

## AUTHOR IDENTITY IN SCIENTIFIC RESEARCH ARTICLES

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**Abstract:** The publication of scientific research articles represents a highly valued but also challenging activity in today's extremely diverse and competitive academic environment. Research papers published in English in high-ranking international journals provide individual as well as institutional visibility, prestige and recognition, thus establishing academic hierarchies, generating funding and leading to further research opportunities. Therefore, the authors' ability to create appropriate identities that facilitate article acceptance, writer-reader interaction and the approval of newly introduced knowledge claims by discourse community members is key to a successful academic career. In this context, the current paper explores various methods of building author identities through rhetorical strategies such as the use of personal pronouns, citations and self-citations, which are employed by both native and non-native article authors according to disciplinary writing conventions and cultural variation.

**Keywords:** *author identity, scientific research articles, citations, self-citations, writer-reader interaction, non-native speakers of English.*

As a lecturer in English for Specific Purposes at a Romanian medical university, I am fully aware of the requirements of the highly competitive academic environment of our times. In particular, English-language publications in prestigious international journals and fund-generating research projects are the most highly valued and rewarded activities that academics can conduct within higher education institutions worldwide, our country included. Therefore, it has become common knowledge that, at least in the academic world, "we are what we write"<sup>1</sup>, and that publishing scientific research articles is crucial not only for the advancement of science, but also for personal and institutional recognition and prestige.

In time, I have also gained an understanding of the challenges faced by non-native academics who strive to publish their research results in high-ranking international journals. Besides solid research skills and English-language proficiency, knowledge of rhetorical strategies and writing

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<sup>1</sup>Hyland 2011: 53

conventions are essential prerequisites for successful international publication and recognition.

Therefore, given the current importance of publishing scientific research articles in English-language international journals, this paper explores various methods of building appropriate author identities through the use of personal pronouns, citations and self-citations. These rhetorical strategies are employed by both native and non-native research article authors according to disciplinary writing conventions and cultural variation in order to create suitable identities that facilitate manuscript acceptance, writer-reader interaction and the approval of newly introduced knowledge claims by fellow discourse community members.

Although the initial function of scientific articles was to report new experiments and thus contribute to the spread of knowledge, the analysis of the individual and social dimensions that characterize academic discourse reveals its interactive nature as well as the “tension between the socially constructed discourse forms and the private intentions of those who have the ability and the socially assigned power to exploit such social constructions to achieve private ends”<sup>2</sup>. In order to produce articles that meet the requirements of scientific reporting, authors must be familiar with the writing conventions “embedded in the epistemological and social practices of communities”, whose appropriate mastery facilitates the expression of individual goals and intentions through appropriate writer-reader interaction<sup>3</sup>. These characteristics of written academic discourse were also stressed by researchers such as Bhatia<sup>4</sup>, Hyland<sup>5</sup>, Salager-Meyer<sup>6</sup>, Hyland and Salager-Meyer<sup>7</sup> or Hyland and Tse<sup>8</sup>.

Because higher education institutions are evaluated based on the publication output of their teaching staff, academics worldwide are constantly pressured to publish their research results in high-ranking international journals. As pointed out by Habibie and Hyland<sup>9</sup>, the pressure to build a powerful academic identity can be perceived quite early in one’s career, as junior scholars and PhD students are expected to publish extensively even before obtaining their doctoral degree, which might be disconcerting as it leads to time-consuming negotiations with editors and reviewers, possible failure to publish, as well as additional challenges and costs, especially for non-native speakers of English.

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<sup>2</sup> Bhatia 2004

<sup>3</sup> Hyland 2013: 97

<sup>4</sup> Bhatia 2012

<sup>5</sup> Hyland 2009

<sup>6</sup> Salager-Meyer 2000

<sup>7</sup> Hyland and Salager-Meyer 2008

<sup>8</sup> Hyland and Tse 2004

<sup>9</sup> Habibie and Hyland 2019

Although experienced scholars usually have increased chances of success, outstanding results require extensive effort since, as highlighted by Bhatia<sup>10</sup>, all academics must simultaneously manage several author identities in the same piece of discourse. These include a professional identity as part of a specific discourse community, an organizational identity that meets institutional requirements, a social identity that reflects membership to one or more social groups and an individual identity that allows for self-expression.

