

A novel 'value-based' metric framework to measure the influence of scientific publications

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Supplementary materials

Supplementary Table 1. Spearman rank correlations (r_s) among metrics in the publication sample, and with the AAS^a and CiteScore. Blue shading indicates strength of correlation.

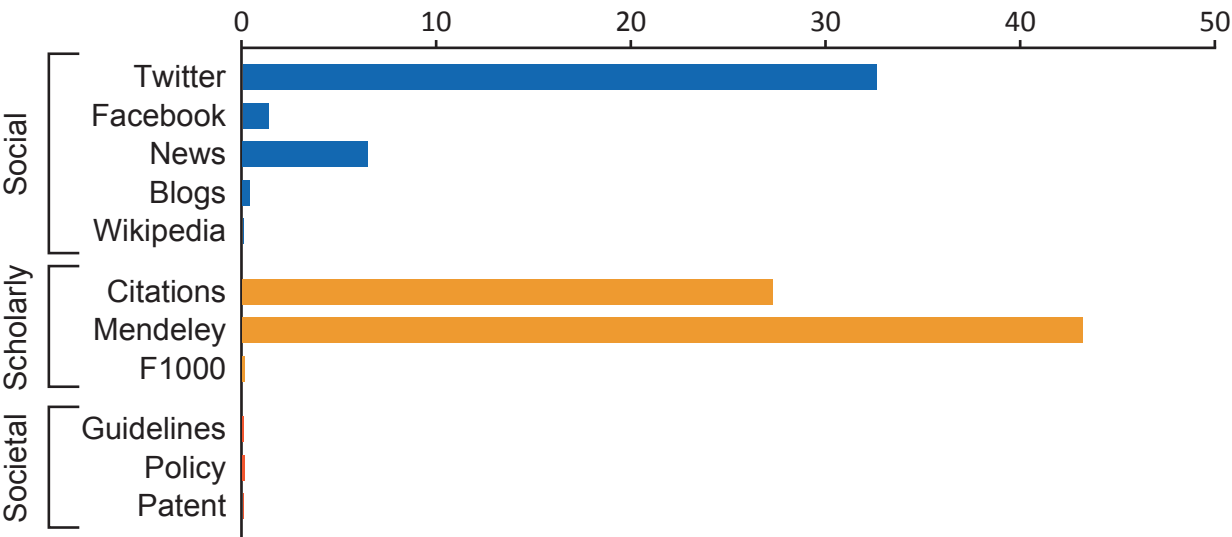
		Twitter	Facebook	News	Blogs	Wikipedia	Citations	Mendeley	F1000	Guidelines	Policy	Patent	AAS ^a	CiteScore
Social	Twitter	-	0.555	0.529	0.455	0.140	0.521	0.539	0.270	0.140	0.116	0.048	0.807	0.588
	Facebook	0.555	-	0.478	0.475	0.155	0.418	0.448	0.288	0.130	0.130	0.048	0.547	0.425
	News	0.529	0.478	-	0.530	0.160	0.517	0.504	0.302	0.187	0.165	0.066	0.819	0.526
	Blogs	0.455	0.475	0.530	-	0.190	0.371	0.406	0.326	0.126	0.135	0.062	0.531	0.393
	Wikipedia	0.140	0.155	0.160	0.190	-	0.138	0.130	0.163	0.057	0.086	0.073	0.162	0.131
Scholarly	Citations	0.521	0.418	0.517	0.371	0.138	-	0.737	0.284	0.274	0.220	0.110	0.556	0.562
	Mendeley	0.539	0.448	0.504	0.406	0.130	0.737	-	0.264	0.221	0.185	0.073	0.550	0.532
	F1000	0.270	0.288	0.302	0.326	0.163	0.284	0.264	-	0.118	0.101	0.038	0.299	0.260
Societal	Guidelines	0.140	0.130	0.187	0.126	0.057	0.274	0.221	0.118	-	0.134	0.098	0.169	0.158
	Policy	0.116	0.130	0.165	0.135	0.086	0.220	0.185	0.101	0.134	-	0.044	0.231	0.108
	Patent	0.048	0.048	0.066	0.062	0.073	0.110	0.073	0.038	0.098	0.044	-	0.091	0.051
	AAS ^a	0.807	0.547	0.819	0.531	0.162	0.556	0.550	0.299	0.169	0.231	0.091	-	0.565
	CiteScore	0.588	0.425	0.526	0.393	0.131	0.562	0.532	0.260	0.158	0.108	0.051	0.565	-

^aAltmetric Attention Score.

