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Assessing Research Impact in Library and Information Studies: A Correlational Study of Altmetric Attention Scores and Scholarly Citations

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The current research examined the top 100 Library and Information Studies (LIS) articles to assess their altmetric and citation-based impact. The srudy selected Library and Information Studies as the research category from Dimensions.ai database for data collection. The results were refined by limiting the publication period to 2015–2024 and restricting the publication type to articles. From this dataset, the top 100 articles with the highest Altmetric Attention Scores (AAS) were chosen for detailed analysis. The researchers used Open Refine to clean and process the data, while Microsoft Excel enabled them to create tables and charts and conduct correlation analysis. The study results show that X (formerly Twitter) served as the primary social media platform to which users linked their AAS scores. Furthermore, AAS showed a very strong positive correlation with X (r = 0.97) and Bluesky (r = 0.81). The year-by-year analysis shows that 2018 produced the highest output, which resulted in 18 articles entering the top 100 list. However, AAS demonstrated only weak correlations with traditional scholarly impact indicators, including Dimensions citations, Relative Citation Ratio (RCR), and Field Citation Ratio (FCR).

Keywords: Altmetric Attention Scores; Library and Information Studies; Citation; Correlation; Social Media Metrics

1. Introduction

In today's time, with overloaded information being released each day over world, it is almost too difficult for most people to keep up with all the new knowledge available globally. Many technological improvements have led to most information being put online and it gets harder for individuals to stay aware of recent content that is published on these digital spaces. Altmetric Attention Score (AAS), in this situation, is an important process for tracing and displaying research work getting more attention on digital systems. It works similarly to citations, which are used traditionally inside the scholarly field. AAS gives a useful perspective regarding how information is applied in the digital setting, that includes indicators for people reading, sharing and the number of times data gets downloaded.

The Altmetric Attention Score (AAS) is regarded as an alternative indicator or complementary metric to traditional citation-based measures. AAS tracks online attention to research outputs, while citations are a direct measure of the scholarly impact of research in the academic, or "real world." Specifically, the AAS score derives its power from several sources, and the more active those sources are, the higher the AAS score will be. The AAS attempts to measure the general visibility and impact of research beyond traditional academic citations. Any mention in social media, news articles, Wikipedia, blogs etc. is factored into the score, though different sources are weighted accordingly. It also increases as the volume of mentions on those platforms grows.

2. Objective

In today's data-driven world, being always aware of all published materials on any topic is not easy as it is kind of much challenging. To solve such concerns in digital situations, an Altmetric Attention Score (AAS) acts like a valuable instrument that gives notice to and selects research works that have become most discussed and got big interaction on the internet. With the help of the AAS, researchers are able to find which publications receive a lot of attention from people online. Because of reviewing the literature these research objectives are decided for the study.

1 To identify the most frequently used platforms for accessing and referring to articles in the field of Library and Information Science.
2 To categorize the top ten articles and analyze the contribution of various sources in formulating their Altmetric Attention Scores (AAS).
3 To determine the types of access privileges associated with digitally published research articles in the field of Library and Information Science.
4 To examine the correlation between the different sources contributing to the Altmetric Attention Score (AAS) and the overall AAS in the field of Library and Information Science.

3. Hypothesis

In line with the study's objectives, the following hypotheses have been formulated to address the research questions. These hypotheses will be systematically tested through a different analytical framework.

H1: Social media platform particularly *X (formerly Twitter)*, are the most frequently used sources for referring to Library and Information Science (LIS) articles.

H2: There exists a positive correlation between the frequently used platform *X (formerly Twitter)* and the overall AAS of LIS articles.

H3**:** There is a strong positive correlation between Altmetric Attention Score (AAS) and scholarly impact indicators, namely Dimensions citations, RCR, and FCR.

4. Methodology

In the present information landscape, remaining up to date with relevant and useful publications is a significant challenge. To address this, the Altmetric Attention Score (AAS) serves as an effective indicator, providing insights into the usefulness of information by capturing continuous user engagement and attention in the digital environment, similar to how citations function in the traditional scholarly domain. To explore patterns of user attention and engagement with research outputs in the field of Library and Information Science, a systematic methodology was adopted. The following section outlines the data collection process and the analytical techniques employed for the study.

The research category from the Dimensions.ai database used was Library and Information Studies. In addition, the search results were limited by publication years 2015–2024 and publication type Article (accessed on 18 August 2025). The study selected for detailed analysis the 100 articles with the highest AAS. Microsoft Excel and OpenRefine were used to clean the data, create charts and tables, and correlate the data.