International databases and search engines allow quick access to publications, increase the visibility of individual researchers, and thus contribute to a university's recognition and prestige. Therefore, research articles, especially those indexed in the Web of Science or other important databases, represent the fastest means of spreading research results and of obtaining or consolidating academic hierarchies. With competition being fierce, non-native speakers of English face the additional challenge of having to establish convincing author identities in a second language besides carrying out massive research in order to obtain results that are worthy of publication. In this respect, according to a study conducted by Paltridge<sup>11</sup>, second language students find it difficult to establish a writer identity because they transfer their first language writer voice to the writing situation in the second language. This finding supports the much-debated issue regarding the non-transferrable character of writing skills across languages.

An appropriate degree of authorial presence allows successful academic writers to signal their membership to a certain discourse community and thus gain identity, credibility and authority in their field<sup>12</sup>. This can be primarily achieved by adhering to the most widely spread rhetorical strategies of specific discourse communities, which include the use of personal pronouns, citations, self-citations, boosters or hedges.

Factors such as disciplinary conventions, the expectations of specific discourse communities and cultural variation can shape author identity in written academic discourse. For instance, the fundamentally different ways of creating knowledge in the sciences vs. humanities requires different rhetorical strategies. Precise information can be self-explanatory in a scientific text whereas interpretation and arguing are usually used instead of raw data as specific writing tools<sup>13</sup>. By focusing on reporting information in the form of figures and percentages, hard science authors usually downplay their role in the text, thus coming across as objective reporters of facts<sup>14</sup>.

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<sup>10</sup>Bhatia 2004

<sup>11</sup>Paltridge 2006

<sup>12</sup>Millán 2010

<sup>13</sup>Gnutzman and Rabe 2014

<sup>14</sup>Hyland 2001; Hyland 2002a, Millán 2010

On the other hand, deduction, interpretation, evaluation and re-evaluation characterize the information in the humanities, which is thus less quantifiable, while research methods and results are less likely to be replicated and subsequently refuted by other scholars. Therefore, authors of soft science articles can display a higher degree of commitment, reflected in the more frequent use of first-person pronouns, whereas hard science authors favor the possessive adjective *our* (as in *our data*, *our results*, *our findings*), which indicates milder involvement and reduced subjectivity<sup>15</sup>. Similarly, writers in the humanities and social sciences were found to be more openly involved in their texts by assuming more personal positions through the use of hedges or interactional markers compared to hard science authors, who hedge less, introduce weaker claims in order to avoid denial, use fewer directives and interactive features<sup>16</sup>.

The higher degree of involvement of soft science authors is also due to the individual nature of research in the humanities, which is typically conducted by individual academics who must then assume exclusive responsibility for their statements. Contrarily, scientific research projects are very often carried out in teams, with each member being assigned specific roles, such as designing the study or writing the manuscript. This diminishes personal involvement in the research scheme and lowers direct responsibility for research results or knowledge claims.

Authors' choice of interpersonal discourse strategies, degree of commitment and confidence were also found to be connected with one's background and education since discourse patterns are regarded as culturally determined<sup>17</sup>, as well as with individual factors, including language proficiency or seniority<sup>18</sup>. This last aspect complicates the task of analyzing written academic discourse and suggests that familiarity with the specific rhetorical strategies, conventions or expectations of discourse communities may not be enough for thoroughly understanding the particularities of scientific research articles or other academic genres.

