Plagiarism in Brazil: A perspective of 25,000 PhD holders across the sciences

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Abstract

When it comes to ownership of ideas in science, Robert K. Merton (1957) observed in *Priorities in Scientific Discovery: A Chapter in the Sociology of Science* that "what is true of physics, chemistry, astronomy, medicine and mathematics is true also of all the other scientific disciplines, not excluding the social and psychological sciences". However, consensus over related issues, such as what constitutes plagiarism in these fields cannot be taken for granted. We conducted a comprehensive study on plagiarism views among PhD holders registered in the database of the Brazilian National Council for Scientific and Technological Development (CNPq). We collected 25,157 valid responses encompassing views and attitudes toward plagiarism from a probability sample of PhD holders across the fields, including biologists, physicists, mathematicians, and engineers as well as linguists, philosophers and anthropologists. The results suggest that core principles about plagiarism are shared among this multidisciplinary community and that they corroborate Merton's observations. Before this study, we could only speculate that this is the case. With these data from a probability sample of Brazilian academia (PhD holders), this study offers insight into the way plagiarism is perceived across the sciences, including the literature and arts, and sheds light on the problem in the context of international collaborative research networks. The data focus on a young research system in Latin America, but, given the cultural similarities that bind most Latin-American nations, these results may be relevant to other PhD populations in the region and should provide a comparison with studies from other emerging, non-Anglophone regions.

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Introduction

Credit and priority of discovery are at the core of the scientific endeavor, and they stand out among the reasons that make plagiarism a serious ethical breach in research. As Biagioli (2012) (**1**) states, "given the crucial relationship between credit and priority in science, the plagiarism that hurts the most is one that deprives a scientist of his or her priority". Across the globe, it seems reasonable to assume that most academics would agree that plagiarism is unacceptable and is thus research misconduct. The traditional definition promulgated by the US Office of Science and Technology Policy (OSTP) in 2000 has been a useful point of reference in many countries (**1-4**) and encompasses fabrication, falsification and plagiarism in proposing, conducting, reviewing and publishing research (**5**). However, attitudes toward plagiarism practices vary in academia, even though it is condemned as a serious ethical breach (**6,7**) - "the appropriation of another person's ideas, processes, results, or words without giving appropriate credit" (**5**). While the definition appears straightforward at first glance, the question of which responses are appropriate, especially to plagiarism of ideas and words, does not appear to be consensual among academics (**8-10**). When it comes to scientific ideas, ownership is cultivated mostly because it is attached to the concept of priority of discovery in science, which can lead to disputes (**11**). Although notions of establishing priority are gradually changing (**12, 13**), the concept partially explains why "being the first" in science still matters today. This feeling was expressed, for example, by Francis Mojica, the Spanish scientist considered to be the first to describe the mechanism for CRISPR (clustered regularly interspaced short palindromic repeats), now a widely known gene editing tool. As Mojica recalls "… four journals said no one after the other, and the one that ended up publishing it took 6 months to get back to us…imagine you have something you know it's big in your hands and there's the possibility that another article that takes the originality of your work is published... I was in absolute despair". (**14**)

Looking at scientific disputes in the history of science, Robert K. Merton described in the 1940s that "during the last three centuries in which modern science developed, numerous scientists… have engaged in… controversy" (**11**). Merton describes, for example, Galileo' s Defense against "the Calumnies and Impostures of Baldassar Capar", who, according to Galileo, took the invention of the "geometric and military compass" from him (**11**). A few centuries later, Lafollette (2000) conveyed this feeling of ownership among scientists: "steal my words, and you steal my authorship. Steal my idea, and you steal my identity as a scientist" (**15**). But despite the strength of claims related to ownership and authorship in the research community, plagiarism involves a cultural dimension that should not be overlooked (**16-21**). In this context, attempts have been made to explore conceptual aspects of plagiarism in the academic community, but studies are usually limited in scope (**21-24**). For the Latin

American (LA) region, little is known about plagiarism *per se* in the research arena. Among the few analyses focusing on the publication system, one study that looked at the main Latin American databases SciELO and LILACS (**25**) shows that plagiarism accounts for the highest percentage of retractions: 86% of retraction notices in journals not listed by Journal Citation Reports (JCR) and 43% in JCR journals, from 2008 to 2014. These percentages are much higher than those usually found in similar studies for the Web of Science and PubMed (**26-28**). Whether this result means that Latin American editors are stricter with plagiarism than those from the US and Europe, for example, is an open question. Irrespective of this underexplored problem, LA countries such as Argentina, Chile, and Brazil have broadened their international collaborative research networks with many Anglophone and Asian countries (**29,30**). In these multicultural collaborative endeavors, shaped by a changing landscape for doing and communicating science, operating within similar research integrity frameworks is surely an asset for researchers and institutions involved (**31-34**).

One group that is clearly engaged in collaborative research and can offer valuable insights into views of and attitudes toward plagiarism is that of PhD holders. Exploring their views is timely, as they play a strong role in the production of knowledge and are most likely to lead science and scholarship in all fields, setting trends and behavior for generations to come. Exploring PhD holders' views across the sciences is particularly relevant today, with emerging questions concerning open science and priority of discovery in an increasingly multidisciplinary landscape (**35, 12**). How to deal with these questions among newcomers in academia, for example, will surely be influenced by notions of plagiarism and originality among supervisors, who are mostly PhD holders. To our knowledge, however, this academic population has never been surveyed, in a large, quantitative study, for the way they perceive plagiarism in research. We conducted a comprehensive survey to explore these views for a probability sample of PhD holders across the sciences in Brazil.

Brazilian science has borrowed much from the US model in building its research system, strongly based on its graduate programs (**36**). This feature makes Brazil an interesting place to start investigating to what extent the conceptual framework for plagiarism in research is shared across the fields for the population of PhD holders, including biologists, physicists, mathematicians, and engineers as well as linguists, philosophers and anthropologists. Our hypothesis was that disciplinary traditions would not influence these academics' views on core plagiarism issues in research. We present results from this national survey of PhD holders with *Curricula* recorded in the Lattes Platform, the official database hosted by the Brazilian National Council for Scientific and Technological Development (CNPq) (**37**), the main national research funding agency of the country.

Methods

A survey addressing plagiarism, self-plagiarism and redundancy in academia was designed, as part of a project funded by CNPq. The project was approved by the Research Ethics Committee of the Institute for Collective Health of the Federal University of Rio de Janeiro (IESC/UFRJ). The survey (*SI 3*) was delivered in Portuguese, and all quotes from the literature in English were followed by a Portuguese translation, validated by two researchers who are native and/or native-like speakers of English and Portuguese. The survey was divided into five sections: A demographic section (Section I) was followed by three content sections with questions on *plagiarism* (Section II); on *self-plagiarism* (Section III); and on *redundancy* (Section IV). For most content questions, a Likert-type scale (**38**) was adopted, and for some questions in Sections II, III and IV, there was space for comments. Section V was designed for additional comments and suggestions from respondents. The survey was sent out after piloting the system and the survey form with a group of 18 Brazilian PhD holders for any necessary adjustments before widespread distribution. The delivery was conducted through an invitation by the CNPq's Research Integrity Commission, which had established national directives for research integrity in 2011 (**39)**. The invitation by the Commission was sent on October 3, 2014, to PhD holders registered in CNPq's Lattes Platform. Established in 1999 (**37**), this Platform has been recognized as strategic for science and technology policies in Brazil. It records the profile and productivity of Brazilian academia in all fields, and its public database is "… a national standard … adopted by most of the country's funding institutions, universities and research institutes… indispensable and compulsory for the analysis of merit and competence for funding applications…" (**37**). Information available on a researcher's *Curriculum* includes academic background, current research areas, past and current projects, publications separated by type – papers, books, book chapters and other bibliographical contributions, such as conference abstracts. Accessing the *Curriculum* Lattes of a PhD holder affiliated with a university, it is possible to verify whether he/she is a professor, how many Master's and PhD theses supervised are complete or underway and the identity of those who took part in the examination board. Other pieces of information usually found include peer review activity and administrative activities carried out together with teaching and research. A record of all Brazilian research groups certified by CNPq is available through the Lattes Platform – about 37,640 in 2016 (**40**) For the same year, the Platform recorded *Curricula* from 3,520,867 individuals studying and/or working in all fields of knowledge, including undergraduate and graduate students as well as Masters and PhD holders. In 2016, the latter group accounts for 6.47% of all *Curricula* in the database (**41**). The surveyed PhD holders thus made up a diverse population in terms of disciplinary backgrounds and research cultures.

The invitations to the national survey were distributed daily by CNPq's informatics team, from October 3 to 15, 2014, to 143,431 emails, with a delivery error of about 0.2%, leading to 143,405 recipients. This number is unlikely to include more than one *Curriculum* associated with an individual, as the register in the Lattes Platform is attached to the holder's official identification number recorded in the database. The system was open for respondents up to December 15, 2014. The inclusion criteria limited participation to individuals with a PhD whose *Curriculum* Lattes had been updated no more than six months before the survey. Invitations were made through a message by CNPq's Commission, including access to a letter from the principal investigator. The letter described the nature and purpose of the research and included a consent form to be considered before accessing the survey form. To reduce bias and maximize anonymity, each invited respondent was randomly assigned an individual link to complete the survey; responses were then collected anonymously. Also, for this population of PhD holders, there was no restriction on inclusion of participants in terms of gender, academic status, or career experience. The emails used by CNPq were presumably valid, as they were the ones used by the Council for institutional communications with Lattes registrants. After collecting the data, we obtained a preliminary report from our web-based system designed to host the survey, and spreadsheets with the data were generated. Of the 143,405 invitations successfully delivered by CNPq, we had a return of 29,433 respondents (21%). We then established the following criteria to determine valid forms (n=25,157): responses should be from "invited users" AND from confirmed PhD holders, as requested in the survey system, AND from respondents who earned their PhD between 1950-2014 AND from PhD holders responding to at least one of the questions in Sections II, III or IV. To categorize responses by field, we used CNPq's eight categories plus a Multidisciplinary category for "*grand* fields": **Agricultural Sciences; Biological Sciences; Health Sciences; Exact and Earth Sciences; Human Sciences; Applied Social Sciences; Engineering; Linguistics, Language & Literature and Arts; Multidisciplinary** (http://www.cnpq.br/documents/10157/186158/TabeladeAreasdoConhecimento.pdf). For example, Biological Sciences include 13 subfields – General Biology, Genetics, Botany, Zoology, Ecology, Morphology, Physiology, Biochemistry, Biophysics, Pharmacology, Immunology, Microbiology, Parasitology, with a total of 55 specialties. Human Sciences include 10 subfields - Philosophy, Sociology, Anthropology, Archaeology, History, Geography, Psychology, Education, Political Science, Theology, with a total of 55 specialties.

Here, we show the results focusing mostly on plagiarism. The statistical significance for response patterns for all questions (**Sections II and III)** was assessed using the Kruskal-Wallis, non-parametric test. For the pairwise comparsions, the null hypothesis was rejected for p-values < 0.05 (*SI 2*) (**42**).

Results and Discussion

Our sample source included all the target population – PhD holders with a *Curriculum* Lattes updated no more than six months before the survey, which led to 143,405 valid *Curricula*. In terms of sample size, a minimum of 14,911 participants would have been adequate for testing the statistical significance of responses, according to Equations 1 and 2 (**43**).

$$n_0 = \frac{Z^2 p(1-p)}{e^2} \qquad \text{(Equation 1)}$$

$$n = \frac{n_0}{1+\frac{n_0-1}{N}} \qquad \text{(Equation 2)}$$

where n_0 is the sample size, Z is the confidence level, p is the estimated proportion of an attribute in the population, e is the level of precision, N is the population size, and n is the adjusted sample size. The following values were considered for the parameters: Z = 2.58 (99% confidence level), p = 0.5 (maximum variability), e = 0.01 (1% acceptable sampling error), N = 143,405, giving an adjusted sample size of 14,911. We obtained a total of 25,157 valid respondents (68% greater than the calculated sample size). The breakdown by general field of knowledge and academic status can be seen in Table S1.

Overall, response for this national survey had a gender split of approximately 48% women and 52% men, the same as in the whole Lattes database (**41**). In terms of training, 39% of respondents stated that they had taken a post-doc, and 75% declared that they were affiliated with a public institution, such as a federal or state university or research institution. A much smaller fraction, 17%, said that they were affiliated with a private institution, and 4% with both. The remainder did not answer that question. In terms of academic positions, the three largest groups of respondents were associate professors, 55% (we made no distinction among professors categorized as “adjunto” and “associado”, as both are tenured positions in Brazil, although "associado" is for more experienced professors), researchers (non-professors), 23%, and full professors, 13% (Table S1). The “non-professors” category would include postdocs and PhD holders working on teaching and research in non-university settings or with administrative or technical jobs.

We investigated perceptions of PhD holders about plagiarism, with the definition promulgated by the US OSTP underlying most of our questions. Our respondents were distributed across the sciences, representing different disciplinary traditions, which we use in this study as a surrogate for research cultures. To qualify such a plurality of cultures, we subscribe to Whitley’s theoretical framework (2000) (**44**) where the sciences are conceived as “systems of knowledge production”. He

addresses "the variety of ways in which research is organized and controlled across the sciences…" and shows "how these variations are related to different patterns of intellectual organization" (**44**). Within this framework, we assumed CNPq's categories of "*grand* fields" as equivalent to these systems of knowledge production. We then explored views of plagiarism in research and whether these views would inform attitudes toward plagiarism in academia, particularly in real-case scenarios in the publication system. About 99% (n=24,783) of PhD holders in our sample agree (91%, n=22,898) or partially agree (8%, n=1,885) with the US OSTP inclusion of plagiarism in its definition of research misconduct (**5**) (**Q1, Section II**, Fig. S1).

On the one hand, this is not a surprising finding. As we have previously stated, PhD holders are likely to agree that fabricating, falsifying and/or plagiarizing research material would constitute research misconduct. As Biagioli (2012) (**1**) points out, "scientific credit is about content (the claim, the idea, the results, the techniques) …". The same author adds that "the core element of scientific authorship is attribution— the professional rewards… This probably makes plagiarism the most dangerous kind of appropriation in the sciences." (**1**). In our study, we investigated how perceptions would vary across the sciences, as plagiarism is a more controversial topic compared to fabrication and falsification (**45**). As Penders (2018) (**45**) writes, plagiarism "is often demoted to a second rank in the annals of fraud, since it is argued that plagiarism does not corrupt the content of science, only the distribution of credit, whereas fabrication and falsification do both".

We asked respondents about the US OSTP definition of plagiarism (**Q2, Section II**), which seems clear for these PhD holders (94% agreement for **Q2a, Section II**). Our next question, in **Q3, Section II** (Fig. S2), was then targeted at the level of agreement with the definition itself, which somewhat reflects the content of other definitions in different institutions and countries (**2-4**). We found a large percentage for agreement (*Agree and Partially Agree*), a total of 98% (n=24,993) (Fig. S2)**.** When we look at the patterns of response across the sciences for these two questions combined (**Q1 and Q3, Section II)**, a consistent pattern is found (**Fig. 1**):

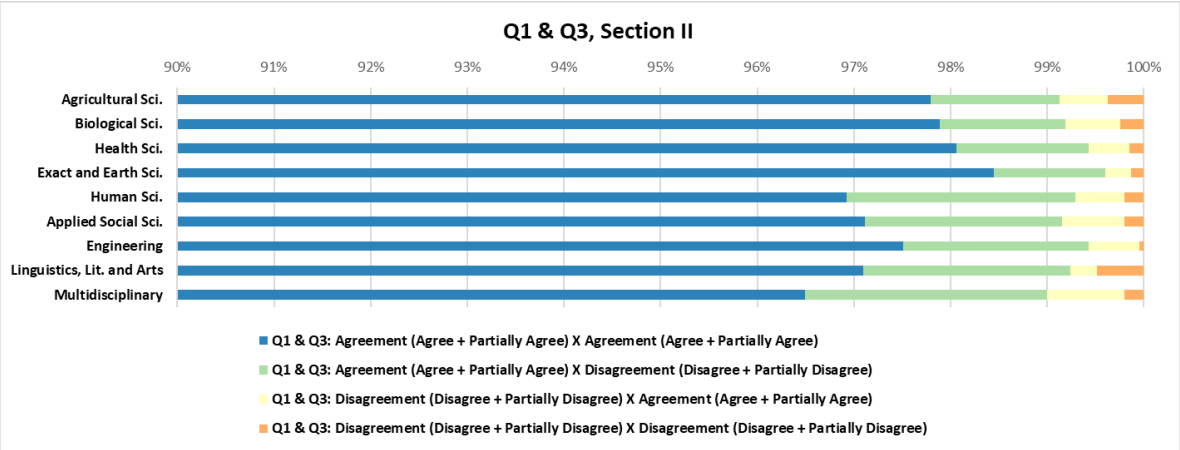

Fig. 1. Patterns of response in all fields for respondents' level of agreement (*Agree + Partially Agree; Disagree + Partially Disagree*) with **Q1, Section II,** on plagiarism being part of the US OSTP definition of research misconduct **& Q3, Section II** – The OSTP definition of plagiarism. The bars show the percentages of agreement and/or disagreement of respondents in each field with **both** questions.

General agreement of this population of PhD holders with the standard definitions of the US OSTP for research misconduct and for plagiarism alone reflects concerns over these ethical breaches that Brazilian academics share with the international research community. This is an important result that clarifies more than data showing that funding agencies or institutions are establishing guidelines to tackle misconduct in a given country. Consensus among PhD holders with respect to the concept of plagiarism is fundamental for an understanding of what motivates academics from such a diversity of research cultures about a sensitive issue in the production of knowledge. As expected, the US OSTP definitions are similar to those established in Brazil in 2011, by CNPq itself (**39**) and by FAPESP (São Paulo State Research Foundation) (**46**), the main state funding agency in the country. But establishment of guidelines for research integrity does not imply that academics from so many different fields would endorse the concept of plagiarism embedded in these guidelines. Given the impact that perceptions of plagiarism may have in multidisciplinary collaborative research networks, it is reasonable to ask those leading them what their views are. We thus assessed whether those patterns of response across academic fields would be consistent with the answers to a question focusing on classifying plagiarism in science (**Q4, Section II**, **Table 1):**

Table 1 – Perceptions of plagiarism in science (n=24,939) (**Q4, Section II**) **-** *How do you see plagiarism in science? It is nothing that the scientific community has to worry about.* It *is inappropriate, but not a form of misconduct. It is an unethical practice, but not a form of misconduct. It is a form of scientific misconduct. It is scientific misconduct, except for textual plagiarism. It is scientific misconduct, except for plagiarism of ideas.*

Field of Knowledge	Research misconduct	Research misconduct, except for plagiarism of ideas	Research misconduct, except for textual plagiarism	Nothing to worry about in the scientific community	Error, not research misconduct	Unethical practice, not research misconduct
Agricultural Sciences	77.5%	6.8%	3.8%	0.4%	3.3%	8.1%
Biological Sciences	82.3%	4.9%	4.4%	0.3%	2.3%	5.9%
Health Sciences	81.1%	6.4%	3.8%	0.3%	2.4%	6.1%
Exact and Earth Sciences	82.4%	4.2%	4.1%	0.4%	2.4%	6.5%
Human Sciences	85.4%	3.8%	0.9%	0.4%	2.8%	6.7%
Applied Social Sciences	85.6%	4.5%	1.1%	0.6%	1.9%	6.3%
Engineering	80.8%	4.9%	3.6%	0.6%	3.2%	6.9%
Linguistics, Language & Literature and Arts	84.5%	4.7%	0.8%	0.2%	1.9%	7.8%
Multidisciplinary	81.2%	5.7%	2.2%	1.3%	3.3%	6.3%
Total of respondents	82.4%	5.0%	2.9%	0.4%	2.6%	6.6%

As shown in **Table 1**, a considerable portion (82%) of PhD holders in our sample corroborate the view that plagiarism is an instance of misconduct. This percentage is consistent with that for full agreement (91%) with the inclusion of plagiarism in the US OSTP definition of research misconduct. However, worth noting is that about 7% of respondents consider plagiarism an unethical practice and not necessarily research misconduct. This might mean that about 2,000 PhD holders in this population would be unwilling to apply severe sanctions for plagiarism. Note that percentages are quite similar across all fields. Also, one might infer that a substantial number of PhD holders in Brazil might be neglecting plagiarism practices, for example, in their tasks as supervisors. But we do not know whether this is the case. One perspective is that "the plagiarism spectrum is broad" and this practice "… seems to vary considerably in terms of seriousness, ranging from clear cases of scientific misconduct to fairly insignificant deviations from good research practice". (**47**) This approach may also explain why almost 3% of respondents consider that plagiarism is only an error. On the one hand, one may claim that the resulting numbers represent a significant challenge to ensuring that most researchers operate within a similar research integrity framework. On the other, the result reinforces views already expressed in the research community, that "scientific plagiarism—a problem as serious as fraud—has not received all the attention it deserves" (**48**). Apart from these possible interpretations, note that only 0.4 % see plagiarism as "nothing to worry about in the research community".

Respondents from Human Sciences, Applied Social Sciences and Linguistics, Language & Literature and Arts show the highest percentages for full agreement concerning research misconduct and plagiarism of text, with the smallest percentages (1%) for *It is scientific misconduct, except for textual plagiarism*. Agreement or partial agreement with **Q1, Section II** (Fig. S1) was prevalent for all

fields, despite small differences in percentages, indicating that respondents endorsed the idea that plagiarism practices constitute misconduct. However, patterns of response for **Q1** combined with each option for **Q4, Section II** (Fig. S3) reveal some inconsistencies or lack of consensus on whether plagiarism is *misconduct, except for text or ideas*, *is an error* or *an unethical practice*.

These results are in accordance with those from a small study in Brazil indicating "lack of consensus about the appropriate limits of borrowing from the literature" among a group of scientists in biomedical science, engineering, chemistry, physics, computer science, and medicine (**22**). It is also consistent with other studies and commentaries, including one on perceptions among researchers from, say, more experimental sciences, who considered that plagiarism of text might be less severe than plagiarism of ideas and results (**19, 49**). Irrespective of these peculiarities, the response from this population of PhD holders suggests that views of core plagiarism issues are shared across research cultures. Most of our respondents thus consider plagiarism severe enough to lead to sanctions in the publication system, such as a retraction. We asked them about this issue, posing a real-case scenario (**Q5, Section II**), involving a retraction of a publication in Nature Reviews Genetics, in 2010 (**50**). The retraction was for misappropriation of ideas and text from a paragraph of a manuscript that was undergoing review (**50, 51**). The case is provocative, as the "epistemic impact" (**52**) of the retraction seems minor. But the problem has broad ethical dimensions framing the relationship among authors, reviewers and editors (**51**). After presenting the case, we first asked respondents whether they agreed that plagiarism of text would justify a retraction [in general terms] (**Q5a, Table 2**). We then asked whether they agreed with the retraction in that particular case (**Q5b,** Table S2). Most respondents agreed or partially agreed (88%) that plagiarism of text is a reason for a retraction (**Table 2**).

