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Characteristics of Mendeley Readership for Earth and Planetary Science Articles: An Exploratory Study of 12 Narrow Scopus Fields

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ABSTRACT

The scientific community considers readership analysis of academic artifacts to be a significant endeavor. The reference manager's readership count is a momentous indication for early research evaluation. In response, this study demonstrates the characteristics of Mendeley readership for EPS articles from twelve narrow disciplines and compares them with citations. The bibliographic and citation data have been collected from Scopus and the corresponding readers' data from Mendeley. The Spearman correlation was performed among citations and readers for all unique articles for all investigated disciplines. Further, we also looked at the relationships between articles with non-zero readers, as well as articles satisfied by percentile ranking of the top 75 per cent, 50 per cent, and 25 per cent readers. The result indicates large correlations among citations and readers (avg. 0.669) for all investigated disciplines. If we analysed only non-zero readers, as well as a percentile ranking of articles, the correlation results show a decreasing trend. Around 98.57 per cent of articles have at least one reader in Mendeley and AS (97.53 %) discipline has registered the highest one. The CES discipline had registered the largest MRS of 32.25 and MCS of 12.75. Most of the readers come from post-doctoral students and Ph.D. students. The correlation results indicate that the readership statistics should be used as an impact indicator for EPS discipline.

Keywords: Readership analysis; Research evaluation; Mendeley; Mendeley readership; Earth and Planetary Science; Scopus; Alternative impact; Citation count

1. INTRODUCTION

Citation counts are widely used by academicians, departments, institutions, and governments for formal or informal evaluations of the impact of scientific outputs. Therefore citation counts, as a basis for quantitative measures of scientific research have been used by various stakeholders for policy-making on science, performance evaluation, career advancement, award selections, and funding decisions. Generally, articles with high citations are considered as a valuable contribution to research than low cited articles irrespective of fields and ages. Citations provide prestigious recognitions to the academicians or institutions and uphold their names in the scholarly community. However, citations based evaluation is limited to the newest article because it takes several years to collect a substantial number of citations for an article[1-2]. Unfortunately, in most cases, the recently published research is considered more relevant for the evaluation of research. One possible solution is to use alternative impact indicators that measure the faster impact of research. In this context, a range of alternative quantitative indicators has been proposed to remove one or more limitations of citation counts. These indicators include technometrics[3], webometrics[4-5], and recently altmetrics[6-7]. These indicators are mainly derived from the web, more specifically from the social web and social media. They appear earlier and more quickly than traditional citations. However, alternative metrics is an umbrella term and it is used to encompass these[8].

Reading research outputs is a key activity in the academic world. The scientific community first reads the previous pieces of literature for their knowledge development and then it appears in their further work. The accessing and reading of scholarly publications online or using some referencing tools helps us to produce everyday readership data. Thus, readership counts of scientific research are an important alternative indicator for the different stakeholders involved in scholarly practice. For scholars, it provides a live showcase for their research acceptability within the research community and how their research is reached to their aimed audience. Librarians are using readership data for the collection development of libraries, or to take managerial decisions. Publishers and editors are using it to measure the performance of the journals in the scholarly community. Academicians read scientific publications to know the current development of subject areas, to up-to-date their knowledge for teaching purposes, to inform their focus area research, to fulfill their professional development based on their expertise. Students read research articles for preparing

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notes, projects and to know the ongoing development on their subject domain.

The research environment has dramatically changed since the emergence of online referencing tools came into the academic landscape in the late 1980s[33]. Online referencing sites, like BibSonomy, Delicious, CiteULike, EndNote, and Mendeley also help to track readership data for scientific publications. Different academic social networking sites, like Academia.edu, ResearchGate also allow tracking online usages of scientific articles. ResearchGate provides readership data of scientific outputs in two segments, we will try such as abstract read and full text read. In this paper, we try to investigate the characteristic of Mendeley readership for Earth and Planetary Science articles by collecting bibliographic data from Scopus and corresponding readership statistics from Mendeley. Furthermore, it also analyses the relationships between citations and reader counts, with special emphasis on normalised citations and reader counts.

