Hedges and boosters in English and Italian medical research articles: A cross-cultural comparison

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Writers of academic papers generally use a wide range of strategies when they expose scientific argumentations or take a stance that can potentially threaten readers' face. Hedging and boosting devices are rhetorical devices that help authors mitigate or enhance the impact of their positions and claims on readers. This study seeks to explore the role and the frequency of hedging and boosting in scientific articles from a cross-cultural perspective. Our goal is to compare English and Italian research papers to describe hedging and boosting strategies and check whether they differ between the two languages in terms of frequencies and functions. To do that, we have collected a bilingual corpus made up of 58 medical research papers in Italian and English, investigated through quantitative and qualitative methods. Our findings demonstrate that targeting an international audience dramatically increases the frequency of the hedges, and in particular the category of reader-oriented hedges.

Keywords: Boosters; Discourse; Hedges; Research; Stance

1. Introduction

Authors of academic papers are increasingly aware of the growing complexity of the relationship between them and their readership. Writers of Research Articles (henceforth RAs) generally act with remarkable caution and employ a vast array of strategies when exposing facts or taking a potential stance (Hyland, 1996, 1998, 2000; Matsuda, 2015; Nekoueizadeh et al., 2020; Salager-Meyer, 1996; Shabani & Emadi, 2021). Among these strategies, a predominant role has been played by hedging and boosting devices. 'Hard science' papers display a relevant tendency by authors to rely on hedging when they need to mitigate the force of their claims, and boosting when it is necessary to strengthen their views (Hyland, 1996, 1998; Livytska, 2019).

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An aspect which has been sometimes analysed is how authors employ some specific rhetorical devices in cultures and languages other than English (see, for instance, Fløttum, 2012; Li, 2020; Martín Martín, 2003; Mauranen, 1993a, 1993b, 2012; Pashapour et al., 2018; Ventola & Mauranen, 1996; Zhao & Wu, 2013). The aim of the current paper is to investigate this difference by outlining both a quantitative preliminary analysis and a qualitative cross-cultural analysis of hedges and boosters in a corpus of medical RAs written in English and Italian.

The reason why we focused only on medical RAs—as Gross and Chesley (2012) did—is to be found in the alleged neutrality of their authors whose subjectivity is deemphasized "in favor of what the discourse community sees as widely recognized scientific procedures" (Silver, 2012, p. 215—drawing his conclusions from an analysis on RAs in microbiology). Cross-linguistic and cross-cultural comparison will not be dependent on the disciplinary variable, so as to give us the possibility to explain any differences in terms of the audience being targeted through language and discuss the assumption according to which authors of medical RAs are supposed to share the same approach to the scientific method, regardless of the language of their publications.

The corpus includes 29 RAs written and published in English and 29 RAs written and published in Italian, in order to examine the way in which hedging and boosting strategies are used in two distinct languages in quantitative and qualitative terms. The two sub-corpora—which will be called (1) Hedging and Boosting in English (HB_EN), and (2) Hedging and Boosting in Italian (HB_IT)—include RAs from three medical fields: (a) cardiology, (b) oncology, and (c) psychiatry. RAs have been selected from English and Italian academic journals over a time span of 15 years (2007-2021).

2. Background

Hyland (1996) has established some useful categories for the analysis of hedging through an examination of these strategies in a corpus of a molecular biology research articles. The most important distinctions concern (a) content-oriented strategies, including writer-oriented hedges, and (b) reader-oriented hedges.

Content-oriented strategies "mitigate the relationship between propositional content and a representation of reality . . . the correspondence between what the writer says about the world and what the world is thought to be like" (Hyland, 1996, p. 439). They are basically enacted to address epistemic issues in order to avoid, in Brown and Levinson's (1987) terms, both a threat to identifiable writers' faces and to the faces of a multitude of 'invisible' readers'. While content-oriented hedges reduce the risk of negative attacks, but still

refer to the relationship between the claim and its writer, reader-oriented hedges anticipate the possibility of counterattacks by assigning an interpersonal dimension to a statement, rather than just addressing an epistemic issue (Poole et al., 2019; see also Crompton, 1997).