Table 2– Plagiarism and retractions (**Q5, Section II**). *Recent surveys indicate an increase in plagiarism in scientific publications. Many of the cases have led to "retractions" of scientific papers (cancellation of publications). In this context, in 2010, Nature Reviews Genetics (NRG) retracted a review article for textual plagiarism [Nature Reviews Genetics 11:308(2010]. The plagiarism involved a single paragraph that had been paraphrased from an article submitted to Plant Science. The author of the NRG review was a referee for the Plant Science paper but she failed to cite it when she wrote the NRG review. In the retraction notice the NRG editors stated that the misappropriated paragraph was plagiarized and that the author of the NRG review had presented the ideas and hypotheses found in the original paragraph as if they were her own.* ***Q5a Do you agree that plagiarism of text is a reason for a retraction?*** (n=25,029)

Field of knowledge	Agree	Partially Agree	Disagree	Partially Disagree	I don't know
Agricultural Sciences	56.7%	30.8%	2.6%	5.6%	4.3%
Biological Sciences	56.8%	30.8%	2.7%	6.2%	3.5%
Health Sciences	60.5%	29.0%	2.0%	4.8%	3.7%
Exact and Earth Sciences	55.5%	30.5%	2.4%	5.5%	6.2%
Human Sciences	68.2%	22.1%	1.7%	3.3%	4.7%
Applied Social Sciences	65.0%	24.3%	1.7%	3.8%	5.2%
Engineering	56.4%	29.6%	2.1%	4.8%	7.0%
Linguistics, Language & Literature and Arts	67.3%	23.6%	1.4%	3.1%	4.6%
Multidisciplinary	61.5%	28.1%	2.1%	3.7%	4.6%
Total of respondents	60.6%	27.8%	2.1%	4.7%	4.8%

Again, as shown in **Table 2**, Human Sciences (90%) and Applied Social Sciences (89%), as well as Linguistics, Language & Literature and Arts (91%) have the highest percentages for agreement (*Agree or Partially Agree*), together with the Health Sciences (90%) and the Multidisciplinary field (90%). These percentages are likely to reflect the stronger adherence to written arguments and, in many cases, authorial voice in many works in these fields, with a marked presence of qualitative research. This may explain, for example, why the Health Sciences (90%) yielded a similar percentage. It includes subfields such as nursing, public health, and nutrition, in which qualitative research has a strong role. Note that authors in Engineering (7%) and Exact and Earth Sciences (6%) have the highest percentages for "I don't know". One factor may be that the Exact and Earth Sciences have a different relationship with the text, compared to authors in the so-called "soft sciences".

Bouville (2008) (**53**) states that "an experimental result that is described using different words is not a different result and its scientific importance is not affected by the wording… the core of science are facts and theories, not words". Thus, doubts among respondents in these more "hard-science" fields are not a surprise. The same group expressed similar doubts when asked whether the case in **Q5b, Section II** (Table S2) should lead to a retraction: "I don't know" received the highest percentages for Engineering (12%) and Exact and Earth Sciences (11%). The level of agreement (*Agree or Partially Agree*) for this question had similar percentages – above 81%, except for the Exact and Earth Sciences (79%) and Engineering (79%), which were almost identical. The higher percentages for "I don't know" for these fields were followed by 10% for Multidisciplinary, 10% for Human Sciences, 9% for Applied Social Sciences and 9% for Linguistics, Language & Literature and Arts (Statistical significance for responses to these and other questions are shown in *SI 2*).

This real-case scenario is not simple, as it involves a delicate situation of misappropriation of research material in the context of peer review, but the patterns of response somewhat reflect a current

trend in the publication arena: discussions on the correction of the literature and publication ethics are still led by the bio and health sciences (**26-28, 54-56**). However, irrespective of this imbalance in the publication context, a question brought up by **Q4**, **Q5a** and **Q5b, Section II** is that attitudes toward plagiarism of text for PhD holders associated with the Health Sciences, Human Sciences and Social Sciences, and with Linguistics, Language & Literature and Arts would be stricter when it comes to retractions for textual plagiarism. For the Human Sciences, Linguistics, Language & Literature and Arts, these results are consistent with previous analyses, as shown by Horbach and Halffman (2019) (**57**). We looked at patterns of response for this case (**Q5a** and **Q5b, Section II**), considering years since earning the PhD **- Group1**: up to 5 years; **Group 2**: 5-10 years; **Group 3**: 10-15 years; **Group 4**: 15-20 years; **Group 5**: 20-25 years; **Group 6**: more than 25 years. Overall, patterns of response are quite similar but suggest that a longer career tends to make respondents stricter about this problem (Fig. S4 and S5).

We also investigated respondents' agreement with the US OSTP definition of plagiarism (**Q3, Section II**) vis à vis their attitudes toward another real-case scenario in the publication system involving self-plagiarism (**Q2, Section III**) (**Fig. 2**). Patterns of response in **Fig. 2** suggest that for respondents across all fields, self-plagiarism is not easy to define. The patterns are more varied, compared to those for **Q3, Section II** (Further details in Fig.S2*, SI 1*).

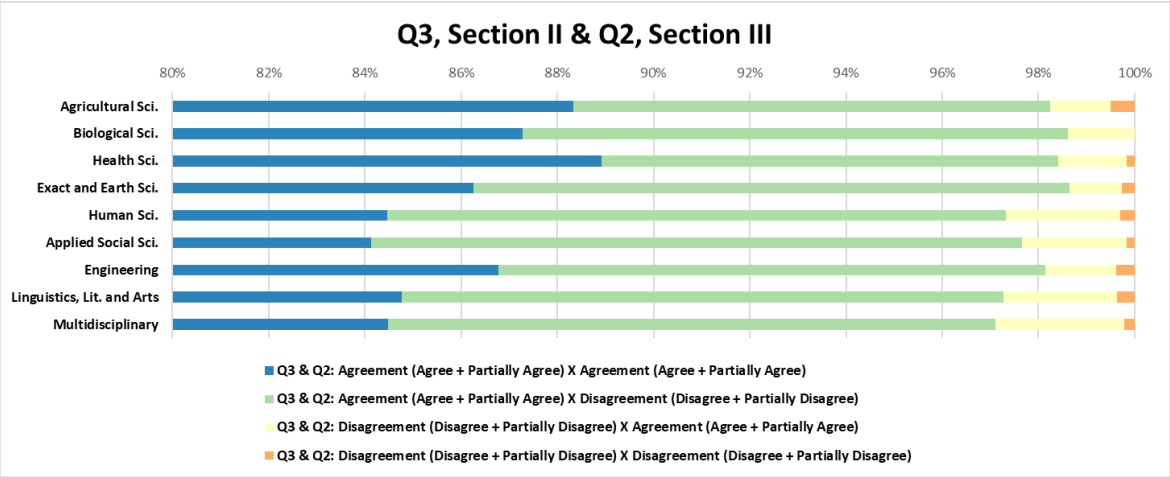

Fig. 2 - Patterns of response across all fields for respondents' level of agreement (*Agree* + *Partially Agree; Disagree* + *Partially Disagree*) with US OSTP's definition of plagiarism (**Q3, Section II**) (n=24,993) and with (**Q2**, **Section III**) (24,430) *Cases of self-plagiarism in science have been claimed using Crosscheck. However, there is little consensus as to how much material reused by an author, borrowing from his own publication, would be self-plagiarism An author recently accused of self-plagiarizing from one of his previously published articles claimed: "I cannot plagiarize myself; those words are mine."* (When is self-plagiarism ok? The Scientist, Sep 2010). *Do you agree with this view? 1– Agree; 2 – Partially agree; 3 – I don't know; 4 – Partially disagree; 5 – Disagree*. The blue bars show the percentages of respondents in each field who agreed or partially agreed with **both** questions.

As Samuelson (1994) (**58**) states, "self-plagiarism is sometimes unlawful and unethical. Other times it is unethical but not unlawful". In Brazil, for example, individuals can reuse their authorial works, according to the country's legislation; we could speculate that this legal framework may influence the views of the Brazilian academia about self-plagiarism. Nevertheless, a reasonable reading is that the higher percentages for "I don't know" for **Q2, Section III,** across all fields, corroborate the idea that self-plagiarism may be considered as a questionable research practice but not as research misconduct (**58,59**).

The publication system has cultivated the notion of self-plagiarism as, for example, "the use of part of one's own previously copyrighted work, such as sections of a review of the literature, or descriptions of design and methods sections in a research study" (**59**). Although self-plagiarism, including text reuse, goes beyond copyrighted work and is a concern in the publication system (**58-60**), it has far less ethical weight in academia when compared to plagiarism (**61,62**). Overall, these patterns of response for self-plagiarism corroborate a lack of consensus about the limits of reusing one's own words and ideas in the context of scholarly production (**57**). Self-plagiarism will probably remain a controversial issue in academia. However, addressing self-plagiarism and plagiarism among early-career researchers is timely, and they should be invited to have a say in the conversations. They have increasingly been challenged with demands posed by an open science culture that is reshaping the concept of priority of discovery and the reward systems of science. Accordingly, we asked the PhD holders about plagiarism among graduate students. As we have pointed out, Brazilian science is mostly based on its system of graduate programs, which makes this and other related questions essential for this study. Their responses suggest that the incidence would be relatively low, although, at the policy level, using plagiarism detection software at Brazilian universities is not a common practice. Concerning the use of plagiarism detection software in the publication system, 37% to 48% of respondents indicated that they were not aware of these tools (**Q1a, Section III,** Fig. S6). These factors make it difficult for respondents to estimate the frequency with which they come across plagiarism in their tasks as, for instance, members of examination boards for evaluation of theses. When asked (**Q7, Section II**) *Have you ever come across any case of plagiarism (partial or total) by any graduate student (not necessarily from your Program) in the last four years*?, percentages for "No" varied from 50% to 65% for Master's and from 66% to 81% for PhD theses (**Q7a, Section II,** Tables S3 and S4, respectively). One caveat in this result is that only respondents associated with graduate programs would have the experience necessary for an informed response. As about 23% of respondents were non-professors, it is likely that most of them were not acting as thesis supervisors. Aiming to broaden our understanding of the possible dimensions of plagiarism in the context of graduate studies, we set out the following condition: *In the context of plagiarism, it should be highlighted that for Brazil* (**Q8, Section II**), *Graduate students are not familiar with the international concept of academic plagiarism* (**Q8a, Section II**). Interestingly, about 72% of respondents agreed or

partially agreed with the statement. However, about 11% declared "I don't know" (Fig. S7 and S8 - Further details in *SI 1*).

Conclusions:

The results of this study broaden the research community`s perspective on the way plagiarism is perceived among PhD holders, who play an essential role in the production of knowledge and in setting trends in behavior in academia. Overall, for most questions in the survey, the level of agreement among this broad sample of academics in Brazil seems to corroborate Merton`s (1957) observation for ownership of ideas among academics - "what is true of physics, chemistry, astronomy, medicine and mathematics is true also of all the other scientific disciplines, not excluding the social and psychological sciences" (**11**). Before this study, academia could only speculate that this is the case.

Yet, there appear to be peculiarities in how these definitions are applied to the publication system, which are supported by significant differences in response patterns, according to Kruskal-Wallis analyses (*SI 2*). Although PhD holders from all sciences agree that plagiarism is an instance of research misconduct, their attitudes toward the type of plagiarism seem to be influenced by disciplinary cultures, which, as stated earlier, we use as a surrogate for research cultures. In this study, we found that PhD holders in the Human Sciences and Social Sciences, for example, have a more stringent view of misattribution of words and ideas in research.

From a broader perspective, PhD holders' views that corroborate the idea that plagiarism is only an error but not misconduct may be propagating misperceptions about the problem that persist from their early grade-school years (**63,64**). One concern is perpetuating these views in mentor/mentee relationships. Also, the percentages of "I don't know" for some survey questions are worth noting. Even if they are comparatively small or regarded as irrelevant, these uncertainties should be seen, particularly for Brazil, as a red flag worthy of further investigation.

Our results shed light on the way plagiarism is perceived in a young research system such as that of Brazil, whose academic structure, particularly its system of graduate programs, has been historically influenced by that of the US. These programs are the source of most of the science produced in Brazil in all fields. By drawing upon the US OSTP definitions, we show the extent to which they have been shared among young and experienced scholars in a developing country that contributes to multiple collaborative research networks.

Finally, this study offers a perspective on the way plagiarism is perceived across the sciences, including the literature and arts, in a young research system in Latin America. However, given the cultural similarities that bind most Latin-American nations, results may be relevant to other PhD

populations in the region and should provide a comparison with studies from other emerging, non-Anglophone regions. In a 2012 publication, some of us reported on the launch of this national survey **(65**), aiming "to record trends among different disciplines, and to identify culturally sensitive factors that might serve to inform national, and possibly international, RI/RCR training programmes for young researchers." We believe these results are an asset to the planning of such policies, which should combine the efforts of PhD holders across the fields.

Study Limitations

Among the caveats in the interpretation of these results is the fact that a fraction of these PhD holders are not active in research, as they could be working for administrative or technical sectors (**41**). On the other hand, there is, or should be, an expectation that at this level of training individuals have a basic understanding of fundamental aspects of research integrity, including matters of plagiarism. After all, earning a doctoral degree usually entails some exposure to practices involved in producing knowledge in a given disciplinary field, interacting with the related literature, with supervisors, and with a research culture. For the graduate system in Brazil, this type of exposure and interaction would be expected. We do not have data on the fraction of PhD holders in our sample who have acted as authors and reviewers for international journals. However, as about 75% of our respondents are professors, and given the way academia is assessed in Brazil, it is reasonable to assume that a considerable fraction of them are active in the publication system. For most universities and research institutes in the country, publication in international journals is an asset for career promotion - especially for the natural sciences, health sciences and engineering, but not restricted to these fields. These sciences make up the largest portion of our respondents (64%). It is important to note that we included in our survey only PhD holders who had updated their CVs in the last six months prior to the survey. This criterion is relevant for this type of study as almost all funding agencies in Brazil require that the CV Lattes be updated shortly before submitting a grant application. This criterion probably biases the study towards respondents who are more active in academia.

Another caveat concerns the survey instrument, which uses a Likert-type scale for most of the questions. One issue is the scale direction effect – endorsement may be biased for scales that provide the first option in positive (*Agree or Partially Agree*) or negative mode (*Disagree or Partially Disagree*). This endorsement bias would lead to the so-called primacy effect, *i.e.*, the tendency for choosing the option provided first, irrespective of being positive or negative (**64**). However, as Liu and Keusch (2017) (**67**) have shown, "empirical studies report mixed findings with regard to the influence of the direction of rating scales on response". The same authors conducted an experimental study to assess this effect

and noted that "the scale direction does not impose a significant influence on the substantive content latent class variables, with or without controlling for response styles" (**67**). As for social desirability bias or acquiescence bias (the tendency for choosing a positive response regardless of order) (**68**,**69**), we believe we have been able to minimize this type of bias, varying the way we address plagiarism concepts and contexts in the survey instrument. Also, the instrument does not include potentially embarrassing questions, such as asking these research participants about their own behaviors concerning research misconduct. This element should reduce, for example, the effects of social desirability bias (**68**,**69**). Additionally, we surveyed a diverse population across the sciences, across Brazilian states and institutions – with respondents from diverse backgrounds, including mathematicians and engineers as well as linguists, philosophers and biologists, different professional/career experience, and different research cultures experienced during their PhD studies. Any effect driven by scale response order, acquiescence or social desirability bias should not be big enough to invalidate these results. It thus seems unlikely that our results are offering an unreliable picture of the problem studied. Nevertheless, additional large studies are planned to deepen our understanding of variables influencing the way researchers and educators deal with plagiarism notions and practices in different countries.

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Supporting Information for "Plagiarism in Brazil: A perspective of 25,000 PhD holders across the sciences"

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This PDF file includes:

Figures S1 to S12
Tables S1 to S4

Other supplementary materials for this manuscript include the following:

Kruskal-Wallis statistical test (separate file), *Supporting Information (SI 2)*
Survey Instrument (separate file), *Supporting Information (SI 3)*

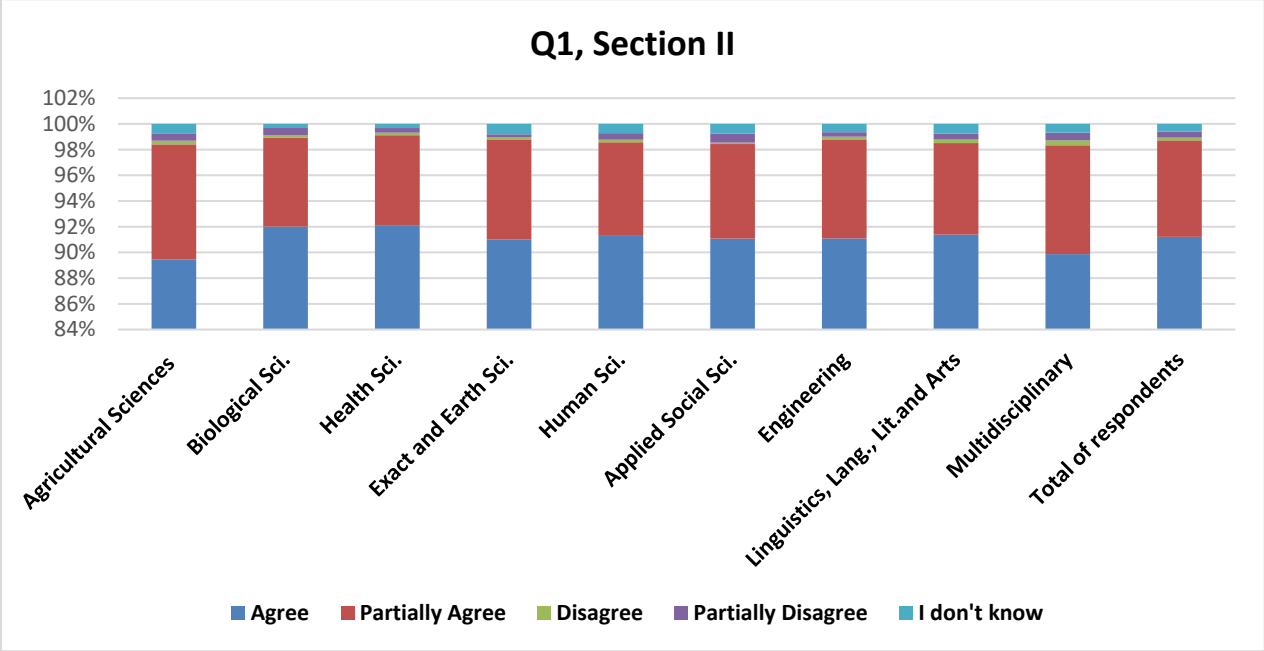


Fig. S1. Patterns of response (n=25,105), according to field of knowledge, showing respondents' level of agreement that plagiarism should be part of the research misconduct definition of US OSTP - **Q1, Section II** *The definition of misconduct established in 2000 by the U.S. Office of Science and Technology Policy (OSTP) is as follows: "Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results." Thus, just as fabrication and falsification are research misconduct, so is plagiarism a form of research misconduct. Do you agree?*

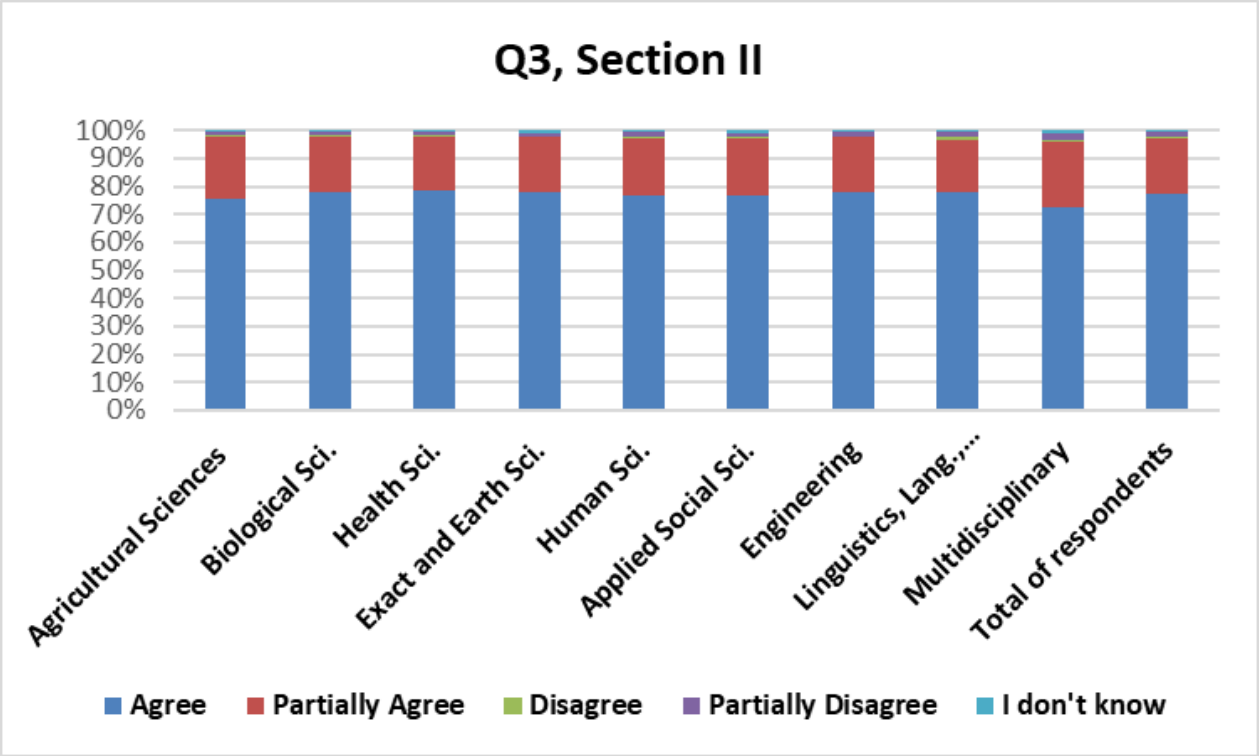


Fig. S2. Patterns of response (n=24,993) in all fields for respondents' level of agreement with the US OSTP's definition of plagiarism - *The definition of plagiarism by OSTP, embraced by much of the international academic community, is as follows: "Appropriation of another person's ideas, processes, results, or words without giving appropriate credit."* **Q3, Section II** *Do you agree with this definition?*.