2. LITERATURE REVIEW

The last 8-9 years have also been witnessed different kinds of research using Mendeley readers' data, such as discipline-wise research[9-11], country-wise research[12-13], journal-specific research[14-18], and conference-specific research[19]. Significant positive correlations were found among citations in WoS or Scopus database and readers in Mendeley[19-22,10] or CiteULike[23].

2.1 Coverage of Mendeley

The previous literature over time has witnessed disciplinary coverage of scholarly publications in Mendeley referencing site. Thelwall & Sud[11] analysed a dataset from 5 subject categories for 2004-14 and found that 50 per cent-90 per cent of articles have been covered in Mendeley from Scopus. Another work based on a broad range of the WoS subject categories by Zahedi *et al.*[10] reported that 62.5 per cent of articles have at least one mention in Mendeley. Zahedi *et al.*[24] worked on highly cited articles from broad disciplines of WoS and it has found that around 86.5 per cent of articles have been covered in Mendeley and it has increased over time. A study has been examined on PLoS articles by Priem *et al.*[25] and found that approximately 80 per cent of articles were found in Mendeley, whereas 31 per cent and 10 per cent of articles were found in CiteULike and Delicious, respectively. Haustein *et al.*[26] worked on the coverage and use of Mendeley among bibliometricians and reported that 82 per cent of bibliometrics articles were covered by Mendeley, whereas only 28 per cent of articles were covered in CiteULike. Banshal *et al.*[27] reported that among the altmetric data platforms, Mendeley and Twitter have higher coverage of scholarly articles than others. Nath *et al.*[17] analysed readership categories of seven PLoS journals and found that 95.84 per cent of articles were indexed in Mendeley, but it differs by the journal. In contrast, Biology discipline journals account for 96.33%, while Multidisciplinary and Medical account for 95.77 per cent and 95.96%, respectively. Another similar study by Heydari *et al.*[18] analysed highly cited articles on surgery and found that 62.74 per cent of articles were covered in altmetrics as well as 61.09 per cent of articles were covered in Mendeley.

2.2 Correlation between Readers and Citations

The most researched problem in Mendeley readership analysis is to understand and established the relationship between reader counts and citations. Some pieces of literature established the relationship between citations and readership counts from referencing tools. Mohammadi *et al.*[20] worked on five disciplinary categories of the WoS database and found large correlations between citations and reader counts. A similar work by Eldakar[12], based on Egyptian articles and found positively larger correlations. He also concluded that the correlation results were varied according to the user's type and significant results had been found for those who often collaborated on a scientific article. Thelwall & Wilson[22] analysed 45 narrow subject fields of the Scopus and the corresponding readership counts from Mendeley. They discovered that all Scopus fields had strong correlation results (approximately 0.7) and also pointed out that when student reader counts had excluded, the correlation results slightly decreased. Aduku *et al.*[19] analysed Mendeley readership for conference papers and found lower correlations among readers and citation counts.

In summary, the existing body of literature has focused on readership activities associated with different subject domains. There is no detailed study that discussed narrow subject categories of the Scopus's Earth and Planetary Science. Thus, the present study aims to incorporate these research gaps and analyses characteristics of Mendeley readership categories for EPS articles.

3. OBJECTIVE

The primary objective of this paper is to demonstrate the readership activities of the articles published within twelve narrow research fields of Scopus's Earth and Planetary Science domain. It quantifies the EPS articles in terms of coverage, research fields with highly readers and citations data, types of users, and established the relationship between Scopus citations and Mendeley readers. It also examined the degree of association between normalised citation and reader scores for all investigated research fields.

4. RESEARCH QUESTIONS

The main research goal of this paper is to examine Mendeley reader counts for research articles in all narrow subject areas of Earth and Planetary Science. The research questions of this study are as follows:

- RQ1: In which research fields are Mendeley readership counts more useful for impact assessment than citation counts for the Earth and Planetary Science?
- RQ2: Are reader counts in Mendeley strongly, positively, and significantly correlated with citation counts for all narrow Scopus subject fields?
- RQ3: Do reader counts vary with occupational or professional status for all investigated fields?

