REDIB RANKING METHODOLOGY

Every year, in collaboration with Clarivate, REDIB publishes a ranking of scientific journals known as the Ibero-American Journal Ranking, or the REDIB Ranking, which is based on the impact of the publications included in the REDIB platform.

The impact of a publication is determined by the number of times that it has been cited by subsequent publications, i.e. quantifying the "citations received" by said publication.

FRAMEWORK

WHICH PUBLICATIONS ARE ANALYSED, AND WHICH PUBLICATIONS ARE THEREFORE INCLUDED IN THE REDIB RANKING?

REDIB analyses the publications that are simultaneously indexed in REDIB and in the WoS Core Collection, including the journals included in the following Web of Science indices: SCIE, SSCI, AHCI and ESCI[1]. In this text, we shall refer to these publications as 'overlapping' REDIB/WoS journals.

WHAT PERIOD OF TIME IS ANALYSED BY THE REDIB RANKING?

For each overlapping journal, the annual ranking (e.g. REDIB Ranking 2019) covers the impact of the articles published in that year and in the five preceding years. In other words, it covers the citations received in 2019 by all articles published in the journal during the last six years. Owing to the extensive nature of the period being analysed, this data is exclusive to REDIB. It is especially important for correctly assessing publications in the field of Humanities, Social Sciences and certain pure sciences, in which published works tend to have a later impact. In the future, REDIB will extend this citation calculation period insofar as possible.

WHERE IS THE IMPACT MEASURED?

It measures the impact that REDIB/WoS overlapping journals have on all journals included in the WoS Core Collection indices, regardless of whether or not they are overlapping.

This important fact makes the REDIB Ranking stand out. Other indices, databases and collections measure the impact that the journals from the set have on themselves i.e. on the same closed set. The REDIB Ranking, meanwhile, offers the advantage of measuring and reporting the impact that a publication from the Ibero-American Space of Knowledge (IASK) has on the most prestigious international publications: those indexed in the WoS Core Collection

On the other hand, one disadvantage of the REDIB methodology is that REDIB journals that do not overlap with WoS are excluded from the ranking[2]. This should be viewed as a challenge and stimulus for the editorial improvement of IASK journals.

---

[1] https://clarivate.com/webofsciencegroup/solutions/web-of-science-core-collection

[2] We are currently working on a project that allows for the provision of bibliometric information pertaining to currently-excluded journals, with a view to including this information in future rankings.

IS IT AN OVERALL RANKING?

Even though an Overall Ranking is published of the overlapping journals, it is possible, and more interesting, to segment it according to subjects, countries or the combination of the two, in order to obtain a more accurate vision of the impact of each publication.

IS THE RANKING TABLE THE ONLY BIBLIOMETRIC INFORMATION OFFERED BY REDIB?

No, it's not the only one. In addition to the ranking table, an annual list of citing and cited WoS journals (both overlapping and not) is provided for each overlapping journal, as well as its evolution during the analysed period.

List of Citing Journals: this list quantifies the number of times that the articles published in the ranking year by listed journals (all journals of the WoS corpus are quantified, with overlapping journals given in bold) cite articles published in the last 6 years from the journal being analysed (only overlapping journals are analysed).

The list provides a breakdown of the number of citations received by articles published every year in the journal being analysed. The list of citations is extracted after analysing all the bibliographic references that appear in all the articles of the WoS journals published in the ranking year. The table provides a breakdown, per citing journal, of the number citations that refer to articles from the six years prior to the publication of the analysed journal (overlapping).