5. Literature Review

Pereira, C.G., et. Al. (2025), Maxillary Sinus Lift: A Bibliometric and Altmetric Analysis of the 100 Most Cited Articles. "The present study analyzes the scientific profile of the 100 most cited articles on maxillary sinus lift. For this purpose, the Web of Science Core Collection database was searched in February 2024, from which two reviewers independently retrieved the 100 most cited articles. VOSviewer was employed to generate collaborative network maps for authors and keywords, while the Dimensions database was used to measure altmetric data. In addition, Google Trends was utilized to explore the global popularity of research on maxillary sinus lift. The analysis revealed that the number of citations ranged from 120 to 1,259. Clinical Oral Implants Research was identified as the journal publishing the highest proportion of these articles (29%). The United States emerged as the most prevalent contributing country (27%), with New York University accounting for the largest number of publications (8%). The most frequently occurring keyword was "dental implants" (38%), and Mendeley was identified as the most commonly used platform for referencing these articles."

Wei Lu, Xueqian Yu, Yueyang Li, Yi Cao, Yanning Chen, Fang Hua, (2025). Artificial Intelligence–Related Dental Research: Bibliometric and Altmetric Analysis. "The current study presents a bibliometric and altmetric analysis of artificial intelligence (AI)–related dental research. For data collection, the Web of Science Core Collection database was used to identify eligible "research articles" and "reviews." VOSviewer was employed for co-occurrence and co-citation analyses, while CiteSpace was used for co-citation analysis. In addition, the R package Bibliometrix was applied to automatically calculate scientific impacts and to determine the core authors and journals. The study revealed a sharp increase in AI-related dental publications in recent years, rising from 36 to 581 articles. The Journal of Dental Research recorded the

highest number of citations per article. China, the United States, and South Korea emerged as the most prolific countries, whereas Germany achieved the highest citations per article (23.29). Furthermore, Charité Universitätsmedizin Berlin was identified as the leading institution, with the highest number of publications and citations per article (29.16)."

6. Result and Discussion

Analysis plays a crucial role in presenting data effectively to facilitate a clear understanding of the results. This section provides the analytical component of the study, where various figures and tables are employed to illustrate correlations and to depict patterns of user engagement with the top AAS-scoring articles in Library and Information Science. These visualizations serve to enhance the interpretation of findings and highlight the relationship between different contributing platforms and the overall AAS.

6.1 Altmetric Attention Score (AAS) Breakdown by Contributing Platforms

The contribution of different sources to the calculation of AAS of the top 100 Library and Information Science papers is represented in Figure 1. It shows how often different sources are used to reference the articles in this field.

Figure 1 clearly illustrates that X (formerly Twitter) is the most frequently used platform for referring to articles in the field of Library and Information Science. The cumulative attention received from X for the top 100 AAS-scoring articles amounts to 173,988 mentions, indicating its dominant role in shaping the AAS. This is followed by News Outlets, which contributed 2,476 mentions. In contrast, platforms such as Clinical Guidelines and Weibo registered minimal engagement, with only two mentions each. Notably, certain platforms, such as syllabi, did not contribute at all to the formulation of AAS for the top 100 articles in this study.

6.2 Top 10 AAS Scoring Articles

Figure 2 presents the top ten articles with the highest Altmetric Attention Scores (AAS) in this study. The figure illustrates the contribution of different social media platforms toward the formation of AAS for these top-ranked articles. At first glance, the declining pattern of AAS appears to parallel the decrease in attention received from X (formerly Twitter), suggesting a positive correlation between the two. However, in the case of blog engagement, an inverse pattern is observed: as AAS decreases, blog attention increases, indicating that the relationship is not consistently linear across all platforms. To more accurately assess the degree of association between AAS and the various contributing platforms, Table 1 reports the correlation values based on Karl Pearson's correlation coefficient.

