

Public interest in social research ethics: An analysis of the top 50 articles in Altmetric database

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Abstract:

Social media influences public awareness, politics, and the economy. A new web-based metric called Altmetric has recently been developed for use in scientific fields, which provides a complementary measure of the impact of scientific articles. This study aims to identify and characterise the top 50 articles with high Altmetric attention scores (AASs) in social research ethics, which have received the most significant amount of attention from the general public and scholars.

Using the Altmetric database, we searched for 438 AAS articles with content in social research ethics, which were published in 172 journals in social sciences using the Web of Science and Scopus databases. We determined the top 50 articles with the highest AASs using the Altmetric.com databases and then analysed them with some criteria of the journal, year, type of article, a field of research, main topic, and ethical research consideration.

Among the 50 chosen articles, the journal that published the most articles on social research ethics that received the most attention on social media was the International Journal of Social Research Methodology (n=7). The most frequent keywords appearing in these articles are ethics (n=20), research ethics (n=14), social media (n=13), and privacy (n=7). Articles in the journal with higher impact factors (IFs) and Scimago's ranks were expected to have higher AASs. The research areas with articles with high AASs are philosophy and religious study (27), medical, pharmacology and health sciences, and studies in human society. Our study presents a detailed list and analysis of the top 50 articles with the highest AASs in social research ethics, which paint a significant picture of public attention in social research ethics. Indeed, this picture shows that despite having public interests in this topic, the level is less considerable compared to its vital position in social research in contemporary life.

Keywords: AAS, Altmetric, social research, social research ethic.

Classification number: 4.1

Introduction

Citation is an important indicator of identifying the worthiness of a published work and its impact and competence of its author(s) as well [1, 2]. Traditional citation analysis has been criticised because it requires time after publication and reflects the academic field [3, 4]. A new web-

based metric (Altmetric), established in 2011 aims to have a fast and dynamic analysis of the influence of social media networks such as Twitter, Facebook, and Mendeley, which are all well-known to influence the public and politics [5].

Recently, a limited number of studies have been implemented to investigate the top AAS articles in

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specific fields such as medicine, dentistry, and strokes [6-8]. There is deficit of those fields in the area of social sciences in general and in the topic of social research ethics in particular. This research aimed to show the characteristics of the Altmetric top 50 articles on the topic of social research ethics.

Methods

Search engine

The Altmetric Explorer is a web-based application that can be used to search the following sources of research output to achieve the most relevant and updated overview of online activity and discussion [5]:

- Public policy documents.
- Mainstream media.
- Online reference managers.
- Post-publication peer-review platforms.
- Wikipedia.
- Open syllabus project.
- Blogs.
- Citations.
- Research highlights.
- Social media (Facebook, Twitter, Linked, Google...).
- Multimedia and other online platforms.

The AAS is an automatically calculated and weighted count of all the attention a research output has received in three factors: volume, sources, and authors. Each colour of the Altmetric donut represents a different source of attention.

Search strategy

The search for “social research ethics” was performed in Altmetric on 2020-02-13 for articles published with no period restriction. Two researchers, read the entirety of the papers of the top-50 articles and extracted the following information by consensus: journal name, journal ranking and H-index, year of publication, article topic, article type, and article keywords.

Results

The Altmetric Explorer presented 438 articles as being referred to online in the topic of “social

research ethics”. The total AAS mentions were 7,478, including 6,938 social media, 179 news and blogs, 85 of policy and patents, and 21 of other forms. The top 50 research articles with the highest AASs were chosen for further analysis. The Scopus Database is used to identify the number of citations in this database, the journal ranking, and the research topics.

Research ethic topic in AAS

The outputs of 438 articles were from 172 journals. The top 15 journals with the highest mentioned outputs and total mentions in social networks are presented in the following Table 1.

Table 1. Overview of 438 articles in social research ethics from Altmetric.

Journal title	Number of mentioned outputs	Total mentions	News	Blog	Policy	Patent	Twitter
International Journal of Social Research Methodology	42	1151	0	9	6	0	1130
Social Science & Medicine	25	144	16	7	16	1	95
SSRN (Social Science Research Network)	22	95	0	10	0	0	74
Journal of Empirical Research on Human Research Ethics	15	272	3	2	1	0	262
Research Ethics	14	174	23	0	2	0	140
Ethics and Social Welfare	13	82	0	0	0	0	82
Forum: Qualitative Social Research	10	61	0	7	2	0	52
Journal of Medical Ethics	9	494	9	4	2	0	465
Energy Research & Social Science	7	153	0	0	0	0	146
Social Media + Society	7	637	9	5	2	0	616
Journal of Business Ethics	6	31	0	0	2	0	23
Social Studies of Science (Sage Publications, Ltd.)	5	57	0	2	0	0	55
BMC Medical Ethics	5	50	0	2	0	0	46
Qualitative Social Work	5	14	0	0	3	0	10
The American Journal of Bioethics	5	80	4	0	1	0	71

The mentions were presented in 92 countries worldwide, with the top 15 countries listed in the following Table 2.

