Should I use *I*?

A corpus-based study of first-person pronouns in scientific journals of different rankings

Bör jag använda *jag*?
En korpusbaserad studie av förstapersonspronomen i vetenskapliga tidsskrifter med olika ranking

Olov Aronson

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Author: Olov Aronson

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Abstract

According to earlier research, first-person pronouns are used in academic writing for a multitude of reasons. In this paper, the aim is to investigate if first-person pronouns are used to different extents or with different functions in articles from highly ranked scientific journals and articles from less highly ranked scientific journals. The investigation is based on a corpus study of 20 highly ranked sociological articles and 20 less highly ranked sociological articles. The corpus data provide statistics for frequencies of first-person pronouns and frequencies of so-called *genre roles,* in accordance with Tang and John's (1999) model. The results reveal that the *recounter* genre role and first-person pronouns of all types combined are significantly more frequent in highly ranked articles in comparison to less highly ranked articles.

Keywords: First-person pronouns, genre roles, corpus study, research articles

Sammanfattning

Enligt tidigare forskning finns ett flertal anledningar till att förstapersonspronomen används i akademiskt skrivande. I denna uppsats är målsättning att undersöka om förstapersonspronomen används olika ofta eller med olika funktioner i artiklar från högt rankade vetenskapliga tidsskrifter och artiklar från mindre högt rankade vetenskapliga tidsskrifter. Undersökningen baseras på en korpusstudie av 20 högt rankade artiklar i sociologi och 20 mindre högt rankade artiklar i sociologi. Korpusdatan tillhandahåller statistik över förstapersons-pronomen och så kallade *genreroller*, vilka definieras i Tangs och Johns (1999) modell. Resultatet visar att genrerollen *återberättaren* och en sammanvägning av alla förstapersonspronomena har signifikant högre förekomst i högt rankade artiklar än i mindre högt rankade artiklar.

Nyckelord: Förstapersonspronomen, genreroller, korpusanalys, forskningsartiklar

Contents

1. Introduction and aims

Regardless of academic field, research today is globalized in the sense that similar paths of academic inquiry are pursued by a multitude of researchers across the globe. In order to spread new knowledge and coordinate the next projects, researchers need to communicate their findings through the publishing of articles in scientific journals. However, researchers are not only motivated to spread their findings by solidarity with the larger academic community; researchers also wish to use their publications to gain personal credit and to assert their own perspectives and ideological convictions (Blommaert & Bulcaen, 2000; Hyland, 2012: 35). Thus, researchers invariably seek to be published in the most prestigious journals, since these journals wield the largest influence.

Furthermore, it is likely that being published in a prestigious, highly ranked journal not only depends on actual research methods and results, but it is also a question of rhetoric and the appropriate use of English. Recognizing this idea, *English for Academic Purposes* (EAP) exists as a textbook genre focused on teaching the most purposeful use of English in academia.

However, many of the ideas and conventions proclaimed by authors of EAP textbooks appear to be at odds with actual successful scientific writing. In one of his articles, Harwood (2005c: 368) pointedly states that, "it is worth asking whether EAP materials writers are considering corpus evidence at all when they prepare advice and design activities for learners, or whether they merely reproduce folk wisdom intuitively." Primarily, Harwood (2005b) focuses his critique on the fact that many EAP textbooks urge academic writers not to deploy first-person pronouns (*I, me, my, mine, we, us, our, ours*) in their texts. As a matter of fact, Harwood (2005a, 2005b), and several other scholars (Vassileva, 1998; Kuo, 1999; Hyland, 2001; Millán, 2010) have found that first-person pronouns are frequently used in articles published in prestigious, highly ranked journals.

Due to these intriguing findings – which seem to contradict traditional guidelines for academic writing – the current paper investigates if first-person pronouns are used to different extents and with different functions in highly ranked articles compared to less highly ranked articles.[1] Earlier research (Vassileva, 1998; Kuo, 1999; Hyland, 2001; Harwood, 2005a, 2005c; Millán, 2010) has indicated that first-person pronouns are used in articles in

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[1] In order to make the writing and reading of the present paper more convenient, the relatively short terms "highly ranked articles" and "less highly ranked articles" are used instead of the longer terms "articles in highly ranked journals" and "articles in less highly ranked journals."

highly ranked journals, but there appears not to have been any earlier research comparing the usage of first-person pronouns in highly ranked journals with the usage in less highly ranked journals.

In order to compare potentially different usages of first-person pronouns in journals of contrasting rankings, the paper will present a corpus study of articles from highly and less highly ranked scientific journals within the field of sociology, published in the US. Only sociological articles are included in the study, since different academic disciplines adhere to different linguistic norms. Also, as the field of sociology has been partly studied before by Hyland (2001), sociology is a suitable discipline to be investigated further, since this allows for comparisons and evaluations of results in both the current study and Hyland's study.

2. Background

In English there are eight first-person pronouns, four of which are in the singular (*I*, *me*, *my*, *mine*) and four of which are in the plural (*we*, *us*, *our*, *ours*). All of these pronouns have traditionally been considered too informal to be apt for academic writing, but, as mentioned in the introduction, recent research indicates that this traditional writing norm is frequently set aside in contemporary articles (Vassileva, 1998; Kuo, 1999; Hyland, 2001; Harwood, 2005a, 2005c; Millán, 2010).

In order to give a clear picture of where research stands today, sections 2.1 to 2.6 present an overview of earlier research on first-person pronouns in English academic writing. The overview deals with one researcher at a time, and it is structured thematically so that researchers with similar conclusions are presented next to each other.

2.1 The solidarity of *we*

In the 1990s, a number of scholars in linguistics (Mühlhäusler & Harré, 1990; Pennycock, 1994; Wales, 1996; Kuo, 1999) noticed that academic writers may apply the first-person pronoun *we* to create a sense of solidarity with readers. The scholars' discoveries implied that first-person pronouns can have valuable rhetorical functions in academic writing.

To begin with, Mühlhäusler and Harré (1990: 174) concluded that *we* can serve an "integrative function" through which it creates "solidarity" and "social bonding" between writers and readers. Mühlhäusler and Harré (1990: 175) argued that the solidaric, integrative *we* may help writers form positive relationships with readers, at the same time as this type of

we can be deployed to diffuse responsibility for claims in the text. That is, Mühlhäusler and Harré believed that integrative *we* can be used by writers to hedge their statements.

Following a similar line of thought, Wales (1996: 60, 63) put forward her conclusion that *we* indicates "solidarity" as well as "modesty". According to Wales (1990: 59) the use of *we* implies similarity between writers and readers, and thus, *we* allows writers to direct readers along certain paths of thinking without appearing to be too self-assured (Wales, 1990: 66). In summation, Wales argued that, by using *we*, writers can attribute ideas to readers with a reduced risk of raising suspicion or resistance.

Importantly, Kuo (1999) validated the observations by Mühlhäusler and Harré (1990) and Wales (1996) by performing a corpus study of 36 articles from prestigious scientific journals. Kuo noticed that there were 169 occurrences of *we* in the entire corpus – that is, 4.7 occurrences per article – but Kuo concluded that not all occurrences of *we* were of the same type. Instead, Kuo differentiated between primarily two types of *we*: first, there was *exclusive we*, which referred solely to the researchers themselves, and then there was *inclusive we*, which referred to both the researchers and the readers. In connection to this differentiation, Kuo concluded that exclusive *we* is mainly used to explain the research procedure, whereas inclusive *we* is used to imply similarities between writers and readers and to create a sense of solidarity. Thus, Kuo's term *inclusive we* is closely related to Mühlhäusler and Harré's (1990) term *integrative we*.

Finally, Pennycock (1994) provided an analysis of how the deployment of *we* not only creates a sense of similarity and solidarity but also tacitly implies difference and antagonism. According to Pennycock, the usage of *we* invariably divides people into "us" and "them," as those who are not included in the *we* are automatically regarded as outsiders. Also, Pennycock noted that *we* is commonly used by rivaling groups engaged in an ideological struggle; by deploying *we*, these groups seek to install themselves as spokespeople for all parties participating in the struggle, and thus, through the use of *we*, these groups aspire to present their own perspectives as absolute, objective truths that pertain to everyone. Accordingly, academic writers' usages of *we* may be part of larger struggles for ideological and ideational control, within and beyond the writers' specific fields of study.

2.2 First-person pronouns, personas, and presence

Some scholars (Ivanic & Simpson, 1992; Ivanic, 1998; Tang & John, 1999) have noticed that first-person pronouns in general may be used by academic writers to make themselves visible and to create images of themselves in their texts. That is, first-person pronouns may be used by academic writers to establish personas and presence, and such establishments of personas and presence may serve valuable rhetorical functions.