The table shows how different sources of Altmetric Attention Score (AAS) contribute to AAS. The study shows that AAS has a strong positive relationship with X (formerly Twitter) which has a correlation coefficient of 0.97, and Bluesky which has a correlation coefficient of 0.81. The study found negative relationships between AAS and platforms which included Blogs, Policies, Patents, Q&A, Facebook Walls, Google+, Clinical Guidelines, and Book Reviews, because these sources failed to meet AAS standards. The study found that some sources, among them produced nearly perfect correlations which included Blogs with Policies, Blogs with Wikipedia, Policies with Clinical Guidelines, and

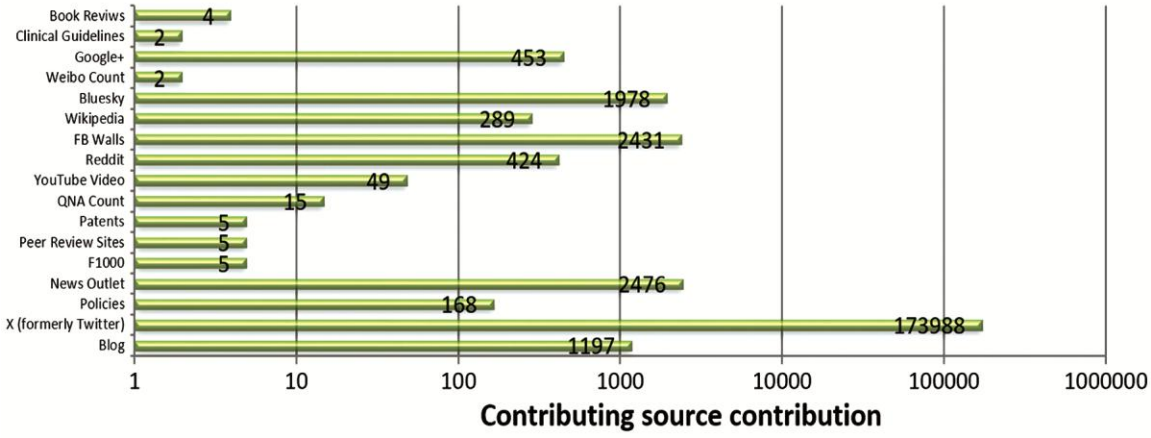

Fig. 1 — Altmetric Attention Score (AAS) breakdown by contributing platforms

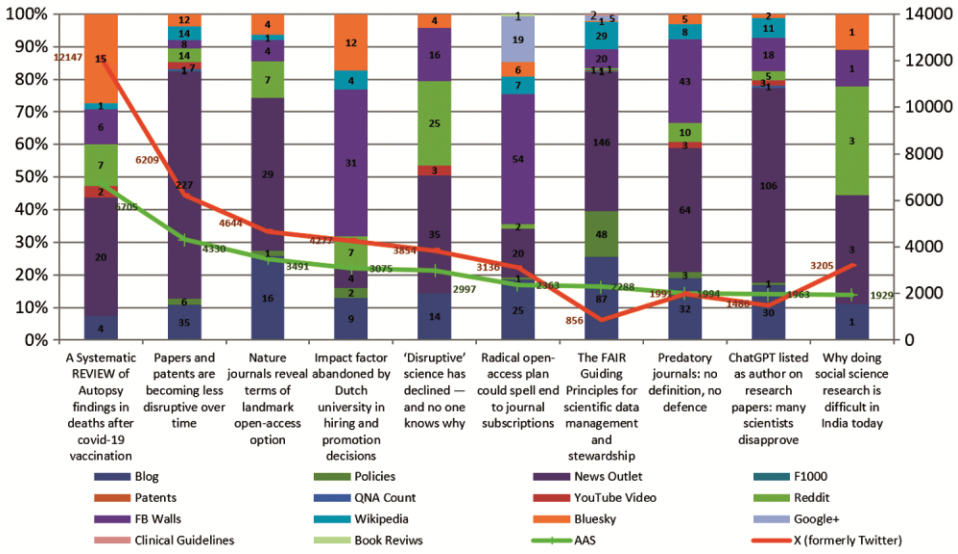

Fig. 2 — Top 10 AAS scoring articles with SNS mentions

Table 1 — Correlation between aas and its contributing sources

Correlation	Blog	X (formerly Twitter)	Polic-ies	News Outlet	F1000	Patents	QNA Count	YouTube Video	Reddit	FB Walls	Wikipe-dia	Bluesky	Google+	Clinical Guide-lines	Book Reviws	AAS
Blog	1															
X (formerly Twitter)	-0.50	1														
Policies	0.91	-0.37	1													
News Outlet	0.67	-0.15	0.48	1												
F1000	0.76	-0.11	0.74	0.87	1											
Patents	0.88	-0.36	0.99	0.39	0.67	1										
QNA Count	0.71	-0.29	0.57	0.89	0.76	0.51	1									
YouTube Video	0.05	0.22	-0.19	0.70	0.39	-0.28	0.46	1								
Reddit	-0.25	0.18	-0.33	0.11	-0.04	-0.35	-0.14	0.59	1							
FB Walls	0.20	-0.40	0.01	-0.15	-0.18	0.00	-0.19	-0.17	-0.16	1						
Wikipedia	0.97	-0.44	0.89	0.74	0.82	0.84	0.81	0.12	-0.33	0.17	1					
Bluesky	-0.36	0.82	-0.32	0.02	0.03	-0.36	-0.16	0.34	0.18	-0.02	-0.24	1				
Google+	0.23	-0.21	0.14	-0.12	0.01	0.15	-0.08	-0.35	-0.39	0.67	0.20	-0.11	1			
Clinical Guidelines	0.88	-0.36	0.99	0.39	0.67	1.00	0.51	-0.28	-0.35	0.00	0.84	-0.36	0.15	1		