Table 2. Overview of location for AAS mentioned in searched articles in social research ethic from Altmetric.

Country code	Country name	Number of posts	Number of profiles
	Unknown	2507	1358
GB	United Kingdom	1729	876
US	United States	1047	720
CA	Canada	323	201
AU	Australia	287	192
FR	France	94	61
ES	Spain	74	68
DE	Germany	69	57
NZ	New Zealand	66	38
NL	Netherlands	59	40
IE	Ireland	55	42
CH	Switzerland	53	26
MX	Mexico	33	27
IN	India	30	15
SE	Sweden	26	20
IT	Italy	21	18

The timeline for these social mentions is given in Fig. 1:

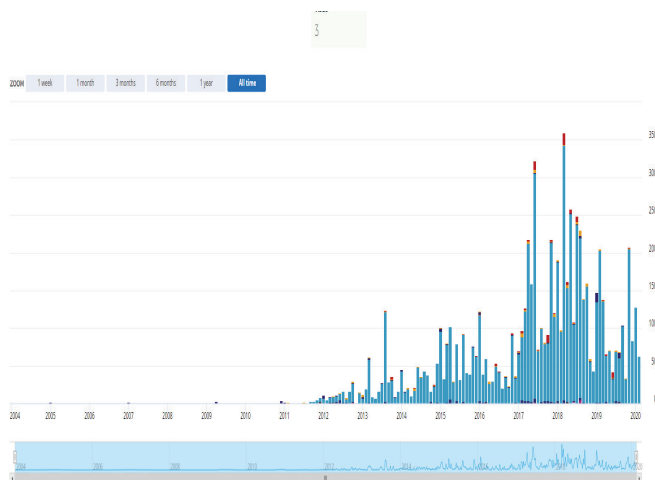


Fig. 1. The timeline for social mentions among searched articles of social research ethics in the Altmetric (Source: altmetric.com).

Almost mentions are tweets and presented around 2018-2020. They started in 2011 as the first introduction of AAS worldwide. It is found that the mentions are increasing over a period. Distribution of AAS in 438 mentioned articles (Table 3):

Table 3. Distribution of AAS in the searched articles in the Altmetric.

No.	Number of AAS	Number of Articles	%
1	From 1-10	309	70.5
2	From 11-20	61	13.9
3	From 21-30	31	7.1
4	From 31-40	15	3.4
5	From 41-50	3	0.7
6	From 51-60	7	1.6
7	From 61-70	2	0.5
8	From 71-80	2	0.5
9	From 81-90	0	0.0
10	From 91-100	1	0.2
11	101 and above	7	1.6
	Total	438	100

Distribution of the top 50 articles in social research ethics

As guided from the search strategy, the top 50 articles with AAS are described in the Table 4.

Among these 50 articles, there are various mentions of 77 from news, 31 from blogs, 13 from policies, 4,197 tweets, 46 from Facebook, 6 from Wikipedia, 12 from Google+, 4,492 from Mendeley and 1,777 of dimension citations. The total AAS is 2,850, while the total citation from Scopus is 1,660. These articles are from high journal ranking based on Scimago statistics: Q1 with n=43, Q2 with N=2, Q3 with N=1 and no ranking with n=4.

Table 4. Top 50 articles in social research ethics from Altmetric with highest AAS.