In an – arguably – quite radical article from 1992, Ivanic and Simpson contended that academic writing would benefit from employing more first-person pronouns to explicate the identities of all individuals acting through the writing. According to Ivanic and Simpson (1992), impersonal academic writing, void of first-person pronouns, risks being verbose, unclear, and uncommitted, whereas academic writing with clear writer personas, expressed through first-person pronouns such as *I*, is straightforward and appears enthusiastic. Thus, Ivanic and Simpson (1992) argued that academic writing should employ more first-person pronouns to become clearer and more engaging.

In a later book, Ivanic (1998) empirically underpinned some of these points by presenting analyses of the writings of eight undergraduate students. In essence, Ivanic (1998: 307-309) claimed that if the students had made more frequent use of the first-person pronoun *I*, their academic texts would have become clearer in terms of attributing facts and viewpoints to specific individuals and sources of information.

Tang and John (1999) decided to take the analysis even further and differentiate between six *genre roles* that writers may take by applying first-person pronouns. Each of Tang and John's genre role positions the writer in a specific relation to the reader and the text. The first genre role is the *representative*, through which writers diminish their own personas and become part of a general group of people that state a taken-for-granted fact. The second genre role is the *guide*, which writers deploy to lead their readers to certain conclusions. The third role is the *architect*, which presents the writers as individuals that have structured the article according to their own discretion. The fourth role is named the *recounter*, and it relates to writers retelling the procedures of their work. The fifth role is the *opinion-holder*, through which writers state personal opinions or attitudes. Finally, the sixth genre role is the *originator*, which is used by writers to present themselves as creative individuals that are able to draw new conclusions. Importantly, Tang and John (1999: 26f) positioned all of these genre roles in consecutive order on a spectrum of "authorial presence" where the roles related to diffused writer responsibility and mere recounting of facts fell on the weak side of the spectrum and where roles related to overt expressions of new personal conclusions fell on the strong side. This positioning of genre roles according to authorial presence is illustrated in Figure 1:

Genre role:	Representative	Guide	Architect	Recounter	Opinion-holder	Originator
Authorial presence:	Low presence ——————————→ High presence					

Figure 1. Authorial presence for Tang and John's (1999: 29) genre roles.

In other words, Tang and John (1999) differentiated between the roles an academic writer may take by placing each role on a certain position along a scale of writer presence, where weak presence relates to trivial claims and strong presence indicates radical, personal contestations. According to Tang and John (1999), this issue of writer presence – through for example first-person pronouns – is at the heart of all academic writing, since the degree of writer presence determines whether a writer appears as a modest companion or an assertive authority.

2.3 Culturally bound first-person pronouns

Three scholars – Vassileva (1998), Hyland (2002), and Carciu (2009) – analyzed differences in the usages of first-person pronouns by academic writers of varying cultural and linguistic backgrounds. Evidently, all scholars concurred in the conclusion that regional cultural norms affect the first-person pronouns employed in academic writing.

First, Vassileva (1998) noted that writers of scientific articles in English put more focus on the first-person pronoun *I* than writers of articles in other languages (Bulgarian, French, German, Russian), and she claimed that this cannot be explained by the different linguistic systems and grammatical rules of the different languages. Vassileva (1998) argued that the Anglo-American culture has, in recent time, adopted an individualist view of academic writing that includes ideas of individual academic writers gaining prestige from their texts. Accordingly, Vassileva (1998) claimed that the individualist Anglo-American culture has made academic writers of English-language articles more willing than writers of other languages to include first-person pronouns, especially the individualist first-person pronoun *I*.

By contrast, Carciu's (2009) research indicated that native English-speaking Americans use significantly *less* first-person pronouns in journal articles than their colleagues from Spain, writing in English. In order to explain these results, Carciu too referred to cultural differences, claiming that the Spanish have a tradition of seeking recognition for their work and of manifesting a "strong overt authorial voice" (Carciu, 2009: 78).

Finally, Hyland (2002) studied the peculiarities of English-language academic texts written by native Chinese students in Hong Kong. In a manner largely similar to that of Vassileva (1998), Hyland (2002) claimed that Chinese students were unwilling to employ first-person pronouns since these appear too authoritative in the Chinese culture, which is relatively collectively-oriented in comparison to the individuality of the Anglo-American world. According to Hyland (2002), the Chinese students' unwillingness to use first-person

pronouns risked impeding their ability to gain recognition in the English-dominated global academic community.

2.4 Hyland's theories and conclusions

Apart from his study on Chinese students' academic texts, Hyland (2001, 2005, 2012) has undertaken large descriptive corpus studies and analyzed the rhetorical functions of first-person pronouns in highly ranked academic journals. His theories and conclusions have been so widely cited that it is worthwhile explicating them in detail in this section.

First, Hyland (2001) performed a corpus study of first-person pronouns in scientific journal articles, comprising 240 articles from top ranked journals in eight disciplines (applied linguistics, biology, electronic engineering, marketing, mechanical engineering, philosophy, physics, and sociology). All in all, the corpus Hyland studied had an average of 22.7 first-person pronouns per article and 41.1 first-person pronouns per 10 000 words, although these statistics varied considerably between the disciplines. For sociology – the discipline in focus in the current paper – the equivalent numbers were 29.4 first-person pronouns per article and 40.1 first-person pronouns per 10 000 words. Hyland (2001: 201) concluded that, "while impersonality may often be institutionally sanctified, it is constantly transgressed". Furthermore, Hyland concurred in the idea that first-person pronouns may be applied in order to express solidarity with readers, which was mentioned in section 2.1 with references to Mühlhäusler and Harré (1990), Wales (1996), and Kuo (1999).

This latter notion related to the rhetorical effects of first-person pronouns was developed in Hyland's article from 2005. In this article, Hyland presented first-person pronouns as important instruments that academic writers may use to create a *stance*, that is, an image of the writer similar to what was referred to as a *persona* in section 2.2. According to Hyland, a skilled academic writer deploys first-person pronouns to establish a stance that signals knowledge of disciplinary conventions, respect for alternative views, solidarity with readers, and a personal capacity for drawing new, valuable conclusions. That is, Hyland indicated that two of the main features of convincing scientific articles are their ability to create rapport between the writers and the readers and their ability to promote the writers as skilled researchers. Both of these features – according to Hyland (2005) – are accomplished partly through the use of first-person pronouns.

Finally, in his book from 2012, Hyland further stressed how a successful stance needs to foster a sense of kinship between writers and readers. Hyland (2012: 19f) pointed out that first-person pronouns need to be included in academic writing to accomplish a stance, but this stance must not diverge too much from the representations of other scholars in the discipline, since such a divergence risks portraying writers and readers as contestants rather

than companions (for more on the relation between similarity and solidarity, see Aronson, 2014).

2.5 Promoting researchers through first-person pronouns

In concordance with Hyland's (2005) conclusion that skilled academic writers create stances that indicate the writers' abilities as researchers, Harwood (2005a, 2005c) and Millán (2010) noticed that academic writers may use first-person pronouns to promote themselves through their texts. However, Harwood (200a, 2005c) and Millán (2010) explicated these promotional aspects in greater detail.

To begin with, Harwood (2005a) presented a qualitative analysis of how first-person pronouns may be positioned in relation to the surrounding text – the *cotext* – to create promotional effects for the academic writer. In essence, Harwood argued that cotexts surrounding first-person pronouns promote researchers by including positively-valued words; that is, positively-valued words in the cotext spread positive connotations to the first-person pronouns, although these words may not relate to the pronouns in a direct, overt manner. Harwood's understanding may be exemplified by the following sentence, which I have formulated myself: "I was inspired by Labov's brilliant research on sociolects." In this sentence, one can claim that the adjective *brilliant* positively affects the first-person pronoun *I*, although *brilliant* does not in any grammatical sense modify or relate to the *I*.

Furthermore, in another article (2005c), Harwood noticed some other promotional effects that the inclusion of first-person pronouns may have in academic texts. Importantly, Harwood (2005c) concluded that academic writers may deploy first-person pronouns to stress the differences between their studies and earlier research. In other words, Harwood claimed that the usages of first-person pronouns signal to readers that the researchers themselves are crucial components of the new, supposedly creative, research that they present.