Book Reviws	0.00	-0.11	-0.12	-0.22	-0.17	-0.11	-0.22	-0.28	-0.30	0.68	-0.02	-0.01	0.97	-0.11	1	
AAS	-0.31	0.97	-0.19	0.02	0.07	-0.20	-0.12	0.28	0.20	-0.42	-0.25	0.81	-0.23	-0.20	-0.18	1

Google+ with Book Reviews because their correlation values reached above 0.90. The study showed that Patents reached almost complete agreement with Clinical Guidelines.

6.3 Annual Publication Trends and Influence of Articles

Figure 3 shows annual publication trends of the leading 100 articles and also relates their Altmetric Attention Score (AAS) as well as Dimensions citations. The figures show 2018 turned out to be the top year of productivity of articles. This year had 18 articles among the best AAS-ranked found in a period of ten years that is studied here. This year managed not only to publish most articles, but also it collected the highest cumulative altmetric attention, with an overall AAS count of 21,294. Even so, articles from this time did not receive the top number for Dimensions citations. By comparison, in 2022, there was the smallest publication count, only 5 articles altogether and their total AAS added up to 4,685. Interestingly, the year 2016, despite less output, gathered the highest Dimensions citation is, 14607.

6.4 Correlation Matrix of AAS, Dimensions Citation, RCR, and FCR

According to the analysis of the correlation between four indicators (Dimensions citations, AAS, RCR, and FCR), they show differences in correlation

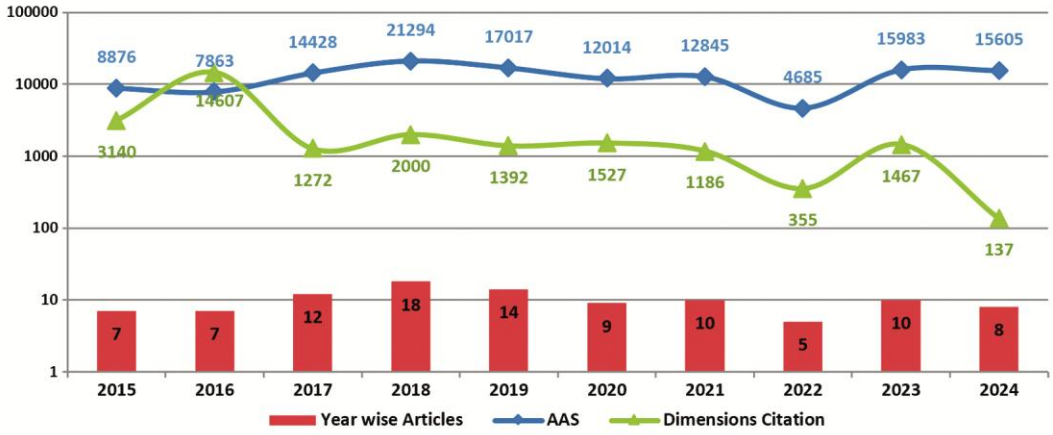

Fig. 3 — Annual publication trends and influence of articles

Table 2 — Correlation among aas, dimensions citation, rcr, and fcr

Metrics	AAS	Dimensions Citation	RCR	FCR
AAS	1			
Dimensions Citation	0.15	1		
RCR	0.26	0.95	1	
FCR	0.27	1.00	0.97	1

to some extent. AAS reflects research public/social impact, while citation based indicators (Dimensions citations, RCR, and FCR) show rather consistent impact in the scholarly field. Table 2 displays the deep understanding of the correlation between AAS and scholarly metrics.