This attitude is fueled by the importance of readers' acceptance in academic discourse, which is turning out to be growingly influential and which, in turn, is linked to power; readers' 'approval' is a key factor in communal accreditation and represents a crucial element for the plausibility of what we call "stance" (Hyland & Zou, 2021). Hence, the use of reader-oriented hedges originates from the awareness of the fact that a claim has the power to pose a challenge not only to previous studies or scientific beliefs, but also towards readers' background knowledge and their values. Matsuda (2015) has defined the role of the reader towards authors' claims as "the amalgamative effect of the use of discursive features that language users choose, deliberately or otherwise, from socially available yet ever-changing repertoires" (p. 144).

Linguistically, there are countless modalities in which both writer-oriented hedges and reader-oriented hedges can be produced, often in clusters (see Hyland, 1998). With regard to the former, the use of impersonal subjects combined with epistemic speculative verbs is one of the most common structures. Another relevant strategy involves the use of non-integral citations in order to refer to wider bodies of knowledge. Though other techniques, such as attribution to literature, references to experimental conditions or evidential verbs can be found, impersonal constructions and passive voice remain the most frequently used writer-oriented hedging strategies.

However, authors also employ other strategies to give readers the possibility to take part in a sort of dialogue. According to Hyland (1998), every writer of RAs negotiates his/her claims with the reader. For this reason, reader-oriented hedges are the most straightforward technique to invite the reader to participate in the evaluation of the claim. This is particularly relevant because the reader is recognized as someone who is able to judge, therefore, as a reliable interlocutor.

As a result, given the high number of hedges throughout the academic papers, there seems to be a considerable switch with respect to the past with regard to the distance between the academic domain and the general audience. These types of dialogic hedging contribute to reduce the separation between the academic domain and its potential audiences, resulting in the frequent inclusion of non-specialized readers.

Livytska (2019) conducted a study on hedging devices through the analysis of a corpus of 20 texts in applied linguistics in order to assess the frequency of hedges according to their typology. The results showed that reader-oriented

hedges prevailed over any type of content-oriented hedges, confirming that authors (especially in 'soft sciences') need the acceptance of readers and are also aware of the expectations of the target community. In more general terms, Bhatia (2016) claims that communication should not be considered only as a sequence of words coherently put together, but also as a means to have an effect on the members of a discourse community. Actually, writers need to be not only understood, but also 'validated' by readers and peers. As a matter of fact, critical discourse analysis aims to investigate the perpetual relationships between language choices, power and ideology (Bhatia, 2016). Thus, while keeping in mind their expectations and anticipating reactions by the readers or peers, writers switch the pragmatic 'weapons' at their disposal by going from persuasion to neutrality, or claim-softening and vice versa, clearly producing an impact upon the audience.

Although boosters have been studied less extensively than hedges in academic literature (see Peacock 2006), according to Hyland (2018, 1998), they are used to create an impression of certainty, conviction and assurance. Their use is linked to the need to instill trust and confidence in academic readers or general readers. There must be a good balance between these two metadiscourse markers of credibility: boosters "allow writers to project a credible image of authority, decisiveness, and conviction in their views," while hedges help them "to demonstrate personal honesty and integrity through willingness to address hard realities, albeit behind a shield of mitigation" (Hyland, 2018, p. 81).

Boosters deal with the same phenomena as hedges—such as the writer's degree of commitment to his/her statement(s)—only denoting the writer's full commitment to the proposition rather than the lack of it. However, as Grabe and Kaplan (1997) point out, the notions of hedges and boosters are sometimes so close to each other (it would be enough to consider the word *just*, for example) that both concepts could be referred to by using the term *evidentials*. With regard to boosters, Hyland (1998) also argues that, while assertions of the writer's conviction could give the impression of leaving little room to the reader's own interpretation, they actually provide writers with a medium to interact with their readers and create interpersonal solidarity.

3. Methods

The preliminary quantitative analysis will be aimed at assessing the frequency of hedging and boosting devices in both English and Italian medical RAs. The following categories of hedges and boosters will be under scrutiny: (1) writer-oriented hedges and boosters, and (2) reader-oriented hedges and boosters.

Hedges and boosters will be analysed to check whether they perform different

communicative functions in English and Italian. Above all, we (a) will try to describe how authors are influenced by the structure of the language they choose for scientific investigation, and (b) examine whether discourse strategies can be related to the national or international target audience of the journal.

The whole corpus is made up of 58 (*N* = 58) selected RAs drawn from six academic online journals, widely known within their respective scientific communities and targeting an international audience (written in English) or a national audience (written in Italian). Sub-corpora are named Hedges and Boosters in English (HB_EN) and Hedges and Boosters in Italian (HB_IT).

