About Altmetric and the Altmetric score

Almetric

What is Altmetric?

Altmetric is a system that tracks the attention that scholarly articles and datasets receive online. It does this by pulling in data from three main sources:

- Social media like Twitter, Facebook, Google+, Pinterest and blogs
- Traditional media - both mainstream (The Guardian, New York Times) and science specific (New Scientist, Scientific American). Many non-english language titles are covered.
- Online reference managers like Mendeley and CiteULike

Altmetric cleans up and normalizes the data from these sources then makes it available for analysis. A key difference between Altmetric and other social media monitoring services is that Altmetric will disambiguate links to articles: it knows that even though some tweets might link to a PubMed abstract, newspapers to the publisher's site and blog posts to a dx.doi.org link they're all talking about the same paper.

What does it provide?

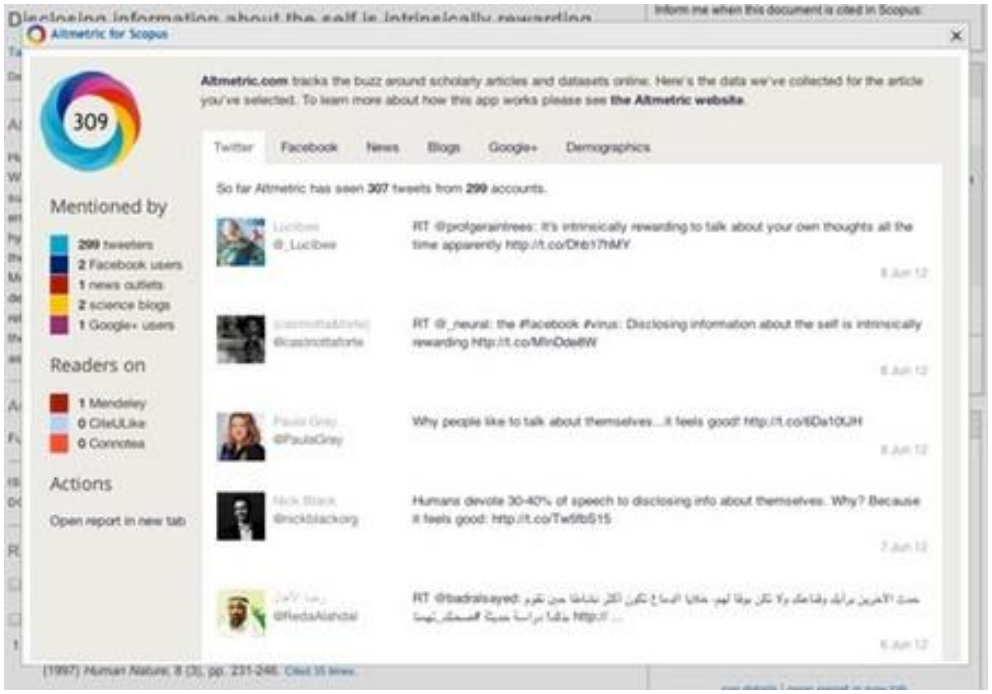
After Altmetric aggregates all of the information (we call each piece of information a post) it can find about a scholarly article it looks at both the quantity and the quality of attention being paid to an article and visualizes it:

The number inside the coloured circle is the **Altmetric score** for the article being viewed. This is a quantitative measure of the quality and quantity of attention that

the article has received - you can read more about the scoring algorithm in **How is the Altmetric score calculated?**

The colours themselves reflect where the posts mentioning the article came from. For example, red means that the article has been mentioned by mainstream news outlets, blue means it has been tweeted about. In the Altmetric Explorer tool you can hover the mouse cursor over a visualization to see the appropriate legend.

Clicking on the circle typically gives you access to all of the posts that Altmetric has collected for that article.



Use the "demographics" tab to see where in the world attention is coming from and to get a sense of which audiences the article is proving popular with.

How articles are scored

The Altmetric score is influenced by two factors:

1. The quantity of posts mentioning an article
2. The quality of each post

The first is relatively straightforward: the more posts mentioning an article the higher its score.

We measure quality in a few different ways. In general:

- Higher profile posts are worth more than lower profile ones. An article in the Washington Post contributes more, in score terms, than a blog post. A blog post contributes more than a tweet.
- Who authored each post is important. For posts on social media sites we typically fetch an author's list of followers, a list of their past posts and information about how often those posts were liked, retweeted or reshared. A tweet from a doctor followed by other doctors will contribute more than an automated tweet from a journal's press office.

A more detailed explanation of how the scoring algorithm works can be found in a **How is the Altmetric score calculated?**

Important things to remember

- Altmetric measures **attention**, not quality. People pay attention to papers for all sorts of reasons, not all of them positive.
- Altmetric only tracks **public** attention. Papers are discussed in private forums, offline in journal clubs and by email but we cannot track this.
- Altmetric tracks **direct** attention, that is to say attention focused on a specific research paper or dataset. More specifically for a newspaper article or blog post etc. to be counted by Altmetric it must contain a hyperlink to or formal citation of a scholarly work.
- Altmetric provides you with a single metric per article so that you can quickly compare relative levels of attention but it only makes sense to use this when comparing apples with apples (e.g. within a single discipline). The norms for attention are very different for different scientific disciplines, just as the norms for citations are.