Finally, Millán (2010) put forward results from both a corpus study and interviews with researchers within the fields of applied linguistics, business management, food technology, and urology. Millán (2010: 37) noticed that "self-mentions" – most commonly through the usage of first-person pronouns –are regarded by the researchers as important devices for self-promotion and publishing in highly ranked journals:

> "Moreover, the researchers' decision to use personal markers in order to clearly stand behind their research findings and conclusions might also be affected by factors like the journals' status, inasmuch as self-mention resources may be perceived as a necessary marketing

strategy in order to get their research published in prestigious international journals." (Millán, 2010: 44)

Thus, Millán (2010) found that some researchers see first-person pronouns as crucial instruments for being published in desirable journals. This conclusion is in line with the notion that first-person pronouns are important for the writing of scientific articles.

2.6 Predictions about the future

To round off this section, it may be interesting to notice some predictions in a rather unorthodox article by Bloom (2005). According to Bloom, academic writing is becoming increasingly personal and more often includes first-person pronouns due to influences from other writing genres, such as journalism. Bloom claims that journalism adopted a new personal style of writing already in the late 1970s, and by writing scientific articles that are similar to personal journalist texts, Bloom believes that academic writers seek to increase readers' interest in their work. Also, Bloom argues, by adopting a more personal style and employing more first-person pronouns, academic writers appeal to a broader readership, since more readers are able to comprehend scientific articles when these are written in a personal style. Thus, Bloom concludes that academic writing will continue to develop along the same trajectory, becoming even more personal and including even more first-person pronouns, so that future research articles may be introduced by the colloquial greeting "welcome" (Bloom, 2005: 417).

3. Methods

The corpus study presented in this paper aims to determine if first-person pronouns differ in frequency or function between highly and less highly ranked scientific journals. In order to clarify the procedures of the corpus study, the following sections elaborate on the methods that were used. Section 3.1 explains how the data were selected, section 3.2 presents the categorization procedures and the categories used, section 3.3 highlights certain problems that arose in relation to the categorizations, and section 3.4 explains how the reliability of the results was calculated.

3.1 Data selection

First, journals were selected through usage of the Schimago Journal Rank (SJR). The SJR for a specific journal is based on its number of citations in other journals and the prestige these other citing journals have (Guerrero-Bote & Moya-Anegón, 2012: 674f). Also, the SJR gives more weight to citations in journals that are closely related in terms of fields of investigation, since academics performing research in similar fields are likely to be most apt at evaluating each other's studies (Guerrero-Bote & Moya-Anegón, 2012: 687). Thus, journals with many citations in other closely-related, prestigious journals have high SJRs. I made use of the SJR listings found on the official SJR website[2] to select the five highest ranked and five lowest ranked journals that met the following six criteria:

1. The journals had to be found within the subject area "Social sciences" and the subject category "Sociology and political science", according to the SJR website (www.scimagojr.com/journalrank.php).

2. The journals had to be closely related to the field of sociology, according to brief informal assessments of their content.

3. The journals had to be published in the United States. This criterion was motivated by the fact that different regions and nations may have different writing norms, as was noticed in the background of this paper (Vassileva, 1998; Hyland, 2002; Carciu, 2009).

4. The SJRs of the journals had to be calculated for the year 2013.

5. The journals had to have at least ten "citable documents" published in 2013. The term *citable documents* is used in the listings on the SJR website, but I was unable to find any exact definition of the term.

6. The journals had to be accessible through the Karlstad University library.

Applying these criteria, the following five highly ranked journals were selected: *Administrative Science Quarterly* (SJR=8.890), *Annual Review of Sociology* (SJR=5.801), *American Sociological Review* (SJR=5.488), *Journal of Personality and Social Psychology* (SJR=5.443), and *International Security* (SJR=3.906). Also, the following five less highly ranked journals were selected: *The American Sociologist* (SJR=0.214), *Journal of Social History* (SJR=0.165), *Society* (SJR=0.154), *International Journal of Discrimination and the Law* (SJR=0.135), and *Asian Journal of Political Science* (SJR=0.122).

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[2] www.scimagojr.com/journalrank.php

One the official homepages of the 0f the selected journals, writing guidelines for submitting articles were found. The only journal that had any instructions for the application of first-person pronouns was the highly ranked *Administrative Science Quarterly*, which stated that *we* should only be used to refer to multiple authors. Also, two of the highly ranked journals – *Administrative Science Quarterly* and *Journal of Personality and Social Psychology* – provided writing guidelines in which it was stated that the active voice was preferably used, and, according to my understanding, the active voice may often imply usage of first-person pronouns. However, these instructions related to the usage of *we* and the active voice were not powerful enough to skew the data; rather the opposite, I noted that excluding these journals due to their writing guidelines would risk creating a skewed sample.

From each of the journals, the first two single-authored and first two multi-authored articles published in the last issue of 2013 were selected. Both articles by one and several authors were included in order to get comparable statistics for first-person pronouns in both the singular and the plural. If two single-authored and two multi-authored articles could not be found in the last issues of 2013, the first articles meeting these criteria in the most recent previous issues were selected. In one instance, when searching for articles in *Administrative Science Quarterly*, issues from 2012 were used to find a second single-authored article.

After having collected two single-authored and two multi-authored articles from each of the ten journals – making 40 articles in total – I deleted extraneous text from all articles. The focus of this paper is on the main texts of articles, and therefore all abstracts, lists of references, tables, figures, footnotes, author presentations, and notes of acknowledgement were removed. Through the removal of these extraneous pieces of text, one computer file in the format of a txt-file (accessible through the software Notepad in Microsoft Windows) was created for each of the 40 articles. All in all, the 20 txt-files for the articles from the highly ranked journals included 224 780 words, and the 20 txt-files for the articles from the less highly ranked journals included 152 433 words.

3.2 Categorization

The corpus-analysis software AntConc[3] was used to count and analyze the first-person pronouns in the corpus in their linguistic contexts. By scrutinizing all instances of first-person pronouns in their linguistic contexts, it was ascertained that none of the pronouns included in the study were parts of quotes or consisted of homographs of pronouns. Homographs are identical written forms with different, unrelated meanings, and it was checked that, for example, the common noun *mine* was not counted as the pronoun *mine* and

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[3] This software is downloadable from http://www.laurenceanthony.net.

that the proper noun (*the*) *US* was not mistakenly counted as the pronoun *us.* Also, all instances of first-person pronouns were analyzed in their linguistic contexts in order to calculate the frequencies of occurrence for a number of grammatical and functional categories.

First, all instances of first-person pronouns were categorized according to their type of pronoun. In other words, the numbers of instances of *I* (personal pronoun, singular, subject form), *me* (personal pronoun, singular, object form), *my* (possessive pronoun, singular, dependent), *mine* (possessive pronoun, singular, independent), *we* (personal pronoun, plural, subject form), *us* (personal pronoun, plural, object form), *our* (possessive pronoun, plural, dependent), and *ours* (possessive pronoun, plural, independent) were counted.

Second, all instances of *we* were categorized by applying Kuo's (1999) distinction between inclusive *we* (where the reader is incorporated by the pronoun) and exclusive *we* (where the reader is not referred to by the pronoun). In case an instance was unclear in terms of inclusiveness or exclusiveness, the instance was categorized as "ambiguous." Examples from the corpus of inclusive, exclusive, and ambiguous *we* are given below:

(1) Inclusive *we*: In this situation, how would we, as a research community, treat the results? (Brandt, 2013: 14)

(2) Exclusive *we*: We were faced with widely different perspectives, with some central leaders from the Muslim milieu not seeing any problems with any sort of religious clothing at work and also accepting a burqa for a woman who had small children in day care. (Christoffersen & Vinding, 2013: 151)

(3) Ambiguous *we*: Below, we review previous research on these topics. (Chung et al., 2013: 2)

Third, all instances of *I* and *we* were categorized according to what genre role they enacted. As was seen in section 2.2, Tang and John (1999) proposed six genre roles that may be realized through first-person pronouns in academic texts: the representative role (which is non-personal and represents a larger group of people), the guide role (which leads the reader to certain conclusions), the architect role (which structures the text of the article), the recounter role (which conveys the research procedures), the opinion-holder role (which claims a certain opinion or attitude), and the originator role (which infers new conclusions). Finally, instances of *I* and *we* that did not seem to fit into Tang and John's model were categorized as having no genre role. Below are six sentences with all of the genre roles and one sentence with no genre role:

(4) The representative: "...a core insight of evolutionary theory is that much of our behavior, even if broadly rational in many settings, is also influenced by evolved physiological and psychological mechanisms that we cannot switch on or off at will." (Johnson & Toft, 2013: 10)

(5) The guide: "As we can see, physicians, psychiatrists, and sociologists turned their attention to the study of suicide long ago." (Brancaccio, Engstrom, & Lederer, 2013: 608)

(6) The architect: "Here I first note two views of private-order institutions and illustrate their cultural and organizational foundations, and then I continue with a discussion of the limitations to their reach." (Hillman, 2013: 261)

(7) The recounter: "We interviewed Piet Hazenbosch, a senior policy advisor for the mainstream Christian trade union (with 335,000 members)." (Vermeulen & Belhaj, 2013: 122)

(8) The opinion-holder: "I believe the range of inconsequential effect size chosen for the current study is a very narrow band that works against finding results that are practically zero..." (Brandt, 2013: 7)

(9) The originator: "I propose to address the subjective aspect of political opportunity and threat through the concept of 'perception profiles,' building on related concepts from the field of social movement studies." (Kadivar, 2013: 1065)

(10) No genre role: "We also wonder to what extent these types of courses are being offered at the 2-year level by other disciplines such as psychology." (Rowell & This, 2013: 339)

All of the quotes above are taken from the corpus studied in this paper. (4), (6), (8), and (9) are from highly ranked articles, and (5), (7), and (10) are from less highly ranked articles.