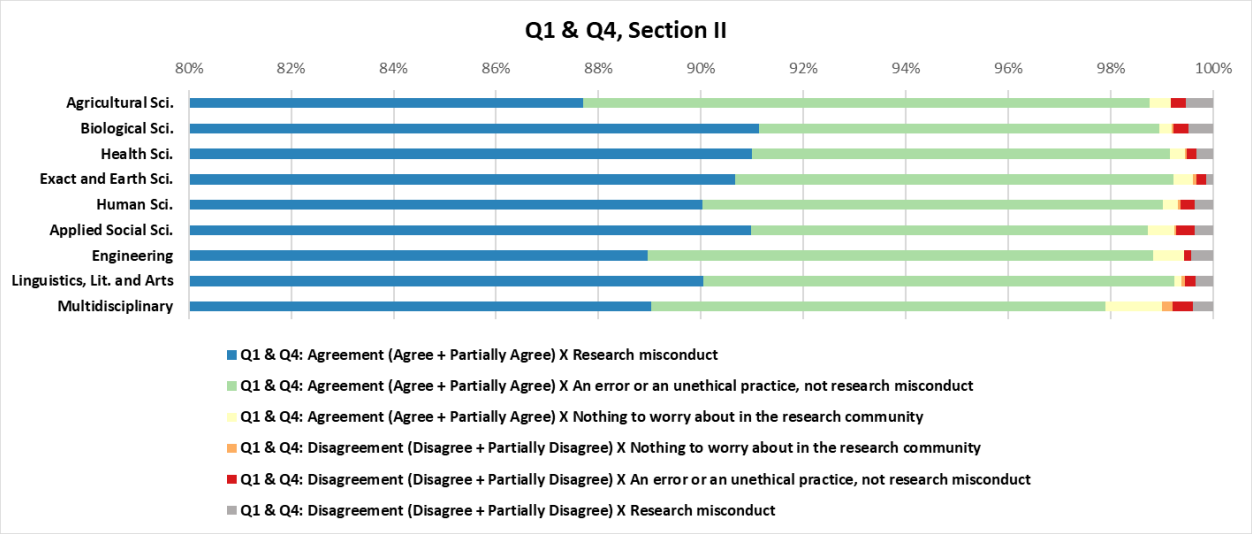


Fig. S3. Patterns of response in all fields for respondents' level of agreement (Agree + Partially Agree; Disagree + Partially Disagree) with **Q1, Section II,** US OSTP's definition of plagiarism **& Q4, Section II –** Patterns of response across fields for *How do you see plagiarism in science? Nothing to worry about in the scientific community; An error, but not research misconduct; An unethical practice, but not research misconduct; Research misconduct; Research misconduct, except for textual plagiarism; Research misconduct, except for plagiarism of ideas*. The blue bar shows the percentages of agreement of respondents in each field with **Q1, Section II and** Research misconduct in **Q4, Section II**.

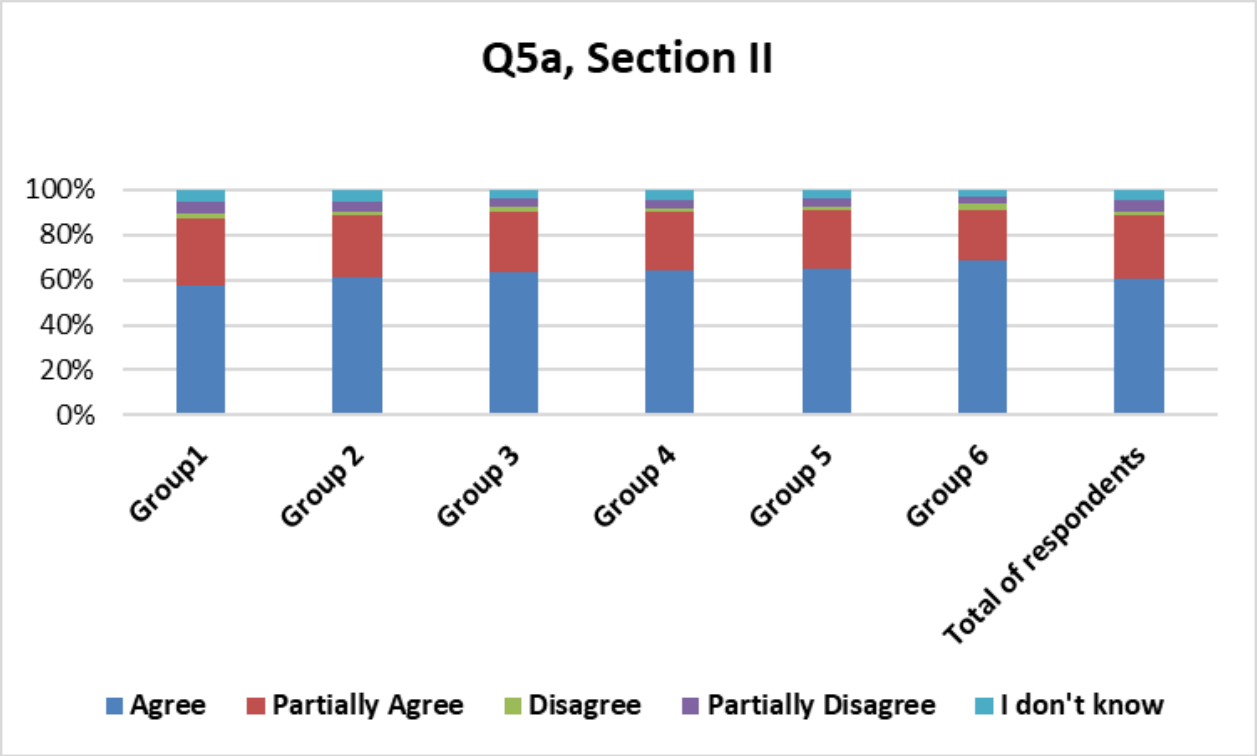


Fig. S4. Patterns of response (n=25,029) according to time since earning the PhD: **Group1**: up to 5 years; **Group 2**: 5-10 years; **Group 3**: 10-15 years; **Group 4**: 15-20 years; **Group 5**: 20-25 years; **Group 6**: more than 25 years. Plagiarism and retractions - **Q5, Section II** *Recent surveys indicate an increase in plagiarism in scientific publications. Many of the cases have led to "retractions" of scientific papers (cancellation of publications). In this context, in 2010, Nature Reviews Genetics (NRG) retracted a review article for textual plagiarism [Nature Reviews Genetics 11:308(2010]. The plagiarism involved a single paragraph that had been paraphrased from an article submitted to Plant Science. The author of the NRG review was a referee for the Plant Science paper but she failed to cite it when she wrote the NRG review. In the retraction notice the NRG editors stated that the misappropriated paragraph was plagiarized and that the author of the NRG review had presented the ideas and hypotheses found in the original paragraph as if they were her own.* **Q5a, Section II** *Do you agree that textual plagiarism justifies a retraction?.*

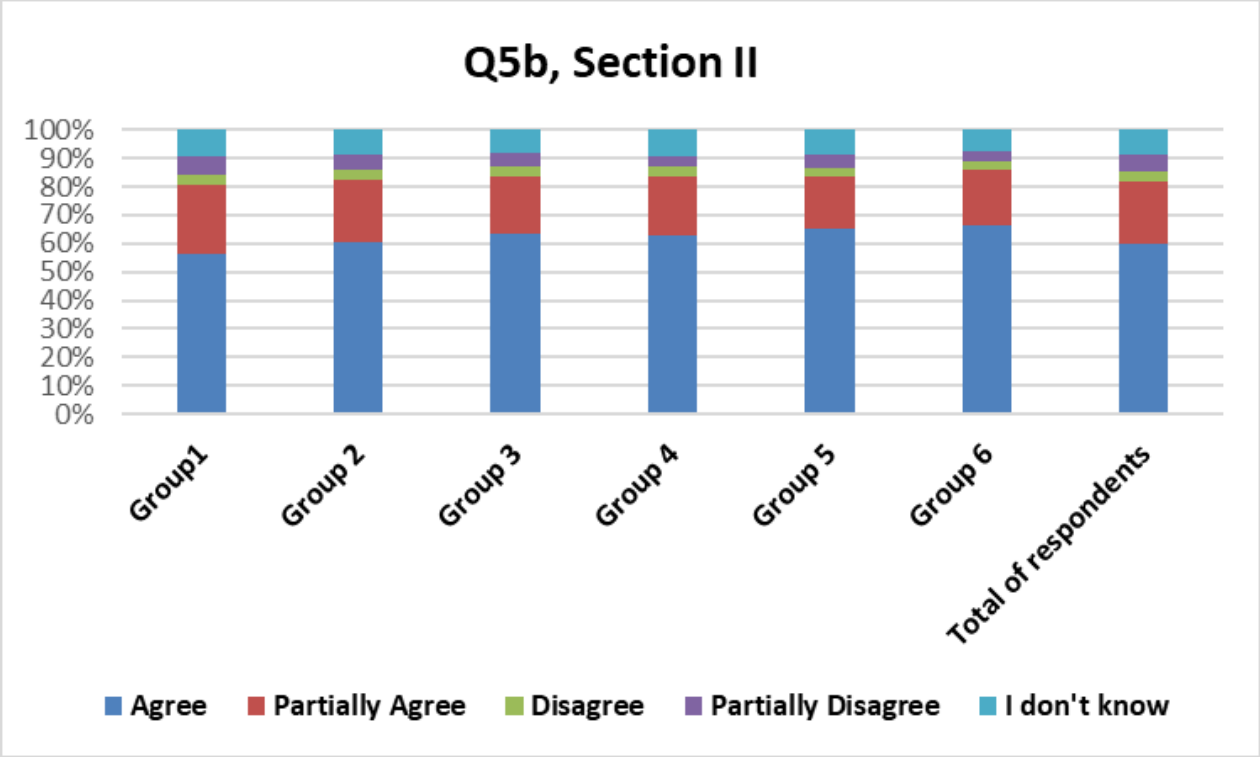


Fig. S5. Patterns of response (n=24,996) according to time since earning the PhD: **Group1**: up to 5 years; **Group 2**: 5-10 years; **Group 3**: 10-15 years; **Group 4**: 15-20 years; **Group 5**: 20-25 years; **Group 6**: more than 25 years. Plagiarism and retractions (**Q5, Section II**). *Recent surveys indicate an increase in plagiarism in scientific publications. Many of the cases have led to "retractions" of scientific papers (cancellation of publications). In this context, in 2010, Nature Reviews Genetics (NRG) retracted a review article for textual plagiarism [Nature Reviews Genetics 11:308(2010]. The plagiarism involved a single paragraph that had been paraphrased from an article submitted to Plant Science. The author of the NRG review was a referee for the Plant Science paper but she failed to cite it when she wrote the NRG review. In the retraction notice the NRG editors stated that the misappropriated paragraph was plagiarized and that the author of the NRG review had presented the ideas and hypotheses found in the original paragraph as if they were her own*. **Q5b**, **Section II** *Do you agree with the retraction in this case?*.

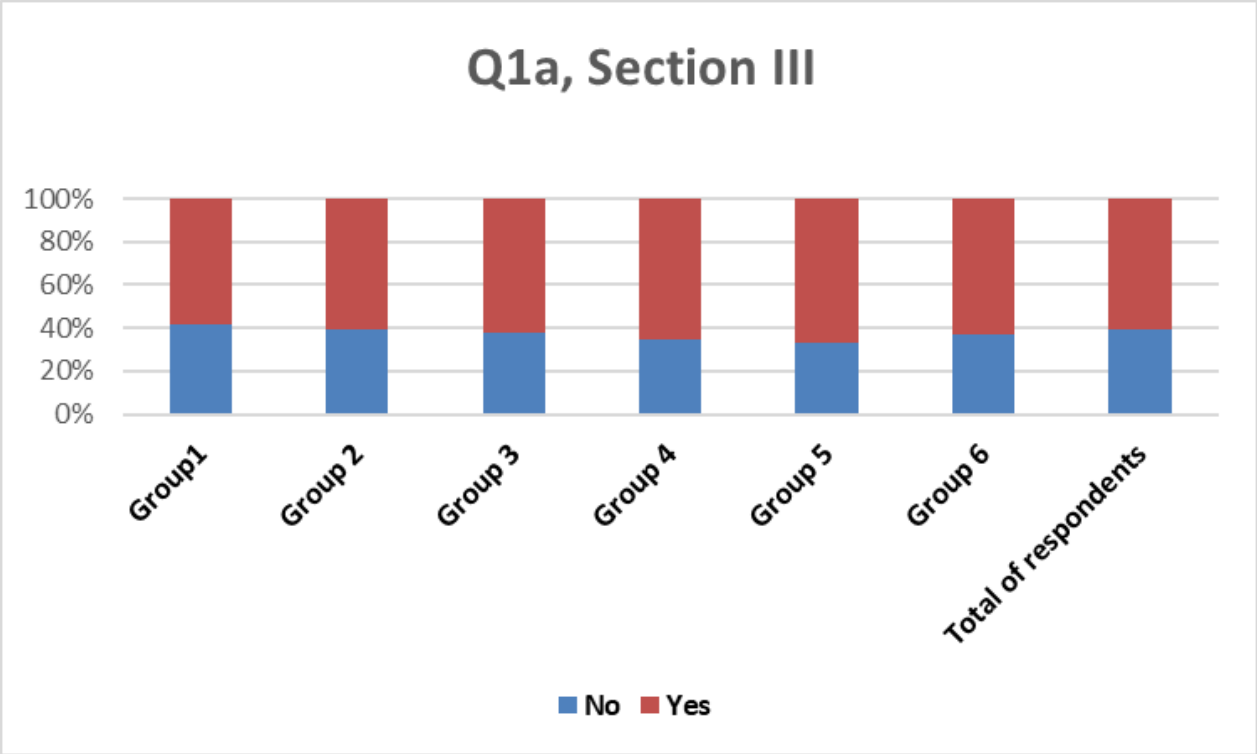


Fig. S6. Patterns of response (n=24,430) across all fields for respondents' awareness of plagiarism detection software used in the publication system. **Q1a, Section III** *Have you ever heard of such software used by scientific publishers?*.

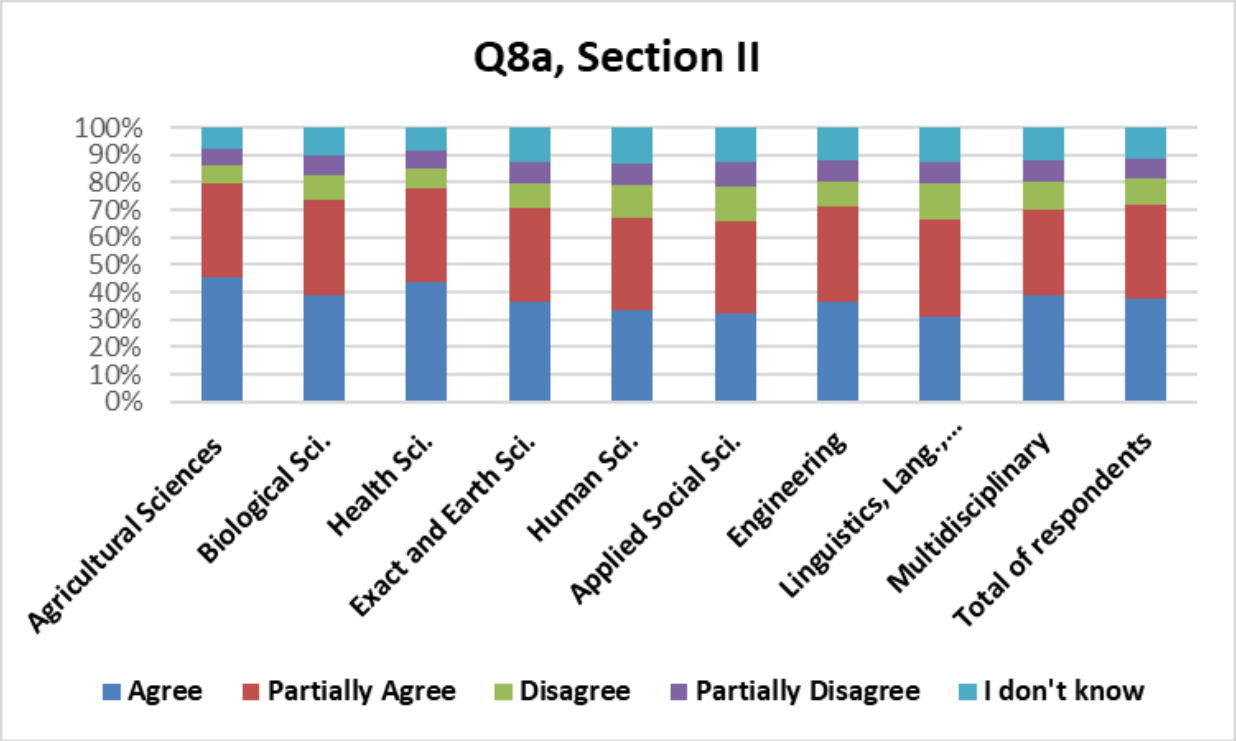


Fig. S7. Patterns of response (n= 25,008) across fields for **Q8, Section II** *In the context of plagiarism, it is worth noting that in Brazil*: **Q8a, Section II** *Graduate students are not familiar with the international concept of academic plagiarism.*

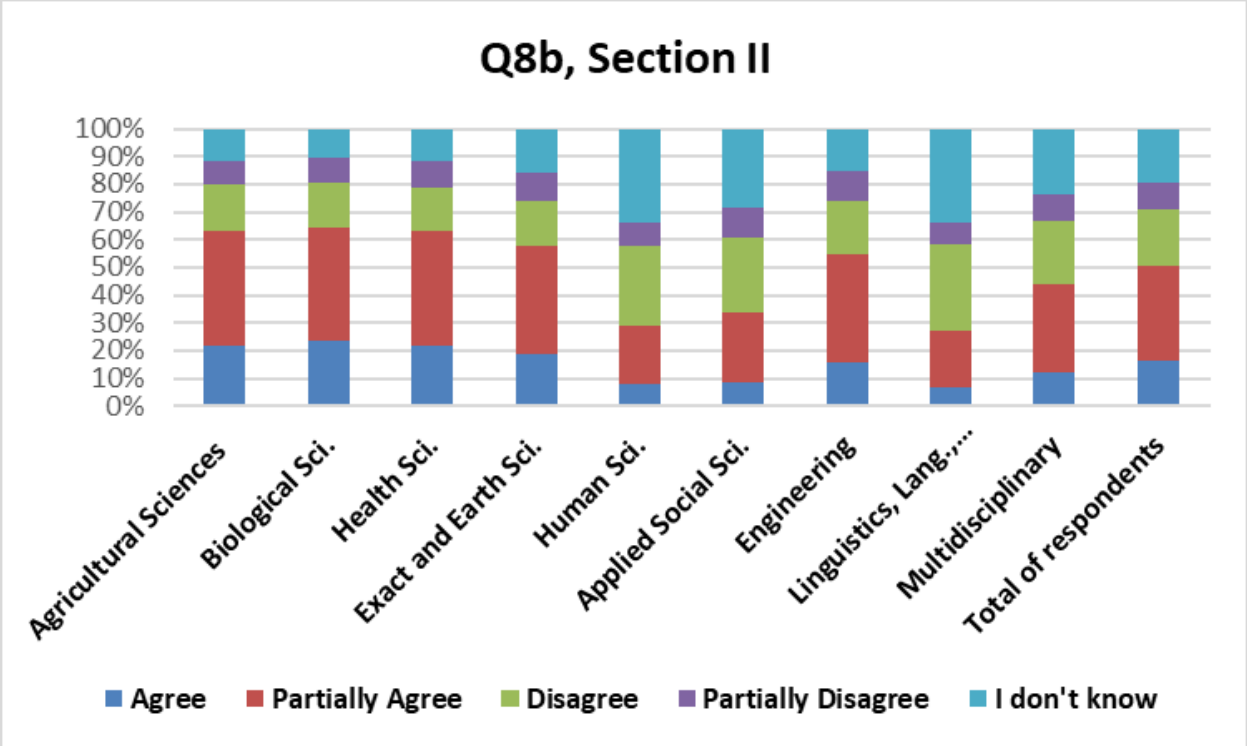


Fig. S8. Patterns of response (n=25,021) across fields for **Q8, Section II -** *In the context of plagiarism, it should be highlighted that for Brazil* **- Q8b, Section II** *Graduate students tend to engage in textual plagiarism in scientific articles in English because they are not fluent in English.*

Table S1. PhD holders responding to the national survey (n=25,157) by academic status in 2013 - self-declared information in 2014

Academic Status	Total	Female	Male	Total (%)
Researcher (non-professor)	5,734	53.2%	46.8%	22.8%
Associate Professor	13,745	45.3%	54.7%	54.6%
Retired Professor	387	53.5%	46.5%	1.5%
Emeritus Professor	48	27.1%	72.9%	0.2%
Substitute Professor	597	54.4%	45.6%	2.4%
Full Professor	3,313	44.8%	55.2%	13.2%
Visiting Professor	391	46.0%	54.0%	1.6%
Blank	942	62.5%	37.5%	3.7%
Total of respondents	25,157	48.0%	52.0%	100.0%

Table S2. Plagiarism and retractions - **Q5, Section II** *Recent surveys indicate an increase in plagiarism in scientific publications. Many of the cases have led to "retractions" of scientific papers (cancellation of publications). In this context, in 2010, Nature Reviews Genetics (NRG) retracted a review article for textual plagiarism [Nature Reviews Genetics 11:308(2010]. The plagiarism involved a single paragraph that had been paraphrased from an article submitted to Plant Science. The author of the NRG review was a referee for the Plant Science paper but she failed to cite it when she wrote the NRG review. In the retraction notice the NRG editors stated that the misappropriated paragraph was plagiarized and that the author of the NRG review had presented the ideas and hypotheses found in the original paragraph as if they were her own.* **Q5b, Section II** *Do you agree with retraction in this particular case?* (n=24,996)

Field of knowledge	Agree	Partially Agree	Disagree	Partially Disagree	I don't know
Agricultural Sciences	58.7%	24.7%	3.8%	6.1%	6.7%
Biological Sciences	58.2%	24.2%	4.5%	6.2%	6.9%
Health Sciences	60.0%	23.7%	3.5%	6.8%	6.0%
Exact and Earth Sciences	56.0%	22.8%	4.3%	5.9%	11.0%
Human Sciences	63.6%	19.4%	2.7%	4.8%	9.5%
Applied Social Sciences	62.9%	20.2%	3.0%	4.6%	9.4%
Engineering	55.7%	23.3%	3.8%	5.7%	11.5%
Linguistics, Language & Literature and Arts	62.6%	21.0%	2.7%	4.5%	9.2%
Multidisciplinary	59.4%	21.9%	3.5%	5.3%	9.9%
Total of respondents	59.6%	22.4%	3.6%	5.7%	8.7%

Table S3. Plagiarism and graduate students – **Q7, Section II** *Have you ever encountered any case of plagiarism (partial or total) by any graduate student (not necessarily from your Program) in the last four years*? – **Q7a** - *When reviewing a Master's thesis* (n=24,830)