5. METHODOLOGY

5.1 Data Collection

The Elsevier's Scopus was selected as the source database for this study. Among the bibliographic databases, Scopus is widely recognised and the largest one that covers a wider

range of journals and scholarly literature[28]. The journal articles within the Scopus's Earth and Planetary Science category were chosen as the focus of this study. All articles were downloaded from Scopus for the year 2017. This year was selected to give considerable time to accumulate reasonable citations usually two or three years after publication[2]. To retrieve the related documents by narrow field, we used the Scopus's All Science Journal Classification (ASJC)[32] codes (the source title spreadsheet, ASJC classification codes tab). There were 14 narrow fields within the Earth and Planetary Science category. Two fields namely General Earth and Planetary Sciences and Earth and Planetary Sciences (miscellaneous) were excluded because these two fields don't represent any specialised area of research. Finally, 12 narrow fields were included in this study i.e. Atmospheric Science (AS), Computer in Earth Science (CES), Earth-Surface Processes (ESP), Economic Geology (EG), Geochemistry and Petrology (GCP), Geology (GL), Geophysics (GP), Geotechnical Engineering & Engineering Geology (GEEG), Oceanography (OG), Paleontology (PGY), Space and Planetary Science (SPS), Stratigraphy (SG). The code number at the start of a narrow field represents the respective research area. For instance, 1902 is for Atmospheric Science, 1903 is for Computers in Earth Science. The bibliographic information of articles was downloaded as of September 2020 and the search string was formulated using ASJC code as follows:

SUBJMAIN (1902) AND DOCTYPE (ar) AND SRCTYPE (j) AND (LIMIT-TO (PUBYEAR , 2017))

SUBJMAIN (1903) AND DOCTYPE (ar) AND SRCTYPE (j) AND (LIMIT-TO (PUBYEAR , 2017))

These search queries produced 133,478 journal articles within the Earth and Planetary Science category for the year 2017. In the next step, each article was submitted to Mendeley API through Webometric Analyst software on 9-15 September 2020 to obtain Mendeley readership data. Mendeley API searched for each article using the article title, the surname of the first author, and publication year, as following title: "Comparison of the diurnal variations of precipitation east of the Tibetan Plateau among sub-periods of Meiyu season" AND author: Zhang AND year: 2017

5.2 Data Analysis

In few cases, multiple copies of an article may exist. This is because of some typos error of users when they registered the article in Mendeley. These articles are treated as duplicate articles and removed by using the Scopus unique IDs. After removing duplicates, 114,357 (AS=12,931; CES=2,997; ESP=12,589; EG=2,897; GCP=14,909; GL= 17,036; GP= 13,695; GEEG=15,935; OG=11,907; PGY=6,040; SPS= 19,277; SG= 1,770) unique articles with readers and citation counts (both zero and non-zero) from 12 narrow subject fields were chosen for further analysis. Each of the dataset was analysed by the Spearman correlation method, as a basic measure of the degree of association between two variables i.e. altmetric events and citation counts. Hence, the Spearman correlation has been used instead of the Pearson correlation because the obtained data (citations) are generally too skewed. There are too zero values (uncited articles) that need to be transformed into a normal distribution using different transformation techniques. But if we applied these techniques in our data, they will give infinite or undefined value for zero cited articles. The correlation analysis was performed based on five sets of articles: All unique articles, non-zero reader articles, as well as articles satisfied by percentile ranking of top 75%, 50%, and 25 per cent readers. Furthermore, the raw data were normalised to account for considerable variation across the discipline. We calculated the mean normalised citation score (MNCS) and mean normalised reader score (MNRS) using the formula given by Haunschild & Bornmann[29].

$$MNCS = \frac{1}{N_C}\sum_{i=1}^{N_C} R_{ic} \quad (1)$$

$$MNRS = \frac{1}{N_C}\sum_{i=1}^{N_C} R_{ic} \quad (2)$$

Where R_{ic} refers to the raw reader or citation counts of article *i*, that assigned to subject category c, and N_c denotes the total number of articles assigned to subject category *c*. Furthermore, based on the raw data following indicators have been calculated (Table 1).

The indicators across different subject fields have been investigated to give a comprehensive overview of the data and to identify characteristics regarding the readership data in comparison to citations across subject fields. All analyses were performed by R programs.