HB_EN:

(1) CARDIO_EN = 10 RAs (source: *International Journal of Cardiology*, *IJC*, published by Elsevier)[1]

(2) ONCO_EN = 10 RAs (source: *International Journal of Oncology*, published by Spandidos Publications)[2]

(3) PSYCH_EN = 9 RAs (source: *International Journal of Psychiatry*, published by Opast International)[3]

HB_IT:

(1) CARDIO_ IT = 10 RAs (source: *Giornale Italiano di Cardiologia*)[4]

(2) ONCO_IT = 9 RAs (source: *Associazione Italiana di Oncologia Medica* (*AIOM*) - position papers)[5]

(3) PSYCH_IT = 10 RAs (source: *Rivista di Psichiatria*)[6]

The selected RAs were as much similar as possible in length and general structure, basically complying to an IMRD model (Swales, 1990). There were some limits to the selection process: the oncology papers in Italian were selected from a group of scientific 'position papers' published by *AIOM* due to the absence of an officially recognized journal publishing in Italian. The Italian journal *Tumori*, for example, which is an officially recognized scientific journal considered among the most prestigious ones on the subject, publishes its articles only in English.

Thanks to a relatively small corpus (147,189 tokens in English and 162,065 in Italian), it was possible to search for and count hedges and boosters manually, without the help of any software products. The selection of hedging/boosting strategies actually concerned lexical categories only: (1) nouns, (2) verbs, (3) adjectives, and (4) adverbs.

4. Results

4.1. Quantitative analyses

The outcome of the quantitative analysis shows a confirmation of the high number of hedging devices used by authors of RAs, both in English and in Italian. In absolute terms, the differences between the total number of hedges and the total number of boosters were quite significant within the same language: the number of boosting devices is always remarkably lower, independently of the disciplinary field, as we can see in the graphs below; we can see that the only exception concerns Oncology RAs in English, in which the number of boosters is very close to the number of hedges.

Figure 1.
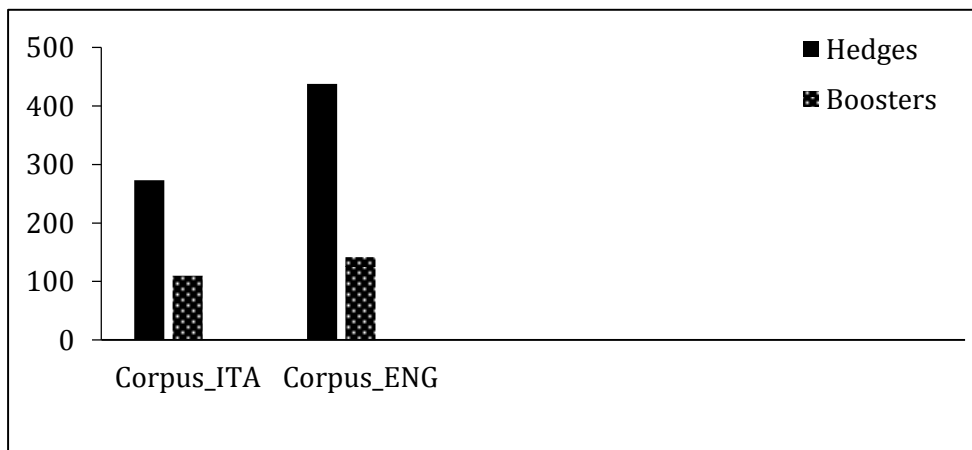*Total Number of Hedges and Boosters in Cardiology*

