

Citation Cartels in Medical and Dental Journals

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ABSTRACT

Citation cartels are groups of researchers who excessively cite each other's work to artificially inflate their citation counts and enhance their reputation. The practice of the citation cartel involves journals agreeing to cite each other's publications to boost their own impact factors. The citation cartel has been criticised for distorting the impact factors of participating journals and undermining the integrity of the scientific process. Citation cartels can take many forms, including reciprocal citing, where researchers agree to cite each other's work in exchange for citations. Citation cartels often involve a small group of researchers who are closely connected and who may be deliberately hiding their activities. To combat citation cartels, journals should use software tools to identify patterns of suspicious citing behaviour and should implement policies that encourage transparency and discourage self-citation. Journals should be held accountable for unethical citation practices, and researchers should carefully evaluate before submission.

Key Words: Citation, Citation index, Self-citation, Impact factor.

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Citation cartels or anomalous citation groups are groups of researchers who engage in unethical behaviour by excessively citing each other's work to artificially inflate their citation counts and enhance their reputation.¹ Citation cartels can take many forms. In some cases, researchers may agree to cite each other's work in their papers to boost their citation counts. In other cases, researchers may engage in reciprocal citing, where they agree to cite each other's work in exchange for the other researcher citing their work in return. This practice is particularly prevalent in medical and dental journals, where researchers are under pressure to publish in high-impact journals and to demonstrate the impact of their work through high citation counts. The impact factor is a measure of the frequency with which the average article in a journal has been cited in a particular year.² It is commonly used to assess the importance or influence of a journal. The citation cartel was first uncovered in the early 2000s, and several high-profile journals were found to be involved, including the Journal of the American Dental Association (JADA) and the Journal of the American Medical Association (JAMA).

The practice of the citation cartel involves journals agreeing to cite a certain number of articles from each other's publications to boost their own impact factors. This can be done through a variety of means, including reciprocal editorial exchanges and special themed issues that are dedicated to publishing articles from a particular journal.

The citation cartel has been criticised for undermining the integrity of the scientific process and for distorting the impact factors of participating journals. It is considered unethical because it involves the manipulation of data to create a false impression of the importance or influence of a journal. In response to the citation cartel, many scientific organisations have adopted stricter policies to prevent such practices and to ensure the integrity of the peer review process. These measures include increased transparency in the review process and stricter guidelines for the acceptance of articles for publication.

One well-known example of the citation cartel is the SCImGen cartel, which was uncovered in 2005 by researchers.³ This group of journals, which included several prominent medical and dental journals, was found to have published hundreds of fake scientific papers generated by SCImGen, a computer program designed to randomly generate scientific papers with meaningless content. These fake papers were then cited by other journals in the cartel to boost their own impact factors. Another example of the citation cartel is the Beall's list of predatory journals, compiled by the librarian Jeffrey Beall.⁴ This list included numerous medical and dental journals that were found to engage in unethical citation practices, including self-citation and citing articles from other predatory journals to boost their own impact factors.

Citation cartels can be difficult to detect, as they often involve a small group of researchers who are closely connected and who may be deliberately hiding their activities. However, there are several red flags that can indicate the presence of a citation cartel, including a large number of self-citations, a high proportion of citations to a small group of researchers, and a large number of citations to papers that have received few or no cita-

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tions from other sources. The impact of citation cartels on the scientific community can be significant. By artificially inflating citation counts, these cartels can distort the impact of research and undermine the credibility of the scientific literature. They can also create an uneven playing field for researchers, as those who are not part of the cartel may be at a disadvantage when it comes to competing for funding or promotions. The *modus operandi* of a typical citation mafia and their consequences is shown in Figure 1.

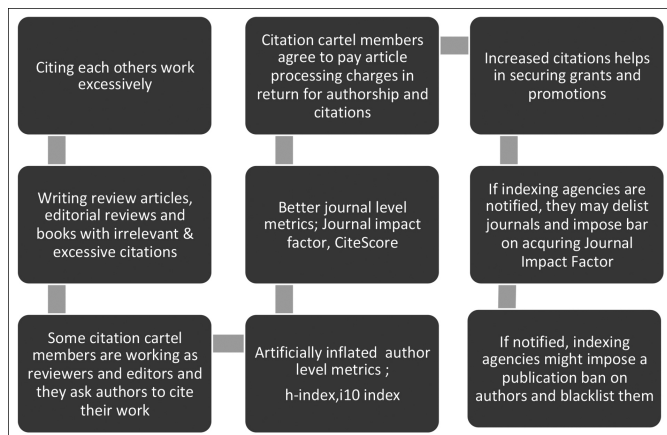


Figure 1: Modus Operandi of citation mafia.

To combat the problem of citation cartels, it is important for journals to have robust systems in place for detecting and preventing this type of unethical behaviour. This may include using software tools to identify patterns of suspicious citing behaviour, as well as implementing policies that encourage transparency and discourage self-citation. To achieve ethical and transparent research practices, researchers must also be aware of the risks and consequences of engaging in citation cartel behaviour.

Publishers should launch awareness campaigns for proper citation practices to combat citation cartels and be on constant alert for them. Suitable referees and editors with experience in publishing should be carefully selected. Reviewers and tech-

nical teams of journals should perform quality checks by critically reviewing references and identifying unnecessary references from review articles and self-citations. There have been instances in the past where Thomson Reuters has suspended journals from Journal Citation Reports and Impact Factor analysis if they engage in self-citations. Therefore, journals should devise policies for the retraction of manuscripts and punitive action against authors engaged in citation abuse.

The citation cartel is a serious problem in the scientific community, as it undermines the credibility and integrity of scientific research. It is important for researchers to carefully evaluate the journals in which they publish their work, and for the scientific community to hold journals accountable for unethical citation practices.

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The authors declared no competing interest.

AUTHORS' CONTRIBUTION:

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