

Citation manipulation

The issue of self citation has been discussed in a number of places before. The summary below was drafted by Dr Richard Irwin, with input from Ginny Barbour, COPE Chair. This brief commentary is intended to focus attention on a form of citation manipulation that qualifies as coercion, where an editor or others affiliated with a journal pressure an author to add citations from that journal for the implied purpose of increasing citation rates and, by extension, journal impact factor.

This excessive self-citation by a journal, whereby articles are found to contain references that do not contribute to the scholarly content of the article and have been included solely for the purpose of increasing citations, misrepresents the importance of the specific work and journal in which it appears and is thus a form of scientific misconduct. When practiced by editors, with the compliance of senior investigators, it not only contaminates the literature but also sends a message to younger investigators that unethical behaviour is acceptable. The Council of Science Editors addresses this concern in discussing “Editor Roles and Responsibilities” in their white paper on integrity in scientific journals,¹ deeming the practice of citation manipulation unacceptable.

Thomson Reuters has taken steps to address the problem of unwarranted self-citation, including suspending journals that repeatedly self-site at a level deemed to be excessive from inclusion in their annual Journal Citation Reports. Thomson has also developed the EigenfactorTM Score, which is an impact factor-like calculation that takes the additional action of removing self-citations entirely. While these measures are beneficial, citations remain the key metric throughout the scientific and academic culture: researchers and academics who place research in high impact journals, as measured by impact factor specifically, are rewarded with promotion, growing their careers and giving them access to conduct larger studies; journals with a high impact factor may attract higher quality research.

The temptation to game citations remains strong, yet we lack criteria to identify uniformly when excessive self-citation has occurred, as well as a mechanism to address it when identified. Editors who engage in this practice are putting their reviewers and authors at risk of scientific misconduct. In addition to the statements made by the Council of Science Editors and the actions taken by Thomson Reuters, additional accountability is needed at the editor and publisher level to further discourage and curb this unethical practice.

1. Council of Science Editors. CSE's White Paper on Promoting Integrity in Scientific Journal Publications, 2012 Update. Wheat Ridge, Co: Council of Science Editors; March 30, 2012.

Questions for discussion

- Should citation coercion be reportable to a higher authority and who should that authority be?
- How can we create additional disincentives for journals to participate in citation coercion? For example, should COPE consider publishing a list of journals and editors reported to engage in excessive self-citation?

- Should COPE identify criteria that would trigger review of a paper that has excessive citations to one journal?
- In the event that articles are found to contain excessive self-citation as the result of coercion, would COPE recommend the article reference list be revised and an erratum published? What action might be required of the offending journal?
- Should journals be encouraged to publish a policy statement on citation manipulation practices?
- Should programs of editor education be encouraged to add the issue of citation manipulation and author coercion?
- Should editors consider using other metrics rather than just citations (for example some journals are now collecting and publishing downloads and social media activity on papers).

We discussed this issue at the forum (4 December 2012)

COMMENTS FROM THE FORUM (4 DECEMBER 2012)

- One third of the editors at the Forum meeting had come across cases of citation manipulation.
- Impact factors, calculated yearly for those journals that are indexed in the *Journal Citation Reports*, is not a reliable indicator of the importance of a journal within its field.
- There can be many instances of legitimate reasons for self-citation. Not citing appropriate journals is also bad practice.
- If an article contain an excessive number of self-citations, the editor can ask the author to revise the reference list and an erratum can be published if necessary.
- Some of the anaesthesia journals have jointly adopted a policy on this and a statement appears on their website:
http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291365-2044/homepage/editorial_policies.htm. This could be used as a template for other journals.

Action: Agreed COPE should devise a short discussion document of best practice.

COMMENTS POSTED ON THE WEBSITE

- Posted on 20/11/2012

How would one be able to differentiate between citations that refer to a specific journal, that it is coercion and not because the journal attracts more publications?

— We need a statement to accurately define the problem with clear realistic examples to avoid being trapped.

— I think the management of this problem is in the hands of those who determine the impact factor after careful scrutiny that the excessive citations are due to coercion and not due to the actual merit of the author or the journal.

— Journals should publish policy statements on how to avoid citation manipulation practice.

- Posted on 20/11/2012

In my field, one journal blatantly provides authors with a list of citations from the critical two year Period relevant to the Impact Factor that they might "consider" citing. The inflation of its Impact Factor makes it very attractive to prospective authors. Thomson Reuter seem unkeen to intervene. All in all a very successful strategy!