Figure 2.
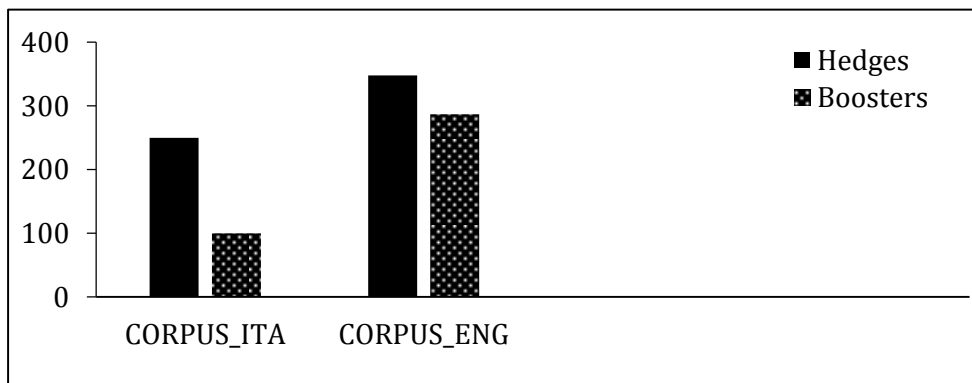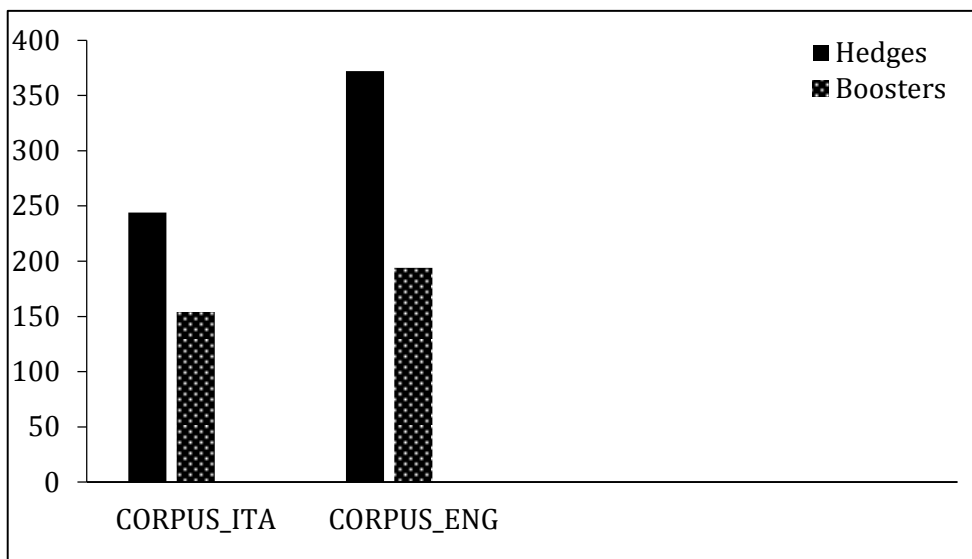*Total Number of Hedges and Boosters in Oncology*

Figure 3.
Total Number of Hedges and Boosters in Psychiatry

With regard to boosters, figures were considerably lower than hedges in both languages—confirming that, on average, authors are more concerned about avoiding risks than highlighting what they feel as certainties or, anyway, statements that they see as fairly safe to express. It has to be noted that it happened only once that boosters bested hedges in number: it was the case of an article of the psychiatry sub-corpus in English.

As somewhat expected, hedges were found in larger numbers in the Conclusions/Results section, which is a particularly sensitive area for authors as it is mostly (but not only) there that they expose their personal views. This was a common feature in both English and Italian RAs. This reinforces the idea that authors are fully aware of the risks that are involved when stating one or more claims, and that they are also concerned about the areas of their papers which are more likely to be counterattacked by their peers or generic readers (Hyland, 1996; Livytska, 2019; Wulff et al., 2009).

Therefore, hedges are consciously 'dosed' and rationed across the papers by authors. Modal verbs such as *could*, *may*, *might* (English), *potrebbe* (could)*, può* (can) (Italian) and the adverbs *probably*, *partly*, *possibly* (English), *probabilmente* (probably)*, verosimilmente* (actually), *generalmente* (generally) in Italian were unsurprisingly the most frequent lexical categories to perform hedges in both languages. Verbs expressing doubt, such as *seem, suggest, to be supposed to, to be thought to, to appear/not appear to be* (English), and *sembrare* (seem), *apparire* (appear)*, suggerire* (suggest) (Italian) were also

quite common. Adjectives, such as *controversial, unclear* (English), and *plausibile* (plausible)*, verosimile* (likely)*, incerto* (uncertain)*, controverso* (controversial) (Italian) signaled authors' awareness of potentially risky statements.

Among boosters, the adjectives *evidente* (apparent)*, chiaro* (clear)*, certo* (certain)*, sicuro* (sure) and adverbs putting emphasis on the strength of the presented statements or data, such as *sicuramente* (surely)*, indubbiamente* (undoubtedly)*, ovviamente* (obviously) played a remarkable function in the Italian corpus, along with verbs such as *dimostrare* (demonstrate)*, provare* (prove)*, verificare* (verify)*, mostrare* (show)*, sottolineare* (underline)*, evidenziare* (highlight) and the nouns *evidenza* (evidence)*, prova* (proof)*, chiarezza* (clarity).