3.3 Validity of the categories

Since categories were included for both ambiguous cases of inclusive/exclusive *we* and instances of *I* and *we* that did not perform any genre roles, there were no difficulties in finding suitable categories for all first-person pronouns. Nonetheless, there were some instances that caused problems in terms of categorization.

Most notably, there were some cases of *I* and *we* that performed several genre roles simultaneously, which rendered it difficult to decide what genre roles were to be annotated in the data record. One clear example of this difficulty was found in an article by Kleinbaum (2012: 438), where *I* was used with two different verbs:

(11) "I hypothesized and found empirical support for two distinct types of ties that enable brokerage in mobile individuals: ties to direct, personal contacts with whom one has worked previously and ties to indirect contacts, the friends of one's friends."

In this sentence by Kleinbaum (2012: 438), one single instance of *I* was used both with the originator genre role ("I hypothesized") and the recounter genre role ("I...found empirical support"). Both genre roles for this instance of *I* could not be included in the data record, since that would have skewed the data by overestimating the number of pronouns in the article. Neither could the instance be included in a "multiple functions" category, since that would have led to an underestimation of the number of genre roles performed. Therefore, I decided to assign the instance with only the most prominent genre role. In most sentences it can be argued that the most prominent verb is the one that stands closest to the subject, and for this reason I decided to let the verb closest to the first-person pronoun in subject position determine the assigned genre role whenever two plausible genre roles could be found for the same instance. Accordingly, the *I* in Kleinbaum's (2012) sentence above was assigned with only the originator genre role, since the verb *hypothesize* was closest to the *I*, and *hypothesize* implies the act of originating a new conclusion.

3.4 Reliability of the results

The analyzed articles differed markedly in length (3 100 - 15 230 words), which rendered it impossible to compare absolute numbers. In order to have measures that could be reliably compared, frequencies were normalized per 10 000 words for all categories.

When estimating the reliability of the results, I sought to calculate the degrees of statistical significance for each difference in the results between highly and less highly ranked articles. In other words, calculations were performed to indicate how probable it was that the differences between the *samples* of highly and less highly ranked articles did correspond to actual differences between highly and less highly ranked articles *in general*. One common way of calculating degrees of statistical significance between mean numbers (instances/ 10 000 words) is the *t*-test. However, the *t*-test is only applicable when the data follows a normal distribution, that is, when most individual mean numbers in the data (of the articles) are close to the overall mean (of all articles) and when the individual mean numbers in the data are at somewhat equal distances above and below the overall mean (Djurfeldt, Larsson, & Stjärnhagen, 2003: 241f). In the results for this study, most articles had numbers below the overall mean and a few articles had numbers far above the overall mean, as can be seen in Table 1 below. This implied that the data did not follow a normal distribution and could not be analyzed through *t*-tests.

Table 1. Numbers of articles with mean numbers of first-person pronoun (x) per 10 000 words. Percentages relate to total numbers of articles per row. The overall mean for highly ranked articles is 62.91, the overall mean for less highly ranked articles is 37.63, and the overall mean for all articles is 50.27.

Instances per 10 000 words	x<25	25≤x<50	50≤x<75	75≤x<100	100≤x<125	125≤x
Highly ranked articles	3 (15%)	8 (40%)	2 (10%)	3 (15%)	-	4 (20%)
Less highly ranked articles	13 (65 %)	2 (10%)	2 (10%)	-	1 (5%)	2 (10%)
All articles	16 (40%)	10 (25%)	4 (10%)	3 (7.5%)	1 (2.5%)	6 (15%)

Since it was not possible to apply *t*-tests, I estimated the reliability of the study by calculating the statistical significance for each correlation through a chi-square test. In order to perform the chi-square test, a null hypothesis was formulated. For each correlation between one group of articles and one of the categories presented above – each correlation where either the highly or less highly ranked articles were observed to have more instances of a certain category than the other group of articles had – all articles were ordered according to their numbers of instances per 10 000 words. Then, the overall median of all numbers of instances per 10 000 words – the median for all articles – was calculated in order to obtain the following null hypothesis:

H_0: the number of highly ranked articles above or below the median = the number of less highly ranked articles above or below the median = 10

In other words, the null hypothesis implied that if there was no difference between the highly and less highly ranked articles, half the articles of both sets would fall above and below the median (since the median value per definition was positioned exactly in the middle of all values). Accordingly, as there were 20 highly and 20 less highly ranked articles, the expected numbers were '10' for both highly and less highly ranked articles, above and below the median. Based on these expected numbers, I manually calculated the chi-square value through the following formula (Djurfeldt et al., 2003: 207ff):

$$\chi^2 = \frac{(O_{HA} - E_{HA})^2}{E_{HA}} + \frac{(O_{HB} - E_{HB})^2}{E_{HB}} + \frac{(O_{LA} - E_{LA})^2}{E_{LA}} + \frac{(O_{LB} - E_{LB})^2}{E_{LB}}$$

where:

O_{HA} = the *observed* number of *highly* ranked articles *above* the median

E_{HA} = the *expected* number of *highly* ranked articles *above* the median (=10)

O_{HB} = the *observed* number of *highly* ranked articles *below* the median

E_{HB} = the *expected* number of *highly* ranked articles *below* the median (=10)

O_{LA} = the *observed* number of *less highly* ranked articles *above* the median

E_{LA} = the *expected* number of *less highly* ranked articles *above* the median (=10)

O_{LB} = the *observed* number of *less highly* ranked articles *below* the median

E_{LB} = the *expected* number of *less highly* ranked articles *below* the median (=10)

Since the chi-square calculation was based on only two independent and two dependent variables, it had one degree of freedom. By comparing the obtained chi-square value to a table of distribution for chi-square values with one degree of freedom, it was determined if and at what level the result was statistically significant. The lowest accepted degree of statistical significance was $p < 0.05$. That is, only if the result had at least 95 % certainty ($p < 0.05$) of indicating a real correlation between the rankings of articles and a certain category of first-person pronoun, was it accepted as statistically significant. Higher degrees of statistical significance had to have a maximum of three decimals.

4. Analysis and results

In the following sections, the results of the study are presented. Section 4.1 presents and discusses the distributions of types of first-person pronoun, section 4.2 presents the distributions of different types of *we*, and section 4.3 presents the distributions of the functional categories realized through first-person pronouns.

4.1 Survey of results

First, the highly and less highly ranked articles were compared in terms of the mean numbers of instances of each type of pronoun. This is illustrated in Figure 2 below:
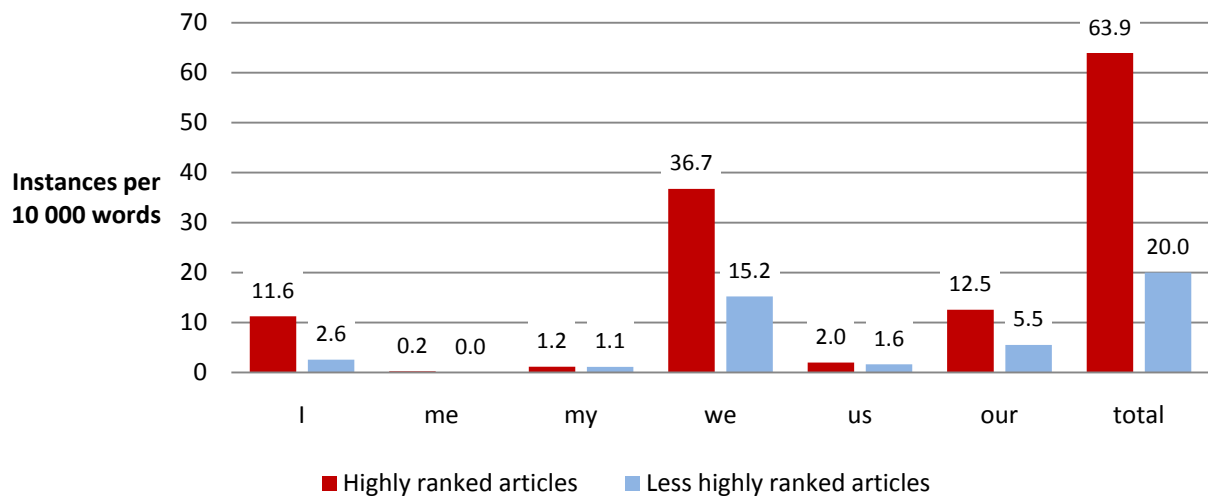
Figure 2. Instances of first-person pronouns per 10 000 words in highly and less highly ranked articles.