Table 1. List of indicators

Abbreviations	Descriptions
TCS	Total Citation Score
TRS	Total Reader Score
MCS	Mean Citation Score
MRS	Mean Reader Score
MCPR	Mean Citation Per Reader
MNCS	Mean Normalised Citation Score
MNRS	Mean Normalised Reader Score
Top 25% of readers	The articles stratified in the top 25% set by the readers
Top 50% of readers	The articles stratified in the top 50% set by the readers
Top 75% of readers	The articles stratified in the top 75% set by the readers

6. RESULTS

6.1 Disciplinary Coverage of Mendeley Readers

The first descriptive result was to analyse the disciplinary variation of research articles covered in Mendeley and Scopus. Out of the total of 133,478 research articles published by the narrow subject field of Scopus' Earth and Planetary Science (EPS) category in the year 2017. Among these, a total of 116,016 articles, i.e. around 86.92 per cent of EPS research articles were

found in Mendeley and 1,659 (1.43 %) articles were discarded as duplicate records. The SG discipline covered the highest (3.32 %) percentage of duplicate records, followed by GL (2.14 %), and SPS (2.13 %). The coverage of articles in Mendeley is different across disciplines. Table 2 shows the discipline-wise coverage of research articles. We observed that some disciplines have higher coverage in Mendeley. In contrast, the CES discipline has the highest coverage in Mendeley, accounts for about 92.56%, followed by the AS discipline, accounts for 90.18%, and the GP discipline, which accounts for 89.05%. Thus, the EG discipline has the lowest coverage in Mendeley, accounts for 79.39%. In terms of readership statistics, around 98.57 per cent of articles have at least one reader in Mendeley, and Atmospheric Science (97.53 %) discipline has registered the highest one, followed by PGY (96.83 %), CES (96.46 %), OG (96.44 %).

6.2 Distribution of Citations and Readers Across the Discipline

The second part of the study was to identify the disciplinary distribution of citations and readers for EPS articles (Table 3). Out of the 114,357 unique articles, 108,202 (94.62 %) articles had found in Mendeley with at least one readership statistics and 106,097 (92.78 %) articles with at least one citation statistics. This article set cumulated 2,064,459 reader counts and 1,063,687 citation counts, which shows each article received an overall MRS of 18.05 and MCS of 9.30. Amongst the observed disciplines, the CES discipline has the highest MRS (32.24) and MCS (12.75) values. We also observed that some disciplines have the largest proportionate MRS value, but the corresponding MCS value was lower. In contrast, the Oceanography (OG) discipline ranked second in terms of MRS value accounts for 23.96, whereas the MCS value accounts for 8.24. However, the MRS values were greater than double

Table 2. Coverage of EPS articles in Mendeley

Subject main	EPS articles index by Scopus in 2017	EPS articles found in Mendeley	Duplicate EPS articles in Mendeley	Unique EPS articles in Mendeley	EPS articles without readership statistics
AS	14,426	13,010	79	12,931	242
CES	2,997	2,768	21	2,747	77
ESP	12,589	10791	87	10,704	334
EG	2,897	2300	18	2,282	242
GCP	14,909	12,695	107	12,588	591
GL	17,036	14,147	303	13,844	1310
GP	13,695	12,195	134	12,061	437
GEEG	15,935	13,743	342	13,401	1770
OG	11,907	10,714	105	10,609	276
PGY	6,040	4,987	46	4,941	112
SPS	19,277	17,129	366	16,763	744
SG	1,770	1,537	51	1,486	20
Total	133,478	116,016	1,659	114,357	6,155

Table 3. Summary of EPS articles

Subject main	Unique EPS articles in Mendeley	EPS articles with readership statistics	TRS	MRS	EPS articles with citation statistics	TCS	MCS	MCPR
AS	12,931	12,689	281,769	21.79	12,178	135969	10.51	0.48
CES	2,747	2,670	86,071	32.24	2,577	35025	12.75	0.41
ESP	10,704	10,370	233,717	22.54	9,927	96347	9.00	0.41
EG	2,282	2,040	34,264	16.80	1,991	19423	8.51	0.57
GCP	12,588	11,997	228,681	19.06	11,703	117619	9.34	0.51
GL	13,844	12,534	233,160	18.60	12,275	118228	8.54	0.51
GP	12,061	11,624	215,034	18.50	11,125	110010	9.12	0.51
GEEG	13,401	11,631	157,005	13.50	12,736	96104	7.17	0.61
OG	10,609	10,333	247,611	23.96	9,759	87407	8.24	0.35
PGY	4,941	4,829	81,151	16.80	4,606	40785	8.25	0.50
SPS	16,763	16,019	237,764	14.84	15,804	191876	11.45	0.81
SG	1,486	1,466	28,232	19.26	1,416	14894	10.02	0.53
Total	114,357	108,202			106,097			

