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'Altmetrics'! Can you afford to ignore it?

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Title: 'Altmetrics'! Can you afford to ignore it?

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Number of citations, number of views, Altmetric. To be a relevant, and respected researcher, and to succeed in the current 'publish or perish' climate, it is not only important to publish, but to also communicate and disseminate research widely to increase its likelihood of influencing clinical and research practice. With over two million scientific articles being produced each year[1] (and rising), how can you ensure your contribution is impactful?

How do we measure impact in science? Past and present

The number of citations in other published articles & 'number of views' has long been used as a guide to assess the impact of a paper[2]. This may not be an effective 'real-time' measure as some impactful papers take years to generate citations. A journal's Impact Factor (IF), has also been viewed as a measure of respectability, and an indirect proxy of an article's impact. However, questions arise regarding such 'journal-level' metrics when it comes to assessing the potential power of individual articles[3].

Do these metrics enable individuals to prove their worth as 'impactful' researchers in a short space of time? We argue that they do not. With the field of sport and exercise medicine keeping pace with an increasing societal dependence on digital media - a vital influence in important issues from elections to stock markets - traditional metrics can often miss significant interactions on these platforms, and thus underestimate impact.

Step Forward Altmetrics

Altmetrics is a metric that quantifies the 'attention' an article receives amongst a multitude of online sources, including social media, mainstream news, and blogs[4]. A score primarily consists of the number of views, discussions on social and mass media, citations, as well as any 'saving' in citation managers, among other inputs[5]. An algorithm subsequently produces a weighted score that corresponds to the real-time 'reach' and attention that an article is receiving. A 'donut' (Figure One) is produced that represents this, with individual colours representing different platforms, providing a visual representation of an article's dissemination.

Figure One. Altmetric Profile of the 5th international conference on concussion in sport held in Berlin, 2016[6].

Whilst the BJSM is deservedly proud of its Impact Factor (6.6), it is equally proud of its social media profile, which allows widespread dissemination of its published articles. Among the >60,000 individuals who follow BJSM's Facebook page[7], and >40,000 twitter followers, published articles have a great chance of stimulating interest & debate within an online community, rightly contributing to impact. Traditional impact metrics would have missed all of this attention.

As with many things in both research and practice, beware of using one tool to make a decision. Altmetrics provide an extremely useful adjunct to support traditional impact metrics, which allow researchers to demonstrate a ‘real-time’ measure of impact, and worth. Cue the next question, how can one maximise the Altmetric score of their published article?

Top Tips

Handily, Altmetric & Scholastica have produced some top tips for researchers looking to boost their altmetric score. They can be found at this link <http://www.opda.cam.ac.uk/file/evolution-of-impact-indicators.pdf>, and can be summarised as:

- Publish Open Access if possible
- Promote your work via social media profiles & engage with relevant communities
- Work with your organisation/publisher’s social media & press team to announce any major findings
- Search altmetrics for similar articles within the same field, and use this to identify channels that may be interested in your work

If you need inspiration, we have compiled a list of the most ‘impactful’ BJSM papers according to Altmetric (Table One). Whilst some may surprise you, consider these cases as ‘bright spots’ -- a glimpse into how you can ensure your research gains wide reach. Whilst individuals can always work to increase altmetric score, the BJSM will support this by sharing content widely through their established social media channels and networks. BJSM will create infographics of key papers[8]

So, whether you’re starting off your research career, or looking to produce that career-defining and practice-modifying masterpiece, Altmetrics can help you measure, and demonstrate immediate impact. As Edwards Demming stated “In God we trust, all others must bring data”.

Table One. Top BJSM articles according to altmetric ‘score’ (as of 24/07/17)

BJSM Rank	Title, Authors, DOI	Altmetric Score	Altmetric Ranking*
1	It is time to bust the myth of physical inactivity and obesity: you cannot outrun a bad diet. <i>Malhotra et al, 2015</i> DOI: http://dx.doi.org/10.1136/bjsports-2015-094911	2757	116
2	Associations of specific types of sports and exercise with all-cause and cardiovascular-disease mortality: a cohort study of 80306 British adults <i>Oja et al, 2016</i> DOI: http://dx.doi.org/10.1136/bjsports-2016-096822	2353	189
3	The effectiveness of exercise interventions to prevent sports injuries: a systematic review and meta-analysis of randomised controlled trials <i>Lauersen et al, 2013</i> DOI: http://dx.doi.org/10.1136/bjsports-2013-092538	1900	330
4	Why healthcare professionals should know a little about infographics <i>Scott et al, 2016</i> DOI: http://dx.doi.org/10.1136/bjsports-2016-096133	1593	548
5	Mechanotherapy: how physical therapists’ prescription of exercise promotes tissue repair <i>Khan et al, 2009</i> DOI: http://dx.doi.org/10.1136/bjism.2008.054239	1482	675
6	Infographic. Best investments for physical activity <i>Schiphorst et al, 2016</i> DOI: http://dx.doi.org/10.1136/bjsports-2016-096999	1467	690

7	Consensus statement on concussion in sport—the 5th international conference on concussion in sport held in Berlin, October 2016 <i>McCrory et al, 2017</i> DOI: http://dx.doi.org/10.1136/bjsports-2017-097699	1464	695
8	The relationships between golf and health: a scoping review <i>Murray et al, 2016</i> DOI: http://dx.doi.org/10.1136/bjsports-2016-096625	1088	1083
9	The training-injury prevention paradox: should athletes be training smarter and harder? <i>Gabbett, 2016</i> DOI: http://dx.doi.org/10.1136/bjsports-2015-095788	1046	1414
10	Saturated fat does not clog the arteries: coronary heart disease is a chronic inflammatory condition, the risk of which can be effectively reduced from healthy lifestyle interventions <i>Malhotra et al, 2017</i> DOI: http://dx.doi.org/10.1136/bjsports-2016-097285		1563

*Altmetric ranking out of 8,096,481 articles ever tracked. Articles with no Altmetric score are not counted

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