Field of knowledge	No	Yes, one case	Yes, two cases	Yes, three cases	Yes, more than three cases	Yes, many cases
Agricultural Sciences	**50.5%**	**20.9%**	**9.4%**	**2.1%**	**5.3%**	**11.9%**
Biological Sciences	**59.8%**	**19.8%**	**7.7%**	**1.4%**	**4.3%**	**7.2%**
Health Sciences	**57.9%**	**20.6%**	**8.0%**	**1.3%**	**4.0%**	**8.1%**
Exact and Earth Sciences	**65.2%**	**16.7%**	**6.1%**	**1.4%**	**3.5%**	**7.1%**
Health Sciences	**50.4%**	**21.9%**	**9.9%**	**2.7%**	**4.4%**	**10.6%**
Applied Social Sciences	**50.1%**	**20.9%**	**9.5%**	**2.7%**	**5.1%**	**11.8%**
Engineering	**61.3%**	**18.3%**	**6.9%**	**1.9%**	**3.9%**	**7.7%**
Linguistics, Language & Literature and Arts	**53.2%**	**20.6%**	**8.6%**	**2.6%**	**5.0%**	**10.0%**
Multidisciplinary	**51.6%**	**18.7%**	**9.5%**	**2.7%**	**5.3%**	**12.1%**
Total of respondents	**56.3%**	**19.9%**	**8.2%**	**1.9%**	**4.4%**	**9.2%**

Table S4. Plagiarism and graduate students – **Q7, Section II** *Have you ever encountered any case of plagiarism (partial or total) of any graduate student (not necessarily from your Program) in the last four years*? – **Q7b** *When reviewing a PhD thesis* (n=24,329)

Field of knowledge	No	Yes, one case	Yes, two cases	Yes, three cases	Yes, more than three cases	Yes, many cases
Agricultural Sciences	**66.0%**	**16.6%**	**5.4%**	**1.1%**	**3.5%**	**7.4%**
Biological Sciences	**75.6%**	**13.5%**	**3.6%**	**0.8%**	**2.4%**	**4.1%**
Health Sciences	**79.3%**	**11.7%**	**3.1%**	**0.8%**	**1.8%**	**3.4%**
Exact and Earth Sciences	**80.8%**	**10.2%**	**3.0%**	**0.8%**	**1.6%**	**3.6%**
Health Sciences	**78.2%**	**12.9%**	**3.2%**	**0.8%**	**1.4%**	**3.4%**
Applied Social Sciences	**81.2%**	**10.7%**	**2.8%**	**0.9%**	**2.0%**	**2.4%**
Engineering	**79.3%**	**11.9%**	**2.8%**	**0.7%**	**1.9%**	**3.4%**
Linguistics, Language & Literature and Arts	**77.3%**	**12.9%**	**3.0%**	**0.7%**	**2.0%**	**4.1%**
Multidisciplinary	**76.7%**	**12.8%**	**3.3%**	**0.5%**	**2.1%**	**4.6%**
Total of respondents	**77.5%**	**12.4%**	**3.3%**	**0.8%**	**2.0%**	**3.9%**

We asked a series of questions exploring views of originality in the writing of a research article (**Fig.S9, S10, S11, S12**). Each question poses a specific situation related to attribution of credit in the process of borrowing from the literature. The series of questions is the following:

Plagiarism and originality in the writing of a research article should be questioned if the author used entire paragraphs from other works without a citation (**Q4a, Section III);** Plagiarism and originality in the writing of a research article should be questioned if the author used entire paragraphs from other works with a citation but without quotation marks (**Q4b, Section III**); Plagiarism and originality in the writing of a research article should be questioned if the author used paragraphs from other works correctly paraphrased, but without citation. (**Q4c, Section III**); Plagiarism and originality in the writing of a research article should be questioned if the author used entire paragraphs from other works without citation, considering that he/she was a co-author in this previous publication. (**Q4d, Section III**).

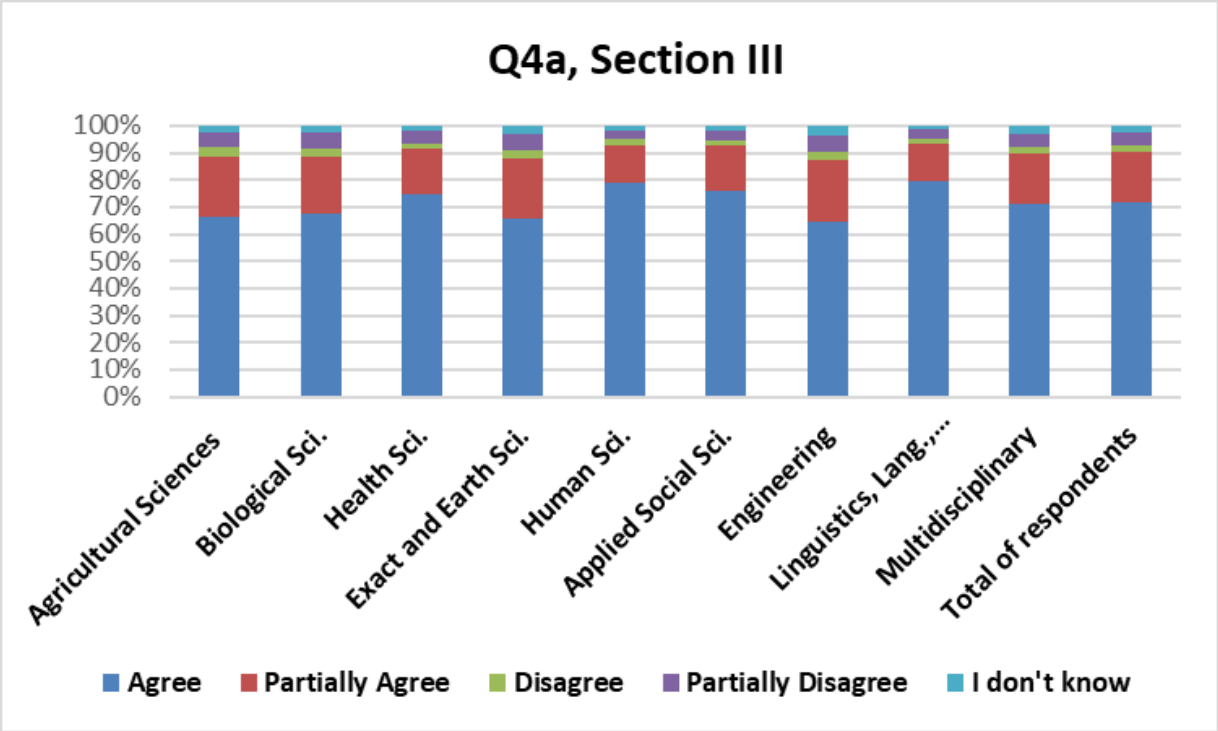


Fig. S9. Patterns of response (n=24,323) for **Q4a, Section III** *The originality of the results in a research paper should be questioned if the author of that paper* ***copied entire paragraphs without citation from others' previously published papers*****.**

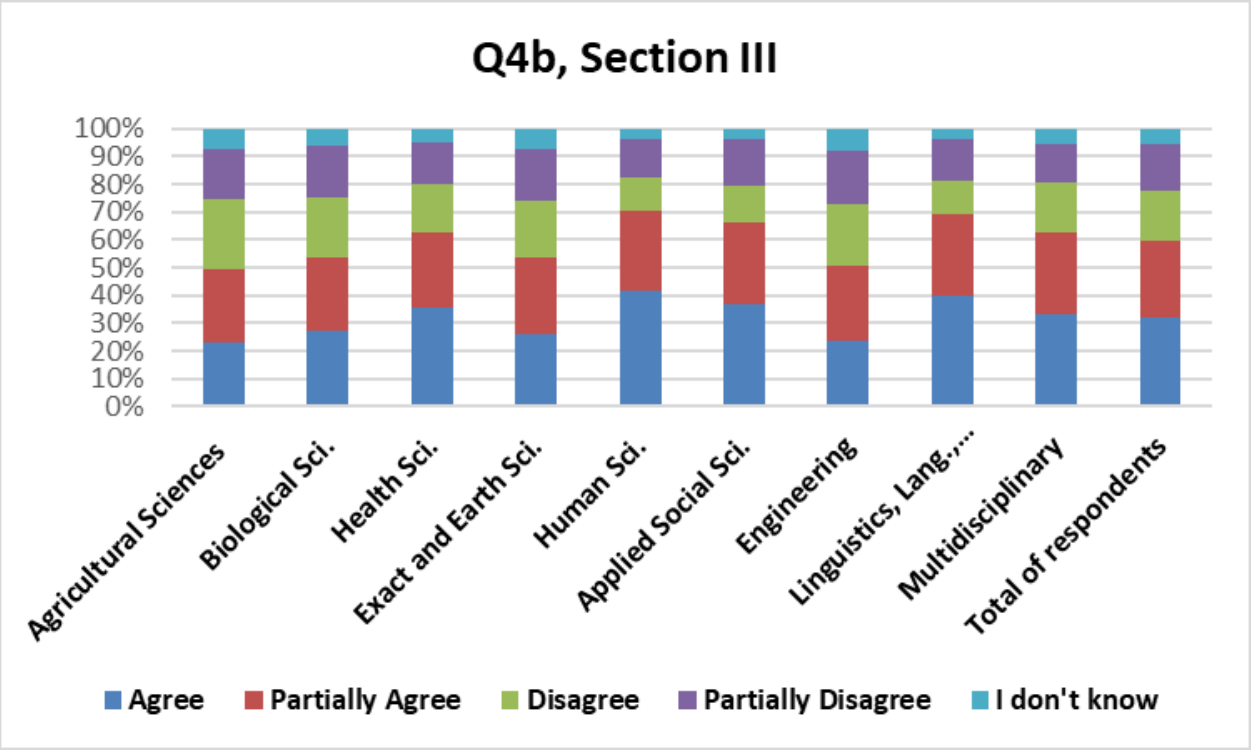


Fig. S10. Patterns of response (n=24,336) for **Q4b, Section III** *The originality of the results in a research paper should be questioned if the author of that paper* ***copied entire paragraphs from others' previously published papers, citing these sources but without enclosing the copied text in quotation marks*.**

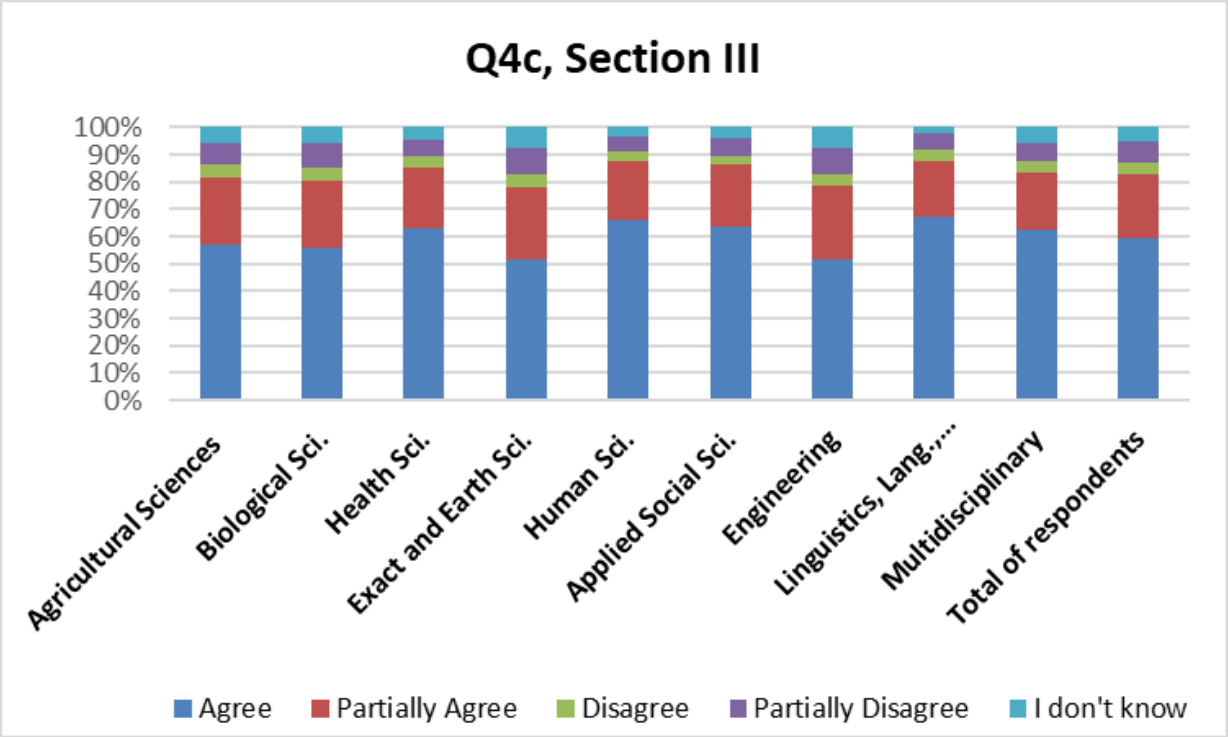


Fig. S11. Patterns of response (n=24,259) for **Q4c, Section III** *The originality of the results in a research paper should be questioned if the author of that paper correctly paraphrased* ***entire paragraphs from others' previously published papers but without citing the original sources*****.**

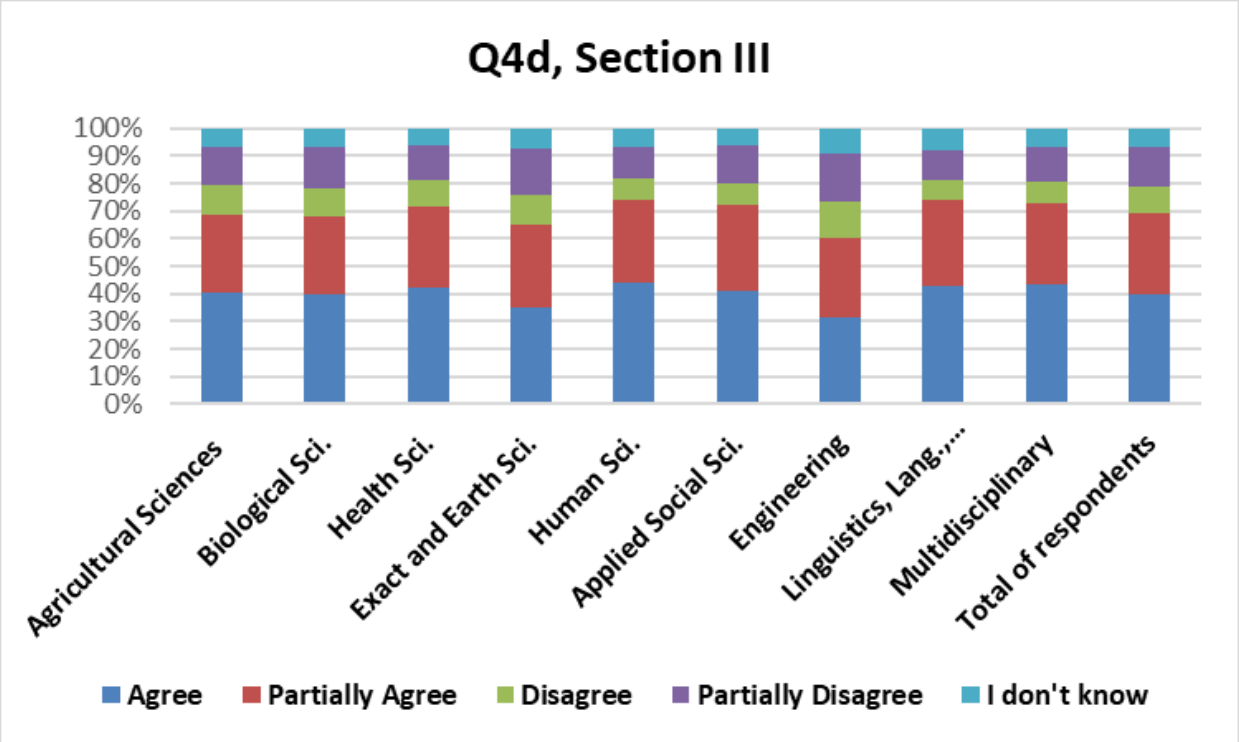


Fig. S12. Patterns of response (n=24,392) for **Q4d, Section III** *The originality of the results in a research paper should be questioned if the author of that paper copied* ***entire paragraphs without citation from other previously published papers, and that same person was a co-author of all the publications involved*.**

Note that whereas widespread agreement is noted for **Q4a**, views are stricter for Human Sciences, Applied Social Sciences, Linguistics, Language & Literature and Arts, and Health Sciences. Similar response patterns for these fields are also found for **Q4b**, including the Multidisciplinary group (*SI 2*). Human Sciences, Applied Social Sciences, Linguistics, Language & Literature and Arts, and Health Sciences are the fields with the smallest percentages for "I don't know" (4%), while the highest percentage is for Engineering (8%). Similar patterns also emerge for **Q4c.** Nevertheless, as corroborated by patterns shown for **Q4a, Section III**, differences are less noticeable for questions addressing formal definitions of research misconduct and plagiarism, such as **Q1**, **Q2a and Q2b,** and **Q3**, **Section II**. Overall, particularly for questions that imply the application of the concept of plagiarism to real-case scenarios, the Human Sciences, Applied Social Sciences, Linguistic & Literature and Arts, as well as the Health Sciences show similar response patterns (*SI 2*).

Kruskal-Wallis non-parametric statistical test (**1**) was used to verify the null hypothesis – distribution of response patterns would be the same across the nine *grand* fields.

Considering that there was no significant difference among response patterns for these *grand* fields, p-values were calculated for questions in **Section II and Section III**. For p-values smaller than 0.05, the difference was considered statistically significant, and the null hypothesis was rejected. We then carried out post-hoc tests for pairwise comparisons (Sample 1-Sample 2) to see which pair would differ significantly. We then list the adjusted p-values for each. In each diagram, the orange line joining specific groups indicates statistically significant differences.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Q1 is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,021	Reject the null hypothesis.
2	The distribution of Q2a is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,086	Retain the null hypothesis.
3	The distribution of Q3 is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,003	Reject the null hypothesis.
4	The distribution of Q4 is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
5	The distribution of Q5a is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
6	The distribution of Q5b is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
7	The distribution of Q6 is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,049	Reject the null hypothesis.
8	The distribution of Q7a is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
9	The distribution of Q7b is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
10	The distribution of Q7c is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.

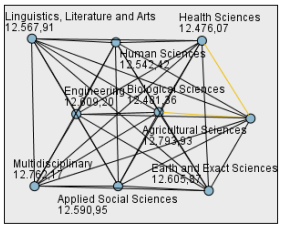
Asymptotic significances are displayed. The significance level is ,05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
11	The distribution of Q8a is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
12	The distribution of Q8b is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Health Sciences-Biological Sciences	5,291	83,712	,063	,950	1,000
Health Sciences-Human Sciences	-66,350	79,708	-,832	,405	1,000
Health Sciences-Linguistics, Literature and Arts	-91,848	109,239	-,841	,400	1,000
Health Sciences-Applied Social Sciences	-114,880	90,809	-1,265	,206	1,000
Health Sciences-Earth and Exact Sciences	-129,806	80,954	-1,603	,109	1,000
Health Sciences-Engineering	-133,135	93,490	-1,424	,154	1,000
Health Sciences-Multidisciplinary	-286,107	126,039	-2,270	,023	,835
Health Sciences-Agricultural Sciences	317,860	92,003	3,455	,001	,020
Biological Sciences-Human Sciences	-61,059	83,832	-,728	,466	1,000
Biological Sciences-Linguistics, Literature and Arts	-86,557	112,283	-,771	,441	1,000
Biological Sciences-Applied Social Sciences	-109,589	94,450	-1,160	,246	1,000
Biological Sciences-Earth and Exact Sciences	-124,515	85,017	-1,465	,143	1,000
Biological Sciences-Engineering	-127,845	97,031	-1,318	,188	1,000
Biological Sciences-Multidisciplinary	-280,816	128,687	-2,182	,029	1,000
Biological Sciences-Agricultural Sciences	312,569	95,598	3,270	,001	,039
Human Sciences-Linguistics, Literature and Arts	-25,498	109,331	-,233	,816	1,000
Human Sciences-Applied Social Sciences	-48,530	90,921	-,534	,594	1,000
Human Sciences-Earth and Exact Sciences	63,456	81,079	,783	,434	1,000
Human Sciences-Engineering	-66,786	93,599	-,714	,476	1,000
Human Sciences-Multidisciplinary	-219,757	126,119	-1,742	,081	1,000
Human Sciences-Agricultural Sciences	251,510	92,113	2,730	,006	,228
Linguistics, Literature and Arts-Applied Social Sciences	23,032	117,670	,196	,845	1,000
Linguistics, Literature and Arts-Earth and Exact Sciences	37,958	110,243	,344	,731	1,000
Linguistics, Literature and Arts-Engineering	41,287	119,751	,345	,730	1,000
Linguistics, Literature and Arts-Multidisciplinary	-194,259	146,580	-1,325	,185	1,000
Linguistics, Literature and Arts-Agricultural Sciences	226,012	118,594	1,906	,057	1,000
Applied Social Sciences-Earth and Exact Sciences	14,926	92,014	,162	,871	1,000
Applied Social Sciences-Engineering	-18,256	103,216	-,177	,860	1,000
Applied Social Sciences-Multidisciplinary	-171,227	133,412	-1,283	,199	1,000
Applied Social Sciences-Agricultural Sciences	202,980	101,871	1,993	,046	1,000
Earth and Exact Sciences-Engineering	-3,330	94,661	-,035	,972	1,000
Earth and Exact Sciences-Multidisciplinary	-156,301	126,910	-1,232	,218	1,000
Earth and Exact Sciences-Agricultural Sciences	188,054	93,192	2,018	,044	1,000
Engineering-Multidisciplinary	-152,971	135,252	-1,131	,258	1,000
Engineering-Agricultural Sciences	184,725	104,268	1,772	,076	1,000
Multidisciplinary-Agricultural Sciences	31,753	134,228	,237	,813	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

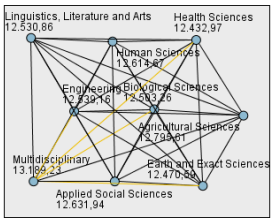
From the adjusted significance level, for Q1, **Section II**, significant differences in response patterns were found for the following fields:

- **Health Sciences and** Agricultural Sciences.
- **Biological Sciences and** Agricultural Sciences.

For Q2a, no significant differences were found.