However, if we analyse data related to each disciplinary field and their relative weight (%), we can see in the tables below that RAs in English always display a higher number of hedging and boosting devices.

Table 1
Hedges and Boosters in English (HB_EN)

	Hedges		Boosters		Total
	N	% by 1000words	*N*	% by 1000words	Words
Cardiology	438	9.30	142	3.01	47,054
Oncology	348	<u>6.09</u>	287	5.02	57,077
Psychiatry	372	8.63	194	4.50	43,058
Total	1158	7.86	623	4.23	147,189

Table 2
Hedges and Boosters in Italian (HB_IT)

	Hedges		Boosters		Total
	N	% by 1000words	*N*	% by 1000words	Words
Cardiology	273	4.44	110	1.78	61,481
Oncology	250	<u>6.55</u>	100	2.62	38,136
Psychiatry	244	3.90	154	2.46	62,448
Total	767	4.73	364	2.24	162,065

Cross-linguistic comparisons between sub-corpora show that discourse strategies are more frequently employed in RAs written in English—that is to

say, targeted to an international audience. With the exception of hedges in oncology RAs, whose value is slightly higher in the Italian sub-corpus than in the English one (6.55 versus 6.09)—though, as said before, the result can be explained by taking into account that this group of oncology RAs in Italian is categorised as academic position papers—all the values emerging from a quantitative investigation seem to demonstrate that authors of medical RAs (regardless of their native language) try to mitigate the impact of their claims and impositions whenever they target the international scientific community. Thus, a potentially wider audience leads researchers to 'soften' their academic voice (Matsuda & Tardy, 2007) and increase the protection against the risks contained in their claims.

4.2. Qualitative analyses

4.2.1. Reader-oriented hedging strategies

The qualitative analysis offered a striking variety of writer-oriented and reader-oriented hedging strategies. Primarily, it was particularly interesting to observe the abundance of the direct exposure of a given study's limitations. In some articles, there were entire paragraphs dedicated to the study's restrictions. More commonly, these limitations were expressed throughout the RAs with the help of writer-oriented and reader-oriented hedging devices in both languages.

(1) <u>One important limitation</u> in this study is the <u>limited</u> patient sample. (CARDIO_EN)

(2) There is some <u>controversial</u> data. (CARDIO_EN)

(3) We have identified <u>some limitations</u> in our study. Firstly, this is a <u>pilot study</u> with a <u>relatively</u> small sample size. (ONCO_EN)

(4) <u>Although obtained in pilot study settings</u> and <u>underpowered</u> to detect subtle between-group differences, <u>our results</u> <u>sugges</u>t . . . (PSY_EN)

(5) <u>Lo studio presenta, tuttavia, alcuni limiti</u> legati alla numerosità di entrambi i campioni e alla composizione del campione di controllo. (PSY_IT) (*Nevertheless, the study presents some limits related to the numerousness of both samples and also the composition of the control sample*)

(6) <u>In assenza di standard riconosciuti</u>, si evidenzia l'opportunità di . . . (ONCO_IT) (*In the absence of recognized standards, there is the need to . . .*)

(7) <u>Il presente studio mostra</u> <u>alcuni limiti metodologici</u>. (CARDIO_IT) (*The present study shows some methodological limitations*)

Authors often voiced (generally in the conclusive part of the RAs) the need for further studies in their research area, or more data on some specific topic. This feature was again more common in papers written in English, but it was found also in the Italian RAs. Sometimes, this concern was accompanied by an admission made by the author about the limited scope of final results. Importantly, sometimes these calls for more extensive studies and data in a given topic or research area were somewhat performed by authors implicitly, especially in the Italian papers.

(8) Larger international studies are needed to confirm our findings. (CARDIO_EN)

(9) Al momento attuale non esistono studi ecocardiografici condotti specificamente in pazienti COVID-19. (CARDIO_IT) (*At the moment, there are no echocardiographic studies specifically conducted on COVID-19 patients*)

According to Hyland (2018), authors were found to try to shield themselves from possible counterattacks by the readers, not only by anticipating them but also through the use of alternative conditionals. This leads to a sort of ambiguity: while these conditionals are neutral and leave unsolved the question, it is also true that the hypothetical condition is a reminder of the writer's belief that the condition will not be fulfilled; hence, the probable untruthfulness of the statement.