Which data sources does Altmetric track?

In general

Our mission is to track the conversations around research outputs online wherever they're happening. To that end we're constantly looking for new sources of data.

Specifically what we're looking for are sites that regularly **link** to scholarly content, though in some cases like newspapers and magazines we're also able to perform

text mining to try to match research mentioned (but not linked to) with published scholarly articles. We can only do this robustly under certain circumstances.

Sometimes we're held back by the level of access available (for example we're not yet able to track Weibo services in mainland China) and sometimes the source just doesn't contain enough content to be worth tracking, but we know there are plenty of sites that we should track and just haven't gotten round to yet.

Data sources

Altmetric currently tracks the following sources for mentions of research outputs. Where possible we surface the original text of each mention, and in some cases are also able to provide demographic data on the author of the mention. It's crucial to us that all of our data is fully auditable, and that you can see not only how many people are talking about the research, but who they are and what they're saying.

1) Policy documents

We track a wide range of public policy documents for mentions, and are adding more every month.

2) Mainstream media

You can check out the news sources page on the Altmetric website for the latest list of news sources that we track. This list currently extends to over 1,000 english and non-english global news outlets.

3) Blogs

We maintain a manually curated list of over 8,000 academic and non-academic blogs. These are tracked automatically via RSS feeds.

4) Online reference managers

- Mendeley
- CiteULike

5) Post-publication peer-review forums

- PubPeer
- Publons

6) Social media

- Twitter (public comments and retweets only, no favourites)

- Facebook (public posts only, no likes)
- Google+
- Pinterest
- Reddit (original posts only, not comments)
- Sina Weibo
- Historical data: LinkedIn groups - LinkedIn have now unfortunately closed their data stream so we are unable to pick up new mentions from this source. You will still see mentions made before the stream was closed.

7) Other online sources

- Wikipedia
- Sites running Stack Exchange (Q&A)
- Reviews on F1000
- YouTube

8) Publisher download count data

Altmetric can optionally harvest download counts from publishers that make this data available through an API or by bulk download. This data doesn't contribute to the Altmetric score but can be shown to users through the embedded badges and details pages.

How is the Altmetric score calculated?

While the most important part of an Altmetric report is the qualitative data, it's also useful to put attention in context and see how some research outputs are doing relative to others.

The Altmetric score for a research output provides an indicator of the amount of attention that it has received.

The score is a weighted count

The score is derived from an automated algorithm, and represents a weighted count of the amount of attention we've picked up for a research output. Why is it weighted? To reflect the relative reach of each type of source. It's easy to imagine that the average newspaper story is more likely to bring attention to the research output than the average tweet. This is reflected in the default weightings:

News	8
Blogs	5
Twitter	1
Facebook	0.25
Sina Weibo	1
Wikipedia	3
Policy Documents (per source)	3
Q&A	0.25
F1000/Publons/Pubpeer	1
YouTube	0.25
Reddit/Pinterest	0.25
LinkedIn	0.5

The Altmetric score always has to be a whole number. This means that mentions that contribute less than 1 to the score sometimes get rounded up to one. So, if we picked up one Facebook post for a paper, the score would increase by 1, but if we picked up 3 more Facebook posts for that same article, the score would still only increase by 1.

(LinkedIn and Pinterest have deprecated as sources, as they started putting more of their content behind login pages, which made it more difficult for us to pick up mentions from them).

News

News outlets are assigned a tier, based on the reach we determine that outlet to have. The amount a news mention contributes to the score depends on the tier for that news source. This means that a mention from a popular national news outlet such as The New York Times will contribute more to the score than a news mention from a smaller, more niche publication such as 2Minute Medicine.

Wikipedia

The scoring for Wikipedia articles is static. This means that if a research output is mention in one Wikipedia post, the score for that paper will increase by 3. However, if a research output is mentioned in more than one Wikipedia post, the score will remain 3. This is because a reference to a research output in a Wikipedia post that

may also mention lots of other outputs in its bibliography is not really comparable to a mainstream news story about the findings of one research output, in terms of reach and attention. Part of the rationale behind the Wikipedia scoring is also to prevent gaming; we wanted to prevent a situation where researchers could potentially bias their scores by retrospectively adding references to their research outputs in lots of different Wikipedia posts.

Policy documents

Mentions in policy documents are scored per source. A mention of a research output in a policy document has a default score contribution of 3. This means that if an output in mentioned in more than one policy documents from the same policy source (e.g. gov.uk), the score would increase by 3. However, if an output is mentioned in two policy documents from two different policy sources (e.g. gov.uk and the International Monetary Fund) the score would increase by 6.

Score Modifiers

For Twitter and Sina Weibo, re-tweets and re-posts count for 0.85, rather than 1, as they are secondhand attention rather than original attention. The combined total of these re-tweets or re-posts will always be rounded up to the nearest whole number.