For Q3, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Health Sciences-Earth and Exact Sciences	-37,614	120,079	-,313	,754	1,000
Health Sciences-Biological Sciences	70,288	124,169	,566	,571	1,000
Health Sciences-Linguistics, Literature and Arts	-97,886	162,034	-,604	,546	1,000
Health Sciences-Engineering	-106,186	138,675	-,766	,444	1,000
Health Sciences-Human Sciences	-181,696	118,232	-1,537	,124	1,000
Health Sciences-Applied Social Sciences	-198,967	134,697	-1,477	,140	1,000
Health Sciences-Agricultural Sciences	362,640	136,468	2,657	,008	,284
Health Sciences-Multidisciplinary	-756,260	186,954	-4,045	,000	,002
Earth and Exact Sciences-Biological Sciences	32,674	126,106	,259	,796	1,000
Earth and Exact Sciences-Linguistics, Literature and Arts	-60,272	163,523	-,369	,712	1,000
Earth and Exact Sciences-Engineering	-68,572	140,412	-,488	,625	1,000
Earth and Exact Sciences-Human Sciences	-144,082	120,264	-1,198	,231	1,000
Earth and Exact Sciences-Applied Social Sciences	-161,352	136,485	-1,182	,237	1,000
Earth and Exact Sciences-Agricultural Sciences	325,025	138,233	2,351	,019	,673
Earth and Exact Sciences-Multidisciplinary	-718,645	188,246	-3,818	,000	,005
Biological Sciences-Linguistics, Literature and Arts	-27,598	166,550	-,166	,868	1,000
Biological Sciences-Engineering	-35,898	143,926	-,249	,803	1,000
Biological Sciences-Human Sciences	-111,408	124,349	-,896	,370	1,000
Biological Sciences-Applied Social Sciences	-128,678	140,097	-,918	,358	1,000
Biological Sciences-Agricultural Sciences	292,351	141,801	2,062	,039	1,000
Biological Sciences-Multidisciplinary	-685,971	190,881	-3,594	,000	,012
Linguistics, Literature and Arts-Engineering	8,300	177,627	,047	,963	1,000
Linguistics, Literature and Arts-Human Sciences	83,810	162,171	,517	,605	1,000
Linguistics, Literature and Arts-Applied Social Sciences	101,080	174,540	,579	,563	1,000
Linguistics, Literature and Arts-Agricultural Sciences	264,753	175,910	1,505	,132	1,000
Linguistics, Literature and Arts-Multidisciplinary	-658,374	217,422	-3,028	,002	,089
Engineering-Human Sciences	75,510	138,835	,544	,587	1,000
Engineering-Applied Social Sciences	92,780	153,101	,606	,545	1,000
Engineering-Agricultural Sciences	256,453	154,661	1,658	,097	1,000
Engineering-Multidisciplinary	-650,073	200,619	-3,240	,001	,043
Human Sciences-Applied Social Sciences	-17,270	134,863	-,128	,898	1,000
Human Sciences-Agricultural Sciences	180,944	136,631	1,324	,185	1,000
Human Sciences-Multidisciplinary	-574,564	187,073	-3,071	,002	,077
Applied Social Sciences-Agricultural Sciences	163,673	151,105	1,083	,279	1,000
Applied Social Sciences-Multidisciplinary	-557,293	197,891	-2,816	,005	,175
Agricultural Sciences-Multidisciplinary	-393,620	199,100	-1,977	,048	1,000

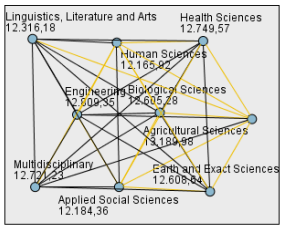
Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q3, significant differences in response patterns were observed between the following fields:

- **Health Sciences and** Multidisciplinary.
- **Earth and Exact Sciences and** Multidisciplinary.
- **Biological Sciences and** Multidisciplinary.
- **Engineering and** Multidisciplinary.

For Q4, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Human Sciences-Applied Social Sciences	-18,444	123,651	-,149	,881	1,000
Human Sciences-Linguistics, Literature and Arts	-150,265	148,690	-1,011	,312	1,000
Human Sciences-Biological Sciences	439,365	114,012	3,854	,000	,004
Human Sciences-Earth and Exact Sciences	442,719	110,267	4,015	,000	,002
Human Sciences-Multidisciplinary	-555,311	171,521	-3,238	,001	,043
Human Sciences-Health Sciences	583,658	108,403	5,384	,000	,000
Human Sciences-Engineering	-643,433	127,294	-5,055	,000	,000
Human Sciences-Agricultural Sciences	1.024,062	125,273	8,175	,000	,000
Applied Social Sciences-Linguistics, Literature and Arts	-131,821	160,031	-,824	,410	1,000
Applied Social Sciences-Biological Sciences	420,921	128,451	3,277	,001	,038
Applied Social Sciences-Earth and Exact Sciences	424,275	125,139	3,390	,001	,025
Applied Social Sciences-Multidisciplinary	-536,867	181,440	-2,959	,003	,111
Applied Social Sciences-Health Sciences	565,214	123,500	4,577	,000	,000
Applied Social Sciences-Engineering	-624,988	140,374	-4,452	,000	,000
Applied Social Sciences-Agricultural Sciences	1.005,617	138,544	7,258	,000	,000
Linguistics, Literature and Arts-Biological Sciences	289,100	152,705	1,893	,058	1,000
Linguistics, Literature and Arts-Earth and Exact Sciences	292,454	149,929	1,951	,051	1,000
Linguistics, Literature and Arts-Multidisciplinary	-405,046	199,348	-2,032	,042	1,000
Linguistics, Literature and Arts-Health Sciences	433,393	148,564	2,917	,004	,127
Linguistics, Literature and Arts-Engineering	-493,168	162,861	3,028	,002	,089
Linguistics, Literature and Arts-Agricultural Sciences	873,797	161,287	5,418	,000	,000
Biological Sciences-Earth and Exact Sciences	-3,354	115,623	-,029	,977	1,000
Biological Sciences-Multidisciplinary	-115,946	175,013	-,662	,508	1,000
Biological Sciences-Health Sciences	-144,293	113,847	-1,267	,205	1,000
Biological Sciences-Engineering	-204,068	131,961	-1,546	,122	1,000
Biological Sciences-Agricultural Sciences	584,697	130,013	4,497	,000	,000
Earth and Exact Sciences-Multidisciplinary	-112,592	172,597	-,652	,514	1,000
Earth and Exact Sciences-Health Sciences	140,939	110,097	1,280	,200	1,000
Earth and Exact Sciences-Engineering	-200,713	128,739	-1,559	,119	1,000
Earth and Exact Sciences-Agricultural Sciences	581,342	126,741	4,587	,000	,000
Multidisciplinary-Health Sciences	28,347	171,412	,165	,869	1,000
Multidisciplinary-Engineering	88,122	183,942	,479	,632	1,000
Multidisciplinary-Agricultural Sciences	468,751	182,549	2,568	,010	,368
Health Sciences-Engineering	-59,774	127,147	-,470	,638	1,000
Health Sciences-Agricultural Sciences	440,403	125,123	3,520	,000	,016
Engineering-Agricultural Sciences	380,629	141,804	2,684	,007	,262

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q4, significant differences in response patterns were observed between the following fields:

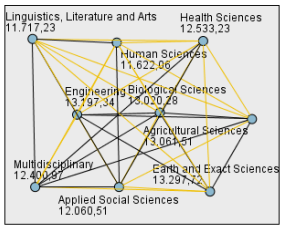
- **Human Sciences and** Biological Sciences; and Earth and Exact Sciences; and Multidisciplinary; and Health Sciences; and Engineering; and Agricultural Sciences.

- **Applied Social Sciences and** Biological Sciences; and Earth and Exact Sciences; and Health Sciences; and Engineering; and Agricultural Sciences.

- **Linguistics, Literature and Arts and** Agricultural Sciences.
- **Biological Sciences and** Agricultural Sciences.
- **Earth and Exact Sciences and** Agricultural Sciences.
- **Health Sciences and** Agricultural Sciences.

For Q5a, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Human Sciences-Linguistics, Literature and Arts	-95,169	192,265	-,495	,621	1,000
Human Sciences-Applied Social Sciences	-438,451	159,889	-2,742	,006	,220
Human Sciences-Multidisciplinary	-778,911	221,787	-3,512	,000	,016
Human Sciences-Health Sciences	911,169	140,171	6,500	,000	,000
Human Sciences-Biological Sciences	1.398,215	147,424	9,484	,000	,000
Human Sciences-Agricultural Sciences	1.439,451	161,985	8,886	,000	,000
Human Sciences-Engineering	-1.575,281	164,599	-9,570	,000	,000
Human Sciences-Earth and Exact Sciences	1.675,663	142,581	11,752	,000	,000
Linguistics, Literature and Arts-Applied Social Sciences	343,282	206,929	1,659	,097	1,000
Linguistics, Literature and Arts-Multidisciplinary	-683,742	257,769	-2,653	,008	,288
Linguistics, Literature and Arts-Health Sciences	816,000	192,102	4,248	,000	,001
Linguistics, Literature and Arts-Biological Sciences	1.303,046	197,456	6,599	,000	,000
Linguistics, Literature and Arts-Agricultural Sciences	1.344,282	208,553	6,446	,000	,000
Linguistics, Literature and Arts-Engineering	1.480,112	210,589	7,028	,000	,000
Linguistics, Literature and Arts-Earth and Exact Sciences	1.580,494	193,867	8,152	,000	,000
Applied Social Sciences-Multidisciplinary	-340,460	234,613	-1,451	,147	1,000
Applied Social Sciences-Health Sciences	472,718	159,693	2,960	,003	,111
Applied Social Sciences-Biological Sciences	959,764	166,095	5,778	,000	,000
Applied Social Sciences-Agricultural Sciences	1.000,999	179,145	5,588	,000	,000
Applied Social Sciences-Engineering	-1.136,830	181,511	-6,263	,000	,000
Applied Social Sciences-Earth and Exact Sciences	1.237,212	161,812	7,646	,000	,000
Multidisciplinary-Health Sciences	132,258	221,646	,597	,551	1,000
Multidisciplinary-Biological Sciences	619,304	226,302	2,737	,006	,223
Multidisciplinary-Agricultural Sciences	660,539	236,047	2,798	,005	,185
Multidisciplinary-Engineering	796,370	237,848	3,348	,001	,029
Multidisciplinary-Earth and Exact Sciences	896,752	223,178	4,018	,000	,002
Health Sciences-Biological Sciences	487,046	147,211	3,308	,001	,034
Health Sciences-Agricultural Sciences	528,281	161,792	3,265	,001	,039
Health Sciences-Engineering	-664,112	164,408	-4,039	,000	,002
Health Sciences-Earth and Exact Sciences	-764,494	142,361	-5,370	,000	,000
Biological Sciences-Agricultural Sciences	41,235	168,114	,245	,806	1,000
Biological Sciences-Engineering	-177,066	170,633	-1,038	,299	1,000
Biological Sciences-Earth and Exact Sciences	-277,448	149,508	-1,856	,063	1,000
Agricultural Sciences-Engineering	-135,831	183,361	-,741	,459	1,000
Agricultural Sciences-Earth and Exact Sciences	-236,212	163,884	-1,441	,149	1,000
Engineering-Earth and Exact Sciences	100,382	166,467	,603	,547	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q5a, significant differences in response patterns were observed between the following fields:

• **Human Sciences and** Multidisciplinary; and Health Sciences; and Biological Sciences; and Agricultural Sciences; and Engineering and Earth and Exact Sciences.

• **Linguistics, Literature and Arts and** Health Sciences; and Biological Sciences; and Agricultural Sciences; and Engineering; and Earth and Exact Sciences.

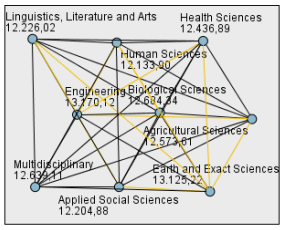
• **Applied Social Sciences and** Biological Sciences; and Agricultural Sciences; and Engineering; and Earth and Exact Sciences.

• **Multidisciplinary and** Engineering; and Earth and Exact Sciences;

• **Health Sciences and** Biological Sciences; and Agricultural Sciences; and Engineering; and Earth and Exact Sciences.

For Q5b, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Human Sciences-Applied Social Sciences	-70,978	162,073	-,438	,661	1,000
Human Sciences-Linguistics, Literature and Arts	-92,116	194,892	-,473	,636	1,000
Human Sciences-Health Sciences	302,982	142,086	2,132	,033	1,000
Human Sciences-Agricultural Sciences	439,706	164,198	2,678	,007	,267
Human Sciences-Multidisciplinary	-505,209	224,817	-2,247	,025	,887
Human Sciences-Biological Sciences	550,437	149,438	3,683	,000	,008
Human Sciences-Earth and Exact Sciences	991,315	144,529	6,859	,000	,000
Human Sciences-Engineering	-1.036,211	166,847	-6,211	,000	,000
Applied Social Sciences-Linguistics, Literature and Arts	-21,138	209,756	-,101	,920	1,000
Applied Social Sciences-Health Sciences	232,004	161,874	1,433	,152	1,000
Applied Social Sciences-Agricultural Sciences	368,728	181,592	2,031	,042	1,000
Applied Social Sciences-Multidisciplinary	-434,231	237,818	-1,826	,068	1,000
Applied Social Sciences-Biological Sciences	479,459	168,364	2,848	,004	,159
Applied Social Sciences-Earth and Exact Sciences	920,337	164,022	5,611	,000	,000
Applied Social Sciences-Engineering	-965,233	183,991	-5,246	,000	,000
Linguistics, Literature and Arts-Health Sciences	210,865	194,727	1,083	,279	1,000
Linguistics, Literature and Arts-Agricultural Sciences	347,589	211,402	1,644	,100	1,000
Linguistics, Literature and Arts-Multidisciplinary	-413,093	261,290	-1,581	,114	1,000
Linguistics, Literature and Arts-Biological Sciences	458,321	200,154	2,290	,022	,793
Linguistics, Literature and Arts-Earth and Exact Sciences	899,199	196,516	4,576	,000	,000
Linguistics, Literature and Arts-Engineering	944,094	213,466	4,423	,000	,000
Health Sciences-Agricultural Sciences	136,724	164,002	,834	,404	1,000
Health Sciences-Multidisciplinary	-202,228	224,674	-,900	,368	1,000
Health Sciences-Biological Sciences	247,455	149,222	1,658	,097	1,000
Health Sciences-Earth and Exact Sciences	-688,334	144,306	-4,770	,000	,000
Health Sciences-Engineering	-733,229	166,654	-4,400	,000	,000
Agricultural Sciences-Multidisciplinary	-65,504	239,272	-,274	,784	1,000
Agricultural Sciences-Biological Sciences	-110,731	170,411	-,650	,516	1,000
Agricultural Sciences-Earth and Exact Sciences	-551,610	166,123	-3,320	,001	,032
Agricultural Sciences-Engineering	-596,505	185,866	-3,209	,001	,048
Multidisciplinary-Biological Sciences	45,228	229,394	,197	,844	1,000
Multidisciplinary-Earth and Exact Sciences	486,106	226,227	2,149	,032	1,000
Multidisciplinary-Engineering	531,001	241,097	2,202	,028	,995
Biological Sciences-Earth and Exact Sciences	-440,878	151,550	-2,909	,004	,130
Biological Sciences-Engineering	-485,774	172,965	-2,809	,005	,179
Earth and Exact Sciences-Engineering	-44,895	168,742	-,266	,790	1,000

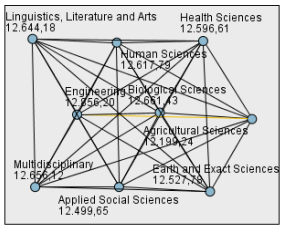
Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q5b, significant differences in response patterns were observed between the following fields:

- **Human Sciences and** Biological Sciences; and Earth and Exact Sciences; and Engineering.
- **Applied Social Sciences and** Earth and Exact Sciences; and Engineering.
- **Linguistics, Literature and Arts and**; Earth and Exact Sciences; and Engineering.
- **Health Sciences and**; Earth and Exact Sciences; and Engineering.
- **Agricultural Sciences and**; and Earth and Exact Sciences; and Engineering.

For Q6, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Agricultural Sciences-Applied Social Sciences	-300,401	175,633	-1,710	,087	1,000
Agricultural Sciences-Earth and Exact Sciences	-328,538	160,671	-2,045	,041	1,000
Agricultural Sciences-Health Sciences	-397,366	158,620	-2,505	,012	,441
Agricultural Sciences-Human Sciences	-418,548	158,810	-2,636	,008	,302
Agricultural Sciences-Linguistics, Literature and Arts	-444,931	204,464	-2,176	,030	1,000
Agricultural Sciences-Multidisciplinary	-456,875	231,419	-1,974	,048	1,000
Agricultural Sciences-Biological Sciences	-462,187	164,818	-2,804	,005	,182
Agricultural Sciences-Engineering	-656,954	179,766	-3,654	,000	,009
Applied Social Sciences-Earth and Exact Sciences	28,136	158,639	,177	,859	1,000
Applied Social Sciences-Health Sciences	96,964	156,562	,619	,536	1,000
Applied Social Sciences-Human Sciences	118,146	156,754	,754	,451	1,000
Applied Social Sciences-Linguistics, Literature and Arts	-144,529	202,872	-,712	,476	1,000
Applied Social Sciences-Multidisciplinary	-156,473	230,013	-,680	,496	1,000
Applied Social Sciences-Biological Sciences	161,785	162,838	,994	,320	1,000
Applied Social Sciences-Engineering	-356,553	177,953	-2,004	,045	1,000
Earth and Exact Sciences-Health Sciences	68,828	139,570	,493	,622	1,000
Earth and Exact Sciences-Human Sciences	-90,010	139,786	-,644	,520	1,000
Earth and Exact Sciences-Linguistics, Literature and Arts	-116,393	190,067	-,612	,540	1,000
Earth and Exact Sciences-Multidisciplinary	-128,337	218,802	-,587	,558	1,000
Earth and Exact Sciences-Biological Sciences	133,649	146,576	,912	,362	1,000
Earth and Exact Sciences-Engineering	-328,417	163,204	-2,012	,044	1,000
Health Sciences-Human Sciences	-21,182	137,423	-,154	,878	1,000
Health Sciences-Linguistics, Literature and Arts	-47,565	188,336	-,253	,801	1,000
Health Sciences-Multidisciplinary	-59,509	217,300	-,274	,784	1,000
Health Sciences-Biological Sciences	64,821	144,325	,449	,653	1,000
Health Sciences-Engineering	-259,588	161,185	-1,611	,107	1,000
Human Sciences-Linguistics, Literature and Arts	-26,383	188,496	-,140	,889	1,000
Human Sciences-Multidisciplinary	-38,327	217,439	-,176	,860	1,000
Human Sciences-Biological Sciences	43,639	144,534	,302	,763	1,000
Human Sciences-Engineering	-238,407	161,371	-1,477	,140	1,000
Linguistics, Literature and Arts-Multidisciplinary	-11,944	252,715	-,047	,962	1,000
Linguistics, Literature and Arts-Biological Sciences	17,256	193,585	,089	,929	1,000
Linguistics, Literature and Arts-Engineering	212,024	206,461	1,027	,304	1,000
Multidisciplinary-Biological Sciences	5,312	221,865	,024	,981	1,000
Multidisciplinary-Engineering	200,080	233,185	,858	,391	1,000
Biological Sciences-Engineering	-194,768	167,288	-1,164	,244	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

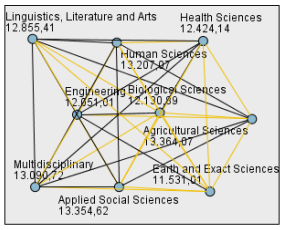
For Q6, the only significant differences in response patterns were observed between the following fields:

- **Agricultural Sciences and** Engineering.

– Note however, that this question is about being aware of a particular document and that would not involve views or perceptions.

For Q7a, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Earth and Exact Sciences-Engineering	-520,003	172,901	-3,008	,003	,095
Earth and Exact Sciences-Biological Sciences	599,883	155,286	3,863	,000	,004
Earth and Exact Sciences-Health Sciences	893,132	147,864	6,040	,000	,000
Earth and Exact Sciences-Linguistics, Literature and Arts	-1.324,400	201,361	-6,577	,000	,000
Earth and Exact Sciences-Multidisciplinary	-1.559,709	231,804	-6,729	,000	,000
Earth and Exact Sciences-Human Sciences	-1.676,064	148,092	-11,318	,000	,000
Earth and Exact Sciences-Applied Social Sciences	-1.823,611	168,066	-10,851	,000	,000
Earth and Exact Sciences-Agricultural Sciences	1.833,062	170,218	10,769	,000	,000
Engineering-Biological Sciences	79,881	177,229	,451	,652	1,000
Engineering-Health Sciences	373,129	170,763	2,185	,029	1,000
Engineering-Linguistics, Literature and Arts	-804,397	218,729	-3,678	,000	,008
Engineering-Multidisciplinary	-1.039,706	247,041	-4,209	,000	,001
Engineering-Human Sciences	1.156,061	170,960	6,762	,000	,000
Engineering-Applied Social Sciences	1.303,608	188,527	6,915	,000	,000
Engineering-Agricultural Sciences	1.313,060	190,448	6,895	,000	,000
Biological Sciences-Health Sciences	-293,248	152,901	-1,918	,055	1,000
Biological Sciences-Linguistics, Literature and Arts	-724,517	205,088	-3,533	,000	,015
Biological Sciences-Multidisciplinary	-959,825	235,049	-4,084	,000	,002
Biological Sciences-Human Sciences	-1.076,181	153,122	-7,028	,000	,000
Biological Sciences-Applied Social Sciences	-1.223,727	172,514	-7,093	,000	,000
Biological Sciences-Agricultural Sciences	1.233,179	174,612	7,062	,000	,000
Health Sciences-Linguistics, Literature and Arts	-431,268	199,527	-2,161	,031	1,000
Health Sciences-Multidisciplinary	-666,577	230,213	-2,895	,004	,136
Health Sciences-Human Sciences	-782,932	145,589	-5,378	,000	,000
Health Sciences-Applied Social Sciences	-930,479	165,865	-5,610	,000	,000
Health Sciences-Agricultural Sciences	939,931	168,045	5,593	,000	,000
Linguistics, Literature and Arts-Multidisciplinary	-235,309	267,732	-,879	,379	1,000
Linguistics, Literature and Arts-Human Sciences	351,664	199,696	1,761	,078	1,000
Linguistics, Literature and Arts-Applied Social Sciences	499,211	214,927	2,323	,020	,727
Linguistics, Literature and Arts-Agricultural Sciences	508,662	216,614	2,348	,019	,679
Multidisciplinary-Human Sciences	116,355	230,360	,505	,613	1,000
Multidisciplinary-Applied Social Sciences	263,902	243,681	1,083	,279	1,000
Multidisciplinary-Agricultural Sciences	273,354	245,170	1,115	,265	1,000
Human Sciences-Applied Social Sciences	-147,547	166,068	-,888	,374	1,000
Human Sciences-Agricultural Sciences	156,999	168,246	,933	,351	1,000
Applied Social Sciences-Agricultural Sciences	9,452	186,069	,051	,959	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q7a, significant differences in response patterns were observed between the following fields:

• **Earth and Exact Sciences and** Biological Sciences; and Health Sciences; Linguistics, Literature and Arts; and Multidisciplinary; and Human Sciences; and Applied Social Sciences; and Agricultural Sciences.