Although being accepted for publication is crucial, it only represents one of the aims that researchers focus on nowadays. Acceptance does not necessarily equate visibility unless the research paper is later cited in numerous other studies. This is why publication in high-ranking scientific journals is more likely to generate citations and improve publication metrics, such as the much sought-after h-index currently used to evaluate academics worldwide. In this respect, the two main goals of academic

<sup>15</sup> Millán 2010

<sup>16</sup> Hyland 2005

<sup>17</sup> Salager-Meyer, 1998

<sup>18</sup> Crystal 1998; Hyland 2002b; Hyland 2005; Burrough-Boenisch 2005; Moreno *et al* 2012; Johns 2013

citation are to create a broad scientific network in which information, research articles and researchers are linked together, as well as to facilitate academic promotion and reward<sup>19</sup>.

Citations are heavily connected not only with academic writing but also with professional reading practices, thus stressing the intertextual character of research articles. Academics must be proficient readers in the English language in order to stay up to date with the latest publications in their field. This will enable them to produce compelling *Discussion* sections in which citations and references support findings and highlight their relevance by comparing them with similar results and demonstrating how newly introduced knowledge claims fill a research gap.

The role of reading for reconstructing meaning and the intertextuality of scientific writing was also stressed by Bazerman<sup>20</sup>, who linked the practice of resorting to frequent references and citations for placing results in a wider context with the historical development of the medical research article, in particular with the increase in space allotted to *Discussion* sections. Although scientific research articles are not written for the general public as they address specific target readers who are specialists in the same field, the practice of heavily relying on data through citations rather than on rhetorical strategies for supporting knowledge claims has several consequences. It decreases author responsibility and involvement in the text, it narrows down the target audience and it increases its responsibility for accepting or refuting claims.

The results of a corpus analysis study on hedging in medical research articles written by native versus non-native speakers of English<sup>21</sup> concluded that in addition to hedging, another indirect protection strategy was represented by a strong reliance on cited information in the *Discussion* sections of the investigated research articles. This practice, which was observed in both categories of academic writers, generated articles that are followed by long lists of references that sometimes exceed fifty entries. Even the most diligent and informed researcher would find it extremely challenging and time-consuming to read so much literature in order to check the accuracy of the information presented, to correlate all data and to establish the relevance of new claims. This finding reinforces the fact that reading and writing for academic purposes are intertwined activities with complementary aims.

As far as the difficulties encountered by non-native speakers of English are concerned, these were meticulously summarized by

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<sup>19</sup>Di Marco and Mercer 2004

<sup>20</sup>Bazerman 1988

<sup>21</sup>Marta 2019

Flowerdew<sup>22</sup>, who listed the following as the most problematic aspects of academic writing: “grammar; use of citations; making reference to the published literature; structuring of argument; textual organization; relating text to audience; ways in which to make knowledge claims; ways in which to reveal or conceal the point of view of the author; use of ‘hedges’ to indicate caution expected by the academic community; ‘interference’ of different cultural views regarding the nature of academic processes”.

Excellent academic skills are required regardless of one’s first language in order to overcome these issues. However, the ability to establish credible author identities is particularly problematic for non-native speakers of English especially in research article sections like *Introductions* and *Discussions*. These have a predominantly discursive character that leads to increased writing difficulty because they involve selecting, evaluating and interpreting data in an appropriate and convincing manner. *Discussion* sections are of crucial importance because they contain newly introduced knowledge claims that must be approved by the target discourse community, usually through citations in other papers, before becoming scientific knowledge.

The interactive nature of written academic discourse is reflected not only in the practice of citation, whose aim is to situate research articles into a wide international network that allows quick access to data, at the same time establishing individual and institutional hierarchies, but also in the practice of self-citation. According to the literature, while “citations reflect potentially many different authorial attitudes: to credit the source of inspiration; to aid the understanding of the reader; to assert authority in a field”, self-citations “acknowledge an individual's line of research”<sup>23</sup>.

Self-citation, which is regarded as the opposite of the modesty and deference expected in academic discourse, constitutes one of the consequences of the increased competitiveness that characterizes the current academic environment<sup>24</sup>. According to the same study, which examined self-citation and authorial mention using a large corpus of research articles from eight disciplines as well as interviews with expert informants from the respective fields, personal reference and self-citation allow academic writers to link current with previous work (like in this paper), thus fitting their research into a framework, enhancing their credibility in a field and building a solid disciplinary identity that is more likely to be acknowledged by fellow researchers. Disciplinary variation was also found to determine self-citation patterns as this practice was more frequently encountered in the

<sup>22</sup> Flowerdew 1999: 127

<sup>23</sup> Mishra *et al* 2019: 18

<sup>24</sup> Hyland 2003



hard sciences, especially biology, where 12% of all references were self-citations, compared with only 4% in the humanities.