The citation-based measures, such as Dimensions citations (r = 0.15), RCR (r = 0.26), and FCR (r = 0.27), show a weak correlation with AAS, as shown in Table 2. This implies that while there is a general correlation between rising AAS and rising academic impact metrics, the strength of this correlation is still quite small. On the other hand, there is a very high positive association between the scholarly indicators. Interestingly, FCR aligns closely with Dimensions citations and has an almost perfect correlation with RCR (r = 0.97), whilst RCR has a strong link with Dimensions citations (r = 0.95).

7. Testing of Hypothesis

Based on Karl Pearson's correlation theory and hypothesis testing, the following findings are established.

Hypothesis h1: Social media platform particularly X (formerly Twitter), are the most frequently used sources for referring to Library and Information Science (LIS) articles.

Figure 2 presents the cumulative attention received by the top 100 LIS articles. The data clearly indicate that X (formerly Twitter) is the largest contributor to AAS, accounting for 173,988 times attentions—significantly higher than any other source. Accordingly, the hypothesis h1: X (formerly Twitter) is the leading contributor to the Altmetric Attention Score among all sources is accepted.

Hypothesis h2: There exists a positive correlation between the frequently used platform X (formerly Twitter) and the overall AAS of LIS articles.

Table 1 shows how AAS correlates with its various source components. The results show that the correlation between AAS and X (formerly Twitter) is 0.97, indicating a very strong relationship. The study found evidence for the hypothesis which stated that platform X (formerly Twitter) would show a positive relationship with overall AAS, hence h2 is accepted.

Hypothesis h3: There is a negative correlation between Altmetric Attention Score (AAS) and scholarly impact indicators, namely Dimensions citations, RCR, and FCR.

Table 2 presents the correlation among AAS, RCR, FCR, and Dimensions citations. The results indicate that AAS demonstrates only a weak positive correlation with RCR, FCR, and Dimensions citations. Consequently, the hypothesis H3: There exists a negative correlation between Altmetric Attention Score AAS and scholarly impact indicators (which are Dimensions citations, RCR, and FCR) is rejected.

8. Conclusion

The current research was done by picking the top 100 papers in the Library and Information Science field. For getting the data, the Dimensions.ai database was chosen and from there, the 100 best LIS papers

were picked based on AAS score. The analysis of data was made with the help of different analytic ways, with OpenRefine mostly for making the data clearer and Excel was used to calculate statistics and run correlation testing, generate graphs and tables. What was found is that X (formerly Twitter) is the social media channel most times appearing for AAS results, with details shows on Figure 1. Also it was clear that AAS had very high correlation to X (r = 0.97) and Bluesky (r = 0.81). For the publication years, 2018 was found having 18 out of 100 papers, making it most productive year for top AAS scoring LIS work. But, AAS was not strong related to metrics like RCR, FCR or Dimensions citations.

References

1 Nabi S and Dar S A, Analysing Research on Altmetrics and Library Science Through Bibliometric and Altmetric Mapping, *DESIDOC Jl. Lib. Info. Tech*, 46 (1) (2026) 55-64. Available from: https://publicationsdrdo.in/index.php/djlit/article/view/20627

2 Ahirwal A K and Shivarama J, Mendeley Readership and Citation Metrics of Scopus-Indexed Indian Affiliated-Books: An Altmetrics Analysis, *DESIDOC Jl. Lib. Info. Tech*, 46 (1) (2026) 45-54. Available from: https://publicationsdrdo.in/index.php/djlit/article/view/20263

3 Pereira C G, Anjos L M D, Rocha A O, Miranda N O, Gassen H C S, Cardoso M, Henriques B and Bianchini M A, Maxillary Sinus Lift: A bibliometric and altmetric analysis of the 100 most cited articles, *Clinical Implant Dentistry and Related Research*, 27 (3) 2025. Available from: https://doi.org/10.1111/cid.70041

4 Zimba O, Korkosz M, Alnaimat F, Fragoulis G E, Yessirkepov M, Baimukhamedov C and Kocyigit B F, Global practice guidelines in rheumatology: a cross-sectional altmetric and citation analysis, *Rheumatology International*, 45 (150) (2025). Available from: https://doi.org/10.1007/s00296-025-05899-z