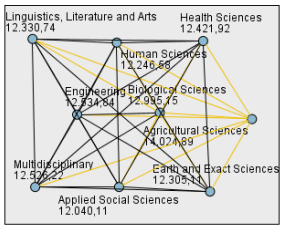
• **Engineering and** Linguistics, Literature and Arts; and Multidisciplinary; and Human Sciences; and Applied Social Sciences; and Agricultural Sciences.

• **Biological Sciences and** Linguistics, Literature and Arts; and Multidisciplinary; and Human Sciences; and Applied Social Sciences; and Agricultural Sciences.

• **Health Sciences and** Human Sciences; and Applied Social Sciences; and Agricultural Sciences.

For Q7b, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Applied Social Sciences-Human Sciences	206,467	139,345	1,482	,138	1,000
Applied Social Sciences-Earth and Exact Sciences	265,000	141,021	1,879	,060	1,000
Applied Social Sciences-Linguistics, Literature and Arts	-290,622	180,342	-1,612	,107	1,000
Applied Social Sciences-Health Sciences	381,804	139,174	2,743	,006	,219
Applied Social Sciences-Multidisciplinary	-486,102	204,469	-2,377	,017	,628
Applied Social Sciences-Engineering	-494,731	158,190	-3,127	,002	,063
Applied Social Sciences-Biological Sciences	955,037	144,754	6,598	,000	,000
Applied Social Sciences-Agricultural Sciences	1.984,781	156,128	12,713	,000	,000
Human Sciences-Earth and Exact Sciences	58,533	124,262	,471	,638	1,000
Human Sciences-Linguistics, Literature and Arts	-84,155	167,562	-,502	,616	1,000
Human Sciences-Health Sciences	175,338	122,162	1,435	,151	1,000
Human Sciences-Multidisciplinary	-279,636	193,291	-1,447	,148	1,000
Human Sciences-Engineering	-288,264	143,450	-2,010	,044	1,000
Human Sciences-Biological Sciences	748,570	128,482	5,826	,000	,000
Human Sciences-Agricultural Sciences	1.778,314	141,173	12,597	,000	,000
Earth and Exact Sciences-Linguistics, Literature and Arts	-25,622	168,958	-,152	,879	1,000
Earth and Exact Sciences-Health Sciences	116,805	124,070	,941	,346	1,000
Earth and Exact Sciences-Multidisciplinary	-221,103	194,503	-1,137	,256	1,000
Earth and Exact Sciences-Engineering	-229,731	145,079	-1,583	,113	1,000
Earth and Exact Sciences-Biological Sciences	690,037	130,298	5,296	,000	,000
Earth and Exact Sciences-Agricultural Sciences	1.719,781	142,827	12,041	,000	,000
Linguistics, Literature and Arts-Health Sciences	91,182	167,420	,545	,586	1,000
Linguistics, Literature and Arts-Multidisciplinary	-195,480	224,649	-,870	,384	1,000
Linguistics, Literature and Arts-Engineering	204,109	183,532	1,112	,266	1,000
Linguistics, Literature and Arts-Biological Sciences	664,415	172,086	3,861	,000	,004
Linguistics, Literature and Arts-Agricultural Sciences	1.694,158	181,757	9,321	,000	,000
Health Sciences-Multidisciplinary	-104,298	193,168	-,540	,589	1,000
Health Sciences-Engineering	-112,927	143,284	-,788	,431	1,000
Health Sciences-Biological Sciences	573,232	128,297	4,468	,000	,000
Health Sciences-Agricultural Sciences	1.602,976	141,004	11,368	,000	,000
Multidisciplinary-Engineering	8,629	207,288	,042	,967	1,000
Multidisciplinary-Biological Sciences	468,934	197,226	2,378	,017	,627
Multidisciplinary-Agricultural Sciences	1.498,678	205,719	7,285	,000	,000
Engineering-Biological Sciences	460,306	148,710	3,095	,002	,071
Engineering-Agricultural Sciences	1.490,050	159,802	9,324	,000	,000
Biological Sciences-Agricultural Sciences	1.029,744	146,514	7,028	,000	,000

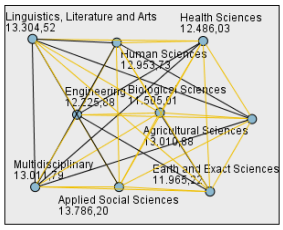
Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q7b, significant differences in response patterns were observed between the following fields:

- **Applied Social Sciences and** Biological Sciences; and Agricultural Sciences.
- **Human Sciences and** Biological Sciences; and Agricultural Sciences.
- **Earth and Exact Sciences and** Biological Sciences; and Agricultural Sciences.
- **Linguistics, Literature and Arts and** Biological Sciences; and Agricultural Sciences.
- **Health Sciences and** Biological Sciences; and Agricultural Sciences.
- **Multidisciplinary and** Agricultural Sciences.
- **Engineering and** Agricultural Sciences.
- **Biological Sciences and** Agricultural Sciences.

For Q7c, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Biological Sciences-Earth and Exact Sciences	-460,206	148,262	-3,104	,002	,069
Biological Sciences-Engineering	-720,874	169,211	-4,260	,000	,001
Biological Sciences-Health Sciences	-981,021	145,984	-6,720	,000	,000
Biological Sciences-Human Sciences	-1.448,719	146,195	-9,909	,000	,000
Biological Sciences-Agricultural Sciences	1.505,871	166,713	9,033	,000	,000
Biological Sciences-Multidisciplinary	-1.506,776	224,416	-6,714	,000	,000
Biological Sciences-Linguistics, Literature and Arts	-1.799,507	195,811	-9,190	,000	,000
Biological Sciences-Applied Social Sciences	-2.281,194	164,711	-13,850	,000	,000
Earth and Exact Sciences-Engineering	-260,668	165,080	-1,579	,114	1,000
Earth and Exact Sciences-Health Sciences	520,815	141,175	3,689	,000	,008
Earth and Exact Sciences-Human Sciences	-988,513	141,393	-6,991	,000	,000
Earth and Exact Sciences-Agricultural Sciences	1.045,665	162,518	6,434	,000	,000
Earth and Exact Sciences-Multidisciplinary	-1.046,570	221,318	-4,729	,000	,000
Earth and Exact Sciences-Linguistics, Literature and Arts	-1.339,301	192,252	-6,966	,000	,000
Earth and Exact Sciences-Applied Social Sciences	-1.820,987	160,463	-11,348	,000	,000
Engineering-Health Sciences	260,147	163,038	1,596	,111	1,000
Engineering-Human Sciences	727,845	163,227	4,459	,000	,000
Engineering-Agricultural Sciences	784,997	181,833	4,317	,000	,001
Engineering-Multidisciplinary	-785,902	235,866	-3,332	,001	,031
Engineering-Linguistics, Literature and Arts	-1.078,633	208,834	-5,165	,000	,000
Engineering-Applied Social Sciences	1.560,319	179,999	8,669	,000	,000
Health Sciences-Human Sciences	-467,698	139,003	-3,365	,001	,028
Health Sciences-Agricultural Sciences	524,850	160,443	3,271	,001	,039
Health Sciences-Multidisciplinary	-525,755	219,799	-2,392	,017	,603
Health Sciences-Linguistics, Literature and Arts	-818,486	190,501	-4,296	,000	,001
Health Sciences-Applied Social Sciences	-1.300,172	158,362	-8,210	,000	,000
Human Sciences-Agricultural Sciences	57,152	160,635	,356	,722	1,000
Human Sciences-Multidisciplinary	-58,057	219,939	-,264	,792	1,000
Human Sciences-Linguistics, Literature and Arts	-350,788	190,663	-1,840	,066	1,000
Human Sciences-Applied Social Sciences	-832,474	158,556	-5,250	,000	,000
Agricultural Sciences-Multidisciplinary	-,905	234,080	-,004	,997	1,000
Agricultural Sciences-Linguistics, Literature and Arts	-293,636	206,815	-1,420	,156	1,000
Agricultural Sciences-Applied Social Sciences	-775,322	177,652	-4,364	,000	,000
Multidisciplinary-Linguistics, Literature and Arts	292,731	255,621	1,145	,252	1,000
Multidisciplinary-Applied Social Sciences	774,418	232,658	3,329	,001	,031
Linguistics, Literature and Arts-Applied Social Sciences	481,687	205,204	2,347	,019	,681

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q7c, significant differences in response patterns were observed between the following fields:

• **Biological Sciences and** Engineering; and Health Sciences; and Human Sciences; and Agricultural Sciences; and Multidisciplinary; and Linguistics, Literature and Arts; and Applied Social Sciences.

• **Earth and Exact Sciences and** Health Sciences; and Human Sciences; and Agricultural Sciences; and Multidisciplinary; and Linguistics, Literature and Arts; and Applied Social Sciences.

• **Engineering and** Human Sciences; and Agricultural Sciences; Multidisciplinary; and Linguistics, Literature and Arts; and Applied Social Sciences.

• **Health Sciences and** Human Sciences; and Agricultural Sciences; and Linguistics, Literature and Arts; and Applied Social Sciences.

• **Human Sciences and** Applied Social Sciences.

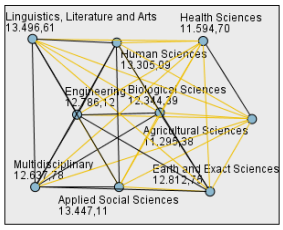
• **Agricultural Sciences and** Applied Social Sciences.

• **Multidisciplinary and** Applied Social Sciences.

For Q8a, see below:

Plagiarism in Brazil: A perspective of 25,000 PhD holders across the sciences – Hypothesis Test Summary - SPSS – Kruskal-Wallis Test – Survey Questions, Section II (Plagiarism) and Section III (Self-Plagiarism)
Supporting Information SI (2)

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Agricultural Sciences-Health Sciences	-299,320	176,705	-1,694	,090	1,000
Agricultural Sciences-Biological Sciences	-1.049,015	183,610	-5,713	,000	,000
Agricultural Sciences-Multidisciplinary	-1.342,403	257,805	-5,207	,000	,000
Agricultural Sciences-Engineering	-1.490,737	200,262	-7,444	,000	,000
Agricultural Sciences-Earth and Exact Sciences	-1.517,374	178,990	-8,477	,000	,000
Agricultural Sciences-Human Sciences	-2.009,708	176,917	-11,360	,000	,000
Agricultural Sciences-Applied Social Sciences	-2.151,735	195,658	-10,997	,000	,000
Agricultural Sciences-Linguistics, Literature and Arts	-2.201,226	227,777	-9,664	,000	,000
Health Sciences-Biological Sciences	749,694	160,781	4,663	,000	,000
Health Sciences-Multidisciplinary	-1.043,083	242,077	-4,309	,000	,001
Health Sciences-Engineering	-1.191,417	179,563	-6,635	,000	,000
Health Sciences-Earth and Exact Sciences	-1.218,054	155,484	-7,834	,000	,000
Health Sciences-Human Sciences	-1.710,387	153,092	-11,172	,000	,000
Health Sciences-Applied Social Sciences	-1.852,415	174,412	-10,621	,000	,000
Health Sciences-Linguistics, Literature and Arts	-1.901,906	209,809	-9,065	,000	,000
Biological Sciences-Multidisciplinary	-293,389	247,162	-1,187	,235	1,000
Biological Sciences-Engineering	-441,723	186,362	-2,370	,018	,640
Biological Sciences-Earth and Exact Sciences	-468,360	163,289	-2,868	,004	,149
Biological Sciences-Human Sciences	-960,693	161,013	-5,967	,000	,000
Biological Sciences-Applied Social Sciences	-1.102,721	181,405	-6,079	,000	,000
Biological Sciences-Linguistics, Literature and Arts	-1.152,212	215,657	-5,343	,000	,000
Multidisciplinary-Engineering	148,334	259,772	,571	,568	1,000
Multidisciplinary-Earth and Exact Sciences	174,971	243,749	,718	,473	1,000
Multidisciplinary-Human Sciences	667,305	242,231	2,755	,006	,211
Multidisciplinary-Applied Social Sciences	809,332	256,239	3,159	,002	,057
Multidisciplinary-Linguistics, Literature and Arts	858,823	281,529	3,051	,002	,082
Engineering-Earth and Exact Sciences	26,637	181,812	,147	,884	1,000
Engineering-Human Sciences	518,970	179,771	2,887	,004	,140
Engineering-Applied Social Sciences	660,998	198,242	3,334	,001	,031
Engineering-Linguistics, Literature and Arts	-710,489	230,001	-3,089	,002	,072
Earth and Exact Sciences-Human Sciences	-492,334	155,724	-3,162	,002	,056
Earth and Exact Sciences-Applied Social Sciences	-634,361	176,727	-3,589	,000	,012
Earth and Exact Sciences-Linguistics, Literature and Arts	-683,852	211,737	-3,230	,001	,045
Human Sciences-Applied Social Sciences	-142,027	174,627	-,813	,416	1,000
Human Sciences-Linguistics, Literature and Arts	-191,519	209,988	-,912	,362	1,000
Applied Social Sciences-Linguistics, Literature and Arts	-49,491	226,003	-,219	,827	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q8a, significant differences in response patterns were observed between the following fields:

• **Agricultural Sciences and** Biological Sciences; and Multidisciplinary; and Engineering; and Earth and Exact Sciences; and Human Sciences; and Applied Social Sciences; Linguistics, Literature and Arts.

• **Health Sciences and** Biological Sciences; and Multidisciplinary; and Engineering; and Earth and Exact Sciences; and Human Sciences; and Applied Social Sciences; Linguistics, Literature and Arts.

• **Biological Sciences and** Human Sciences, and Applied Social Sciences; Linguistics, Literature and Arts.

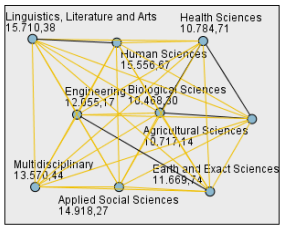
• **Engineering and** Applied Social Sciences;

• **Earth and Exact Sciences and** Applied Social Sciences; and Linguistics, Literature and Arts.

– Note however, that this question is about an issue related to graduate students in the Brazilian context - it would not necessarily involve views or perceptions of respondents about conceptual aspects of plagiarism or the approach to the practice in a particular case.

For Q8b, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Biological Sciences-Agricultural Sciences	248,845	187,044	1,330	,183	1,000
Biological Sciences-Health Sciences	-316,411	163,787	-1,932	,053	1,000
Biological Sciences-Earth and Exact Sciences	-1.201,437	166,342	-7,223	,000	,000
Biological Sciences-Engineering	-1.586,872	189,847	-8,359	,000	,000
Biological Sciences-Multidisciplinary	-3.102,142	251,784	-12,321	,000	,000
Biological Sciences-Applied Social Sciences	-4.449,969	184,797	-24,080	,000	,000
Biological Sciences-Human Sciences	-5.088,369	164,024	-31,022	,000	,000
Biological Sciences-Linguistics, Literature and Arts	-5.242,082	219,690	-23,861	,000	,000
Agricultural Sciences-Health Sciences	-67,565	180,009	-,375	,707	1,000
Agricultural Sciences-Earth and Exact Sciences	-952,592	182,337	-5,224	,000	,000
Agricultural Sciences-Engineering	-1.338,027	204,007	-6,559	,000	,000
Agricultural Sciences-Multidisciplinary	-2.853,297	262,626	-10,865	,000	,000
Agricultural Sciences-Applied Social Sciences	-4.201,124	199,316	-21,078	,000	,000
Agricultural Sciences-Human Sciences	-4.839,524	180,225	-26,853	,000	,000
Agricultural Sciences-Linguistics, Literature and Arts	-4.993,237	232,036	-21,519	,000	,000
Health Sciences-Earth and Exact Sciences	-885,027	158,391	-5,588	,000	,000
Health Sciences-Engineering	-1.270,462	182,920	-6,945	,000	,000
Health Sciences-Multidisciplinary	-2.785,731	246,603	-11,296	,000	,000
Health Sciences-Applied Social Sciences	-4.133,558	177,674	-23,265	,000	,000
Health Sciences-Human Sciences	-4.771,959	155,955	-30,598	,000	,000
Health Sciences-Linguistics, Literature and Arts	-4.925,672	213,733	-23,046	,000	,000
Earth and Exact Sciences-Engineering	-385,435	185,211	-2,081	,037	1,000
Earth and Exact Sciences-Multidisciplinary	-1.900,705	248,307	-7,655	,000	,000
Earth and Exact Sciences-Applied Social Sciences	-3.248,532	180,032	-18,044	,000	,000
Earth and Exact Sciences-Human Sciences	-3.886,932	158,636	-24,502	,000	,000
Earth and Exact Sciences-Linguistics, Literature and Arts	-4.040,645	215,697	-18,733	,000	,000
Engineering-Multidisciplinary	-1.515,270	264,629	-5,726	,000	,000
Engineering-Applied Social Sciences	2.863,097	201,949	14,177	,000	,000
Engineering-Human Sciences	3.501,497	183,132	19,120	,000	,000
Engineering-Linguistics, Literature and Arts	-3.655,210	234,301	-15,600	,000	,000
Multidisciplinary-Applied Social Sciences	1.347,827	261,030	5,163	,000	,000
Multidisciplinary-Human Sciences	1.986,227	246,760	8,049	,000	,000
Multidisciplinary-Linguistics, Literature and Arts	2.139,940	286,793	7,462	,000	,000
Applied Social Sciences-Human Sciences	638,400	177,892	3,589	,000	,012
Applied Social Sciences-Linguistics, Literature and Arts	-792,113	230,229	-3,441	,001	,021
Human Sciences-Linguistics, Literature and Arts	-153,713	213,914	-,719	,472	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q8b, significant differences in response patterns were observed between the following fields:

• **Biological Sciences and** Earth and Exact Sciences; and Engineering; and Multidisciplinary; and Applied Social Sciences; and Human Sciences, Linguistics, Literature and Arts.

• **Agricultural Sciences and** Earth and Exact Sciences; and Engineering; and Multidisciplinary; and Applied Social Sciences; and Human Sciences; and Linguistics, Literature and Arts.

• **Health Sciences and** Earth and Exact Sciences; and Engineering; and Multidisciplinary; and Applied Social Sciences; and Human Sciences; and Linguistics, Literature and Arts.

• **Earth and Exact Sciences and** Multidisciplinary; and Applied Social Sciences; and Human Sciences; and Linguistics, Literature and Arts.

• **Engineering and** Multidisciplinary; and Applied Social Sciences; and Human Sciences; and Linguistics, Literature and Arts.

• **Multidisciplinary and** Applied Social Sciences; and Human Sciences; and Linguistics, Literature and Arts.

• **Applied Social Sciences and** Human Sciences; and Linguistics, Literature and Arts.

– Note however, that this question is about an issue related to graduate students in the Brazilian context - it would not necessarily involve views or perceptions of respondents about conceptual aspects of plagiarism or the approach to the practice in a particular case.

The Hypothesis Test Summary for **Questions in Section III** is as follows:

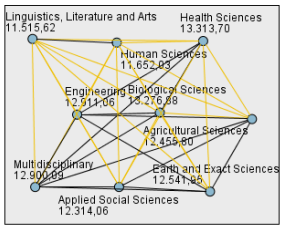
Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Q1a_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
2	The distribution of Q1b_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
3	The distribution of Q1c_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
4	The distribution of Q2_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
5	The distribution of Q3_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
6	The distribution of Q4a_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
7	The distribution of Q4b_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
8	The distribution of Q4c_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.
9	The distribution of Q4d_III is the same across categories of AREA.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

The differences in response patterns for each question in Section III are listed below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Linguistics, Literature and Arts-Human Sciences	136,409	189,993	,718	,473	1,000
Linguistics, Literature and Arts-Applied Social Sciences	798,435	204,484	3,905	,000	,003
Linguistics, Literature and Arts-Agricultural Sciences	940,174	206,089	4,562	,000	,000
Linguistics, Literature and Arts-Earth and Exact Sciences	1.026,323	191,576	5,357	,000	,000
Linguistics, Literature and Arts-Multidisciplinary	-1.384,464	254,723	-5,435	,000	,000
Linguistics, Literature and Arts-Engineering	1.395,440	208,101	6,706	,000	,000
Linguistics, Literature and Arts-Biological Sciences	1.761,253	195,123	9,026	,000	,000
Linguistics, Literature and Arts-Health Sciences	1.798,079	189,832	9,472	,000	,000
Human Sciences-Applied Social Sciences	-662,025	157,999	-4,190	,000	,001
Human Sciences-Agricultural Sciences	803,765	160,071	5,021	,000	,000
Human Sciences-Earth and Exact Sciences	889,914	140,896	6,316	,000	,000
Human Sciences-Multidisciplinary	-1.248,054	219,166	-5,695	,000	,000
Human Sciences-Engineering	-1.259,031	162,653	-7,741	,000	,000
Human Sciences-Biological Sciences	1.624,844	145,682	11,153	,000	,000
Human Sciences-Health Sciences	1.661,669	138,515	11,996	,000	,000
Applied Social Sciences-Agricultural Sciences	141,739	177,028	,801	,423	1,000
Applied Social Sciences-Earth and Exact Sciences	227,888	159,900	1,425	,154	1,000
Applied Social Sciences-Multidisciplinary	-586,029	231,841	-2,528	,011	,413
Applied Social Sciences-Engineering	-597,005	179,366	-3,328	,001	,031
Applied Social Sciences-Biological Sciences	962,818	164,132	5,866	,000	,000
Applied Social Sciences-Health Sciences	999,644	157,805	6,335	,000	,000
Agricultural Sciences-Earth and Exact Sciences	-86,149	161,947	-,532	,595	1,000
Agricultural Sciences-Multidisciplinary	-444,289	233,258	-1,905	,057	1,000
Agricultural Sciences-Engineering	-455,266	181,194	-2,513	,012	,431
Agricultural Sciences-Biological Sciences	-821,079	166,127	-4,942	,000	,000
Agricultural Sciences-Health Sciences	-857,904	159,880	-5,366	,000	,000
Earth and Exact Sciences-Multidisciplinary	-358,141	220,540	-1,624	,104	1,000
Earth and Exact Sciences-Engineering	-369,117	164,500	-2,244	,025	,894
Earth and Exact Sciences-Biological Sciences	734,930	147,741	4,974	,000	,000
Earth and Exact Sciences-Health Sciences	771,756	140,679	5,486	,000	,000
Multidisciplinary-Engineering	10,976	235,037	,047	,963	1,000
Multidisciplinary-Biological Sciences	376,790	223,628	1,685	,092	1,000
Multidisciplinary-Health Sciences	413,615	219,027	1,888	,059	1,000
Engineering-Biological Sciences	365,813	168,617	2,169	,030	1,000
Engineering-Health Sciences	402,639	162,465	2,478	,013	,475
Biological Sciences-Health Sciences	-36,825	145,472	-,253	,800	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q1a, significant differences in response patterns were observed between the following fields:

• **Linguistics, Literature and Arts and** Applied Social Sciences; and Agricultural Sciences; and Earth and Exact Sciences; and Multidisciplinary; and Engineering; and Biological Sciences; and Health Sciences.

