

The role of Google Scholar Alerts (GSA) in scientific communication: is there any correlation between altmetric indicators and GSA?

The aim of this study was to examine whether Google Scholar Alerts (GSA) have a significance for scientific communication. The study was divided into two stages. The first stage was to collect GSA records representing occupational safety and health (OSH) discipline (N=478). GSA were related to

articles published in two journals: *International Journal of Occupational Safety and Ergonomics* (JOSE) and *Applied Ergonomics* (AE). These journals are indexed e.g. in Scopus. Articles written in languages other than English have been excluded. Only articles that were assigned by DOIs were taken into account. The chronological scope of the

study covered December 2016 and 2017. The second stage involved the use of the Altmetric Explorer (<http://www.altmetric.com>) to check whether the journals having more GSA had more altmetric indicators and whether Twitter mentions and Mendeley readers correlated with GSA. All analyses were done in September 2018.

Research questions :

- Which journal has more GSA?
- How many GSA are non-active?
- Does a journal having more GSA have more altmetric indicators?
- Does the number of GSA assigned to a particular article correlate with the number of altmetric indicators?
- What is the number of altmetric indicators per article?
- What, if any, is a significance of GSA in scientific communication?

JOSE has been indexed in Scopus since 1995 = 1 213 records
Scopus citations of *JOSE* = 6 272 citations

Applied Ergonomics has been indexed in Scopus since 1969 = 4 130 records
Scopus citations of *Applied Ergonomics* = 67 068 citations

Alert Scholar: ["International journal of occupational safety and ergonomics"]

[PDF] Relationship between BMI, regular physical activity and musculoskeletal back pain indication in college students

G Desouzart, E Figueiras, R Matos, A Marques - 2016
... 548 Musculoskeletal Disorders Among Hospital Nurses of Shiraz University of Medical Sciences: A Questionnaire Survey. *International Journal of Occupational Safety and Ergonomics* (JOSE), 12(4), 409-416. Ehrlich, G. (2003). Low back pain. ...

Fig. 1. Example of GSA for JOSE, 19 December 2016

Tab. 1. Examples of verification of *Applied Ergonomics* GSA, September 2018

Title of publication	GSA date	Type of document	Open Access	Format	hyperlink	AE in references	Notes	DOI
Effects of Anthropometric Variables and Seat Height on Automobile Drivers' Preferred Posture With the Presence of the Clutch Human Factors 2017.	2017-12-05	article	No	HTML, PDF	Effects of Anthropometric Variables and Seat Height on Automobile Drivers' Preferred Posture With the Presence of the Clutch	A comparison of clutching movements of freely adjusted and imposed pedal configurations for identifying discomfort assessment criteria. <i>Applied Ergonomics</i> 2014, 45, 1010-1018	Only abstract, full access after login	https://doi.org/10.1016/j.apergo.2013.12.007
Predictors of disability and absenteeism in workers with non-specific low back pain: A longitudinal 15-month study <i>Applied Ergonomics</i> Vol. 68, 2018, p. 176-185.	2017-12-07	article	No	HTML, PDF	Predictors of disability and absenteeism in workers with non-specific low back pain: A longitudinal 15-month study		Only abstract, full access after login	https://doi.org/10.1016/j.apergo.2017.11.011

Tab. 2. The number of GSA, articles with DOIs, articles with altmetric indicators for both journals

Journal title	Chronological range	Type	Number of GSA	Number of articles with DOIs	Number of articles with altmetric indicators	Mendeley	Twitter
Applied Ergonomics	1-31.12.2016	references	75	96	47	8896	175
	1-31.12.2017	references	77	101	58	6907	346
	1-31.12.2016	AEarticles	9	9	4	140	8
JOSE	1-31.12.2017	AEarticles	12	12	9	243	165
	1-31.12.2016	references	9	10	2	25	3
	1-31.12.2017	references	11	14	2	15	1
	1-31.12.2016	JOSEarticles	1	1	0	-	-
	1-31.12.2017	JOSEarticles	2	1	0	-	-