(10) The question whether treatment of anemia in these patients is associated with better outcome remains controversial. (CARDIO_EN)

(11) Finally, it is difficult to say if the observed between-gender differences in variables independently related to the four factors of interest (i.e. BNP, LVEF, peak-VO2 and LVMI) really prove that there are differences between genders. (CARDIO_EN)

In an Italian oncology RA, explicit references to the potential review of peers appeared. This helped to corroborate one relevant point: when writing, authors carefully balance their statements, not only because of the general readership's potential reactions but also (and sometimes more importantly) because of their peers' reviews, on whom their own reputation and career sometimes depend. This direct reference was not found in any RAs written in English throughout the corpus, nor in any of the three disciplines.

(12) . . . Ne deriva la successiva traslazione nella pratica clinica, che può rappresentare un elemento "delicato" in termini di accettabilità da parte della comunità scientifica. (ONCO_IT) (*The effect is the ensuing transfer*

> *in clinical practices, which can represent a "sensitive" element in terms of acceptability by the scientific community*)

An interesting point that emerged from Italian corpora is the joint use of negative markers with the word *evidenza*, which *per se* would perform a booster, if taken alone and literally. Instead, here hedging is expressed through the negation of a potential booster, focusing more on what is missing rather than on what authors have at their disposal.

(13) Viceversa <u>non c'è evidenza</u> che l'utilizzo di farmaci ACE inibitori o bloccanti recettoriali dell'angiotensina sia associata ad una maggiore incidenza di PC-AKI. (ONCO_IT) (*Conversely, there is no evidence that the use of ACE inhibitors or angiotensin receptor blockers is associated to a higher incidence of PC-AKI*)

(14) <u>Non ci sono evidenze robuste</u> che queste raccomandazioni possano essere utilizzate anche quando la via di somministrazione è quella venosa. (ONCO_IT) (*There is no great evidence that these recommendations could be used also when the route of administration is the venous one*)

Evidenza is one of those words of the Italian lexis that has changed its meaning through usage in a specific context, such as the medical one, as it takes from the English word *evidence* its terminological specificity: "facts or testimony in support of a conclusion, statement or belief" (Shorter Oxford English Dictionary, 1993).

Caution about the validity of results was a common concern also in the English corpora:

(15) . . . The results are <u>not completely understood</u> (PSYCH_EN)

(16) <u>The results presented here are preliminary case examples</u>, and as such <u>can only illustrate</u> potential illness trajectories. (ONCO_EN)

Writers in English used a lot of personal attributions.

(17) <u>We see</u> that SPARC suppresses angiogenesis, but until now no clear mechanism has been proposed for the possible antiangiogenic effect of SPARC. (ONCO_EN)

This sub-strategy is useful not only to convey information, but also to deliver writer's attitudes towards the reader and his/her negotiation of claims. This feature was almost absent in the Italian sub-corpora.

4.2.2. Writer-oriented hedging

Writer-oriented hedging proved to be the preferred way for authors to soften the power of their claims, both in the English and the Italian corpora. When presenting their claims or announcing some results, authors writing in English often resorted to the shifting of the responsibility from themselves to the results. They did so by employing general formulations such as *the findings suggest that* . . . or *as the findings seem to suggest* . . . . This kind of hedging strategy was found to be much less common in the academic papers written in Italian, which featured only a few of these direct 'subject shifts'.

Nevertheless, Italian RAs still show some examples of general formulations in the selected disciplinary domains of research. The pattern of the verb *orientare* (orient) is quite recurrent. In the second example we even have a double hedge: in addition to the general formulation, there is the use of the verb *sembrare* (seem), which enhances the idea of a doubt.