The possessive independent pronouns *mine* and *ours* did not occur in either the highly or the less highly ranked articles, and therefore these pronouns are excluded from Figure 2. The remaining six first-person pronouns had higher frequencies overall per 10 000 words in the highly ranked articles, and the largest discrepancies could be noticed for the pronouns *I, we,* and *our,* for which frequencies per 10 000 words were much higher in the highly ranked articles.

Although there were major differences between the overall mean frequencies of *I, we,* and *our* in the highly and less highly ranked articles, there were also large differences within both sets of articles. Thus, despite the fact that the overall mean frequencies of *I, we,* and *our* were several times higher for the highly ranked articles than for the less highly ranked articles, some of the less highly ranked articles still contained more instances of *I, we,* and *our* than some of the highly ranked articles. Since the method used for calculating statistical significance was based on what numbers of highly and less highly ranked articles fell above and below the overall means for all articles, the exceptionally high or low frequencies of first-person pronouns in specific articles were not taken into account. Therefore, not even the overall mean values that differed by more than a factor of four (as did the overall mean values for *I*) necessarily indicated statistically significant results.

Of the categories presented in Figure 2, only the total number of first-person pronouns per 10 000 words constituted a statistically significant result. The result indicated with more than 97.5% certainty ($p. < 0.025$) that first-person pronouns of all types are generally more frequent in highly ranked articles than in less highly ranked articles. (See the Appendix for more information.)

4.2 Distribution of inclusive, exclusive, and ambiguous *we*

The same procedure as in section 4.1 was performed in order to compare the mean distributions of inclusive, exclusive, and ambiguous *we* in highly and less highly ranked articles. See Figure 3:
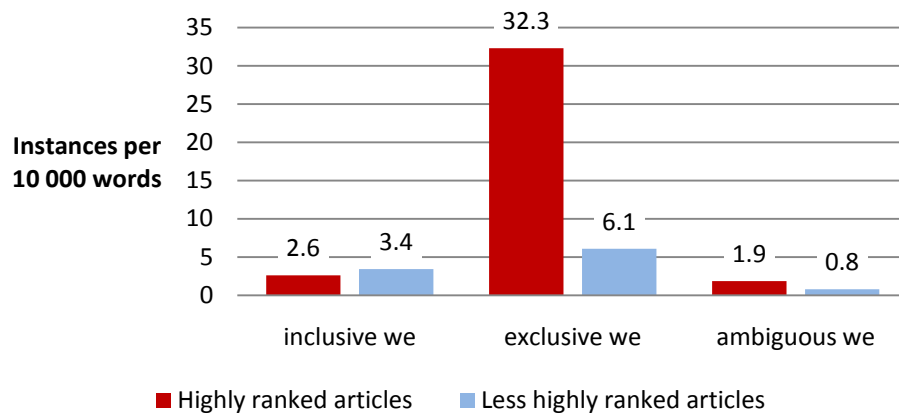

Figure 3. Instances of inclusive, exclusive, and ambiguous we *in highly and less highly ranked articles.*

As can be seen in Figure 3, exclusive *we* was more than five times as common in the highly ranked articles in comparison to the less highly ranked articles. Exclusive *we* refers only to the authors and does not include the reader, and typical, clear-cut examples of exclusive *we* often collocated with verbs in the past tense, since the reader was not present – and could not be referred to – in the past. Exclusive *we* is exemplified in (12) from a highly ranked article and (13) from a less highly ranked article:

> (12) "We next did a series of analyses to evaluate the links between overall player experience and both change in aggression and game motivation as mediated by competence-need satisfaction." (Przybylski, Deci, Rigby, & Ryan (2013: 10)

> (13) "We felt it important to add to the original study and explore further what is happening with sociology at 2-year institutions." (Rowell & This, 2013)

Although exclusive *we* was strikingly more frequent in the highly ranked articles overall than in the less highly ranked articles, it did not constitute a statistically significant result. Similar to the results in section 4.1, the large difference between the overall mean frequencies of exclusive *we* in highly and less highly ranked articles was due to a few highly ranked articles with particularly many occurrences, skewing the data in favor of a conspicuous difference. As

there were no large differences for inclusive *we* and ambiguous *we* between the highly and less highly ranked articles, there were no significant results for any of exclusive, inclusive, or ambiguous *we.*

4.3 Distribution of genre roles

Applying the same procedure as in sections 4.1 and 4.2, the numbers of instances of Tang and John's (1999) genre roles, enacted through *I* and *we*, were compared between the highly and less highly ranked articles. See Figure 4:
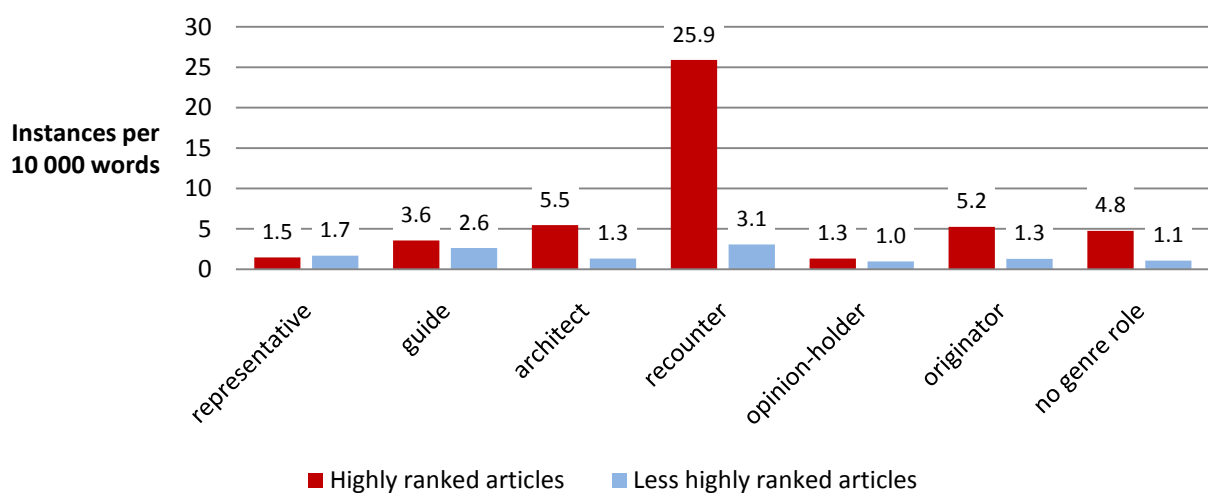

Figure 4. Instances of genre roles in highly and less highly ranked articles.

As can be noticed in Figure 4, the highly ranked articles appeared to use markedly more *I* and *we* than the less highly ranked articles in order to realize the architect, recounter, and originator genre roles. As mentioned in section 2.2, Tang and John (1999) claimed that different genre roles signal different degrees of authorial presence, and it was mentioned that Tang and John regarded the originator genre role as marking the highest degree of authorial presence. Accordingly, the originator genre role is typically enacted in the subject position of a sentence. Examples of the originator genre role are given in the following quotes, of which (14) is from a highly ranked article and (15) is from a less highly ranked article:

(14) "I propose to address the subjective aspect of political opportunity and threat through the concept of 'perception profiles,' building on related concepts from the field of social movement studies." (Kadivar, 2013: 1065)

(15) "Viewing Bedford through the lens of a social organization of labor perspective, we argue, illuminates a previously neglected dimension of the logic and practice of reform." (Bowler, Leon, & Lilley, 2013: 460)

Although the originator genre role – exemplified by (14) and (15) – appeared to be much more frequent in the highly ranked articles than in the less highly ranked articles, the difference was not statistically significant. The originator genre role appeared to be much more frequent in highly ranked articles because of a couple of articles that had particularly many instances.