Rank	AAS	Scopus	Title	Journal	Journal ranking	Publication	Annual Scopus citation
1	274	45	"Participant" perceptions of twitter research ethics	Social Media + Society	Q1	2018-03-10	22.5
2	183	38	Towards an ethical framework for publishing twitter data in social research: taking into account users' views, online context and algorithmic estimation	Sociology	Q1	2017-05-26	12.7
3	141	1	Facebook's flawed emotion experiment: antisocial research on social network users	Research Ethics	Q1	2015-05-15	0.2
4	132	37	Research led by participants: a new social contract for a new kind of research	Journal of Medical Ethics	Q1	2015-03-30	5.4
5	132	30	Fund my treatment!: a call for ethics-focused social science research into the use of crowdfunding for medical care	Social Science & Medicine	Q1	2016-11-01	7.5
6	119	24	A framework for public involvement at the design stage of NHS health and social care research: time to develop ethically conscious standards	Research Involvement and Engagement	NA	2017-04-04	8.0
7	110	92	The social licence for research: why care.data ran into trouble	Journal of Medical Ethics	Q1	2015-01-23	18.4
8	94	26	Attitudes toward the ethics of research using social media: a systematic review	Journal of Medical Internet Research	Q1	2017-06-06	8.7
9	72	4	How scientists can take the lead in establishing ethical practices for social media research	Journal of the American Medical Informatics Association	Q1	2019-01-29	2.0
10	71	11	Enhancement, ethics and society: towards an empirical research agenda for the medical humanities and social sciences	Medical Humanities	Q1	2015-08-10	2.4
11	68	13	Mining social media data: how are research sponsors and researchers addressing the ethical challenges?	Research Ethics	Q1	2017-10-26	4.4
12	67	220	Facebook as a research tool for the social sciences: opportunities, challenges, ethical considerations, and practical guidelines.	American Psychologist	Q1	2015-09-01	44
13	60	NA	Using social media for health research: methodological and ethical considerations for recruitment and intervention delivery	Digital Health	NA	2018-05-07	NA
14	58	NA	Research ethics and new forms of data for social and economic research	OECD Science, Technology and Industry Policy Papers	NA	2016-11-08	
15	55	12	Addressing ethical, social, and cultural issues in global health research	PLoS Neglected Tropical Diseases	Q1	2013-08-08	1.8
16	54	53	Using social media as a research recruitment tool: ethical issues and recommendations	The American Journal of Bioethics	Q1	2017-02-16	17.7
17	52	2	New directions in qualitative research ethics	International Journal of Social Research Methodology	Q1	2017-03-07	0.6
18	52	3	Rethinking research ethics, power, and the risk of visibility in the era of the "alt-right" gaze	Social Media + Society	Q1	2018-05-02	1.5
19	51	313	Ethical fading: the role of self-deception in unethical behaviour	Social Justice Research	Q1	2004-06-01	19.6
20	50	15	Ethical issues in social media research for public health	American Journal of Public Health	Q1	2018-03-01	7.5
21	49	270	Ethics creep: governing social science research in the name of ethics	Qualitative Sociology	Q1	2004-12-01	16.8
22	43	20	On ethical principles for social research	International Journal of Social Research Methodology	Q1	2014-06-17	3.5
23	38	93	Ethics of social media research: common concerns and practical considerations	CyberPsychology, Behavior & Social Networking	Q1	2013-09-01	13.3
24	38	0	Towards a broader climate ethics: confronting the oil industry with morally relevant facts	Energy Research & Social Science	Q1	2020-04-01	0
25	38	0	NIH support of mobile, imaging, pervasive sensing, social media and location tracking (MISST) research: laying the foundation to examine research ethics in the digital age	Digital Medicine	NA	2018-01-15	0