(18) <u>I nostri risultati orientano</u> verso l'esistenza di tre tipi di manifestazioni dissociative. (CARDIO_IT) (*Our results orient towards the existence of three types of dissociative events*)

(19) <u>I nostri dati sembrano indicare che </u>… (CARDIO_IT) (*Our data seem to indicate that . . .*)

Another remarkable point emerging from the Italian papers is the repetition of an interactive pattern, such as the existence of proper sections in the articles addressed to certainties and doubts that constituted the starting points for the research or, on the contrary, were the results of the research itself. This was particularly typical of cardiology RAs. These papers featured the presence of paragraphs called *Ragionevoli certezze* (reasonable certainties) and *Questioni aperte* (open subjects), whose titles resumed the authors' strategic moves in an explicit way. In one of the RAs belonging to the cardiology corpus in English, authors added a paragraph called *Author statement* at the end of the article, in which they declared:

(20) <u>All authors take responsibility</u> for all aspects of the reliability and freedom from bias of the data presented and their discussed interpretation. (CARDIO_EN)

Sentences such as *to the best of our knowledge*, or similar ones, contributed to downplay the force of authors' statements.

(21) <u>To the best of our knowledge</u>, this is the first study to specifically compare high intensity interval to moderate-intensity continuous training in GUCH. (CARDIO_EN)

Passive constructions, as expected, were abundant in both Italian and English corpora throughout the three disciplinary areas. Writers used this strategy as it prevents them from being blamed of potential errors when presenting their claims.

(22) è stato riportato un caso di attacco epilettico e casi occasionali di mania, mentre non sono stati evidenziati effetti di tipo cognitivo. (PSYCH_IT). (*One case of seizure and occasional cases of mania have been reported, whereas effects of cognitive type have not been found*)

(23) Telmisartan has been shown to inhibit cell proliferation by inducing apoptosis in various cancer cell lines, namely, prostate (8), renal (9), endometrial (6) and colon (10) cancer lines. (ONCO_EN)

Dummy subjects were another recurrent strategy, very common in both languages and often associated with passive forms.

(24) It is known that bone marrow infiltrated neuroblastoma is considered an adverse prognostic factor. (ONCO_EN)

(25) Recentemente è stato dimostrato che il training supportato da un operatore esperto, con l'ausilio di un simulatore, risulta significativamente più breve e qualitativamente superiore rispetto a quello convenzionale. (CARDIO_IT) (*Recently, it has been demostrated that training, when supported by an expert operator and with the help of a simulator, proves to be significantly shorter and better in terms of quality than the conventional one*)

(26) Si sottolinea la necessità di definire percorsi aziendali in cui vengano indicate, in modo chiaro per le pazienti ed i loro familiari, le funzioni e le responsabilità dell'èquipe oncologica, del laboratorio e dell'équipe di genetica clinica oncologica. (ONCO_IT) (*It is underlined the need to define company paths in which there is a clear communication to patients and their relatives about the responsibilities and functions of the oncology team, the lab and the clinical genetics oncology team*)

4.2.3. Reader- and writer-oriented boosting strategies

Reader-oriented boosters focused on the relationship between the authors and the intended readers. They were almost absent in both languages. However, the writers employed this device in order to present their claims subjectively through personal attribution.

(27) We think that this study will be useful in showing that education provided to the caregivers of patients with stroke bedded in the clinic

will not only enable patients to have a more comfortable life in the following periods but also will relieve the difficulties and handicaps of caregivers in giving care to these patients. (PSYCH_EN)

(28) <u>Riteniamo</u> si tratti di un passo importante ma non esaustivo per la pratica della prevenzione cardiovascolare in Italia. (CARDIO_IT) (*We think this is an important, but still not exhaustive step with regard to the practice of cardiovascular prevention in Italy*)

Although authors were generally reluctant to employ a large number of boosters, there were some interesting examples of strategic boosting. For instance, we observed this example in one article of the cardiology corpus in English.

(29) Still, <u>our model performs well</u> regardless of whether patients were implanted with CRT-P/D or not. (CARDIO_EN)

The use of the adverb *well* clearly boosts the strength of the subject. Actually, the attribution of the verb *perform* to the abstract subject *model* would have made this a hedge, had not it been for the use of '*our'*. The use of the possessive adjective defines the responsibility, which in this case the authors are willing to embrace, remarking that the model is *theirs*.

Sentences featuring *we* or *our results* followed by a verb (*we found that, we demonstrated that, we confirmed that*, *our results showed*) and so on were shown to be a solid pattern throughout the English corpus, particularly in the oncology articles. Writer-oriented boosting in Italian papers also followed this path (see examples 30, 31). We can notice again the relevance of the term *evidenza* (32), whose function is a boosting one.