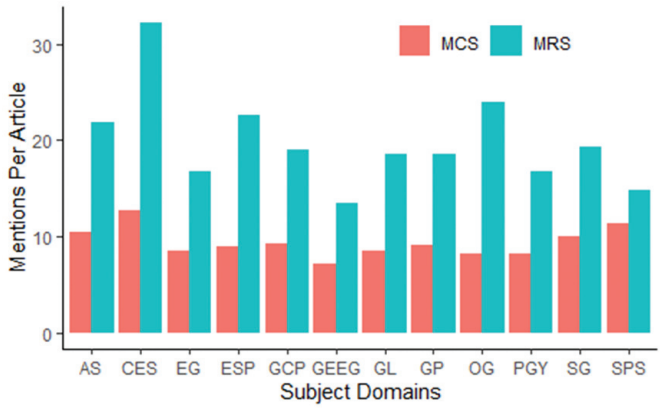

Figure 1. Distribution of MCS and MRS values across disciplines.

than MCS values for all EPS disciplines. It indicates that EPS articles were accumulated more readers than citations. The MCPR values were almost equal for all disciplines ranging from 0.35 (OG) to 0.81 (SPS).

6.3 Correlation between Citations and Readers

Because of the second research question, the Spearman correlation was performed for each narrow subject field, for all unique articles set, articles with non-zero readers set, as well as articles those satisfied three percentile sets of readers: top 75%, top 50%, and top 25%. The results are interpreted based on the Cohen[30] scale. He stated that "the correlation results (r) equal to 0.5+, 0.3+ and 0.1+ whether it is positive or negative correlations are considered to be large, medium and small, respectively, with medium and large correlations have considered being substantial". The results revealed that there were large positive correlations for all investigated subject fields (Table 4) for all unique articles, ranging from 0.725 in CES to 0.623 in PGY. But the correlation results were decreasing when we excluded zero readers, as well as for the top 75%, top 50%, and top 25 per cent readers. However, predominantly medium correlations were found for the top 25 per cent of readers for all disciplines, except for CES. And only three disciplines (AS, CES, and GEEG) had the largest correlations for the top 50 per cent of readers. An interesting aspect to note is that the subject fields having a relatively small number of articles, such as CES, EG, and SG, have registered with the highest correlation results. The scatter plots (Fig. 2) represent the graphical presentation of the relationship between citations and readers. Here, only few articles with the largest reader and citation counts (right-top corner) whereas the highly-dense area in the left-bottom corner indicates articles with lower citation and reader counts. Articles with high readers and citations have been projected in the top right corner of the graph. However, the pattern of the distribution of data does not match the linear model of distribution.

6.4 Professional Categories

EPS articles accumulated 2,064,459 readers from different user categories. The largest amounts of readers come from Ph.D. students (34.77 %) and post-doctoral researchers (22.28 %). The proportion of readership categories of EPS articles differs by discipline as shown in Fig. 3.

6.5 MNCS and MNRS

For normalisation purposes, the expected value of a paper is compared with the original value. Here, the expected value refers to average citations or readers of a group of papers in the same subject field, publication year, etc. The ratio between expected and original values is the normalised score (NC), and the average of NC is considered as the mean normalised score (MNS). We calculated MNCS and MNRS for all investigated disciplines. The CES discipline has the MNRS of 2.1. It indicates all articles published in the CES discipline have been

Table 4. Correlation analysis between citations and readers for all unique articles, non-zero readers' articles, top 75%, 50%, and 25% readers.