With Twitter posts, we apply modifiers to the score based on three principles:

- **reach** - how many people is are likely to see the tweet - this is based on the number of followers attached to the account.
- **promiscuity** - how often does this person tweet about research outputs?
- **bias** - is this person/account tweeting about lots of papers from the same journal domain, thereby suggesting promotional intent?

These modifiers mean that a Tweet from a publisher journal account will count for less than a tweet from a researcher who is unconnected to the paper and is sharing it more organically. This can also work the other way - if a hugely influential figure were to tweet about a research output, this could contribute 1.1 to the score, which would then be rounded up to 2.

Lastly....

Some mentions never count towards the score. This applies to Mendeley and CiteULike readers, as we can't display the actual profiles, and we want all our data

to be fully auditable. Any posts we add to the "misc" tab on an Altmetric details page will not count towards the score. This is because we wouldn't have picked up these mentions automatically. This could either be because the mention came from a source we aren't tracking, or because the mention didn't include the right content for us to pick it up.

Remember

The Altmetric score is useful to rank research outputs based on attention - **it can't tell you anything about the quality of the article itself**, though reading the linked discussions might.

It is important to know that the score is based on the kinds of attention that Altmetric tracks (specifically links to or saves of scholarly articles, books and datasets) and to be mindful of potential limitations.

You should also bear in mind that different subject areas usually aren't directly comparable: a "popular" physics paper may have a far lower Altmetric score than an "average" genetics paper.

Finally, you should keep in mind that in some rare cases, the Altmetric score may fluctuate slightly over time. Fluctuations can happen for various reasons, such as when tweets get removed by the original tweeter, or if twitter accounts are deemed to be "biased" according to our modifiers. Furthermore, we sometimes make changes to the algorithm, in order to ensure the score is an accurate reflection of the reach and legitimacy of the attention attached to a research output.

What's the scale for the Altmetric score?

We don't normalize the Altmetric score, so it doesn't have a scale per se (though a score of 0 indicates that we haven't tracked any attention).

To put the score into context you should use the Scores tab, which can tell you where the current score fits in with others from the same journal or across the whole dataset.

We're working hard on ways to help you interpret the score. Of course, the most important thing you can do is actually read the posts that went in to making it up - the score is really only useful in conjunction with others.

What's a good Altmetric score?

You can't really say that a score is 'good' as it measures attention - which could be good or bad. For example the 'arsenic life' paper famously debunked by blogger Rosie Redfield (amongst others) got a lot of attention online, but not necessarily the kind of attention you'd want as an author.

Furthermore the average score for journals varies: an article in Science or Nature will typically score much higher than one in a smaller journal, not least because more people have read it and are thus more likely to share it. A good score for one journal might be a low one somewhere else.

Bearing those two things in mind - *in general* if an article scores 20 or more then it's doing far better than most of its contemporaries.

What's the highest ever Altmetric score?

Right now the article with the highest ever Altmetric score is this humorous article in the Canadian Medical Journal with a score of 11,152.

The next highest scoring research paper has 3,544 and is about cesium contamination in freshwater fish.

Note that both of these garnered widespread public interest.

The majority of papers in the top 5% don't: they typically score in the hundreds and are shared or discussed by people in relevant fields.

Putting the score in context

The "Score" tab on the Altmetric reports show the score in some different contexts, to help you understand if the level of attention is typical compared to similar articles.

For example, you can see how the article's score compares to other articles from the same journal, or from the same journal and published within the same three month period.

We calculate these percentiles by looking at everything indexed in the Altmetric database, which you can browse using the Explorer. It's important to note that we

don't include articles that didn't get any attention: so if the Score tab says that an article is ranked #10 out of 220 published in the same journal it means the 220 articles that have been mentioned at least once on a data source we track, rather than that the journal has published 220 articles in total.

I know this article was popular so why is the score so low?

When was the article published?

Altmetric only collects data about articles from supported publishers / repositories. Altmetric started collecting content from most publishers during the second half of 2011.

Was the article published before 2012? If so it might be that Altmetric simply didn't support the journal it came from until more recently.

Where was the article popular?

Was it popular with bloggers? We keep a manually curated list of blogs that we track for article mentions. We add to it frequently but usually can't import more than a few weeks worth of older posts - so it could be that we just didn't track any of the relevant blogs until a little time after the paper was published.

What were the relevant posts linking to?

Altmetric only tracks direct attention: that is to say links to the actual paper. Often news stories will refer to a paper e.g. "*a paper by Myers' lab published in this week's Nature*" but won't contain a hyperlink, which Altmetric requires.

Sometimes news stories will link to an associated editorial, perspective or research highlight instead of directly to the article. Altmetric won't pick this up (the editorial will be scored highly rather instead of the actual research).

Has the attention all been in the past 24h?

Altmetric captures attention in as close to real time as possible but it can sometimes take up to a day for posts to filter through to the bookmarklet or Explorer.

it was published recently and I can see links to it that haven't been picked up!

Fuente: Almetric. About Altmetric and the Altmetric score. 2015. Disponible en: http://support.altmetric.com/knowledgebase/topics/14585-all-about-altmetric