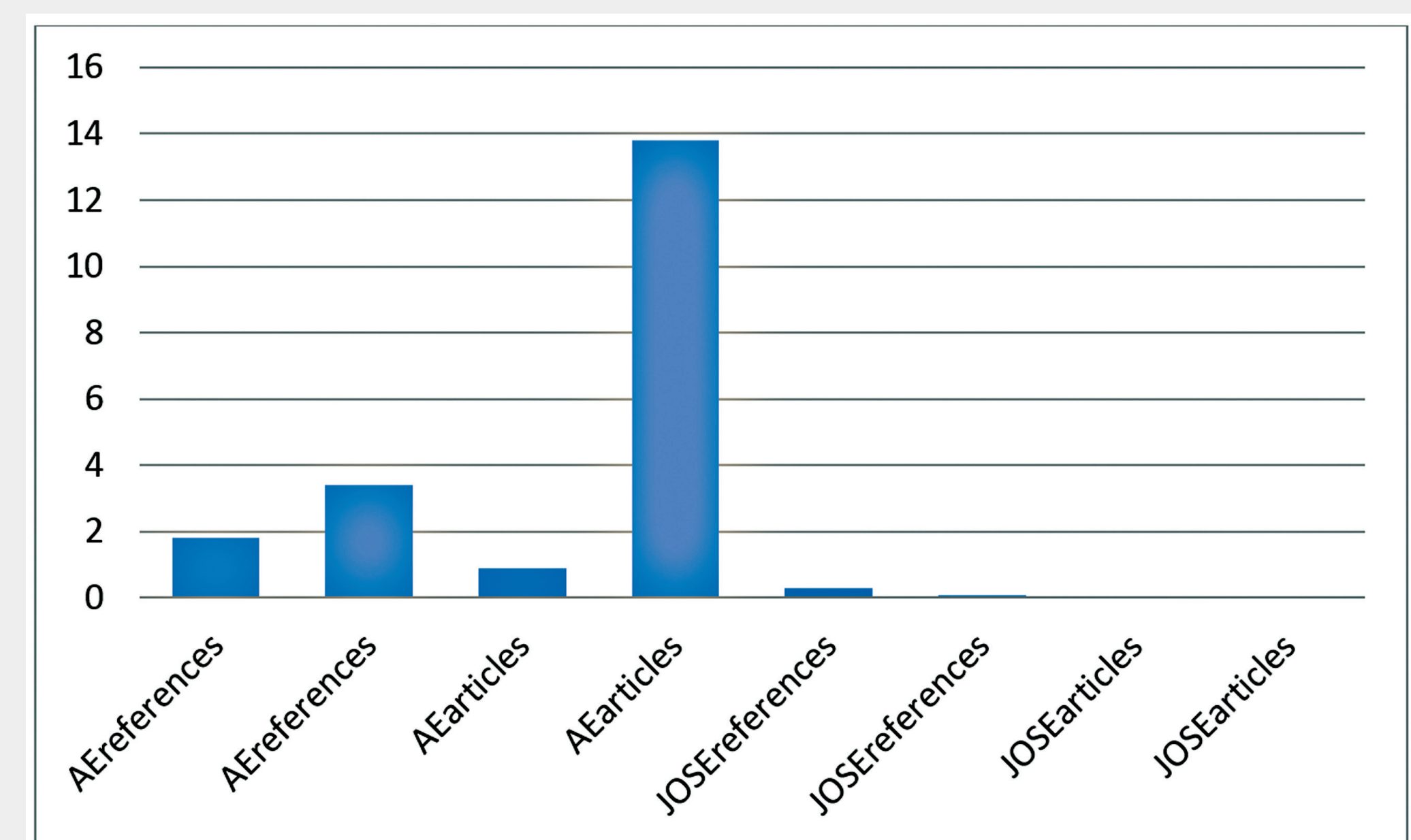


Fig. 2. The number of Twitter mentions per article

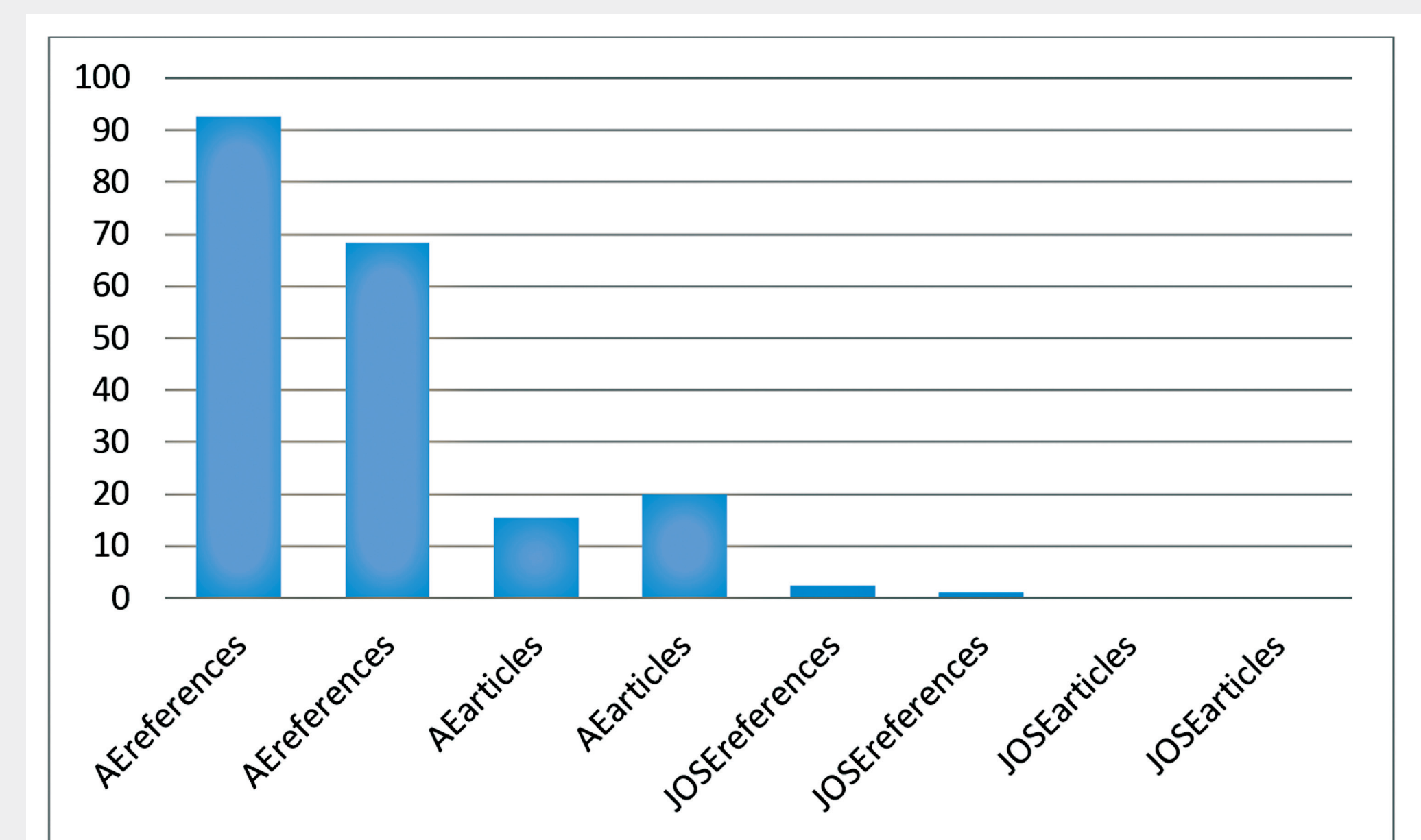


Fig. 3. The number of Mendeley readers per article

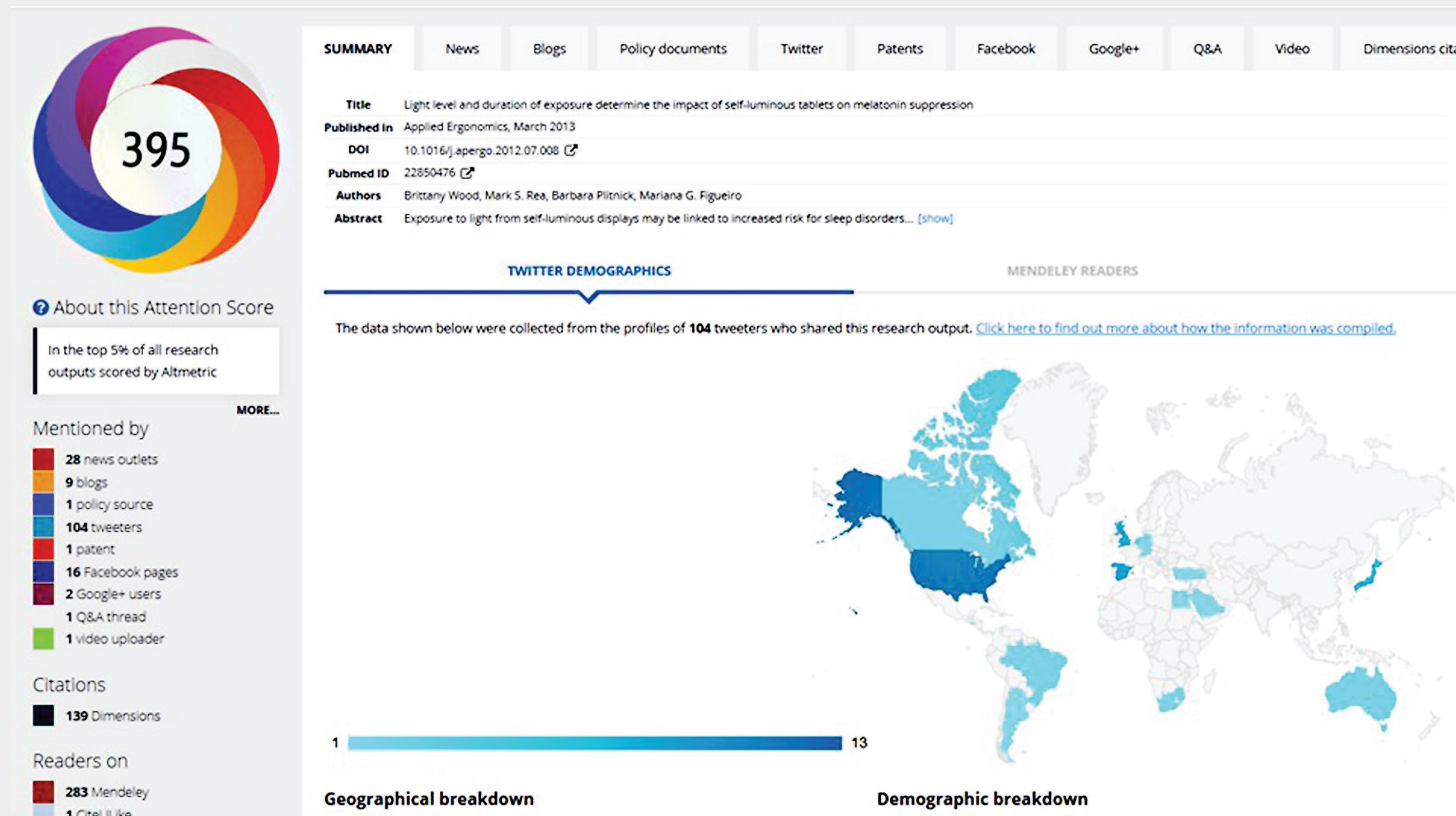


Fig. 4. View of altmetrics for article from *Applied Ergonomics*

Results :

- The correlation between the number of GSA, both in the case of Mendeley readers as well as Twitter mentions is not significant.
- Spearman Correlation: Twitter $p=0.9167$; Mendeley $p=0.4167$.
- Only GSA of *Applied Ergonomics* were taken into consideration.
- All GSA = 478, active=346, non active=132

Conclusions :

- Applied Ergonomics* has more GSA and altmetric indicators than *JOSE*.
- We observe a large disparity between *JOSE* and *Applied Ergonomics*.
- The results for *JOSE* were insufficient to analyze correlation.
- The research sample should be extended to download more GSA data to carry out further statistical analysis.
- On the basis of results obtained it is not possible to draw a conclusion whether GSA have an influence on scientific communication.

It is a preliminary research. The authors plan to broaden its range.