Subject main	Readers		Non-Zero readers		Top 75% of readers		Top 50% of readers		Top 25% of readers	
	Number	rho	Number	rho	Number	rho	Number	rho	Number	rho
AS	12,931	0.677**	12,689	0.666**	9,712	0.567**	5,558	0.509**	3,322	0.460**
CES	2,747	0.725**	2,670	0.710**	1,978	0.659**	1,380	0.628**	698	0.629**
ESP	10,704	0.642**	10,370	0.617**	8,245	0.525**	5,410	0.488**	2,750	0.471**
EG	2,282	0.690**	2,040	0.646**	1,770	0.567**	1,175	0.375**	573	0.324**
GCP	12,588	0.662**	11,997	0.634**	9,756	0.542**	6,671	0.460**	3,327	0.432**
GL	13,844	0.685**	12,534	0.648**	10,905	0.607**	6,506	0.458**	3,461	0.414**
GP	12,061	0.670**	11,624	0.650**	9,265	0.572**	6,051	0.483**	3,183	0.458**
GEEG	13,401	0.659**	11,631	0.582**	10,269	0.600**	7,158	0.508**	3,412	0.348**
OG	10,609	0.641**	10,329	0.629**	7,887	0.502**	5,371	0.436**	2,753	0.426**
PGY	4,941	0.623**	4828	0.603**	3,833	0.501**	2,559	0.434**	1,311	0.373**
SPS	16,763	0.655**	16,019	0.627**	12,893	0.543**	8,673	0.461**	4,505	0.366**
SG	1,486	0.627**	1,466	0.616**	1,067	0.452**	758	0.405**	385	0.251**