(30) <u>Abbiamo denominato</u> "Vulnerabilità psicologica, capacità di fronteggiamento delle difficoltà" un'altra componente concomitante. (PSYCH_IT) (*We have named "psychological vulnerability, ability to cope with difficulties" another concomitant component*)

(31) È quanto <u>abbiamo dimostrato</u>, indicando le esigenze di adattamento in questo editoriale. (ONCO_IT) (*It is what we have demonstrated, by suggesting the adaptation needs in this editorial*)

(32) Le <u>evidenze</u> che <u>abbiamo</u> a disposizione mostrano che sono i pazienti con ulcera peptica e quelli con storia di sanguinamenti gastrointestinali quelli in cui l'azione profilattica degli IPP è maggiormente utile. (ONCO_IT) (*The available evidence shows that it is patients with peptic ulcer disease and patients with a history of gastrointestinal bleeding the ones for whom the prophylactic action of IPP is particularly useful*)

Sometimes, it was particularly interesting to observe that authors underlined how their study was the first to deal with a given issue in a certain way or the first to find some evidence. Still, ambiguity arose in situations like the one below, where the booster is preceded by a hedge, generating a mixing of strategies. This result is in line with Grabe and Kaplan's (1997) idea that sometimes hedges and boosters are entangled.

(33) <u>To the best of our knowledge</u>, <u>this study is the first to show</u> the possible mechanistic role . . . . (ONCO_EN)

Passive constructions were common also in writer-oriented boosting in both languages, as shown below.

(34) Analogamente, anche nella realtà italiana, la quota di pazienti con SCA-NSTE non sottoposti a rivascolarizzazione coronarica dopo coronarografia è risultata intorno al 20%, come <u>evidenziato</u> dal registro EYESHOT9. (CARDIO_IT) (*Likewise, even in Italy, the proportion of patients with SCA-NSTE who did not undergo coronary revascularisation after coronarography resulted to be around 20%, as shown in the register EYESHOT9*)

(35) Furthermore, studies have revealed that XL388 effectively suppressed cell viability and <u>was shown</u> to be pro-apoptotic in renal cell carcinoma and osteosarcoma. (ONCO_EN)

5. Conclusion

The present research offered a good insight on the vast array of modalities that authors of RAs written in English or Italian make use of. The results confirmed the hypothesis that authors have become growingly aware of the setbacks that they face when writing a paper on a given issue. Although studies on hedging and boosting in Italian have not been very extensive so far, it has been demonstrated that authors writing RAs in Italian make use of hedging and boosting devices, but their frequency is much lower than in English.

It has been underlined that the use of hedges, both in English and Italian corpora, was preferential for authors. This might be caused by the fact that the empirical evidence of a RA explains and describes what the findings of the research are, allowing authors to say as little as possible about it and, therefore, to minimize possible risks.

We found out that authors very often emphasized their study's intrinsic limitations or the limitations of their outcomes, and this emphasis was performed through different methods. This variety in the hedging devices

employed by authors is precisely what makes us think that these strategies are proving to be of crucial importance for academic writers. For sure, hedges are fundamental for authors to secure their academic credibility. Our results are in line with Hyland's (1998) view about academics authors' growingly cautious attitude, and show that hedging is perhaps more significant than ever in academic discourse.

If we consider that voice is "the construction of an author's discursive identity" (Matsuda & Tardy, 2007, p. 235), this identity has at least two sides that are based on a complex 'reconstruction' by different types of readers: (1) the global and multicultural community sharing English as today's Lingua Franca of scientific communication, and (2) the country-based community of researchers interacting by using a specific language, which exposes scientists to fewer risks and allows authors to target the local academic audience for purposes that exceed knowledge dissemination.

By focusing on one discipline only and two types of language behaviour—hedging and boosting strategies—we have seen that language is actually a variable that can explain some particular cross-cultural differences (see Fløttum, 2012) observed through RAs.

Notes:

1. https://www.journals.elsevier.com/international-journal-of-cardiology
2. https://www.spandidos-publications.com/ijo
3. https://opastonline.com/journal/international-journal-of-psychiatry
4. https://www.giornaledicardiologia.it/
5. https://www.aiom.it/category/pubblicazioni/raccomandazioni-position-paper/
6. https://www.rivistadipsichiatria.it/

Authors' Statement

The authors discussed and conceived the article together. In particular, Paolo Donadio is responsible for §1, §2, §3, and §4.1; Mattia Passariello for §4.2, §4.2.1, §4.2.2, §4.2.3, and §5.

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