The architect and recounter genre roles were also employed more frequently in highly ranked articles than in less highly ranked articles. The architect genre role serves to present the researchers as consciously structuring their articles – often through some sort of meta-text – and the recounter genre role is used to convey the procedures that have been performed in the research process, usually in the past tense. Typical examples of the architect and recounter genre roles are presented in the following four quotes, of which (16) and (18) are from highly ranked articles and (17) and (19) are from less highly ranked articles:

(16) The architect genre role: "We elaborate these concerns in our theoretical specification in the following sections." (Loughran, Nquyen, Piquero, & Fagan, 2013: 930)

(17) The architect genre role: "In this section of the paper we examine demographic, educational, and work conditions that may impact the professional status and position in the organizational hierarchy of ASA members who are employed in community colleges." (Vitullo & Spalter-Roth, 2013: 355)

(18) The recounter genre role: "Next, I examined whether the relationship between economic conditions at workforce entry and job satisfaction was mediated by upward counterfactuals and gratitude, using Baron and Kenny's (1986) four-step mediational procedures." (Bianchi, 2013: 611)

(19) The recounter genre role: "As a sociologist and president of Norwalk Community College, I have utilized my 'sociological imagination' in planning and implementing a number of initiatives." (Levinson, 2013: 343)

The architect genre role, seen in (16) and (17), appeared to be more frequent in highly ranked articles than in less highly ranked articles, but according to a chi-square test, this correlation was not statistically significant. However, the higher usage of the recounter genre role in the highly ranked articles than in the less highly ranked articles was equalled by a strong degree

of statistical significance (p < 0.002). The Appendix elaborates on the calculations that prove this statistical significance.

5. Discussion

In sections 4.1 to 4.3, the results of the present study were presented in isolation from earlier research. In sections 5.1 to 5.3, the results are discussed in relation to the earlier research that was presented in the background of this paper. The intention with the discussion is to find explanations for the results and to evaluate ways in which the results may corroborate or contradict conclusions from earlier studies.

5.1 Clarity and self-promotion

To begin with, the results of this paper seem to support the idea that first-person pronouns help academic writers construct clear texts. This idea was initially presented by Ivanic and Simpson (1992), who regarded the use of first-person pronouns as essential for clear academic writing. According to Ivanic and Simpson, academic writers that use first-person pronouns to indicate their own identities may avoid superfluous, inexact formulations that – they argue – are typical of impersonal academic texts. The results of the present paper support Ivanic and Simpson's conclusions by indicating that highly ranked articles in sociology make use of significantly more *I* and *we* to clarify the research procedures through the recounter genre role than do less highly ranked articles (p < 0.002). The improved clarity of articles with first-person pronouns performing the recounter genre role can be seen by comparing the following quotes, of which (20) is from a highly ranked article and (21) is from a less highly ranked article:

> (20) "Because mortality rates of advertising agencies are high, to avoid survivor bias, we purposively drew our sample from two subsets of advertising agencies: firms that survived until the end of our observation period and firms that had failed prior to 1998." (Cohen & Broschak, 2013: 519)

> (21) "Second, results from a series of qualitative interviews are presented in order to show the broader climate of change. Cases presented are from supreme or high courts as well as from the recently established Board of Equal Treatment, which surprisingly has had to deal with this area in more cases than some would have expected, given the primary lack of focus on the field." (Christoffersen & Vinding, 2013: 144)

In (20), Cohen and Broschak (2013) include themselves through the first-person pronoun *we* when recounting the procedures of their work, and by doing so, Cohen and Broschak manage to clearly convey how they reasoned when they designed their research. Quote (21) from Christoffersen and Vinding (2013: 144) indicates that a fact related to the data of their study is "surprising" in relation to what "some would have expected," but since the quote includes no references to the authors or any other specific people, it remains unclear who "some" refers to. As (20) is from a highly ranked article and (21) is from a less highly ranked article, these two quotes can exemplify how authors of articles with higher ranking may be more skilled at deploying *I* and *we* to clarify the recounting of their research.

Furthermore, the results of the present paper appear to be congruent with the notion that first-person pronouns may be used by academic writers that seek to promote themselves. In the background it was pointed out that Harwood (2005a, 2005c), Hyland (2005), and Millán (2010) argue that first-person pronouns can create self-promotional effects by highlighting researchers' competence and contributions. This argumentation gains support from the results of the present study, in which there is a significantly more frequent usage of the recounter genre role in the highly ranked journals, in comparison to the less highly ranked journals. The more frequent usage of the recounter genre role indicates that researchers behind highly ranked articles may include *I* and *we* more often in order to indicate their own contributions to the research procedures. This can be noticed in a comparison of quote (22) from a highly ranked article and quote (23) from a less highly ranked article:

(22) "We took several steps to increase response rates, including a qualitative pretest that involved in-depth interviews with 21 current or former top executives at firms in the population, and these are described in the Online Appendix." (Park & Westphal, 2013: 554)

(23) "A two-period game model is designed to examine advisory services and pricing strategy between financial institutions and consumers." (Han & Jang, 2013: 215)

In (22), Park and Westphal (2013: 554) highlight their personal contribution to their research by stressing their efforts to "increase response rates." Park and Westphal connect themselves to the painstaking research procedures by including the first-person pronoun *we* in the account. Rather the opposite, quote (23) from Han and Jang (2013) does not include any reference to the authors, and accordingly, no merit is afforded to Han and Jang (2013: 215) for the design of their "game model." Park and Westphal (2013) use *we* to promote themselves, whereas Han and Jang (2013) fail to promote themselves by writing a text void of first-person pronouns. Thus, the more frequent usage of *I* and *we* with the recounter genre

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role in highly ranked articles than in less highly ranked articles may support the notion that first-person pronouns help authors of scientific articles promote themselves.

5.2 Does *we* create solidarity?

As was noted in section 2.1, Mühlhäusler and Harré (1990: 174) and Wales (1996: 59ff) claimed that one central function of *we* in academic writing is to construct a sense of solidarity between writers and readers. Similarly, Kuo (1999) and Hyland (e.g. 2012) referred to their own empirical studies when concluding that solidarity between academic writers and readers may be achieved by the deployment of inclusive *we*.

However, there was no evidence in the present study indicating that *we* is used to create solidarity any more often in highly ranked, presumably skillfully written, articles, than in less highly ranked articles. Inclusive *we* (Fig. 3, section 4.2) and the representative and guide genre roles (Fig. 4, section 4.3) – in which *we* may refer to both writers and readers – were some of the categories analyzed in this paper for which there were the least observed differences between highly and less highly ranked articles. In fact, there were even somewhat more instances of inclusive *we* and the guide genre role in the less highly ranked articles than in the highly ranked articles, which indicated that *we* is not used any differently with these functions in the two sets of articles. Therefore, the results of the current paper did not provide any evidence in favor of the idea that inclusive *we* may be used by skilled academic writers to gain solidarity from readers, as is proposed by Mühlhäusler and Harré (1990: 174), Wales (1996: 59ff), Kuo (1999), and Hyland (e.g. 2012).