For example, the REDIB Ranking 2017 (published in 2018) is produced with information from articles published between 2011 and 2016, which were cited in the year 2016. For the journal *Psicothema* in the example, the ranking provides the following information:

Revistas Citantes

Revista Citante	Total Citas	2016	2015	2014	2013	2012	2011
ACADEMIC MEDICINE	2	0	0	2	0	0	0
ACTA MEDICA PORTUGUESA	1	0	0	0	1	0	0
ACTA PAULISTA DE ENFERMAGEM	4	0	0	0	2	0	2
ACTA PEDIATRICA DE MEXICO	1	0	0	0	1	0	0
ACTA PSIQUIATRICA Y PSICOLOGICA DE AMERICA LATINA	1	0	0	0	0	0	1
ACTA PSYCHOLOGICA	1	0	0	0	1	0	0
ACTAS ESPANOLAS DE PSIQUIATRIA	4	0	0	0	0	2	2
ADICCIONES	14	0	2	0	4	0	8
ADVANCES IN NURSING SCIENCE	2	0	0	0	0	2	0

This means that, in the bibliography cited by all articles of the *Adicciones* journal published in the final year of the period being covered (2016 for the REDIB Ranking 2017), there are 2 citations for *Psicothema* articles published in the year 2015, 4 citations for *Psicothema* articles published in 2013 and 8 citations for *Psicothema* articles published in 2011.

	Total Citas	2016	2015	2014	2013	2012	2011
ARCHIVES OF PSYCHIATRIC NURSING		2	0	0	2	0	0	0
ARCHIVES OF PSYCHIATRY AND PSYCHOTHERAPY		1	0	0	0	1	0	0
TOTAL	825	13	59	172	230	180	171
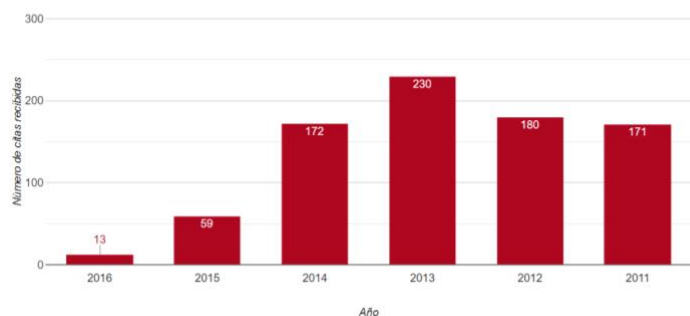
Going back to the example, in the year of the 2017 ranking, of the 6 years being covered (2011-2016), the largest number of *Psicothema* articles cited in the last year (2016) is the same as those published in the year 2013 (230 articles). This is followed by articles published in 2012 (180 articles) and 2011 (171 articles). This variation could be due to different factors, ranging from the journal's improvement over time in terms of quality and content, to the validity and interest of the scientific arguments being postulated in each article. Similarly, from 2013 onwards, we see a decrease in the number of citations. This may be due, among other things, to the fact that articles published closer to the year of the ranking have had less time to "settle in", i.e. to become known, read and cited by the authors of later articles.

For each discipline, the time it takes for articles to be cited and the time for which they remain valid is variable. In humanities, it takes longer for articles to start being cited than in other disciplines; however, they remain valid for longer. In biomedicine, for example, the articles are cited very shortly after their publication, but they also lose validity very quickly.

List of cited journals:

In the table of cited journals, REDIB provides very interesting bibliographical and bibliometric information that allows the production of the analysed journal to be put into context. For example, the journal's category, who the authors of said journal interact with, and how relevant their work is compared to the published literature

REDIB provides this qualitative information to its users; however, it doesn't count towards the production of indicators or rankings.

Revistas Citadas

Revista Citada	Total Citas	2016	2015	2014	2013	2012	2011
AUSTRALASIAN JOURNAL ON AGEING	2	0	0	0	0	1	1
AUSTRALASIAN MEDICAL JOURNAL	1	0	0	0	0	0	1
AUSTRALIAN JOURNAL OF PSYCHOLOGY	1	0	0	0	0	1	0
AUTISM	2	0	1	0	1	0	0
Acción Psicológica	1	0	0	0	1	0	0
Anales de Psicología	10	1	1	3	1	4	0
BEHAVIOR MODIFICATION	1	0	0	1	0	0	0
BEHAVIOR RESEARCH METHODS	2	0	0	1	1	0	0
BEHAVIOR THERAPY	2	0	0	0	0	1	1
BEHAVIORAL AND BRAIN SCIENCES	2	0	0	0	0	1	1

This table counts the number of times that articles of the analysed journal published during the ranking year cite other WoS journals. The information is broken down by year of publication of the cited articles (up to 6 years ago) and cited WoS journals.