- Posted on 20/11/2012

Coercive citation is only one part of a broader set of dysfunctional behaviours resulting from a demand for measures of "quality" or "impact" that provide excuses for tenure and promotion committees and research evaluation panels to avoid reading and assessing the contribution of academic papers for themselves.

It is one thing to discount (gratuitous) self-citations from citations metrics. But what about the uncited papers that an ethical scientific approach would dictate should have been cited? While coercive citation practices seek to improve a journal's relative standing by increasing its own citations, it is also in the interests of "top journals" to eliminate the competition by discouraging the citation of papers published by competitor journals. "Anti-citation" practices and norms are far more difficult, if not impossible, to detect or prove, yet they almost surely exist. In my own field a number of journals, primarily US-based, appear to systematically ignore relevant research published by primarily non-US journals that do not belong to the status quo elite A-list.

Of course, it is possible that top American university libraries cannot afford to subscribe to journals from the rest of the world. And if so, perhaps it is also possible that Google scholar is not available in US. Alternatively, a cynic might argue that it might be in the interests of "elite" journals edited by professors in elite schools to discourage citation of papers published by "lower tier", upstart competitor journals. And it is in the interests of the "elite top publishers" in the elite journals to preserve the status of the top tier journals by joining the game and pretending that the lower tier journals simply do not exist when it comes to identifying the papers they should cite.

What is more unethical - coercive citation, or strategic non-citation? In a sense the answer does not matter. Citations metrics are close to worthless when it comes to assessing scientific merit. Citations metrics reflect self-interests behaviour of editors and authors, not the contribution to, or impact on, scientific knowledge. The sooner that deans' offices, and others concerned with assessing research contribution, acknowledge that citations metrics are unreliable, the sooner scientific contribution will return to replace citation club membership as a criterion for academic success.

- Posted on 21/11/2012

- 1) In my opinion journal should clearly published about self citation & other citation policy of their journal in their website and printed copies.
- 2) Journal should clearly states in their "Instruction to Authors" that it does not entertain citation of any article from their journal until it is really necessary and appropriate.
- 3) 3.'Impact Factor' or something like that should be abolished immediately. The route cause is actually so called IF which is very much controversial and doubtful.

- Posted on 21/11/2012

I think two steps to deal with this:

- (1) put a statement about coercive citations on journals' websites
- (2) empower authors to complain if they feel 'leant upon' by editors (the statement should specify this)

I think it's No 2 that has the most power: we should encourage authors to complain if they're asked to add or remove citations without good reason. But screening journals for self-citations isn't the right answer: a particular journal may become the vehicle for a series of papers on a particular topic, and/or attract a lot of correspondence, and readers will be deprived of information if authors can't cite these.

Incidentally why are the posters of these comments not identified?

- Posted on 21/11/2012

One specialist journal in the same area as ours awards annual financial prizes, and introduced two new prizes for authors of

- (1) papers in any journal that cited most articles from this specialist journal; and
- (2) papers published in this journal that were cited most frequently in other JCI journals.

I wrote to the Editorial board stating that this was borderline unethical as it would distort the scientific record; they withdrew the prizes - but it should be noted that I had some personal influence with the board.

It would be good thing for COPE to consider making a statement on offering rewards related to citations.

- Posted on 21/11/2012

There is coercion and coercion. It may range from a suggestion of the editors to the authors to look whether the journal has published papers that are relevant to the current paper and cite them so that readers can better follow the line of research as published in that journal. This is a rather innocent form of coercion, since there is no treat when the authors do not comply. Demanding to include 2, 3 or more specific references in order to have the paper accepted for publication is unacceptable. For high ranked journals the effect is small, but for domains

where the highest impact is less than 5 the effects can be dramatic, still the level of self-citation may be small given the relatively low IF.

The issue of proper citations goes much deeper. Often citations are used at will without contributing to the scientific argument of a paper. What is needed is education on how to properly cite previous work. Two colleagues have published some guidelines on how to cite (Brender and Talmon, *Methods of Information in Medicine* 2009). Although written from the perspective of a specific scientific domain, it could well provide guidance for other domains as well.

