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The F7-Index, a New Suggested Index for Scientific Research Activity Assessment

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ABSTRACT

Background: Scientific research is the main target and the golden role of every researcher and scientist all over the world. Many indices are used to evaluate the scientific research activity and productivity, but none of them is global or assesses all aspects of researcher activity.

Objective: This article aimed to throw the light on a new index for global multifactorial assessment of all aspects of activity in scientific research.

Methods: We searched PubMed, Google Scholar, and Science Direct for Scientific Research, Scientific Productivity, New Index and F-Index. Only the most recent or thorough investigation, from 2006 to 2023 was taken into account. The writer evaluated relevant literature references as well. Documents written in languages other than English have been ignored. Papers that were not regarded as significant scientific research included dissertations, oral presentations, conference abstracts, and unpublished manuscripts were excluded.

Conclusion: Many indices are used to assess the scientific researchers' activity, but none of them gives a global or total assessment of the real activity. This article suggested a new method of assessment (**F7-Index**), which included 7 parameters of assessment with positive and negative scores for a more realistic and global assessment, and the inability to falsely increase the score by self-citation as it takes a negative score. F7-Index is a simple, global, and clear method of assessment and enables easy comparison of the different aspects of researcher activities.

Keywords: Scientific Research, Scientific Productivity, New Index, F-Index.

INTRODUCTION

Scientific research is the main and great aim of any researcher or scientist in any specialty all over the world. Many indices are used for the assessment of the scientific research productivity, such as the h-index, i10-index, and g-index, and others, but none of them give a fair and full assessment for all aspects of the researcher's efforts. Most of these indices depend mainly on the total or highest citation number, but other aspects of the researcher's efforts may be ignored in this assessment, which makes them a relatively unfair method of assessment. Many researchers may gain a higher research score if they are included in one research project, while others may have made large efforts in many researches with a special nature that makes it non-cited enough, which decreases their score. Our suggested new Index (F7-Index) is a new idea for global multifactorial assessment of all aspects of activity in scientific research that makes no effort or experiences to be wasted [(1-6)].

The new Idea, F7 Index:

Our suggested new index is a full fair index for the assessment of all aspects related to the efforts, experiences and effectiveness of the whole scientific productivity of the researchers. We named it (the abbreviation) **The F7-Index**, as **F** referred to full and **f**air assessment, and **7** refers to the number of parameters of assessment, as explained in Table (1).

All aspects are acquiring a positive score by their real number, while the only parameter with a negative score is self-citation to avoid misleading the index by increasing the score of the researcher by himself. The F7-index score result is expressed in double numerical form: Each parameter score is separated by a dash / total score. For example, a researcher published 33 articles, with the first one 5 years ago, the total citations of his articles are 45, with the highest cited article 12, and 30 articles he published as a corresponding author, while 22 are published as a single author, he made self-citations 5 times, so his F7-Index will be = **5-33-45-12-30-22(-5) / 142.**

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Table (1): The new suggested index by the author, the full fair 7 aspects index (F7-Index)

Years From 1st Publication	Total Articles	Total Citations	Highest Citated Article	Articles as Corresponding Author	Articles as Single Author	Total Self-Citations	TOTAL SCORE
+	+	+	+	+	+	-	Sum

F7-Index is a suggested new method of assessment of the global aspects related to the researcher's activity and scientific productivity in all scientific fields, with the following advantages:

- Full assessment with no ignoring of any aspect of the researcher's effort or experiences (Years since first publication, total published articles, total citations, highest cited article, total number of published articles as a single author, and total number of published articles as a corresponding author). Each factor represents an important point of research effort and deserves to be assessed and included.
- Avoid self-increase of index by self-citation through giving it a negative score.
- Easy assessment without complicated formulas or equations in a fair method, as it is equal to the summation of all 7 points' scores.
- The ability to apply in all fields of scientific research.
- The score gives an easy understanding of each point, with a total cumulative score for easier comparison

CONCLUSION

Many indices are used to assess the scientific researchers' activity, but none of them gives a global or total assessment of the real activity. This article suggested a new method of assessment (F7-Index), which included 7 parameters of assessment with positive and negative scores for a more realistic and global assessment, and the inability to falsely increase the score by self-citation, as it takes a negative score. F7-Index is a simple, global, and clear method of assessment and enables easy comparison of the different aspects of researcher activities.

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