## Understanding Scholarly Metrics and H-Index

Within Elements@IU, faculty can access a number of scholarly metrics including article, journal, and author metrics. This guide endeavors to offer a basic explanation of these metrics, however we recommend contacting your local IU librarians for additional or personalized questions on metric calculation.

Article Metrics
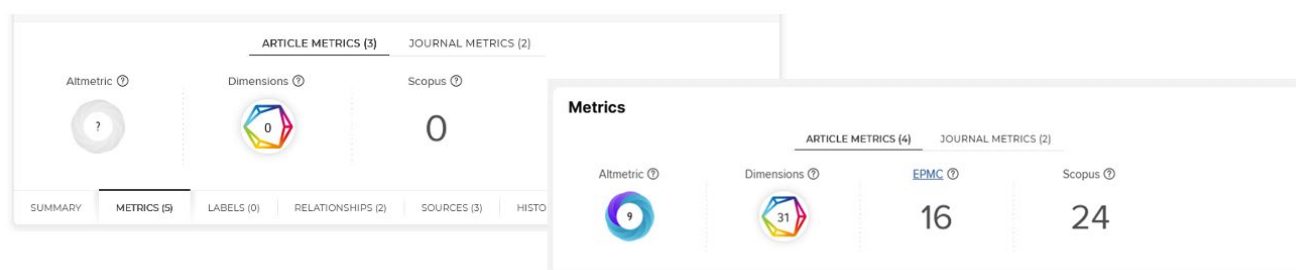
Several article metrics are available in Elements, including two Digital Science products – Altmetric and Dimensions, as well as several others brought in through the data harvesting process. Each of these metrics is calculated based on its own calculations. Altmetric tracks social media mentions of a research product (e.g., Wikipedia, blogs, policy documents, social media, etc.) while Dimensions tracks citation counts and provides normalized citation metrics (FCR, RCR) for assigned fields of research (FOR).

Journal Metrics
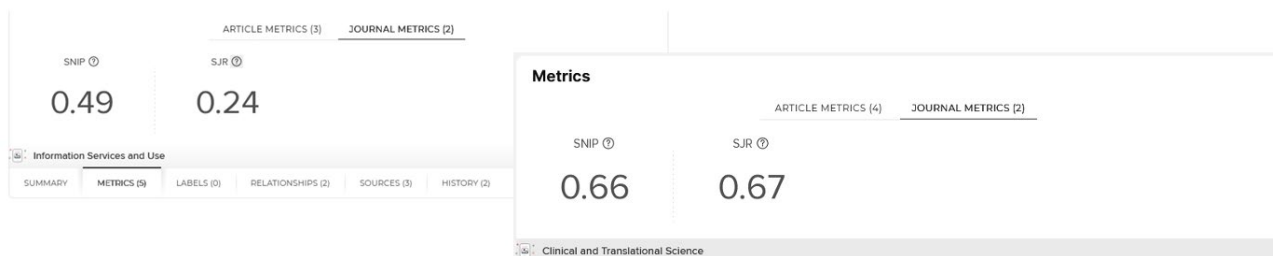
Two core journal metrics are available in Elements – SNIP and SJR. Source Normalized Impact per Paper (SNIP) provides the number of citations given in the journal's present year to publications in the past three years divided by the total number of publications in the past three years adjusted to the citation norms of the journal's discipline. SCImago Journal Rank (SJR) provides a measure of journal influence in a subject category based on citations received (as tracked by Scopus) and the influence of the source of those citations. It is based on the Google PageRank algorithm.

Author Metrics

Note: *The H-Index can vary widely between databases as each database may calculate the H-index differently; therefore, it is not recommended for use, without proper consideration of its limitations.*

Also available in Elements are author metrics such as the H-index. The H-metric is calculated by counting the number of publications for which an author has been cited at least that same number of times. For example, in the example to the left, an h-index of 5 means that 5 of the author's articles have been cited at least 5 times.

The H-Index behaves unpredictably and tends to reflect length of career more than anything else. For example, a person with a few highly influential works would look no more significant than a person with several modestly cited works.

Why doesn't the H-index in Elements match my h-index in Google Scholar, Scopus or Web of Science?

Elements does not download pre-calculated h-index information from any data source provider. Rather, Elements calculates the h-index from citation information that it explicitly holds against publications for a user in the system. For citation data sources, the h-index for a user is calculated as follows:

- All approved publications for a user are identified.

- All those publications that do not have a record from the chosen data source are discarded.

- The standard formula for calculating the h-index is applied to the remaining records (a good source of information and how to calculate the h-index can be found on [Wikipedia](#)).

Only publication records from data sources that offer citation information can be considered for the calculation of an h-index. For Elements, currently, this means that they calculate the h-index based on Dimensions, Scopus, Web of Science (Premium or Lite) and Europe PubMed Central information data sources which is probably the reason users might see differing H-Indices.

How often is the H-index in Elements updated?

The h-index displayed in Elements is calculated from the available citation data of claimed outputs in Elements. Citations are refreshed daily, and it may take a further day to calculate h-index.

Uses and Limitations of the Available Metrics

The University Library identified the following lists of uses and limitations of the metrics available in Elements for your consideration.

Uses

- A starting place to collect metrics about your scholarly works
- Altmetric provides links to mentions of your work that may demonstrate broader social impact (news coverage, policy works, etc.)
- Dimensions includes several useful citation-based metrics about your work:
  - Total citations per work
  - Field Citation Ratio (FCR): a normalized citation metric that enables comparison of how your work is cited with other works published in that year and in the same field
  - Relative Citation Ratio (RCR): similar to FCR, but limited to articles funded by the NIH
- These metrics can demonstrate the specific impact of your work independent of perceived journal prestige

Limitations

- Not all publications are tracked by citation databases (e.g. Scopus, Dimensions, etc.)
- It takes time for a work to be cited
- Citation counts vary depending on the source used. Dimensions is larger that most databases, but Google Scholar will often report a higher citation count.
- The mentions reported by Altmetric are more meaningful that the calculated Altmetric Attention score.
- Similar to the Journal Impact Factor (JIF), SJR and SNIP are journal-level metrics. These speak to the relative influence of the journal and may not reflect the value of your article. Learn more: https://researchmetrics.indianapolis.iu.edu/resources.html.

Updated: 2/4/25