- Posted on 21/11/2012

A journal's editor is uniquely positioned to be familiar with the papers published in his/her journal and may highlight a reference that is of at least equal or greater relevance to the one chosen by the author, as part of normal peer-review. For me, this self-citation only becomes unacceptable if

- a) adopting the reference is made a condition of the paper's acceptance
- b) the reference offered by the editor is less relevant (or irrelevant) compared with the reference chosen by the author.
- c) the journal has a systematic policy of self-citation embraced within its Instruction to Authors (I know of 1 journal in my field that requires every paper to include a particular self-citing reference in the Methods section to one of its own papers titled, ironically, "Statement on Authorship and Publishing Ethics....". This paper is "updated" every 2 years to preserve its currency in the IF calculation)

Certainly the proportion of self-cites by a journal will provide a guide to acceptability, but the real test of unethical behaviour will be evidence that a paper is accepted or rejected based on the author's willingness to include a citation suggested by the editor

- Posted on 22/11/2012

Yes, citation coercion should be easily reportable through a register managed by COPE (most appropriate). Register content hidden unless repeat/non-cooperative offenders identified. Such a register would seem to be a great disincentive for journals to participate in citation coercion. Once "n" complaints are received, an automatic alert could be sent to whoever is on watch for a quick review of the complaint's content. Additional criteria could be determined to trigger such a review (with/without IF, past complaint history, etc).

When COPE (or other register manager) decides that coercion exists, a first step would be to contact the journal's proprietor or the editor-in-chief's Institution head, pointing out the extent of complaints and recommending that the Institution/Proprietor (not COPE) makes the desired reparatory actions clear to the EiC. Revisions and errata could be considered, at the very least, inclusion within a publicly accessible version of the register if no remedial action is taken. Instead of completely revising lists, agreed new references could be added as alternatives to the coerced cites.

Any professional society wishing to maintain authority will publish their lists of member organisations. Membership of such a society is often viewed with some prestige. It is the responsibility for any truly ethically sound society to establish criteria for membership and suspension or exclusion. I see COPE's role here as a champion of integrity who lobbies societies to amend their byelaws to suspend/exclude membership for those found to be ethically unsound (and yes, fee reimbursement will be an issue, but long-term, the ethical stance will pay dividends).

A general statement covering all efforts to remain ethically sound (including their stance on citation manipulation) could be considered. Online training on publishing ethics could be a good idea, with completed courses permitting removal from the public list of offenders à la lost driving license principle. Higher education institutions could also play their part by not rewarding publication in currently black-listed journals.

Verified/Audited online usage stats are the future metric we must get our heads around, although currently, such stats are eminently easier to manipulate than most authors, ie. server log files tend not to report you to a higher authority or disagree with your methods!

- Posted on 25/11/2012

The discussion in this forum leads to two main groups of people. One group seems to be not happy with JIF and believe that removing JIF will help in reducing coercive self citations. The other group believes that some policies or complaint mechanisms may be very appropriate. I have written an article on JIF with an attempt to criticize it but when I see in retrospect again I feel that there is no replacement of JIF. We will have to probably expect the authors and editors to be honest.

Removing all self citations will trouble some people or a group who is working in one specific research area and need to report progressive information of the subject. Sometimes some of the protocols of specific methods developed and standardised once are cited in next articles in the series. I cannot imagine same descriptions in all articles.

I repeat the words from the movie Spiderman "with great power, you have great responsibilities" and it applies to both researchers and the editors.

- Posted on 26/11/2012

I can't imagine a legitimate reason for an editor to suggest references to an author. If the author has not consulted the most relevant and up-to-date papers, perhaps he/she isn't much of an author. I think it would be very helpful for COPE to field complaints about inappropriate practices and to "name and shame" if found to be pernicious. I also think journals should have a clearly stated policy on this. However, I don't think it's feasible to have criteria to trigger review of a paper with excess journal self-citations (where to draw the line?).

See here for a semi-amusing (in a head-in-hands sort of way) account of confectionery-based coercion... <http://scholarlykitchen.sspnet.org/2012/11/26/of-confections-and-citatio...>

Zoë Mullan

- Posted on 28/11/2012

It is not uncommon in peer reviews for reviewers to suggest additional citations, often their own. Authors will usually comply with this.