Various studies on the frequency and impact of self-promotion demonstrate that self-citation is a widespread phenomenon in the current scientific world. This practice is influenced by numerous factors such as discipline, seniority or publication policies and, given its multiple implications and consequences at different levels, definitive solutions for regulating or restricting it have not been adopted yet.

A very recent study reporting the results of research on citation metrics<sup>25</sup> revealed the existence of extreme self-citations and “citation farms”, described as groups of authors who cite each other extensively, and warned that caution is needed when using citation metrics to evaluate researchers “since extreme rates of self-citation may herald also other spurious features”. The results of this comprehensive study indicated that “among the top 100,000 authors for 1996-2017 data, the median percentage of self-citations is 12.7%, but it varies a lot across scientists” while “among the top 100,000 authors for 1996-2017 and 2017-only data, there are 1,085 and 1,565 authors, respectively, who have >40% self-citations, while 8,599 and 8,534 authors, respectively, have >25% self-citations”. Although this study focused on citation metrics, these indirect results on self-citation reinforce not only the magnitude of this reality but also the concerns of professionals and institutions involved in the academic field in various capacities.

Another noteworthy article published in the News Feature of Nature<sup>26</sup> mentioned the case of an Indian researcher with a private institute, who received a national award for his academic productivity and citation metrics despite the fact that 94% of his citations were actually self-citations. However, variations in self-citation patterns were also identified in this study as being connected with the researchers’ country of origin, with Russia and Ukraine leading the ranking in his respect, as well as with disciplinary factors such as the multi-authored papers in nuclear physics, particle physics, astronomy and astrophysics that increase average self-citation rates. Although, as mentioned in this research, COPE (Committee on Publication Ethics) is not in favour of excluding self-citations from metrics because of the inability to distinguish between appropriate citation practices and unjustified, excessive self-mention, solutions were put forward. These include placing more responsibility on editors and reviewers or simply discarding the idea of ranking scientists based on publication output.

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<sup>25</sup>Ioannidis *et al* 2019

<sup>26</sup>Van Noorden and Singh Chala 2019

The extent of self-citation practices, coupled with current concerns over gender inequality in the academic environment following research according to which male academics self-cite 50% more than females across numerous disciplines, generated a study<sup>27</sup> focusing on self-citation behaviour based on gender. This revealed that, although first-author men were confirmed to self-cite more than women, this difference is explained by factors such as opportunity (self-citation is impossible without previously published work so very productive authors of both genders have more self-citing opportunities), accessibility and visibility (journal articles are more likely to include self-citations than reviews, papers in English have higher odds of self-citations compared to non-English papers, authors with Nordic names are more prone to self-cite compared to other ethnicities, irrespective of gender). The authors of this study also warned against disregarding self-citations due to the danger of penalizing lines of research and minimizing the impact of papers with low visibility because they were not written in English or lacked bibliographic indexing.

In conclusion, individual and institutional success are closely intertwined in today's extremely diverse and competitive academic environment. Higher education institutions and research facilities can only gain international recognition and prestige through the endeavor of their staff members. In this context, the analysis of written academic discourse reveals that the recipe for success includes the following ingredients: strong research skills, consistent efforts and hard work, often conducted in teams, hence the need for teamwork and cooperation skills, high English language proficiency, familiarity with writing conventions and rhetorical tools according to disciplinary requirements, self-evaluation skills and familiarity with the field in order to establish whether a study is worthy of being submitted for publication in a prestigious journal, good negotiation skills with editors and reviewers, and ultimately, a strong author identity, established through various rhetorical strategies in order to generate citations and improve visibility.

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<sup>27</sup>Mishra *et al* 2019



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