Going back to the example of *Psicothema*, the list of journals (overlapping, given in **bold**; or not overlapping) shows the journals cited at some point in the bibliography of articles published in *Psicothema* during the final year of the period being analysed (in this case, 2016 for the 2017 ranking). The heading indicates the year of publication of the article that is cited in the bibliography of the articles published by the *Psicothema* journal in 2016. From all the citations that appear in the cited bibliography of the set of *Psicothema* articles published in the year of the ranking, one citation corresponds to an *Autralasian* article from 2011, 1 citation corresponds to an *Acción psicológica* article from 2013 and 3 citations correspond to *Anales de psicología* articles from 2014, etc.

Àmbits de Psicopedagogia i Orientació / Ámbitos de Psicopedagogía y Orientación / Fields of Educational Psychology and Counselling	1	0	0	1	0	0	0
TOTAL	588	19	71	119	138	122	119
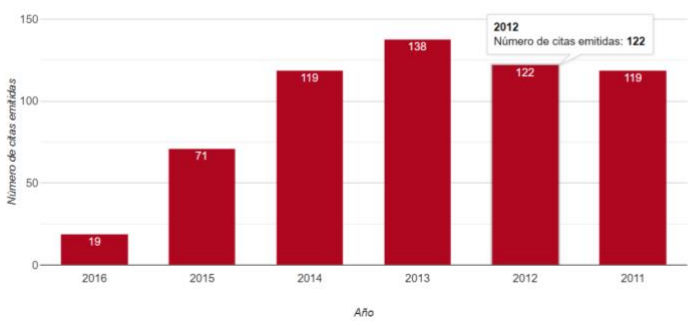
REDIB RANKING METHODOLOGY

The REDIB Ranking analyses the citations of indexed articles to indexed articles, and then adds these article-to-article citations for each journal.

The REDIB Ranking goes much further than a simple calculation of the citations made in the given period and dividing this figure by the number of articles. Rather, it contextualises the citations in each subject area, taking into account certain factors (number of publications, expected average impact, etc.) The REDIB Ranking differs from other rankings of similar document bodies in the sense that it is the only one that calculates expected citations or which compares its journals with the rest of the world, outside its own corpus.

The ranking does not analyse the publications as a whole. Rather, the data provided about each of the journals are obtained by aggregating the data gathered through analysing each of the articles[3] and then contextualising them, as mentioned above.

With this in mind, the following indicators are developed for the overlapping REDIB/WoS publications, the combination of which results in the position of each journal in the annual REDIB Ranking.

- ## NORMALISED CITATION IMPACT PERCENTILE

    For each scientific subject or discipline, there is a unique communication dynamic between scientists. The abundance of citations that feature in the cited bibliography, the persistence of citations over time and the time it takes for a piece to have an impact on subsequent related works are examples of factors which differ greatly from one subject to another. It therefore makes a lot of sense to treat each subject separately in the impact calculations, as it isn't a good idea to apply the same yardstick to all of them.

    Following this criteria, it is possible to calculate the *average* citations that a document may have (*Expected Citations per Article*) for each **subject, publication year and document type.**

    Each document published in REDIB journals that overlap with the WoS Core Collection during the years covered by the ranking (2013-2018 for the 2019 edition, which was published in 2020) is extracted. Firstly, the performance of each document is analysed in comparison with the expected citations. The expected citations correspond to the average number of citations received for each document published in the WoS Core Collection with the same characteristics, taking into account the year of publication, the topic and the document type. The number of citations received by a document is then divided by its expected citations. This generates a document's Normalised Citation Impact. This is added on a journal-by-journal level, as per Crown's[4] rules.