26	38	65	Ethical issues in using social media for health and health care research	Health Policy	Q1	2013-05-01	9.3
27	38	3	The ethics ecosystem: personal ethics, network governance and regulating actors governing the use of social media research data	Minerva A Review of Science, Learning and Policy	Q1	2019-02-07	1.5
28	37	15	Ethics regulation in social computing research: examining the role of institutional review boards	Journal of Empirical Research on Human Research Ethics	Q1	2017-08-23	5.0
29	35	9	Voiceless subjects? Research ethics and persons with profound intellectual disabilities	International Journal of Social Research Methodology	Q1	2017-02-13	3.0
30	34	6	Social media channels in health care research and rising ethical issues	AMA Journal of Ethics	Q3	2017-11-01	2.0
31	34	24	Ethics and privacy implications of using the internet and social media to recruit participants for health research: a privacy-by-design framework for online recruitment	Journal of Medical Internet Research	Q1	2017-04-06	8.0
32	34	5	Law school marketing and legal ethics	Social Science Research Network (SSRN)	NA	2012-12-21	0.6
33	33	3	(Re)framing big data: activating situated knowledges and a feminist ethics of care in social media research	Social Media + Society	Q1	2018-05-02	1.5
34	33	8	Ethics as methods: doing ethics in the era of big data research - introduction	Social Media + Society	Q1	2018-07-19	4.0
35	32	5	Whose climate and whose ethics? Conceptions of justice in solar geoengineering modelling	Energy Research & Social Science	Q1	2018-10-01	2.5
36	32	0	Whose results are these anyway? Reciprocity and the ethics of "giving back" after social network research	Social Networks	Q1	2019-11-01	0
37	30	1	Palliative care research centre's move into social media: constructing a framework for ethical research, a consensus paper	BMJ Supportive & Palliative Care	Q1	2016-01-28	0.3
38	29	11	Addressing conceptual gaps in big data research ethics: an application of contextual integrity	Social Media + Society	Q1	2018-05-02	5.5
39	29	3	Enriching ethical judgments in history education	Theory and Research in Social Education	Q1	2017-11-07	1.0
40	27	5	Ethical challenges of community based participatory research: exploring researchers' experience	International Journal of Social Research Methodology	Q1	2017-03-05	1.7
41	27	8	From "a fair game" to "a form of covert research": research ethics committee members' differing notions of consent and potential risk to participants within social media research	Journal of Empirical Research on Human Research Ethics	Q1	2018-01-19	4.0
42	27	16	Citizen social science and citizen data? Methodological and ethical challenges for social research	Current Sociology	Q1	2014-04-17	2.6
43	26	9	Presenting and representing others: towards an ethics of engagement	International Journal of Social Research Methodology	Q1	2017-02-14	3.0
44	26	51	Social responsibility and research ethics in community-driven studies of industrialized hog production.	Environmental Health Perspectives	Q1	2002-05-01	2.8
45	25	3	Is it time to re-evaluate the ethics governance of social media research?	Journal of Empirical Research on Human Research Ethics	Q1	2018-08-24	1.5
46	25	18	Pitfalls, potentials, and ethics of online survey research: LGBTQ and other marginalized and hard-to-access youths	Social Work Research	Q2	2016-04-01	4.5
47	25	15	Integrating critical realist and feminist methodologies: ethical and analytical dilemmas	International Journal of Social Research Methodology	Q1	2013-12-20	2.1
48	25	35	The apomediated world: regulating research when social media has changed research	Journal of Law, Medicine & Ethics	Q2	2013-06-01	5.0
49	24	4	A philosophical framework for pharmacy in the 21st century guided by ethical principles	Research in Social and Administrative Pharmacy	Q1	2018-03-01	2.0
50	24	7	Bystander risk, social value, and ethics of human research	Science	Q1	2018-04-12	3.5

Table 5. Journal/collection titles of top 50 articles with highest AAS.

Rank	Journal/Collection Title	Journal ranking	H-index	Number of articles
1	International Journal of Social Research Methodology	Q1	50	7
2	Social Media + Society	Q1	16	5
3	Journal of Empirical Research on Human Research Ethics	Q1	23	4
4	Energy Research & Social Science	Q1	39	2
5	Journal of Medical Ethics	Q1	65	2
6	Journal of Medical Internet Research	Q1	116	2
7	Research Ethics	Q1	7	2
8	AMA Journal of Ethics	Q3	12	1
9	American Journal of Public Health	Q1	236	1
10	American Psychologist	Q1	208	1
11	BMJ Supportive & Palliative Care	Q1	21	1
12	CyberPsychology, Behavior & Social Networking	Q1	119	1
13	Digital Health	NA	NA	1
14	Digital Medicine	NA	NA	1
15	Health Policy	Q1		1
16	Journal of the American Medical Informatics Association	Q1	79	1
17	Medical Humanities	Q1	23	1
18	Minerva A Review of Science, Learning and Policy	Q1	33	1
19	PLoS Neglected Tropical Diseases	Q1	110	1
20	Qualitative Sociology	Q1	46	1
21	Research Involvement and Engagement	NA	NA	1
22	Social Justice Research	Q1	49	1
23	Social Networks	Q1	85	1
24	Social Science & Medicine	Q1	213	1
25	Social Science Research Network (SSRN)	NA	NA	1
26	Sociology	Q1	96	1
27	The American Journal of Bioethics	Q1	54	1
28	Theory and Research in Social Education	Q1	29	1
29	Current Sociology	Q1	55	1
30	Social Work Research	Q2	48	1
31	Environmental Health Perspective	Q1	249	1
32	Journal of Law, Medicine and Ethics	Q2	51	1
33	Research in Social and Administrative Pharmacy	Q1	37	1
	Total			50

The journals with the the greatest number of top articles are the International Journal of Social Research Methodology, Social Science & Medicine, and the Journal of Empirical Research on Human Research Ethics (Table 5). The same trend is found for all 438 articles on the topic of social research ethics. The other 30 journals have a limited number of chosen articles, which also presents the situation of less academic consideration to the research ethics in the social sciences (Table 5).