- Posted on 28/11/2012

As an editor, I will on rare occasion (say, once in 20-25 articles) point out to the author of a manuscript that a recent or forthcoming article is relevant and may be worth reviewing and citing. I do this in the same way that a reviewer or associate editor might. Frequently, such articles (especially if they are indeed newly published or forthcoming) may not be on someone's radar screen (despite a previous poster's observation). I do this to reinforce the idea that research is often an asynchronous conversation conducted over a period of time within the academic literature. Connecting new papers to previous papers is important because future authors will be conducting their lit reviews by examining the reference sections of published papers (though perhaps less now in the Google Scholar Age). In this sense completeness is a good thing. Do I have a bias? Unfortunately, yes. Simply by virtue of my familiarity with my own journal I tend to suggest papers from my journal. However, I would like to emphasize that this is never a quid pro quo for acceptance, and should never be. The final judgment for the content of a paper should rest with the author. I think that any attempt to suggest citations as a way of enhancing a journal's impact factor would require massive coercion on the part of the editor and/or the inclusion of highly irrelevant citations. As in most matters, I think it will be hard to legislate or police morality in this case. I do think this issue ought to be part of any "research ethics" training that takes place with grad students and young researchers so that they feel empowered to push back if confronted with a coercive editor.

- Posted on 28/11/2012

I think a much more pervasive problem is authors who self-cite work of marginal relevance in order to enhance their own citation and impact factors.

- Posted on 28/11/2012

I think it's important to focus on citations (a key part of scientific communication) rather than impact factor, which is a secondary (and proprietary) measure. Is it ethically wrong to cite 'strategically' or 'casually' irrespective of any gaming? Yes, because it diminishes the integrity of the scientific record, but I suspect that higher authorities have bigger fish to catch, so this task may fall to self-regulation. Dodgy citation is also a stark indicator of poor quality (and therefore trust, reliability, reputation). So maybe the way to address this issue is indirectly, by lessening the incentives and introducing disincentives. How to lessen incentives? Journals should use other metrics rather than just citations; the more metrics in play, the less reliance on one. How to introduce disincentives? Rather than maintaining a single-issue 'black list', perhaps we need an independent journal quality/integrity index (along the lines of Retraction Watch's proposed transparency index, perhaps) that scores journals across a range of

measures (everything other than impact metrics). Also, name the editors and peer reviewers; if their names are there and they didn't address the self-citation, they share the blame. But yes, guidelines that spell out what the problem is would of course be welcome. Not sure about the education aspect – it comes down to how and what to cite, which should be a fundamental part of science.

- Posted on 29/11/2012

The ever increasing focus on citations and journal impact factors has, as we all know, some (many?) unintended and undesired outcomes and I expect that the effort to police coercive citation will in turn generate outcomes we will rue. As one of the commenters above noted, non-citation is also a problem. If the focus becomes one of policing coercive citation, will anyone have time to attend to other forms of inappropriate citation (e.g., citing one's friends where an authoritative or more up to date reference is more important). Ideally such poor, but somewhat less salient, practices are caught in the peer review process, but in an arena where speed of review trumps all other considerations, how can that be addressed?

Ironically, when I first became a journal editor, I occasionally inserted an editor's note pointing out relevant articles in the journal I edit as a service to readers and in an attempt create some continuity in the emerging field that the journal served. This was before citation indexing and JIFs were so central (and well before inclusion in the citation indices was a consideration for the journal). I stopped that practice when citations became paramount precisely because it could be seen as a form of manipulation of the citation counts. I fear that the readers have lost a valuable service as a result. Put another way, peer-reviewed journals have functions in addition to maintaining the scholarly record and forming the basis for evaluation. They also inform the readers.

- Posted on 29/11/2012

There is a legitimate reason for an editor to suggest a citation to one's own journal. A journal editor works hard to create a community of interest, including editors, regular readers and authors, the groups always overlapping. Members of this community follow the journal. When a paper appears that relates directly to a recent paper or editorial in the journal, it is not unreasonable to make the connection.

I had a recent experience in which an author submitted a paper but was unaware, because he was not a regular reader, that we had just recently published an article on the same topic with an accompanying editorial. I suggested that he engage the argument in the other paper but did not make this change a requirement for acceptance. He did so, and cited the paper, and I felt that we had done a service to the journal's interest community by presenting a different side of the issue but connecting the dots.

People should really stop wasting time learning the science of citations and just focus more on their writing. You can find automatic [citation machines](#) that will do this perfectly each time!