    The **Normalised Citation Impact (NCI)** is calculated in the following way:

    For each article published by an overlapping REDIB-WoS journal on a given subject during the six-year period covered by the ranking, a calculation is made of the number of citations received by the set of journals of its subject area in the WoS Core Collection corpus published in the year of the ranking. For each topic, the number of cases received is the numerator and the **expected citations per article** is the denominator. This

[3] We can find updated information on the impact of each article on the REDIB website (times cited in WoS), as well as accessing references to citing and related articles. WoS subscribers can also access supplementary information as part of their subscription.

[4] Waltman, L., van Eck, N. J., van Leeuwen, T. N., Visser, M. S. & van Raan A. F. J. (2011). Towards a new crown indicator: Some theoretical considerations, http://arxiv.org/pdf/1003.2167.pdf

division produces the NCI for each article. By adding them together, you get the NCI for the publication being analysed.

Once the NCI has been obtained for each journal, percentiles are allocated. A value of 100 is given to the highest NCI. Using this as a reference, the percentile of each journal can be calculated. This 100 is then adjusted to a value very close to 100. This uses the same formula as the one used for JIF percentiles[5]

- ### PERCENT CITED PAPERS

Not all articles in a publication have the same impact. In fact, some of them are never cited. This indicator allows us to distinguish those publications for which citations are evenly distributed across its articles from those that improve their results by publishing high-impact articles that cover up for other articles that have had zero impact. More balanced and consistent journals are given greater weight in the rankings.

Rather than the number of citations, this percentage is calculated by counting the articles that were cited in the ranking year from all the articles published by the journal being analysed in the six-year period, compared to the total number of articles published by the journal in the period analysed. The data is presented as a % to three decimal points.

- ### SCALED PERCENT CATEGORY'S CITES

In contrast to disciplines that distribute their citations across a solid number of publications, there are others that, for various reasons, concentrate their impactful publications in very few journals. This indicator provides information on the concentration of citations in a given journal within a certain subject area and, of course, during the period of time being analysed.

To calculate this indicator, the number of citations received by each overlapping journal during the period being analysed is counted, with this figure then being divided by all citations received in the same period by all WoS Core journals within the same subject area. The indicator shows the weight of citations of each WoS Core journal. All results are allocated a percentage, with the top result being allocated 100.

- ### PERCENTAGE OF MOST CITED ARTICLES (TOP 10%)

Indicates the percentage of a journal's articles that are in the top 10% most cited articles within a certain subject area (or areas).

For each WoS Core subject, the articles in the top 10% are identified. Among these, those that feature in REDIB journals are identified. For each REDIB journal, the total number of 'top 10' articles is divided by the total number of documents in the journal. The result is given as a % to three decimal places.

- ### MEAN PERCENTILE

This is the journal's percentile with regards to its subject area, found by aggregating the percentile of its articles.

---

[5] http://help.incites.clarivate.com/incitesLiveJCR/glossaryAZgroup/g8/9586-TRS.html

Each article published during the six-year period receives, in the year of the ranking, a number of citations. This number allows us to order all the articles of a certain subject area, and this order is applicable to each category. The non-cited documents will be given a 0 by default (the lowest score); the most cited article in its category, meanwhile, will be given 100. The average percentile for each journal is obtained by calculating the average percentile obtained for each article published in the same journal. Journals are ordered by the their average percentile, which is expressed as a number between 0 and 100.

- **OVERALL SCORE**

The five variables given acquire a value between 0 and 100. This allows an average of the five variables, each weighted equally, to be calculated for each journal.

This is the **Overall Score**, which is specific to each journal and year of ranking. It is the best parameter for evaluating the journal's evolution over time, and is the value that determines the journal's position when filtered by each of the fields that are not partial indicators (subjects or countries) and the overall classification of the REDIB Ranking.

To conclude, it should be noted that the way in which the results are presented allows the scholar to order the results by each of the five indicators independently, giving him/her an accurate view of each journal and its position according to the different criteria.