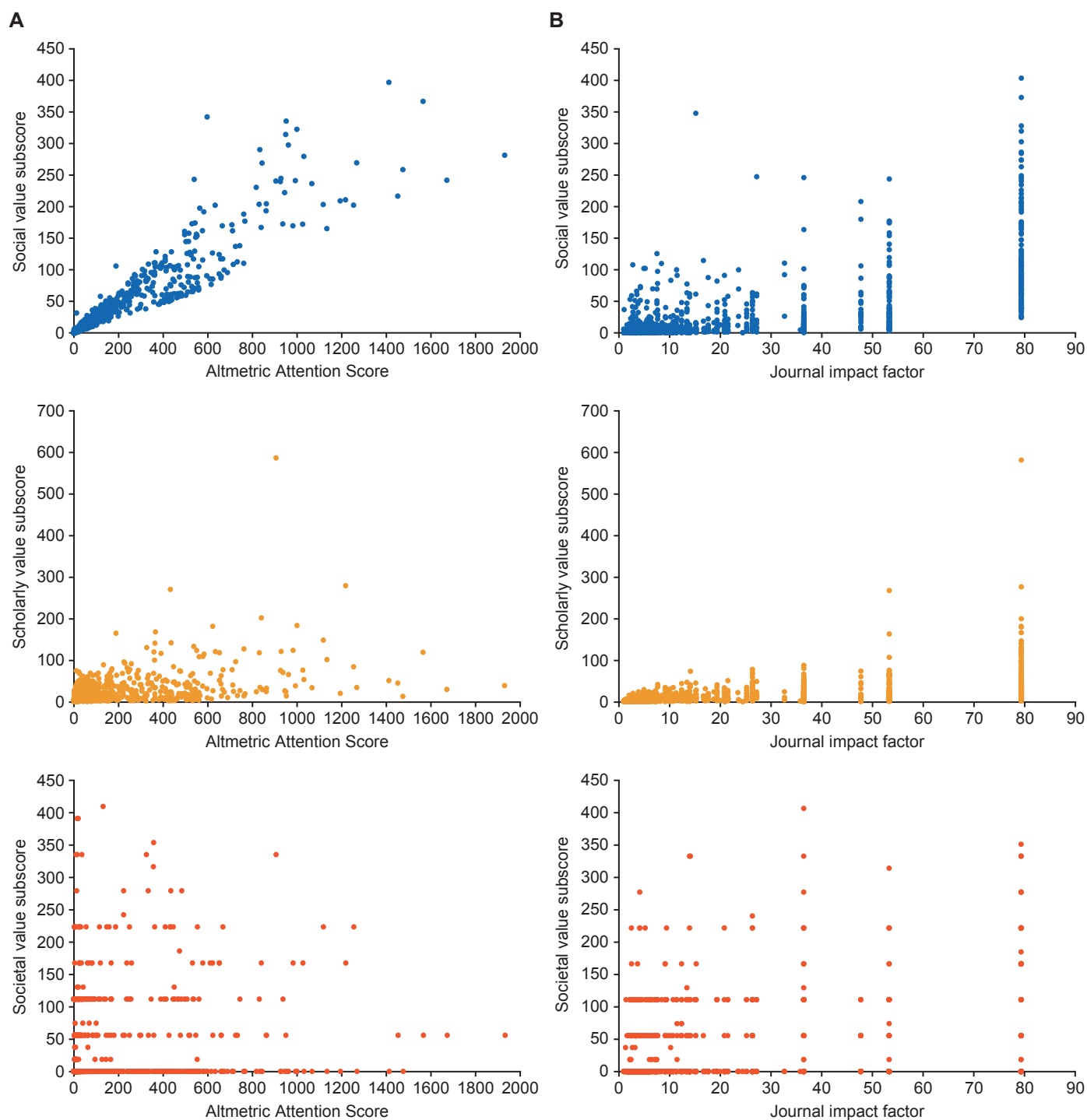
Supplementary Table 2. Exploratory factor analysis of metrics in the publication sample. Values in bold signify the factor with the highest loading for that metric.

		Oldest 50% of sample				Most recent 50% of sample		
	Factor	1	2	3		1	2	3
Social	Twitter	0.863	−0.091	−0.013		0.567	−0.383	0.151
	Facebook	0.478	0.098	0.432		0.826	−0.074	−0.005
	News	0.068	−0.197	0.557		0.724	−0.176	0.091
	Blogs	−0.005	−0.014	0.825		0.844	0.097	−0.208
	Wikipedia	−0.038	−0.058	0.288		0.064	0.018	−0.918
Scholarly	Citations	0.009	−0.920	0.000		0.019	−0.878	−0.064
	Mendeley	0.130	−0.659	0.053		0.025	−0.854	−0.026
	F1000	−0.039	−0.138	0.432		0.283	0.014	−0.725
Societal	Guidelines	−0.110	−0.414	0.113		−0.064	−0.050	−0.989
	Policy	−0.066	−0.299	0.187		0.025	−0.073	−0.849
	Patent	−0.057	−0.127	0.096		−0.059	0.019	−0.999

Supplementary Figure 1. Mean number of mentions per article in the publication sample.

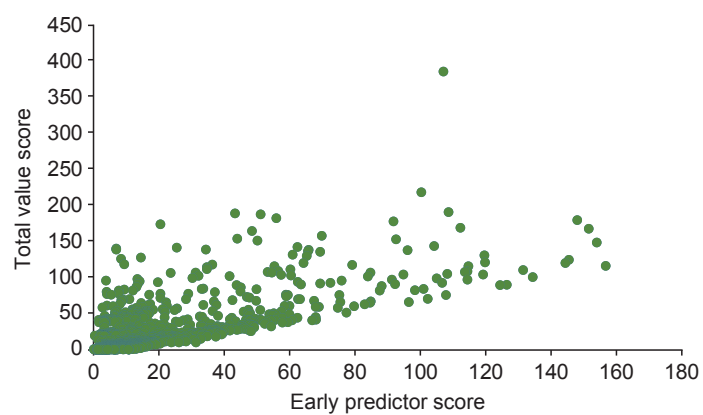


Supplementary Figure 2. Correlation of (A) Altmetric Attention Score and (B) journal impact factor with the social, scholarly and societal value scores in the publication sample.



Supplementary Figure 3. Correlation of early (A) and intermediate (B) predictor scores with the total value score in the publication sample.

A



B