** Significance at 5%

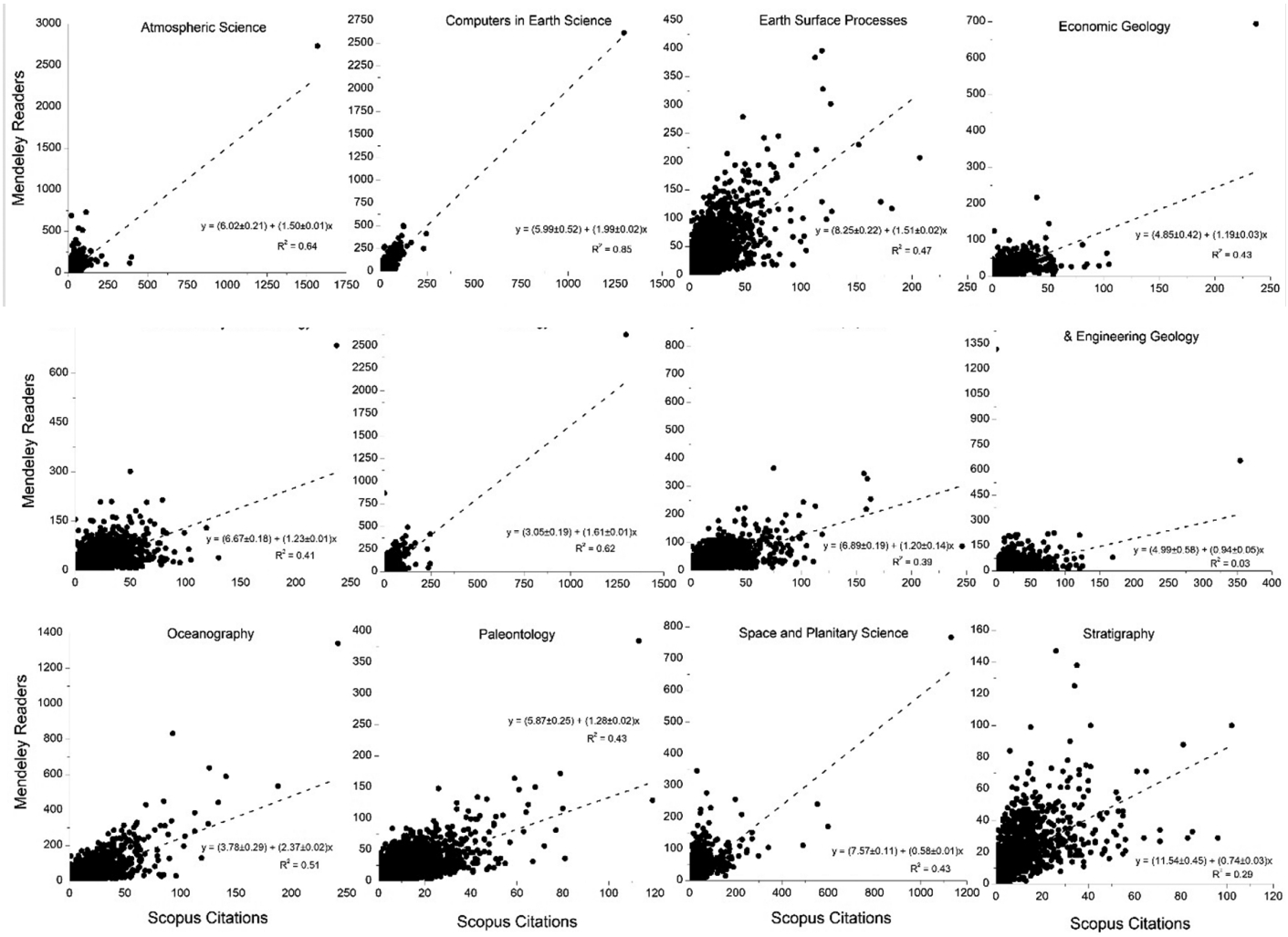

Figure 2. Scatter plots of reader counts and citation counts for 12 subject fields (all unique articles).

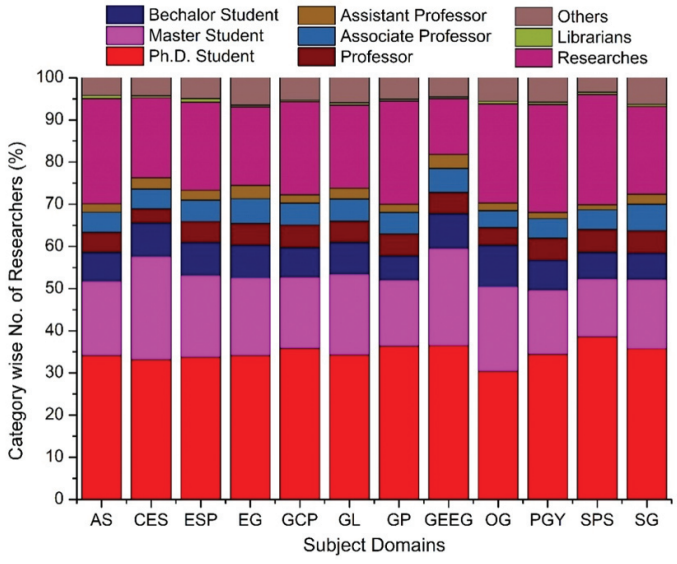

Figure 3. Proportion of reader counts (%) categories across subject domains.

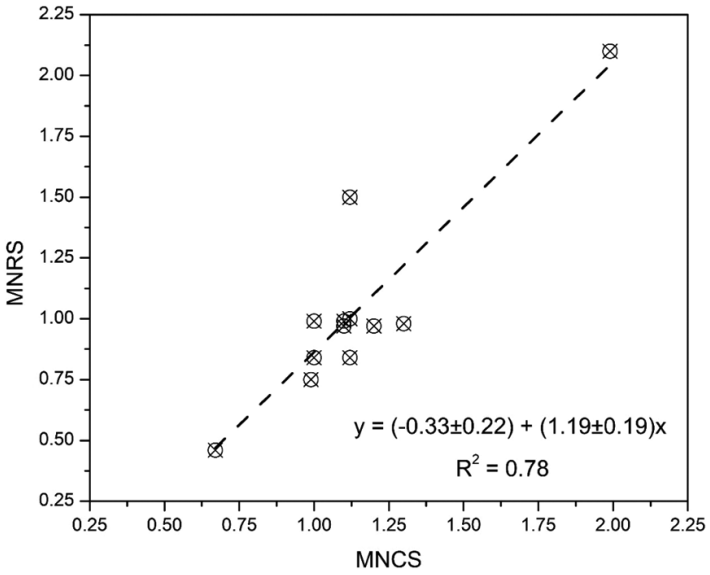

Figure 4. Scatter plot of MNRS and MNCS values for 12 subject domains.

read at least twice. The Spearman correlation was statistically significant between MNCS and MNRS (rho = 0.632 at 5% significance level) as shown in Fig. 4.

