Does a research group increase impact on the scientific community or general public discussion?
Alternative metric-based evaluation

Scotti V. *1,3, De Gregori M. 2, De Silvestri A. 1,3, Curti M. 1, Fanelli G.2,
Allegri M. 2, Schatman S. 2.

1Center for Scientific Documentation, 3ALL Metrics Team -Fondazione IRCCS Policlinico San Matteo of Pavia, ITALY
2 SIMPAR (Study In Multidisciplinary Pain Research) Group,

Objectives

In this study, we investigated the impact of scientific publications of the ITALIAN SIMPAR group (Study in Multidisciplinary PAin Research*) using Altmetrics, which is defined as non-traditional metrics and constituting an alternative to more traditional citation impact metrics, such as impact factor and h-index. By correlating traditional and alternative metrics, we attempted to verify whether publications by the SIMPAR group collectively had more impact than those performed by its individual members, either in solo publications or in co-authored publications by non-SIMPAR group

Methods

For all of the 12 members of the group we analyzed (pain therapists, biologists, and pharmacologists), we created the Open Researcher and Contributor ID (ORCID) and the ImpactStory accounts, and synchronized these data. We calculated the level metrics for each article manually by dividing the data obtained from the research community by those obtained from the public community. Using Scopus, we retrieved the exact number citations of the articles published by each researcher

Fig .1 : tools of the study

Results

We analyzed 759 articles, 18 of which were published by the SIMPAR group. Altmetrics demonstrated that the SIMPAR group publications were more likely to be saved (77.8% vs 45.9%), discussed (61.1% vs 1.1%, p<0.0001), and publically viewed (11.1% vs 1.3%, p=0.05) than the individual publications (Fig. 2). Futhermore, we found that the alternative metrics were generally highly correlated to Mendeley Readers (Pearson r=0.47, p<0.0001) (Fig. 3).

	Facebook post	Tweets	Impact Story views	Mendeley Readers
Tweets	0.02 (0.81)			
Impact Story views	-0.01 (0.87)	0.13 (0.09)		
Mendeley Readers	-0.04 (0.60)	0.01 (0.87)	0 (0.93)	
Scopus citation	-0.05 (0.53)	-0.10 (0.18)	-0.04 (0.57)	0.47 (<0.001)

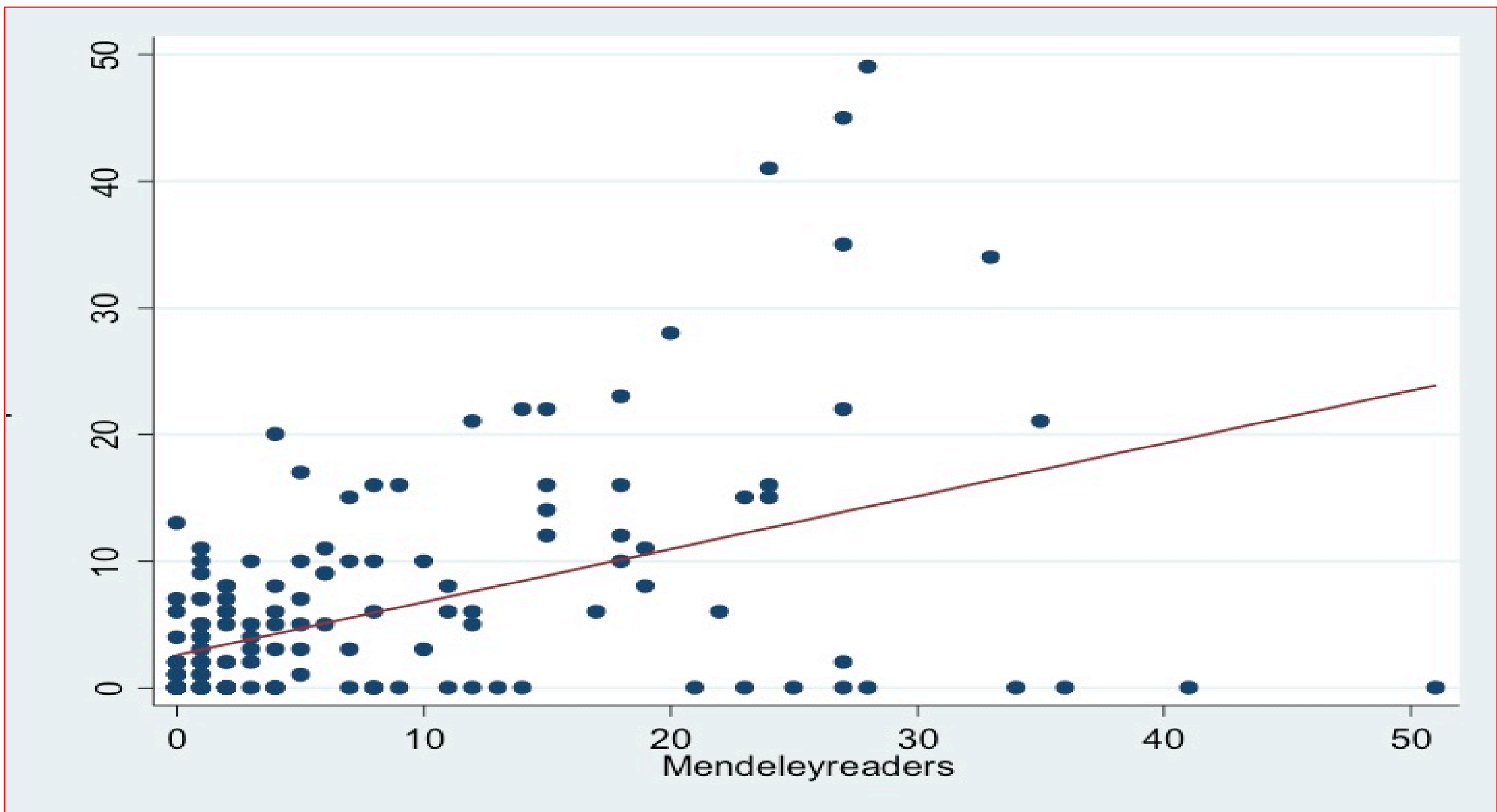Fig. 2 : Correlation coefficient (p-value) between Scopus citations and Altmetrics components

Fig. 3 : Correlation between Mendeley readers and Scopus citations

Conclusions

This result supports the importance of multidisciplinary research groups on the impact of scientific literature; the interaction and synergy among the research participants allowed us to obtain high impact-literature in such a delicate field such as pain medicine. Finally, our findings demonstrate the potential of Altmetrics in estimating the value of a group's research products

*Corresponding Author: Valeria Scotti v.scotti@smatteo.pv.it; Altmetrics Ambassador