• **Human Sciences and** Applied Social Sciences; and Agricultural Sciences; and Earth and Exact Sciences; and Multidisciplinary; and Engineering; and Biological Sciences; and Health Sciences.

• **Applied Social Sciences and** Engineering; and Biological Sciences; and Health Sciences.

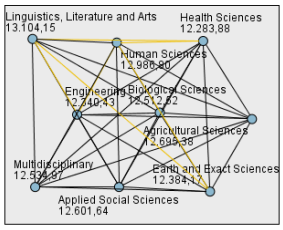
• **Agricultural Sciences and** Biological Sciences; and Health Sciences.

• **Earth and Exact Sciences and** Biological Sciences; and Health Sciences.

– Note however, that for Q1a, Q1b, and Q1c, **Section III**, the question is about an issue related to graduate students in the Brazilian context - it would not necessarily involve views or perceptions of respondents about conceptual aspects of plagiarism or the approach to the practice in a particular case.

For Q1b, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Health Sciences-Engineering	-56,555	170,121	-,332	,740	1,000
Health Sciences-Earth and Exact Sciences	-100,297	147,308	-,681	,496	1,000
Health Sciences-Biological Sciences	228,641	152,327	1,501	,133	1,000
Health Sciences-Multidisciplinary	-251,092	229,348	-1,095	,274	1,000
Health Sciences-Applied Social Sciences	-317,761	165,242	-1,923	,054	1,000
Health Sciences-Agricultural Sciences	411,504	167,414	2,458	,014	,503
Health Sciences-Human Sciences	-702,925	145,042	-4,846	,000	,000
Health Sciences-Linguistics, Literature and Arts	-820,273	198,778	-4,127	,000	,001
Engineering-Earth and Exact Sciences	43,742	172,252	,254	,800	1,000
Engineering-Biological Sciences	172,086	176,563	,975	,330	1,000
Engineering-Multidisciplinary	-194,537	246,113	-,790	,429	1,000
Engineering-Applied Social Sciences	261,206	187,819	1,391	,164	1,000
Engineering-Agricultural Sciences	354,949	189,733	1,871	,061	1,000
Engineering-Human Sciences	646,369	170,318	3,795	,000	,005
Engineering-Linguistics, Literature and Arts	-763,718	217,907	-3,505	,000	,016
Earth and Exact Sciences-Biological Sciences	128,344	154,703	,830	,407	1,000
Earth and Exact Sciences-Multidisciplinary	-150,795	230,933	-,653	,514	1,000
Earth and Exact Sciences-Applied Social Sciences	-217,464	167,435	-1,299	,194	1,000
Earth and Exact Sciences-Agricultural Sciences	311,207	169,579	1,835	,066	1,000
Earth and Exact Sciences-Human Sciences	-602,627	147,536	-4,085	,000	,002
Earth and Exact Sciences-Linguistics, Literature and Arts	-719,976	200,604	-3,589	,000	,012
Biological Sciences-Multidisciplinary	-22,451	234,166	-,096	,924	1,000
Biological Sciences-Applied Social Sciences	-89,120	171,867	-,519	,604	1,000
Biological Sciences-Agricultural Sciences	182,863	173,956	1,051	,293	1,000
Biological Sciences-Human Sciences	-474,283	152,547	-3,109	,002	,068
Biological Sciences-Linguistics, Literature and Arts	-591,632	204,318	-2,896	,004	,136
Multidisciplinary-Applied Social Sciences	66,669	242,766	,275	,784	1,000
Multidisciplinary-Agricultural Sciences	160,412	244,250	,657	,511	1,000
Multidisciplinary-Human Sciences	451,832	229,495	1,969	,049	1,000
Multidisciplinary-Linguistics, Literature and Arts	569,181	266,727	2,134	,033	1,000
Applied Social Sciences-Agricultural Sciences	93,743	185,370	,506	,613	1,000
Applied Social Sciences-Human Sciences	385,163	165,445	2,328	,020	,717
Applied Social Sciences-Linguistics, Literature and Arts	-502,512	214,120	-2,347	,019	,682
Agricultural Sciences-Human Sciences	-291,420	167,614	-1,739	,082	1,000
Agricultural Sciences-Linguistics, Literature and Arts	-408,769	215,801	-1,894	,058	1,000
Human Sciences-Linguistics, Literature and Arts	-117,349	198,947	-,590	,555	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

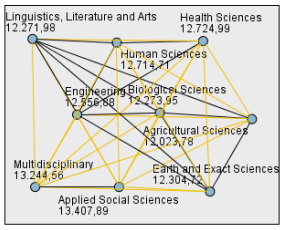
For Q1b, significant differences in response patterns were observed for the following fields:

- **Health Sciences and** Human Sciences; and Linguistics, Literature and Arts.
- **Engineering and** Human Sciences; and Linguistics, Literature and Arts.
- **Earth and Exact Sciences and** Human Sciences; and Linguistics, Literature and Arts.

For Q1c, see below:

Plagiarism in Brazil: A perspective of 25,000 PhD holders across the sciences – Hypothesis Test Summary - SPSS – Kruskal-Wallis Test – Survey Questions, Section II (Plagiarism) and Section III (Self-Plagiarism)
Supporting Information SI (2)

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Agricultural Sciences-Linguistics, Literature and Arts	-248,199	150,991	-1,644	,100	1,000
Agricultural Sciences-Biological Sciences	-250,171	121,714	-2,055	,040	1,000
Agricultural Sciences-Earth and Exact Sciences	-280,944	118,651	-2,368	,018	,644
Agricultural Sciences-Engineering	-533,101	132,752	-4,016	,000	,002
Agricultural Sciences-Human Sciences	-690,934	117,276	-5,892	,000	,000
Agricultural Sciences-Health Sciences	-701,214	117,136	-5,986	,000	,000
Agricultural Sciences-Multidisciplinary	-1.220,778	170,896	-7,143	,000	,000
Agricultural Sciences-Applied Social Sciences	-1.384,115	129,700	-10,672	,000	,000
Linguistics, Literature and Arts-Biological Sciences	1,972	142,957	,014	,989	1,000
Linguistics, Literature and Arts-Earth and Exact Sciences	32,745	140,359	,233	,816	1,000
Linguistics, Literature and Arts-Engineering	284,902	152,465	1,869	,062	1,000
Linguistics, Literature and Arts-Human Sciences	442,736	139,199	3,181	,001	,053
Linguistics, Literature and Arts-Health Sciences	453,015	139,081	3,257	,001	,041
Linguistics, Literature and Arts-Multidisciplinary	-972,579	186,623	-5,211	,000	,000
Linguistics, Literature and Arts-Applied Social Sciences	1.135,916	149,815	7,582	,000	,000
Biological Sciences-Earth and Exact Sciences	-30,773	108,242	-,284	,776	1,000
Biological Sciences-Engineering	-282,929	123,537	-2,290	,022	,792
Biological Sciences-Human Sciences	-440,763	106,734	-4,130	,000	,001
Biological Sciences-Health Sciences	-451,042	106,580	-4,232	,000	,001
Biological Sciences-Multidisciplinary	-970,607	163,841	-5,924	,000	,000
Biological Sciences-Applied Social Sciences	-1.133,944	120,252	-9,430	,000	,000
Earth and Exact Sciences-Engineering	-252,156	120,521	-2,092	,036	1,000
Earth and Exact Sciences-Human Sciences	-409,990	103,228	-3,972	,000	,003
Earth and Exact Sciences-Health Sciences	420,269	103,069	4,078	,000	,002
Earth and Exact Sciences-Multidisciplinary	-939,834	161,579	-5,817	,000	,000
Earth and Exact Sciences-Applied Social Sciences	-1.103,171	117,151	-9,417	,000	,000
Engineering-Human Sciences	157,834	119,168	1,324	,185	1,000
Engineering-Health Sciences	168,113	119,030	1,412	,158	1,000
Engineering-Multidisciplinary	-687,678	172,200	-3,993	,000	,002
Engineering-Applied Social Sciences	851,014	131,413	6,476	,000	,000
Human Sciences-Health Sciences	10,279	101,483	,101	,919	1,000
Human Sciences-Multidisciplinary	-529,844	160,573	-3,300	,001	,035
Human Sciences-Applied Social Sciences	-693,180	115,758	-5,988	,000	,000
Health Sciences-Multidisciplinary	-519,565	160,470	-3,238	,001	,043
Health Sciences-Applied Social Sciences	-682,901	115,616	-5,907	,000	,000
Multidisciplinary-Applied Social Sciences	163,337	169,858	,962	,336	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q1c, significant differences in response patterns were observed between the following fields:

• **Agricultural Sciences and** Engineering; and Human Sciences, and Health Sciences; and Multidisciplinary; and Applied Social Sciences.

• **Linguistics, Literature and Arts and** Health Sciences; and Multidisciplinary; and Applied Social Sciences.

• **Biological Sciences and** Human Sciences; and Health Sciences; and Multidisciplinary; and Applied Social Sciences.

• **Earth and Exact Sciences and Literature and Arts and** Human Sciences; and Health Sciences; and Multidisciplinary; and Applied Social Sciences.

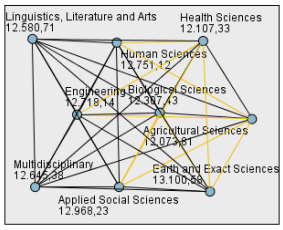
• **Engineering and** Multidisciplinary; and Applied Social Sciences.

• **Human Sciences and** Multidisciplinary; and Applied Social Sciences.

• **Health Sciences and** Multidisciplinary; and Applied Social Sciences.

For Q2, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Agricultural Sciences-Health Sciences	-33,521	172,562	-,194	,846	1,000
Agricultural Sciences-Biological Sciences	-233,621	179,305	-1,303	,193	1,000
Agricultural Sciences-Linguistics, Literature and Arts	-506,902	222,436	-2,279	,023	,816
Agricultural Sciences-Multidisciplinary	-571,566	251,760	-2,270	,023	,835
Agricultural Sciences-Engineering	-644,335	195,566	-3,295	,001	,035
Agricultural Sciences-Human Sciences	-677,311	172,768	-3,920	,000	,003
Agricultural Sciences-Applied Social Sciences	-894,421	191,070	-4,681	,000	,000
Agricultural Sciences-Earth and Exact Sciences	-1.026,767	174,793	-5,874	,000	,000
Health Sciences-Biological Sciences	200,100	157,010	1,274	,203	1,000
Health Sciences-Linguistics, Literature and Arts	-473,381	204,890	-2,310	,021	,751
Health Sciences-Multidisciplinary	-538,044	236,400	-2,276	,023	,822
Health Sciences-Engineering	-610,813	175,352	-3,483	,000	,018
Health Sciences-Human Sciences	-643,790	149,502	-4,306	,000	,001
Health Sciences-Applied Social Sciences	-860,900	170,323	-5,055	,000	,000
Health Sciences-Earth and Exact Sciences	-993,245	151,838	-6,541	,000	,000
Biological Sciences-Linguistics, Literature and Arts	-273,281	210,600	-1,298	,194	1,000
Biological Sciences-Multidisciplinary	-337,945	241,366	-1,400	,161	1,000
Biological Sciences-Engineering	-410,714	181,992	-2,257	,024	,865
Biological Sciences-Human Sciences	-443,690	157,237	-2,822	,005	,172
Biological Sciences-Applied Social Sciences	-660,800	177,151	-3,730	,000	,007
Biological Sciences-Earth and Exact Sciences	-793,146	159,460	-4,974	,000	,000
Linguistics, Literature and Arts-Multidisciplinary	-64,664	274,927	-,235	,814	1,000
Linguistics, Literature and Arts-Engineering	137,433	224,607	,612	,541	1,000
Linguistics, Literature and Arts-Human Sciences	170,409	205,063	,831	,406	1,000
Linguistics, Literature and Arts-Applied Social Sciences	387,519	220,703	1,756	,079	1,000
Linguistics, Literature and Arts-Earth and Exact Sciences	519,865	206,772	2,514	,012	,430
Multidisciplinary-Engineering	72,769	253,680	,287	,774	1,000
Multidisciplinary-Human Sciences	105,745	236,551	,447	,655	1,000
Multidisciplinary-Applied Social Sciences	322,855	250,230	1,290	,197	1,000
Multidisciplinary-Earth and Exact Sciences	455,201	238,034	1,912	,056	1,000
Engineering-Human Sciences	32,976	175,555	,188	,851	1,000
Engineering-Applied Social Sciences	250,086	193,594	1,292	,196	1,000
Engineering-Earth and Exact Sciences	382,432	177,548	2,154	,031	1,000
Human Sciences-Applied Social Sciences	-217,110	170,532	-1,273	,203	1,000
Human Sciences-Earth and Exact Sciences	349,456	152,072	2,298	,022	,776
Applied Social Sciences-Earth and Exact Sciences	132,346	172,583	,767	,443	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q2, significant differences in response patterns were observed between the following fields:

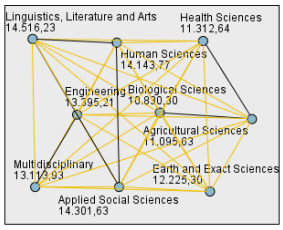
• **Agricultural Sciences and** Engineering; and Human Sciences; and Applied Social Sciences; and Earth and Exact Sciences.

• **Health Sciences and** Engineering, Human Sciences; and Applied Social Sciences. and Earth and Exact Sciences.

• **Biological Sciences and** Applied Social Sciences; and Earth and Exact Sciences.

For Q3, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Biological Sciences-Agricultural Sciences	265,333	163,231	1,626	,104	1,000
Biological Sciences-Health Sciences	-482,339	142,935	-3,375	,001	,027
Biological Sciences-Earth and Exact Sciences	-1.395,006	145,164	-9,610	,000	,000
Biological Sciences-Multidisciplinary	-2.283,634	219,728	-10,393	,000	,000
Biological Sciences-Engineering	-2.564,910	165,677	-15,481	,000	,000
Biological Sciences-Human Sciences	-3.313,478	143,141	-23,148	,000	,000
Biological Sciences-Applied Social Sciences	-3.471,336	161,270	-21,525	,000	,000
Biological Sciences-Linguistics, Literature and Arts	-3.685,936	191,720	-19,226	,000	,000
Agricultural Sciences-Health Sciences	-217,006	157,092	-1,381	,167	1,000
Agricultural Sciences-Earth and Exact Sciences	-1.129,673	159,123	-7,099	,000	,000
Agricultural Sciences-Multidisciplinary	-2.018,302	229,190	-8,806	,000	,000
Agricultural Sciences-Engineering	-2.299,578	178,034	-12,916	,000	,000
Agricultural Sciences-Human Sciences	-3.048,145	157,280	-19,380	,000	,000
Agricultural Sciences-Applied Social Sciences	-3.206,003	173,941	-18,432	,000	,000
Agricultural Sciences-Linguistics, Literature and Arts	-3.420,603	202,495	-16,892	,000	,000
Health Sciences-Earth and Exact Sciences	-912,667	138,226	-6,603	,000	,000
Health Sciences-Multidisciplinary	-1.801,296	215,207	-8,370	,000	,000
Health Sciences-Engineering	-2.082,572	159,632	-13,046	,000	,000
Health Sciences-Human Sciences	-2.831,139	136,100	-20,802	,000	,000
Health Sciences-Applied Social Sciences	-2.988,997	155,054	-19,277	,000	,000
Health Sciences-Linguistics, Literature and Arts	-3.203,597	186,522	-17,175	,000	,000
Earth and Exact Sciences-Multidisciplinary	-888,628	216,695	-4,101	,000	,001
Earth and Exact Sciences-Engineering	-1.169,904	161,632	-7,238	,000	,000
Earth and Exact Sciences-Human Sciences	-1.918,471	138,439	-13,858	,000	,000
Earth and Exact Sciences-Applied Social Sciences	-2.076,330	157,111	-13,216	,000	,000
Earth and Exact Sciences-Linguistics, Literature and Arts	-2.290,929	188,236	-12,171	,000	,000
Multidisciplinary-Engineering	281,276	230,939	1,218	,223	1,000
Multidisciplinary-Human Sciences	1.029,843	215,345	4,782	,000	,000
Multidisciplinary-Applied Social Sciences	1.187,702	227,798	5,214	,000	,000
Multidisciplinary-Linguistics, Literature and Arts	1.402,301	250,281	5,603	,000	,000
Engineering-Human Sciences	748,567	159,817	4,684	,000	,000
Engineering-Applied Social Sciences	906,426	176,239	5,143	,000	,000
Engineering-Linguistics, Literature and Arts	-1.121,025	204,472	-5,483	,000	,000
Human Sciences-Applied Social Sciences	-157,859	155,244	-1,017	,309	1,000
Human Sciences-Linguistics, Literature and Arts	-372,458	186,680	-1,995	,046	1,000
Applied Social Sciences-Linguistics, Literature and Arts	-214,600	200,918	-1,068	,285	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q3, significant differences in response patterns were observed between the following fields:

• **Biological Sciences and** Health Sciences; and Earth and Exact Sciences, and Multidisciplinary; and Engineering; and Human Sciences; Applied Social Sciences; Linguistics, Literature and Arts.

• **Agricultural Science**s **and** Earth and Exact Sciences; and Multidisciplinary; and Engineering; and Human Sciences; and Applied Social Sciences; and Linguistics, Literature and Arts.

• **Health Sciences and** Earth and Exact Sciences; an, Multidisciplinary; and Engineering; and Human Science; and Applied Social Sciences; and Linguistics, Literature and Arts.

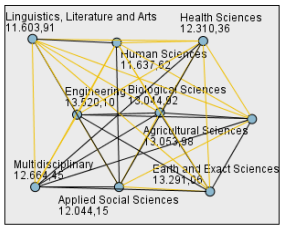
• **Earth and Exact Sciences and** Multidisciplinary; and Engineering, and Human Sciences; Applied Social Sciences; and Linguistics, Literature and Arts.

• **Multidisciplinary and** Human Sciences; and Applied Social Sciences; and Linguistics, Literature and Arts.

• **Engineering and** Human Sciences; and Applied Social Sciences; and Linguistics, Literature and Arts.

For Q4a, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Linguistics, Literature and Arts-Human Sciences	33,709	179,604	,188	,851	1,000
Linguistics, Literature and Arts-Applied Social Sciences	440,239	193,302	2,277	,023	,819
Linguistics, Literature and Arts-Health Sciences	706,444	179,452	3,937	,000	,003
Linguistics, Literature and Arts-Multidisciplinary	-1.060,542	240,795	-4,404	,000	,000
Linguistics, Literature and Arts-Biological Sciences	1.441,012	184,454	7,812	,000	,000
Linguistics, Literature and Arts-Agricultural Sciences	1.450,073	194,820	7,443	,000	,000
Linguistics, Literature and Arts-Earth and Exact Sciences	1.687,147	181,101	9,316	,000	,000
Linguistics, Literature and Arts-Engineering	1.916,185	196,722	9,741	,000	,000
Human Sciences-Applied Social Sciences	-406,530	149,360	-2,722	,006	,234
Human Sciences-Health Sciences	672,735	130,941	5,138	,000	,000
Human Sciences-Multidisciplinary	-1.026,832	207,182	-4,956	,000	,000
Human Sciences-Biological Sciences	1.407,302	137,716	10,219	,000	,000
Human Sciences-Agricultural Sciences	1.416,363	151,318	9,360	,000	,000
Human Sciences-Earth and Exact Sciences	1.653,437	133,192	12,414	,000	,000
Human Sciences-Engineering	-1.882,475	153,759	-12,243	,000	,000
Applied Social Sciences-Health Sciences	266,205	149,177	1,784	,074	1,000
Applied Social Sciences-Multidisciplinary	-620,303	219,163	-2,830	,005	,167
Applied Social Sciences-Biological Sciences	1.000,773	155,157	6,450	,000	,000
Applied Social Sciences-Agricultural Sciences	1.009,834	167,348	6,034	,000	,000
Applied Social Sciences-Earth and Exact Sciences	1.246,908	151,156	8,249	,000	,000
Applied Social Sciences-Engineering	-1.475,946	169,559	-8,705	,000	,000
Health Sciences-Multidisciplinary	-354,098	207,050	-1,710	,087	1,000
Health Sciences-Biological Sciences	734,567	137,517	5,342	,000	,000
Health Sciences-Agricultural Sciences	743,628	151,138	4,920	,000	,000
Health Sciences-Earth and Exact Sciences	-980,702	132,987	-7,374	,000	,000
Health Sciences-Engineering	-1.209,740	153,582	-7,877	,000	,000
Multidisciplinary-Biological Sciences	380,470	211,400	1,800	,072	1,000
Multidisciplinary-Agricultural Sciences	389,531	220,503	1,767	,077	1,000
Multidisciplinary-Earth and Exact Sciences	626,605	208,481	3,006	,003	,095
Multidisciplinary-Engineering	855,643	222,185	3,851	,000	,004
Biological Sciences-Agricultural Sciences	9,061	157,044	,058	,954	1,000
Biological Sciences-Earth and Exact Sciences	-246,135	139,662	-1,762	,078	1,000
Biological Sciences-Engineering	-475,173	159,397	-2,981	,003	,103
Agricultural Sciences-Earth and Exact Sciences	-237,074	153,092	-1,549	,121	1,000
Agricultural Sciences-Engineering	-466,112	171,286	-2,721	,007	,234
Earth and Exact Sciences-Engineering	-229,038	155,505	-1,473	,141	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q4a, significant differences in response patterns were observed between the following fields:

• **Linguistics, Literature and Arts and** Health Sciences; and Multidisciplinary; and Biological Sciences; and Agricultural Sciences; and Earth and Exact Sciences; and Engineering.

• **Human Sciences and** Health Sciences; and Multidisciplinary; and Biological Sciences; and Agricultural Sciences; and Earth and Exact Sciences; and Engineering.

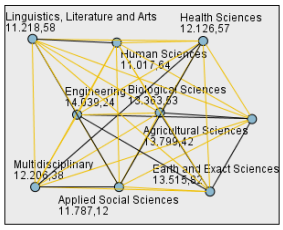
• **Applied Social Sciences and** Biological Sciences; and Agricultural Sciences; and Earth and Exact Sciences; and Engineering.

• **Health Sciences and** Biological Sciences; and Agricultural Sciences; and Earth and Exact Sciences; and Engineering.

• **Multidisciplinary and** Engineering.

