

SELF-CITATION IN RESEARCH: A MINI REVIEW

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ABSTRACT

Citation metrics are among the most useful metrics for doing a scientific evaluation of a published paper. However, self-citations are a troublesome topic in evaluations based on citation metrics. There are three fundamental levels at which self-citation can function: journal level, author level, and C-author level. Sometimes it seems clear that self-citation is unavoidable, but there must be a limit or threshold to how much self-citation is acceptable; beyond that, it becomes unethical. The goal of this review study is to comprehend the issues and difficulties surrounding self-citations in research.

INTRODUCTION

In the scientific community, it is common and customary for authors to cite and make reference to their own previously published work in their research articles. A citation in which the citing and cited papers share at least one author is sometimes referred to as a self-citation (SC). In a more limited version, author self-citations are only included in publications with the same first authors.

Types of Self-Citations There are basically three main types of SCs -

Journal Level SC: When a paper cites the publication of an article by an unrelated author, the two works must have been published in the same journal. This is known as journal level SC (JLSC).

Author Level SC: Citing one's own previously published works is known as author level SC (ALSC).

Co-author Level SC: Co-author level SC (CALSC) occurs when an author references a co-author's previously published work.

Citing previously published works is a natural desire and readiness of most authors and researchers, particularly when their publication makes important inferences from previously published and recognised findings. However, academic practice may only adopt this approach if it avoids undue SC at the author level. However, it is difficult to determine when self-citation goes beyond what is considered academically acceptable and into the realm of excessive SC. The scientific community has been debating the appropriate level (score or percentage) of SC as well as the advantages and disadvantages of self-citations.

Benefits and Risks of Self-citations

In a scientific setting, self-citations at the author and co-author levels are unavoidable; an author cannot evaluate, contrast, or make reference to their previously published work without doing so. In order to establish a relationship or compare and analyse two findings from the same project or subject, a worker may need to cite their previously published findings in their current work. This is inevitable when they are studying a unique problem, the findings of which must be published one after the other (Yurko et al., 2021). Some self-citations are therefore logically required and simply inescapable.

Self-citation is something that most researchers do. The median rate of self-citations was 12.7%, although it varied greatly across scientists, according to Ioannidis et al.'s (2019) study, which was based on a cohort of one million top academics from a variety of fields. Additionally, they found that the self-citation rate was higher than 40% for over 1000 scientists. The authors' work may be from a field that is rather isolated from others, which could be one explanation for the high percentage of self-citations. However, this explanation is unable to disprove the authors' affiliation with so-called citation farms, which heavily reference one another's writings (Ioannidis et al., 2019).

When self-promotion is the driving force behind mentioning one's own work, it can be considered illegitimate self-citation or citation manipulation. This may allude to an attempt to fictitiously raise a researcher's or a journal's impact factor, citation count, or h-index. Such behaviour is obviously a violation of publishing ethics (Kacem et al., 2020).

S-index

To supplement the H-index, which is similarly calculated from all citations, Flatt et al. created a new citation metric in 2017 (Hirsch, 2005). The s-index, as this citation index was known, is described as '*a scientist has an index of s, if he or she has published s articles each of which has received at least s self citations*'.

A self-citation score refers to a metric that measures how often a research cites their own previously published work in their new publications. Essentially indicating the percentage of citations an author receives from their own past research papers, it is often calculated as a percentage of total citations and is considered excellent within a limit of 10 to 12%; moderately accepted within range of 45 to 45%; and is considered problematic if the self-citation percentage of total citation is greater than 50% (Hanife et al., 2024).

Self-citation in Journals

In the contemporary scientific world, self-citations can be categorized by nation, scientific association, journal author, or topic. This metric is determined by dividing the total number of journal article citations by the number of articles published by the edition in question. Self-citation should ideally not be more than 15% to 20%. It is strongly discouraged to publish in a journal if its SC percentage is more than 50–55%. Therefore, it is advised that authors review the journal's self-citation metrics normative indicators. The normative metrics of self-citation of journals indexed by Web of Science and Scopus are constantly monitored.

Suggestions

It is advised that authors periodically review their citation records in indexing databases' citation reports, such as Web of Science and Scopus, to prevent the accusation of self-citation accumulation. Because they offer data on the overall number of author citations and the number of independent citations (not including self-citations). As of right now, Google Scholar citations only offer citation reports and indexes at the article level—not at the journal, author, or co-author levels (Van-Noorden et al., 2019).

In order to promote transparency in publication ethics, metrics reflecting journal level self-citation should likewise be made publicly available. Additionally, journal demands for authors to mention journal publications that are relevant to their work should not be entertained.

CONCLUSION

The practice of inappropriate authors' and journals' self-promoting through self-citation is becoming more common; this may be because author and journal metrics are becoming more and more important in research. Various metrics that measure an author's or journal's self-citation score must be made publicly available since citation indices are frequently given more weight than

high-quality publications. However, it will always be difficult to distinguish between authentic and fraudulent self-citation.

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