showed two key differences by discipline and journal tier.

Firstly, the political science writers were more inclined to get the readers involved in the argument using more interactional markers than creative arts writers. In political science, arguments are built on the evidence presented in the data and anticipation of counter-arguments and alternative interpretations is expected. On the other hand, creative arts abstracts have fewer interactional markers because of the reflexive writing. Borg (2012) states that the writing of creative arts researchers is distinctive because they have:

> to be personally reflexive, reflecting upon the ways in which their own values, experiences, interests, beliefs, political commitments, wider aims in life and social identities have shaped their research
> [and]
> to be aware of other knowledges and to understand and evaluate their own place within those knowledges both practically and theoretically

<div align="right">Borg (2012, para. 1)</div>

The present findings confirm the disciplinary difference in the type of interactional markers, that is, when the writing is built on argument and less on empirical data, there is a greater inclination to use boosters than hedges. Abdi (2002) reported that social sciences disciplines used interpersonal metadiscourse markers more frequently than the natural sciences when discussing results. Natural sciences deal with empirical and objective observation and thus does not require the use of hedges as much as the social science. This can explain why applied linguistics writers use hedges more than boosters (Gustilo *et al.*, 2021; Hu and Cao, 2011). However, the present study showed greater use of boosters than hedges in both political science and creative arts abstracts. In contrast, in pure mathematics, there is low usage of hedges and attitude markers, and exceptionally high usage of engagement markers compared to the social sciences (McGrath and Kuteeva, 2012). In fact, engagement marker is the least used marker in the present study, possibly a convention for political science and creative arts.

Secondly, the study shows that the tier of the journal influences the use of interactional markers in the political sciences but not in the creative arts. Without separating the abstracts into tier of journals, the most used marker was booster, followed by hedging, self-mention, attitude marker and engagement marker in both disciplines. However, when the results for the abstracts are separated into different tiers of journals (Q1 versus Q3–Q4), it is clear that the reader involvement differs. The Q1 political science abstracts showed more frequent use of boosters than hedges, and the writers come across as more confident in asserting the validity of facts and interpretations. On the other hand, the Q3–Q4 political science abstracts and both tiers of creative arts abstracts were more dialogical. This was reflected in the balance usage of boosters and hedges. The common finding is more frequent use of hedges than boosters, whether it is in linguistics (Boginskaya, 2023), applied linguistics, engineering, business and medicine abstracts (Gustilo *et al.*, 2021) or public health abstracts (Suntara and Chokthawikit, 2018). Interestingly, the pattern of using more boosters than hedges in Q1 political science abstracts reflects the pattern in thesis abstracts written by students (Hu and Liu, 2022; Ruonan and Al-Shaibani, 2022).

Next, the Q1 political science abstracts stood out in the assertion of their authorial identity, reflected in the higher frequency of self-mentions and attitude markers compared to the Q3–Q4 political science abstracts as well as both tiers of creative arts abstracts. The frequent usage of markers is a strategy by the experienced writers of the Q1 abstracts to establish their credibility as an expert member of their research community. By citing their previous work in the area, this shows their contributions and continuity of their research without excessively expressing personal evaluations of propositions. The visibility of Q1 political science writers in their writing is akin to the strategy employed by Spanish linguistics scholars in Boginskaya's (2023) study. However, the Q1 political science writers achieved visibility by using boosters, hedges and self-mentions instead of engagement markers which the Indonesian scholars in the soft sciences and hard sciences relied on Gustilo *et al.* (2021). Also, the present study showed that Q1 and Q3–Q4 creative arts abstracts only differ in the total number of interactional markers but not in the type of marker used. Meanwhile, the political science abstracts differed on both number and type of interactional marker used. The findings indicate that differences in interactional metadiscourse use by discipline and journal tier was more obvious in the political sciences than creative arts.

Interestingly, past studies on high impact journals in applied linguistics and languages (Boginskaya, 2023; Gustilo *et al.*, 2021) and public health (Suntara and Chokthawikit, 2018) reveal frequent use of attitude markers over hedges. However, in both Q1 political science and Q1 creative arts, the use of attitude markers is moderate. The dissimilarity between the present study and the past studies could be due to the disciplinary differences as political science and creative arts may deal with argument and reflexive writing more than applied linguistics.

Conclusion

The study showed that political science writers were more into getting the readers involved in the argument than the creative arts writers. For both disciplines, booster was the most frequently used marker followed by hedging, self-mention, attitude marker and engagement marker. The journal tier did not make a difference in the interactional marker use in creative arts abstracts, but the Q1 political science abstracts had a stronger authorial presence than the Q3–Q4 political science abstracts. They were more confident in asserting their propositions using boosters.

The findings have implications on researchers who intend to publish in Q1 journals. The abstracts, and even the research article, should be written to portray a stronger authorial visibility through more frequent use of boosters relative to hedges, self-mentions and attitude markers. It is also important for researchers to cite their previous work in the field to assert their contribution to the body of knowledge. Educators involved in teaching research methodology and supervising undergraduate and postgraduate students can also advise their students to adopt a more assertive style of writing journal articles instead of merely reporting their results.

Limitations of the study and recommendations for future research

Since the study did not investigate possible influences of cultural background on the use of interactional markers, future studies should examine how usage of interactional markers in high and low tier journals is mediated by the cultural background of the writers. For instance, Alghazo *et al.* (2021b) found that Arabic academic writers used less hedges and engagement markers, more boosters, self-mentions and attitude markers than English academic writers in a Q4 Scopus-index journal. Future research should conduct interviews with journal writers to analyse their cultural background and experience with using interactional markers in English academic writing. Such findings will have pedagogical usefulness to novice researchers to develop academic writing expected in their research community and may help them to publish in higher-tier journals.

In addition, the present study is based on Hyland's (2005) interpersonal metadiscourse model, focusing on hedges, boosters, self-mentions, attitude markers and engagement markers. While this framework is widely recognised, it may be limiting given the nuanced

differences between political science and creative arts writing styles. Therefore, future researchers could consider comparison analyses using several contemporary frameworks to attain a better understanding of the function and usage of interactional markers in research articles published in different languages and journals of different tiers in different disciplines.

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90

Corresponding author
Su-Hie Ting can be contacted at: suhieting@gmail.com