5.3 Comparison with Hyland's (2001) study

As was noted in the introduction, the focus on sociological journals in the present paper allows for a comparison between the results of this paper and the results in Hyland's (2001) study that are based on analyses of sociological articles. In his study, Hyland analyzed articles from highly ranked journals, and therefore I may only make comparisons with the 20 highly ranked articles that are analyzed in the current paper. Figure 5 presents an overview of the first-person pronouns found in Hyland's (2001) study and in the present paper:
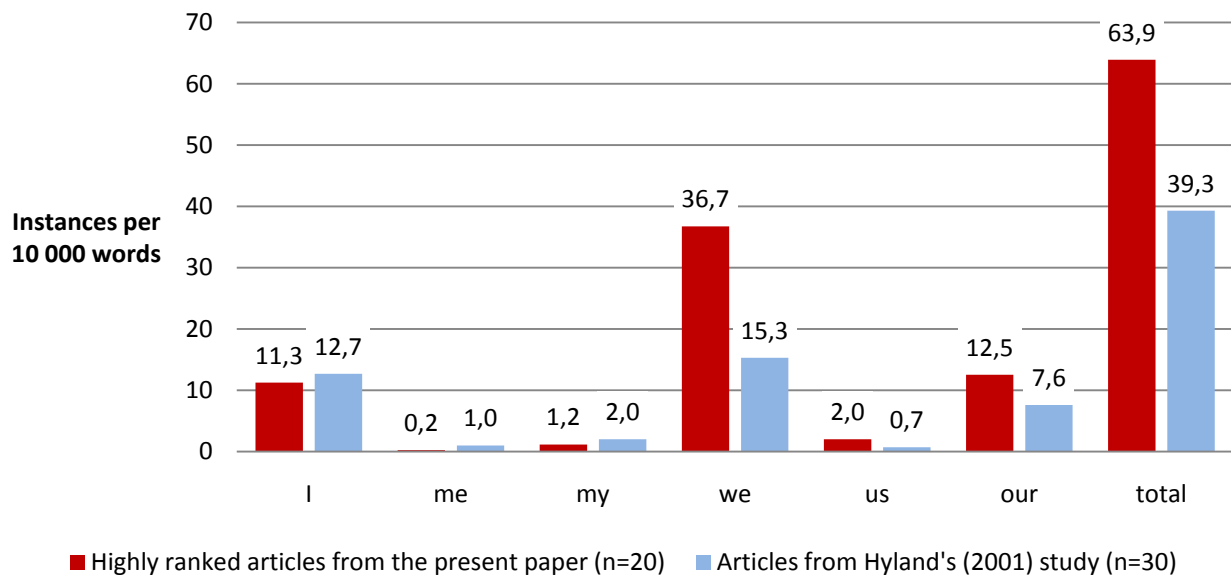
Figure 5. Instances of first-person pronouns in highly ranked articles in the present study and in sociological articles in Hyland's (2001) study.

As can be seen in Figure 5, the distribution of first-person pronouns in highly ranked articles in the present paper and in sociological articles in Hyland's (2001) study followed roughly the same pattern. However, *we* was markedly more frequent in the articles on which the present paper was based, and this made the total number of pronouns per 10 000 words largest in the present study as well. Since I had no access to the numbers of pronouns per each specific article in Hyland's investigation, it was not possible to apply the formula that is used in the present paper for calculating the potential degrees of statistical significance for these differences. Nonetheless, presuming that the differences in these samples were not caused by chance in the process of selecting articles, it is reasonable to assume that the differences are due to the two distinct time periods from which the articles are taken. The articles used in the present paper are primarily from 2013 whereas the articles Hyland (2001) analyzes are from 1997 and 1998, and since the usage of first-person pronouns in scientific articles in general appears to have increased in the last few decades (e.g. Bloom, 2005) it is reasonable to think that the number of first-person pronouns have increased in sociological articles too over the last 15 years. Therefore, I conclude that the results of the present paper and the results from Hyland's (2001) study are reasonably congruent and support each other's reliability.

6. Conclusion

In the current paper, the aim was to investigate if first-person pronouns have different frequencies or functions in highly ranked articles compared to less highly ranked articles in sociology. In order to accomplish the aim, the paper presented the results of a corpus study of 20 articles from five highly ranked journals and 20 articles from five less highly ranked journals. The results indicated that the frequencies of all first-person pronouns combined and the frequencies of the recounter genre role – according to Tang and John's (1999) definition – were significantly larger in the highly ranked articles in comparison to the less highly ranked articles. Also, the results implied close-to significant correlations between high ranking and more frequent usages of the architect and originator genre roles (Tang & John, 1999). In the discussion it was concluded that the results supported the idea that the usage of first-person pronouns may make academic texts clearer and may help academic writers promote themselves. However, contrary to expectation, I also noted that the results did not indicate that *we* was used to gain solidarity from readers any more often in highly ranked articles than in less highly ranked articles.

As the present paper focused on analyzing articles in sociology it provided no information about the usage of first-person pronouns in other academic fields. Therefore I recommend other researchers and students to perform studies similar to the present one with journals and articles from other disciplines than sociology. Also, by including a larger number of articles, future research can more readily find statistically significant results. For this reason I propose that future researchers include larger samples of articles, in order to be able to find more first-person pronouns and functions of first-person pronouns that differ – to significant extents – between highly and less highly ranked journals.

References

Primary sources

Bianchi, Emily C. 2013. The bright side of bad times: The affective advantages of entering the workforce in a recession. *Administrative Science Quarterly* 58(4): 587-623.

Bowler, Anne E., Chrysanthi S. Leon, & Terry G. Lilley. "What shall we do with the young prostitute? Refrom her or neglect her?": Domestication as reform at the New York State Reformatory for Women at Bedford, 1901-1913. *Journal of Social History* 47(2): 458-81.

Brancaccio, Maria T., Eric J. Engstrom, & David Lederer. 2013. The politics of suicide: Historical perspectives on suicidology before Durkheim. An Introduction. *Journal of Social History* 46(3): 607-19.

Brandt, Mark J. 2013. Do the disadvantaged legitimize the social system? A large-scale test of the status-legitimacy hypothesis. *Journal of Personality and Social Psychology* 104: 765-85.

Cohen, Lisa E., & Joseph P. Broschak. 2013. Whose jobs are these? The impact of the proportion of female managers on the number of new management jobs filled by women versus men. *Administrative Science Quarterly* 58(4): 509-41.

Connolly, Michael. 2013. Achieving social mobility: The role of equality law. *International Journal of Discrimination and the Law* 13(4): 261-91.

Christoffersen, Lisbet, & Niels V. Vinding. 2013. Challenged pragmatism: Conflicts of religion and law in the Danish labour market. *International Journal of Discrimination and the Law* 13(2-3): 140-68.

Chung, Joanne M., Richard W. Robins, Kali H. Trzesniewski, Erik E. Noftle, Brent W. Roberts, & Keith F. Widaman. 2013. Continuity and change in self-esteem during emerging adulthood. *Journal of personality and social psychology*. Advance online publication. doi: 10.1037/a0035135

Goodheart, Eugene. 2013. The constitution: Dead or alive. *Society* 50: 535-42.

Gorski, Philip S. 2013. Beyond the fact/value distinction: Ethical naturalism and the social sciences. *Society* 50: 543-53.

Han, Jae-Joon, & Wonchang Jang. 2013. Information asymmetry and the financial consumer protection policy. *Asian Journal of Political Science* 21(3): 213-23.

Hatfield, Elaine, Megan Forbes, & Richard L. Rapson. 2012. Marketing love and sex. *Society* 49: 506-11.

Hillman, Henning. 2013. Economic institutions and the state: Insights from economic history. *Annual Review of Sociology* 39: 251-73.

Ishii, Risako, Piyawadee Rohitarachoon, & Farhad Hossain. 2013. HRM reform in decentralised local government: Empirical perspectives on recruitment and selection in the Philippines and Thailand. *Asian Journal of Political Science* 21(3): 249-67.

Jackson, Michelle, & D. R. Cox. 2013. The principles of experimental design and their application in sociology. *Annual Review of Sociology* 39: 27-49.

Kadivar, Mohammad Ali. 2013. Alliances and perception profiles in the Iranian reform movement, 1997 to 2005. *American Sociological Review* 78(6): 1063-86.

Kimmeldorf, Howard. 2013. Worker replacement costs and unionization: Origins of the U.S. labor movement. *American Sociological Review* 78(6): 1033-62.

Kleinbaum, Adam M. 2012. Organizational misfits and the origins of brokerage in intrafirm networks. *Administrative Science Quarterly* 57(3): 407-52.

Koopmans, Ruud. 2013. Multiculturalism and immigration: A contested field in cross-national comparison. *Annual review of sociology* 39: 147-69.

Krause, Peter. 2013. The structure of success: How the internal distribution of power drives armed group behavior and national movement effectiveness. *International Security* 38(3): 72-116.

Lebovic, Sam. 2013. "A breath from home": Soldier entertainment and the nationalist politics of pop culture during World War II. *Journal of Social History* 47(2): 263-96.

Levinson, David L. 2013. Community colleges and the "promise" of public sociology: A college president's perspective. *The American Sociologist* 44: 341-8.

Lieber, Keir A., & Daryl G. Press. 2013. Why states won't give nuclear weapons to terrorists. *International Security* 38(1): 80-104.

Lin, Duan, & Po-Fang Tsai. 2013. Bryan Stanley Turner, *Religion and modern society: Citizenship, secularization and the state. Society* 50: 426-31.

Loughran, Thomas A., Holly Nquyen, Alex R. Piquero, & Jeffrey Fagan. 2013. The returns to criminal capital. *American Sociological Review* 78(6): 925-48.

Marston, Hunter. 2013. Myanmar's electoral system: Reviewing the 2010 and 2012 elections and looking ahead to the 2015 general elections. *Asian Journal of Political Science* 21(3): 268-84.