5 Campbell R A, Helstrom E, Chew L, Eapen R, Plimack E, Correa A, Kutikov A, Abbosh P, Calaway A, Nizam A, Gupta S, Psutka SP, Barata P, Dizman N, Sindhani M, Weight C J and Bukavina L, Gender disparities in citations and altmetric attention score in oncology, *JCO Oncology Practice*, OP2400767, 22 (2) (2025) 332-341. Available from: https://doi.org/10.1200/op-24-00767

6 Tiwari S, Bharti P and Shimray S R, An Altmetric Examination of Artificial Intelligence and Emotional Intelligence: A View from PlumX Metrics, *DESIDOC Jl. Lib. Info. Tech*, 45 (4) (2025) 317-25. Available from: https://publicationsdrdo.in/index.php/djlit/article/view/21020

7 Lu W, Yu X, Li Y, Cao Y, Chen Y and Hua F, Artificial Intelligence-Related Dental Research: Bibliometric and Altmetric Analysis, *Int Dent J*, 75 (1) (2025) 166-75. Available from: https://doi.org/10.1016/j.identj.2024.08.004

8 Gudadhe-Choukhande, V P, An Altmetric analysis of top journals in library and information science indexed in Web of Science database, *Library progress international*, 44 (3) (2024) 4458-63. Available from: https://bpasjournals.com/library-science/index.php/journal/article/view/1240/782

9 Gajera N J, Guranani P V, Manadalia S H, Chaudhary A S and Asjola V, The Online Attention to Gujarat Technological University (GTU) Publications: An Altmetric Analysis, *Journal of Indian Library Association*, 60 (1) (2024) 38-45. Available from: https://journal.ilaindia.net/index.php/lib/article/view/204

10 Karabay F, Demirci M, Tuncer S, Tekçe N and Berkman M, A Bibliometric and Altmetric Analysis of the 100 top Most Cited Articles on Dentin Adhesives, *Clinical Oral Investigations*, 28 (92) (2024). Available from: https://doi.org/10.1007/s00784-024-05498-5

11 Yadav S K, Diwakar R K and Upadhyay A K, Assessing Research Impact Through Citation Analysis: A Study Of Lis Doctoral Theses Submitted To Banaras Hindu University, Varanasi, *Library progress international*, 44 (2) (2024) 1820-33. Available from: https://www.bpasjournals.com/library-science/index.php/journal/article/view/2621/1724

12 Orimi J R, Asadi M H, Jafari F, Ramezani A, Latifi S A H, khosravi A, Mahmoodi S A, Salehi M and Siamian H. Assessing the impact of history of medicine research: A scientometric and altmetric analysis, *Health Science Reports*, 7 (7) (2024) e2186. Available from: https://doi.org/10.1002/hsr2.2186

13 Guan L, Tan J, Qi B, Chen Y, Tong E, Pan J and Zou Y. The bibliometric and altmetric analysis of chronic traumatic encephalopathy research: how great is the impact?, *Frontiers in Neurology*, 15 (2024). Available from: https://doi.org/10.3389/fneur.2024.1294125

14 Khademizadeh S, Danesh F, Esmaeili S, Lund B and Santos-d'Amorim K, Evolution of retracted publications in the medical sciences: Citations analysis, bibliometrics, and altmetrics trends, *Accountability in Research*, 31(8) (2023) 1182–97. Available from: https://doi.org/10.1080/08989621.2023.2223996

15 Vadhera A S, Lee J S, Veloso I L, Khan Z A, Trasolini N A, Gursoy S, Kunze N, Chahla J and Verma N N, Open Access Articles Garner Increased Social Media Attention and Citation Rates Compared With Subscription Access Research Articles: An Altmetrics-Based Analysis, *The American Journal of Sports Medicine*, 50 (13) (2022) 3690–7. Available from: https://doi.org/10.1177/03635465221124885

16 Sener H and Polat O A, Altmetric Analysis of the Most-Cited 100 Articles on the Retina Published Between 2010 and 2020, *Retina*, 42 (2) (2021) 283–9. Available from: https://doi.org/10.1097/iae.0000000000003318

17 Saberi M K, Mokhtari H, Ouchi A and Vakilimofrad H. An Altmetrics analysis of the articles published in the Medical Journal of the Islamic Republic of Iran (1987-2020), *Medical Journal of the Islamic Republic of Iran*, 2021. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC9391759/pdf/mjiri-35-189.pdf

18 Guides: Altmetrics: What are Altmetrics? (n.d.-b). Available from: https://pitt.libguides.com/altmetrics