Philosophy and Religious studies is a research area with the highest number of articles in the top 50 AAS (n=27). Other areas such as medical, pharmacology and health sciences, studies in human society, sociology, public health and health services, and applied ethics also have a significant number of articles with 13, 13, 12, 11, and 11, respectively (Table 6).

Table 6. Research areas of top 50 articles with highest AAS areas of 50 top articles.

No.	Areas	Number of articles
1	Philosophy and Religious Studies	27
2	Medical, Pharmacology and Health Sciences	17
3	Studies in Human Society	13
4	Sociology	12
5	Public Health and Health Services	11
6	Applied Ethics	11
7	Psychology and Cognitive Sciences	9
8	Information, Information Systems and Computing Sciences	8
9	Law and Legal Studies	2
10	History	2
11	Policy and Administration	1
12	Language, Communication and Culture	1
13	Cultural Studies	1

The most frequent keyword in these articles is ethics (n=34), which includes the other aspects of guidelines, care, regulation, and research. In the list of the most frequent keywords, there are more considerations to the ethical content while doing research like current national regulation mentions such as privacy, integrity, consent, confidentiality,

recruitment, risk, transparency, involvement, moral, etc (Table 7). The keyword 'social media' is also frequently used (n=13). Besides that keyword, other words like internet, Facebook, and Twitter are witnessed in this frequent keyword list.

Table 7. Most frequent keywords in the top 50 articles in social research ethics.

No.	Keyword	Total
1	Ethics (guidelines, of care, regulation)	20
2	Research ethics	14
3	Social Media	13
4	Privacy	7
5	Context integrity	5
6	IRB/Research committee	6
7	Twitter	5
8	Consent	4
	Internet	4
	Moral	4
9	Confidentiality	3
	Facebook	3
	Public involvement	3
	Recruitment	3
	Review literature	3
	Risk	3
	Transparency	3

Discussion and conclusions

As internet and social networks continually develop, interest in Altmetrics also increased remarkably since it was first launched in 2011 [9]. This paper is the first study on examining and evaluating online attention in social research ethics. The top rank of the article in our study had an AAS of 274. The 50th ranked article has a score of 24. Citation rates differ for each speciality and might depend on the size of the scientific community. On the other hand, Altmetrics may depend not only on the size of the research field but also on interest from the general population.

Our analysis indicates that, among the 438 articles in social research ethics from Altmetric, the International Journal of Social Research

Methodology had the highest number of mentioned articles (n=42). It is in the same position in the top 50 articles with the highest AAS (n=7). Our research also found that the top Altmetric articles were newly published work with 39 papers from the last 5 years (2015-2020) having 2,439 AAS mentions and 765 Scopus citations. This shows that Altmetric is particularly sensitive to recent news and that more recent publications receive more AASs. Notably, among these articles, there is no publication from Vietnam, which assumes that research of social research ethics is less apparent in Vietnamese context.

The most common subjects/areas were philosophy and religious study (n=27), followed by medical, pharmacology, and health sciences (n=17), and studies in human society (n=13). This demonstrates that considerations of social research ethics mostly originate from the health science and philosophical backgrounds. Other areas with a specific subject have fewer mentioned papers, which also shows that there is less consideration from specific academic domains in social research ethics.

The most frequent keywords from these 50 articles are ethics in general (n=20), research ethics (n=14), and social media (n=13). Other keywords in terms of research ethics content such as privacy, consent, confidentiality, risk, transparency, and public involvement are mentioned but at a low ratio of mentions.

This study has some limitations such as limiting our analysis to articles that directly mention social research ethics. Therefore, some other aspects of research ethics may have been excluded from the list. In addition, we used only data supplied by Altmetric.com for assessing the top articles. Other tools such as Plumx, Crossref, Impactstory, and Article-Level Metrics-Plos provide other metrics that use different online sources and algorithms, which could offer different results [10].

In conclusion, our research presents a detailed

list and analysis of the top 50 Altmetric articles published in social research ethics, which represent significant public attention in this research area. The top mentioned articles in Altmetric were most often recently published and in the essential background of social research ethics and mostly from developed countries. Further research of social research ethics considerations in developing countries, in general, and Vietnam, in particular, is suggested, which could provide substantial research outputs and attract public interest as well.

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COMPETING INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this article.

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