Morest, Vanessa S. 2013. From access to opportunity: The evolving social roles of community colleges. *The American Sociologist* 44: 319-28.

Mussel, Patrick. 2013. Intellect: A theoretical framework for personality traits related to intellectual achievements. *Journals of Personality and Social Psychology* 5: 885-906.

Park, Sun H., & James D. Westphal. 2013. Social discrimination in the corporate elite: How status affects the propensity for minority CEOs to receive blame for low form performance. *Administrative Science Quarterly* 58(4): 542-86.

Przybylski, Andrew K., Edward Deci, C. Scott Rigby, & Richard M. Ryan. 2013, December 30. Competence-impeding electronic games and players' aggressive feelings, thoughts, and behaviors. *Journal of Personality and Social Psychology*. Advance online publication. doi: 10.1037/a0034820

Rowel, Katherine R., & Craig This. 2013. Exploring the sociology curriculum at community colleges in the United States. *The American Sociologist* 44: 329-40.

Russel, Dave. 2013. Glimpsing la dolce vita: Cultural change and modernity in the 1960s English cabaret club. *Journal of Social History* 47(2): 297-318.

Sasada, Hironori. 2013. The impact of rural votes in foreign policies: The FTA policies under the DJP government in Japan. *Asian Journal of Political Science* 21(3): 224-48.

Stowes, Ta'Ronce M. 2013. A call to action: Challenging diversity initiatives in the wake of *Fisher v. University of Texas at Austin. International Journal of Discrimination and the Law* 13(4): 292-323.

Turney, Kristin, & Christopher Wildeman. 2013. Redefining relationships: Explaining the countervailing consequences of paternal incarceration for parenting. *American Sociological Review* 78(6): 949-79.

Vermeulen, Floris, & Rabia E. M. Belhaj. 2013. Accomodating religious claims in the Dutch workplace: Unacknowledged Sabbaths, objecting marriage registrars and pressured faith-based organizations. *International Journal of Discrimination and the Law* 13(2-3): 113-39.

Vitullo, Margaret W., & Roberta Spalter-Roth. 2013. Contests for professional status: Community college faculty in sociology. *The American Sociologist* 44: 349-65.

Vogel, Kathleen M. 2013/2014. Expert knowledge in intelligence assignments: Bird-flu and bioterrorism. *International Security* 38(3): 39-71.

Secondary sources

Aronson, Olov. 2014. Similarity theory: A theoretical development of Collins' interaction rituals. (Bachelor's thesis in Swedish.) Karlstad: Karlstad University. Retrieved from [http://urn.kb.se/resolve?urn=urn:nbn:se:kau:diva-33306].

Blommaert, Jan & Chris Bulcaen. 2000. Critical discourse analysis. *Annual Review of Anthropology* 29: 447-66.

Bloom, Lynn Z. 2005. Academic essays and the vertical pronoun. *Literature Interpretation Theory* 16(4): 417-30.

Djurfeldt, Göran, Rolf Larsson, & Ola Stjärnhagen. 2003. *Statistisk verktygsläda: Samhällsvetenskaplig orsaksanalys med kvantitiva metoder.* Lund: Studentlitteratur.

Carciu, Oana Maria. 2009. An intercultural study of first-person plural references in biomedical writing. *Ibérica* 18: 71-92.

Guerrero-Bote, Vincent P. & Félix Moya-Anegón. 2012. A further step forward in measuring journals' scientific prestige: The SJR2 indicator. *Journal of Informetrics* 6: 674-88.

Harwood, Nigel. 2005a. 'Nowhere has anyone attempted . . . In this article I aim to do just that': A corpus-based study of self-promotional *I* and *we* in academic writing across four disciplines. *Journal of Pragmatics* 37: 1207-31.

Harwood, Nigel. 2005b. What do we want EAP teaching materials for? *Journal of English for Academic Purposes* 4: 149-61.

Harwood, Nigel. 2005c. 'We Do Not Seem to Have a Theory . . . The Theory I Present Here Attempts to Fill This Gap': Inclusive and Exclusive Pronouns in Academic Writing. *Applied Linguistics* 26(3): 343-75.

Hyland, Ken. 2001. Humble servants of the discipline? Self-mention in research articles. *English for Specific Purposes* 20: 207-26.

Hyland, Ken. 2002. Authority and invisibility: Authorial identity in academic writing. *Journal of Pragmatics* 34: 1091-112.

Hyland, Ken. 2005. Stance and engagement: A model of interaction in academic discourse. *Discourse Studies* 7(2): 173-192.

Hyland, Ken. 2012. *Disciplinary identities: Individuality and community in academic discourse.* Cambridge: Cambridge University Press.

Ivanic, Roz & John Simpson. 1992. Who's who in academic writing? In Norman Fairclough (ed.), *Critical language awareness*, 141-73, Harlow: Longman.

Ivanic, Roz. 1998. *Writing and identity: The discoursal construction of identity in academic writing.* Amsterdam: John Benjamins.

Kuo, Chih-Hua. 1999. The use of personal pronouns: Role relationships in scientific journal articles. *English for Specific Purposes* 18(2): 121-38.

Millán, Enrique L. 2010. '*Extending this claim, we propose...*' The writer's presence in research articles from different disciplines. *Ibérica* 20: 35-56.

Mühlhäusler, Peter & Rom Harré. 1990. *Pronouns and People.* Oxford: Blackwell.

Pennycock, Alastair. 1994. The politics of pronouns. *ELT Journal* 48(2): 173-78.

Tang, Ramona & Sughanti John. 1999. The 'I' in identity: Exploring writer identity in student academic writing through the first person pronoun. *English for Specific Purposes* 18: 23-39.

Vassileva, Irena. 1998. Who am I/who are we in academic writing? A contrastive analysis of authorial presence in English, German, French, Russian and Bulgarian. *International Journal of Applied Linguistics* 8(2): 163-90.

Wales, Katie. 1996. *Personal pronouns in present-day English.* Cambridge: Cambridge University Press.

Appendix: Calculations indicating statistically significant results

As mentioned in sections 4.1 and 4.3, there were two statistically significant results in this study. First, it was statistically significant (p. < 0.025) that highly ranked articles in sociology have more first-person pronouns, of all types combined, than do less highly ranked articles. Second, it was statistically significant (p. < 0.002) that highly ranked sociological articles make use of more *I* and *we* to construct the recounter genre role than do less highly ranked articles. This Appendix elaborates on the data and calculations behind these statistically significant results.

Starting off with the number of first person pronouns of all types, the median value for articles of all rankings was 36.6 first-person pronouns per 10 000 words. A comparison of the articles and this median value shows that 14 of the 20 highly ranked articles and 6 of the 20 less highly ranked articles fall above the value. On the other hand, 6 of the highly ranked articles and 14 of the less highly ranked articles fall below the median value. Deploying the null hypothesis and expected case that an equal number of highly and less highly ranked articles should fall above and below the median, and making use of the chi-square formula given in section 3.4, the following calculation is obtained:

$$\chi^2 = \frac{(14-10)^2}{10} + \frac{(6-10)^2}{10} + \frac{(6-10)^2}{10} + \frac{(14-10)^2}{10} = 6.400$$

Thus, the difference between the numbers of first-person pronouns used in highly and less highly ranked articles has a chi-square value of 6.4oo. In order to have a 97.5 % certainty (p < 0.025) of correctly rejecting the null hypothesis, a result needs to have a chi-square value of at least 5.024. Therefore, it can be safely stated that highly ranked sociological articles have at least 97.5 % certainty of having more first-person pronouns on average than less highly ranked sociological articles.

Regarding the significant result for the recounter genre role, an analysis reveals that the median value for all articles was 2.2 instances of the recounter genre role per 10 000 words. When comparing this median to each of the articles individually, it can be noticed that 15 of the 20 highly ranked articles and 5 of 20 the less highly ranked articles fall above the value. Also, 5 of the highly ranked articles and 15 of the less highly ranked articles fall below the median value. Based on the null hypothesis and expectation that there is no difference between the highly and less highly ranked articles, the chi-square formula can be applied. This gives the following calculation:

$$\chi^2 = \frac{(15-10)^2}{10} + \frac{(5-10)^2}{10} + \frac{(5-10)^2}{10} + \frac{(15-10)^2}{10} = 10.000$$

A chi-square value must be over 9.550 in order to reject a null hypothesis with 99.8 % certainty (p < 0.002). Therefore, as the current chi-square value is 10.000, it can be concluded with more than 99.8 % certainty that the frequency of recounter genre roles per 10 000 words is larger, on average, in highly ranked sociological articles than in less highly ranked articles.