7. DISCUSSION

The present study aims to analyse and examine the characteristics of Mendeley readers for Earth and Planetary

Science articles by collecting citations from the Scopus database and corresponding readership from the Mendeley API. The CES discipline had registered the largest MRS of 32.25 and MCS of 12.75 (RQ1). A likely reason is that scholars in this field are more IT-oriented. They used updated technology and tools to carry out their research work. The Oceanography (OG) had the second-highest as per MRS, whereas corresponding MCS of 8.24. In this discipline, the proportion of students (master's student 20.13%; bachelor's student 9.79 %) and non-academic (non-academic 5.58 %) readers were relatively high among all disciplines. These reader groups may not produce any research work that is published in Scopus indexed journal, whereas the SPS area, had the largest amount of post-doctoral researchers (26.15 %) and Ph.D. students (35.58 %). Most of the readers are Ph.D. students and post-doctoral students (RQ3).

A correlation test was performed to determine the relationship between readers and citation counts. Here, we performed the Spearman correlation in place of the Pearson correlation because of the skewing nature of the dataset. Statistically significant results were found between citation counts, and Mendeley reader counts for the overall dataset, for non-zero readers, as well as top 75%, top 50%, and top 25 per cent of articles across all disciplines (RQ2). Unfortunately, the values of the correlation were decreasing from the whole dataset to the top 25 per cent of articles for all disciplines. The CES had registered the highest correlation among all subjects. It indicates Mendeley readers and Scopus citations may reflect uniform impact for research articles[13].

The scatter plots show the relationship between reader counts and citation counts for all subject domains. Here we observed few articles had not received any citations, but disproportionately attract many readership counts in Mendeley (mainly in the GL, GP, and GEEG domains), because of some un-citable documents wrongly indexed under the 'article' category in the Scopus, such as the general assembly, symposium, foundation news, etc. Interestingly, some articles had received more citations (particularly in the SG domain) whereas corresponding Mendeley readers were relatively low. For instance, the article "Investigation on the pore structure and multifractal characteristics of tight oil reservoirs using NMR measurements: Permian Lucaogou Formation in Jimusaer Sag, Junggar Basin" had received 96 citations in the Scopus, but accumulated only 29 readers in Mendeley. The reason is that the researchers in this field may not use Mendeley due to limited internet access or their working pressure.

Compared to a large-scale study by Thelwall[21], found a strong overall correlation (0.672) for all Scopus narrow subject domains. The results were declining (overall 0.658) when zero-reader was excluded from the datasets. Our findings also collaborate with the previous study by Zahedi *et al.*[24] as they remarked Life and Earth Science articles had the highest coverage in Mendeley and the MRS values larger than the MCS values.

Besides the aforesaid findings, this study also has some limitations. Firstly, this study was limited to the subject categorisation of Scopus, which was completely journal-wise categorisation. One journal may be categorised into one or more subject fields, and these issues haven't been addressed. However, these categorisations may not be corrected or comprehensive. Secondly, Scopus is not 100 per cent comprehensive[31] among the bibliographic databases. Many more bibliographic databases both open access and paywall based are available in the academic world and their coverage also varied. In this paper, we only consulted the Scopus and it may lead to biased. Thirdly, we only used the reader's data from Mendeley referencing tool. Moreover, readership data of scientific articles may also be accessed or recorded through the journal's website, academic social network sites like ResearchGate, Academia.edu, and other referencing tools like CiteULike, BibSonomy, and Delicious available in the same line, which doesn't include in this study. Fourthly, the analysis is incorporated only research articles published in a single year. Results may vary with other years.

8. CONCLUSION

This study has been addressed to understand the readership activities for twelve narrow disciplines of Scopus's Earth and Planetary Science articles and demonstrates readership impact on those articles. The result indicates that around 98.57 per cent of articles have at least one reader in Mendeley and the largest amounts of readers come from Ph.D. students (34.77 %) and post-doctoral researchers (22.28 %). The correlation test conformed that citation counts have strong positive correlations to reader counts for EPS articles. We have also noticed that academic readership has an unavoidable impact on scholarly publications for evaluating a broader aspect of research. Moreover, the positive association among Mendeley readers and Scopus citations may reflect a uniform impact for EPS research articles.

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