For Q4b, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Human Sciences-Linguistics, Literature and Arts	-200,946	214,114	-,938	,348	1,000
Human Sciences-Applied Social Sciences	-769,485	178,058	-4,322	,000	,001
Human Sciences-Health Sciences	1.108,931	156,100	7,104	,000	,000
Human Sciences-Multidisciplinary	-1.188,745	246,991	-4,813	,000	,000
Human Sciences-Biological Sciences	2.345,895	164,177	14,289	,000	,000
Human Sciences-Earth and Exact Sciences	2.498,187	158,784	15,733	,000	,000
Human Sciences-Agricultural Sciences	2.781,778	180,393	15,421	,000	,000
Human Sciences-Engineering	-3.021,605	183,303	-16,484	,000	,000
Linguistics, Literature and Arts-Applied Social Sciences	568,539	230,444	2,467	,014	,490
Linguistics, Literature and Arts-Health Sciences	907,985	213,933	4,244	,000	,001
Linguistics, Literature and Arts-Multidisciplinary	-987,799	287,062	-3,441	,001	,021
Linguistics, Literature and Arts-Biological Sciences	2.144,949	219,895	9,754	,000	,000
Linguistics, Literature and Arts-Earth and Exact Sciences	2.297,241	215,899	10,640	,000	,000
Linguistics, Literature and Arts-Agricultural Sciences	2.580,832	232,253	11,112	,000	,000
Linguistics, Literature and Arts-Engineering	2.820,659	234,521	12,027	,000	,000
Applied Social Sciences-Health Sciences	339,446	177,840	1,909	,056	1,000
Applied Social Sciences-Multidisciplinary	-419,259	261,274	-1,605	,109	1,000
Applied Social Sciences-Biological Sciences	1.576,410	184,970	8,523	,000	,000
Applied Social Sciences-Earth and Exact Sciences	1.728,701	180,200	9,593	,000	,000
Applied Social Sciences-Agricultural Sciences	2.012,293	199,503	10,087	,000	,000
Applied Social Sciences-Engineering	-2.252,120	202,138	-11,141	,000	,000
Health Sciences-Multidisciplinary	-79,814	246,834	-,323	,746	1,000
Health Sciences-Biological Sciences	1.236,964	163,940	7,545	,000	,000
Health Sciences-Earth and Exact Sciences	-1.389,256	158,539	-8,763	,000	,000
Health Sciences-Agricultural Sciences	1.672,847	180,178	9,284	,000	,000
Health Sciences-Engineering	-1.912,674	183,091	-10,447	,000	,000
Multidisciplinary-Biological Sciences	1.157,150	252,019	4,592	,000	,000
Multidisciplinary-Earth and Exact Sciences	1.309,442	248,540	5,269	,000	,000
Multidisciplinary-Agricultural Sciences	1.593,033	262,871	6,060	,000	,000
Multidisciplinary-Engineering	1.832,860	264,877	6,920	,000	,000
Biological Sciences-Earth and Exact Sciences	-152,292	166,498	-,915	,360	1,000
Biological Sciences-Agricultural Sciences	435,883	187,219	2,328	,020	,716
Biological Sciences-Engineering	-675,710	190,024	-3,556	,000	,014
Earth and Exact Sciences-Agricultural Sciences	283,591	182,508	1,554	,120	1,000
Earth and Exact Sciences-Engineering	-523,418	185,385	-2,823	,005	,171
Agricultural Sciences-Engineering	-239,827	204,198	-1,174	,240	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q4b, significant differences in response patterns were observed between the following fields:

- **Human Sciences and** Applied Social Sciences; and Health Sciences; and Multidisciplinary; and Biological Sciences, and Earth and Exact Sciences; and Agricultural Sciences; and Engineering.

- **Linguistics, Literature and Arts and** Health Sciences; and Multidisciplinary; and Biological Sciences; and Earth and Exact Sciences; and Agricultural Sciences and Engineering.

- **Applied Social Sciences and** Biological Sciences; and Earth and Exact Sciences, and Agricultural Sciences; and Engineering.

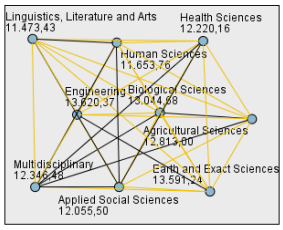
- **Health Sciences and** Biological Sciences; and Earth and Exact Sciences, and Agricultural Sciences; and Engineering.

- **Multidisciplinary and** Biological Sciences; and Earth and Exact Sciences, and Agricultural Sciences; and Engineering.

- **Biological Sciences and** Engineering.

For Q4c, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Linguistics, Literature and Arts-Human Sciences	180,328	197,199	,914	,360	1,000
Linguistics, Literature and Arts-Applied Social Sciences	582,072	212,239	2,743	,006	,219
Linguistics, Literature and Arts-Health Sciences	746,728	197,032	3,790	,000	,005
Linguistics, Literature and Arts-Multidisciplinary	-873,048	264,384	-3,302	,001	,035
Linguistics, Literature and Arts-Agricultural Sciences	1.339,570	213,905	6,262	,000	,000
Linguistics, Literature and Arts-Biological Sciences	1.571,250	202,523	7,758	,000	,000
Linguistics, Literature and Arts-Earth and Exact Sciences	2.117,814	198,842	10,651	,000	,000
Linguistics, Literature and Arts-Engineering	2.146,936	215,993	9,940	,000	,000
Human Sciences-Applied Social Sciences	-401,744	163,992	-2,450	,014	,515
Human Sciences-Health Sciences	566,400	143,768	3,940	,000	,003
Human Sciences-Multidisciplinary	-692,720	227,479	-3,045	,002	,084
Human Sciences-Agricultural Sciences	1.159,242	166,142	6,977	,000	,000
Human Sciences-Biological Sciences	1.390,922	151,207	9,199	,000	,000
Human Sciences-Earth and Exact Sciences	1.937,486	146,240	13,249	,000	,000
Human Sciences-Engineering	-1.966,608	168,822	-11,649	,000	,000
Applied Social Sciences-Health Sciences	164,656	163,790	1,005	,315	1,000
Applied Social Sciences-Multidisciplinary	-290,977	240,633	-1,209	,227	1,000
Applied Social Sciences-Agricultural Sciences	757,499	183,742	4,123	,000	,001
Applied Social Sciences-Biological Sciences	989,179	170,357	5,807	,000	,000
Applied Social Sciences-Earth and Exact Sciences	1.535,742	165,964	9,253	,000	,000
Applied Social Sciences-Engineering	-1.564,864	186,169	-8,406	,000	,000
Health Sciences-Multidisciplinary	-126,320	227,334	-,556	,578	1,000
Health Sciences-Agricultural Sciences	592,843	165,944	3,573	,000	,013
Health Sciences-Biological Sciences	824,522	150,989	5,461	,000	,000
Health Sciences-Earth and Exact Sciences	-1.371,086	146,014	-9,390	,000	,000
Health Sciences-Engineering	-1.400,208	168,627	-8,304	,000	,000
Multidisciplinary-Agricultural Sciences	466,522	242,104	1,927	,054	1,000
Multidisciplinary-Biological Sciences	698,202	232,109	3,008	,003	,095
Multidisciplinary-Earth and Exact Sciences	1.244,765	228,905	5,438	,000	,000
Multidisciplinary-Engineering	1.273,887	243,951	5,222	,000	,000
Agricultural Sciences-Biological Sciences	-231,680	172,428	-1,344	,179	1,000
Agricultural Sciences-Earth and Exact Sciences	-778,243	168,089	-4,630	,000	,000
Agricultural Sciences-Engineering	-807,365	188,066	-4,293	,000	,001
Biological Sciences-Earth and Exact Sciences	-546,563	153,344	-3,564	,000	,013
Biological Sciences-Engineering	-575,685	175,012	-3,289	,001	,036
Earth and Exact Sciences-Engineering	-29,122	170,739	-,171	,865	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q4c, significant differences in response patterns were observed between the following fields:

- **Linguistics, Literature and** Arts and Health Sciences; and Multidisciplinary; and Agricultural Sciences; and Biological Sciences; and Earth and Exact Sciences; and Engineering.

- **Human Sciences and** Health Sciences; Agricultural Sciences; and Biological Sciences; and Earth and Exact Sciences and Engineering.

- **Applied Social Sciences and** Agricultural Sciences; and Biological Sciences; and Earth and Exact Sciences; and Engineering.

- **Health Sciences and** Agricultural Sciences; and Biological Sciences; and Earth and Exact Sciences; and Engineering.

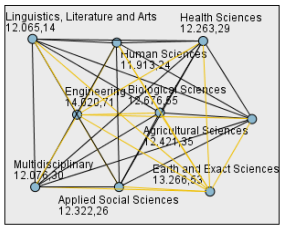
- **Multidisciplinary and** Earth and Exact Sciences; and Engineering.

- **Agricultural Sciences and** Earth and Exact Sciences; and Engineering.

- **Biological Sciences and** Earth and Exact Sciences; and Engineering.

For Q4d, see below:

Pairwise Comparisons of AREA



Each node shows the sample average rank of AREA.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Human Sciences-Linguistics, Literature and Arts	-151,893	211,115	-,719	,472	1,000
Human Sciences-Multidisciplinary	-163,057	243,532	-,670	,503	1,000
Human Sciences-Health Sciences	350,044	153,914	2,274	,023	,826
Human Sciences-Applied Social Sciences	-409,015	175,564	-2,330	,020	,714
Human Sciences-Agricultural Sciences	508,111	177,867	2,857	,004	,154
Human Sciences-Biological Sciences	763,309	161,878	4,715	,000	,000
Human Sciences-Earth and Exact Sciences	1.353,284	156,560	8,644	,000	,000
Human Sciences-Engineering	-2.107,463	180,736	-11,660	,000	,000
Linguistics, Literature and Arts-Multidisciplinary	-11,163	283,041	-,039	,969	1,000
Linguistics, Literature and Arts-Health Sciences	198,151	210,936	,939	,348	1,000
Linguistics, Literature and Arts-Applied Social Sciences	257,122	227,217	1,132	,258	1,000
Linguistics, Literature and Arts-Agricultural Sciences	356,218	229,000	1,556	,120	1,000
Linguistics, Literature and Arts-Biological Sciences	611,416	216,815	2,820	,005	,173
Linguistics, Literature and Arts-Earth and Exact Sciences	1.201,391	212,875	5,644	,000	,000
Linguistics, Literature and Arts-Engineering	1.955,570	231,236	8,457	,000	,000
Multidisciplinary-Health Sciences	186,987	243,377	,768	,442	1,000
Multidisciplinary-Applied Social Sciences	245,958	257,615	,955	,340	1,000
Multidisciplinary-Agricultural Sciences	345,054	259,189	1,331	,183	1,000
Multidisciplinary-Biological Sciences	600,252	248,489	2,416	,016	,566
Multidisciplinary-Earth and Exact Sciences	1.190,227	245,058	4,857	,000	,000
Multidisciplinary-Engineering	1.944,406	261,167	7,445	,000	,000
Health Sciences-Applied Social Sciences	-58,971	175,349	-,336	,737	1,000
Health Sciences-Agricultural Sciences	158,067	177,654	,890	,374	1,000
Health Sciences-Biological Sciences	413,265	161,644	2,557	,011	,380
Health Sciences-Earth and Exact Sciences	-1.003,240	156,319	-6,418	,000	,000
Health Sciences-Engineering	-1.757,419	180,527	-9,735	,000	,000
Applied Social Sciences-Agricultural Sciences	99,096	196,709	,504	,614	1,000
Applied Social Sciences-Biological Sciences	354,294	182,379	1,943	,052	1,000
Applied Social Sciences-Earth and Exact Sciences	944,269	177,676	5,315	,000	,000
Applied Social Sciences-Engineering	-1.698,448	199,307	-8,522	,000	,000
Agricultural Sciences-Biological Sciences	-255,198	184,596	-1,382	,167	1,000
Agricultural Sciences-Earth and Exact Sciences	-845,173	179,951	-4,697	,000	,000
Agricultural Sciences-Engineering	-1.599,352	201,338	-7,944	,000	,000
Biological Sciences-Earth and Exact Sciences	-589,975	164,165	-3,594	,000	,012
Biological Sciences-Engineering	-1.344,154	187,363	-7,174	,000	,000
Earth and Exact Sciences-Engineering	-754,179	182,788	-4,126	,000	,001

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

For Q4d, significant differences in response patterns were observed between the following fields:

- **Human Sciences and** Biological Sciences; and Earth and Exact Sciences; and Engineering.

- **Linguistics, Literature and Arts** and Earth and Exact Sciences; and Engineering.
- **Multidisciplinary and** Earth and Exact Sciences; and Engineering.
- **Health Sciences and** Earth and Exact Sciences; and Engineering.
- **Applied Social Sciences and** Earth and Exact Sciences; and Engineering.
- **Agricultural Sciences and** Earth and Exact Sciences; and Engineering.
- **Biological Sciences and** Earth and Exact Sciences; and Engineering.
- **Earth and Exact Sciences and** Engineering.

References:

1- Field AP (2005) Discovering statistics with SPSS. 2nd ed. London: Sage.

Letter of Invitation by the Principal Investigator and Confidentiality Statement

Welcome!

This questionnaire is divided into five steps:

General Information (**Section I**)

Questions about plagiarism (**Section II**)

Questions regarding self-plagiarism (**Section III**)

Questions about redundancy (**Section IV**)

Your comments and suggestions (**Section V**)

Conditions: responses and information recorded in the questionnaire

a) will be used only for the goals described in the invitation letter
b) will be taken as personal opinions
c) will not be considered general (institutional) opinions

To start the questionnaire, click on the tab **START**
This action will tell us that you agree with the conditions.

To start a new section, you should complete the previous one.

START

In this first step of the questionnaire (Section I), our goal is to collect information about you. This information will help us to understand the responses to other sections of this questionnaire.

DATE OF BIRTH
SEX
Female
Male
WHAT IS YOUR LAST DEGREE EARNED?
Bachelors
Specialization
Masters
PhD

MAIN AREA OF ACADEMIC EXPERTISE
Exact and Earth Sciences
Biological Sciences
Engineering
Health Sciences
Agricultural Sciences
Applied Social Sciences
Human Sciences
Language, Literature and Arts
Multidisciplinary

IF YOU HAVE A PhD, IN WHICH STATE WAS YOUR DOCTORATE AWARDED?
[ALL BRAZILIAN STATES LISTED HERE]

IF NOT BRAZIL, PLEASE INDICATE THE COUNTRY IN WHICH YOU OBTAINED YOUR DOCTORAL TRAINING:
[LIST OF COUNTRIES]

YEAR OF PHD COMPLETION
DID YOU TAKE A POST-DOC?
IF NOT BRAZIL, PLEASE INDICATE THE COUNTRY IN WHICH YOU OBTAINED YOUR POST-DOCTORAL TRAINING
[LIST OF COUNTRIES]

YOUR INSTITUTION OF AFFILIATION IN 2013
Public
Private
Both

IN WHAT STATE IS YOUR INSTITUTION LOCATED
[ALL BRAZILIAN STATES LISTED HERE]

POSITION AT THE INSTITUTION WHERE YOU WORKED IN 2013:
Substitute Professor
Assistant OR Associate Professor
Full Professor
Visiting Professor
Emeritus Professor
Retired Professor
Researcher (non-teaching activity)
*** This last option includes post-docs who are not professors**

NEXT

For Section II, our goal is to obtain information about your perceptions of plagiarism and related issues.

1.The definition of misconduct established in 2000 by the U.S. Office of Science and Technology Policy (OSTP) is as follows: “Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.” Thus, just as fabrication and falsification are research misconduct, so is plagiarism. Do you agree?

Agree
Partially agree
I don’t know
Partially disagree
Disagree

2.The definition of academic plagiarism by OSTP, embraced by much of the international academic community, is as follows: “Appropriation of another person’s ideas, processes, results, or words without giving appropriate credit”.

2a. Do you consider this definition clear?

Yes
Yes, partially
I don’t know
No, the definition is greatly simplified
No, the definition is confusing
No

2b. Additional Comments

3. Do you agree with the above definition of plagiarism?

Agree
Partially agree
I don’t know
Partially disagree
Disagree

4. How do you see plagiarism in science?

Nothing to worry about in the scientific community
An error, but not research misconduct
An unethical practice, but not research misconduct
Research misconduct
Research misconduct, except for textual plagiarism
Research misconduct, except for plagiarism of ideas

5. Recent surveys indicate an increase in plagiarism in scientific publications. Many of the cases have led to "retractions" of scientific papers (cancellation of publications). In this context, in 2010, *Nature Reviews Genetics* (NRG) retracted a review article for textual plagiarism [*Nature Reviews Genetics* 11:308(2010]. The plagiarism involved a single paragraph that had been paraphrased from an article submitted to *Plant Science*. The author of the NRG review was a referee for the *Plant Science* paper but she failed to cite it when she wrote the NRG review. In the retraction notice the NRG editors stated that the misappropriated paragraph was plagiarized and that the author of the NRG review had presented the ideas and hypotheses found in the original paragraph as if they were her own.

5a. Do you agree that textual plagiarism justifies a retraction?

Agree
Partially agree
I don’t know
Partially disagree
Disagree

5b. Do you agree with the retraction in this case?

Agree
Partially agree
I don’t know
Partially disagree
Disagree

5c. Additional Comments

6. Plagiarism in graduate school has become a concern in most universities in the world, including Brazil. In October 2010, a document from the Brazilian Bar Association (OAB) expressed concern on this topic in the academic context of our country.
Have you read that document?

Yes
Yes, partially
I do not remember
No, but I knew of the existence of this document
No, I did not know of the existence of this document

7. Have you ever encountered a case of plagiarism (partial or total) by a graduate student (not necessarily from your program) in the last four years?

7a. in reviewing a Master's thesis

No
Yes, one case
Yes, two cases
Yes, three cases
Yes, more than three cases
Yes, many cases

7b. in reviewing a PhD thesis

No
Yes, one case
Yes, two cases
Yes, three cases
Yes, four cases
Yes, many cases

7c. in reviewing a scientific paper

No
Yes, one case
Yes, two cases
Yes, three cases
Yes, four cases
Yes, many cases

8. In the context of plagiarism, it is worth noting that in Brazil:

8a. Graduate students are not familiar with the international concept of academic plagiarism.

Agree
Partially agree
I don't know
Partially disagree
Disagree

8b. Graduate students tend to engage in textual plagiarism in scientific articles in English because they are not fluent in English.

Agree
Partially agree
I don't know
Partially disagree
Disagree

PREVIOUS **NEXT**

In Section III of the questionnaire, our goal is to address some issues that have proven relevant to the discussion of self-plagiarism in scientific publications.

1. Consider the following information: "Probably the most widely used program to spot plagiarism in scientific publishing is Crosscheck [link], launched in June 2008 by CrossRef. A total of 119 publishers (nearly 50,000 journals) subscribe to the plagiarism detection program, including Elsevier, Wiley-Blackwell, and Springer..." (When is self-plagiarism ok? The Scientist, Sep 2010)

1a. Have you ever heard of such software used by scientific publishers?

Yes
No

1b. Do you consider the use of such software an effective measure to identify scientific plagiarism?

Yes
I don’t know
No

1c. Do you use some type of plagiarism detection software to evaluate the originality of your own manuscript prior to submitting it to a journal?

Yes
No

2. Cases of self-plagiarism in science have been claimed using Crosscheck. However, there is little consensus as to how much material reused by an author, borrowing from his own publication, would be self-plagiarism An author recently accused of self-plagiarizing from one of his previously published articles claimed: “I cannot plagiarize myself; those words are mine.” (When is self-plagiarism ok? The Scientist, Sep 2010). Do you agree with this view?

Agree
Partially agree
I don’t know
Partially disagree
Disagree

2a. Additional Comments

3. Consider the following case: a group of authors submitted a manuscript to a high impact, English language journal that had been previously published in a low impact, German-language journal, in the belief that this publication in English would fulfill the need for higher visibility. The manuscript, which was accepted and published, contained no reference to the publication in German. Although written in different languages, the articles were identical, and both were later retracted after a complaint from a colleague. Do you agree with the retraction?

Agree
Partially agree
I don’t know
Partially disagree
Disagree

3a. Additional Comments

4a. The originality of the results in a research paper should be questioned if the author of that paper **copied entire paragraphs without citation from others’ previously published papers.**

Agree
Partially agree
I don’t know
Partially disagree
Disagree

4b. The originality of the results in a research paper should be questioned if the author of that paper **copied entire paragraphs from others’ previously published papers, citing these sources but without enclosing the copied text in quotation marks.**

Agree
Partially agree
I don’t know
Partially disagree
Disagree

4c. The originality of the results in a research paper should be questioned if the author of that paper correctly paraphrased **entire paragraphs from others’ previously published papers but without citing the original sources.**

Agree
Partially agree
I don’t know
Partially disagree
Disagree

4d. The originality of the results in a research paper should be questioned if the author of that paper copied **entire paragraphs without citation from other previously published papers, and that same person was a co-author of all the publications involved.**

Agree
Partially agree
I don't know
Partially disagree
Disagree

4e. Additional Comments

PREVIOUS **NEXT**

In Section IV of the questionnaire, our goal is to assess how you view redundancy in scientific publications.

1. Consider the following description of redundant publications:

"Redundant, duplicate, or repetitive publications occur when there is representation of 2 or more studies, data sets, or publications in either electronic or print media. The publications may overlap partially or completely, such that a similar portion, major component(s), or complete representation of a previously/simultaneously or future published study is duplicated. These publications may share the same, similar, or overlapping data, hypotheses, discussion, methods, results, and/or conclusions." (JMPT, 2006, 29, 7: 505-509)

1a. "Editors and authors were in consensus that redundant publications occur because authors feel pressure to publish." (J Med Ethics, 29:109-114). Do you share this view?

Agree
Partially agree
I don't know
Partially disagree
Disagree

1b. Additional Comments

1c. Redundant publications occur because academic leaders do not publicly condemn the practice, because authors do not understand how redundant reporting distorts the aggregation of data... and because authors want to disseminate their research as widely as possible". (J Med Ethics 2003,29:109-114). Do you agree with this view?

Agree
Partially agree
I don't know
Partially disagree
Disagree

1d. Additional Comments

1e. "… Authors should sign statements for journals attesting that their manuscript does not overlap substantially with other of their articles." (J Med Ethics 2003; 29:109-114)

Do you agree that this should be formalized in writing at the time of submission?

Agree
Partially agree
I don't know
Partially disagree
Disagree

1f. Additional Comments

2. In a study published in 2005 (Nature 435:737-738) which surveyed 3,247 U.S. researchers about certain practices that may be considered unethical in science, about 4.7% of respondents admitted to having posted the same result in two or more publications in the previous three years.

2a. Do you consider this an unethical practice?

Yes
I don't know
No

2b. What is your perception of this practice (publishing the same result in two or more publications) in Brazil?

At this last stage, you can provide your comments and suggestions on measures that, in your view, could contribute to eliminating the production of academic work that contains plagiarized or redundant material by Brazilian researchers.

FINAL COMMENTS

We greatly appreciate your participation!

-- References and list of collaborators added