



Analysis of data sharing policy of Asian journals

Jihyun Kim
kim.jh@ewha.ac.kr

Department of Library and Information Science
Ewha Womans University, Seoul, Korea

CASE 2022 Conference

PRESENTATION OUTLINE

INTRODUCTION

METHODS

RESULTS

- Journals with a data sharing policy by **subject**, **country**, **impact factor quartile**, and **publisher**
- **Strengths** of data sharing policies

CONCLUSIONS & FUTURE WORK

INTRODUCTION: BACKGROUND & RATIONALE

(1/3)

- **Journals play an important role in fostering the culture of open science by establishing and implementing data sharing policies**
 - Journals' data sharing requirements pressure authors to engage in data sharing and affect data sharing norms and behaviors ([Kim & Burns, 2016](#))
- **Several studies have examined publisher/journal data sharing policies on the following levels** ([Woods & Pinfield, 2022](#))
 - Publisher (e.g., DOAJ or PLoS)
 - Field or discipline (e.g., a specific field such as biology or across disciplines such as life, health, and physical sciences)
 - Individual journal

INTRODUCTION: BACKGROUND & RATIONALE

(2/3)

- **Factors associated with the existence or strengths of journal data sharing policies** ([Kim et al., 2020](#))
 - Impact factors (e.g., journals with higher impact factors are more likely to require data sharing)
 - Disciplines (e.g., life science journals are more likely to have strong data sharing policy than health science journals)
 - Type of Journal publishers (e.g., journals from non-commercial publishers were more likely to have no data sharing policy than those from commercial publishers)
 - Geographic location of publishers
- **Significant differences exist in research data policies among journals in different countries and regions** ([Jeong, 2020](#))
 - Only a few studies have investigated the data sharing policies of journals in a single Asian country ([Ikeuchi & Itsumura, 2016](#); [Kim, Yi & Huh, 2019](#); [Jeong, 2020](#); [Wang et al., 2022](#))
 - Little research has been conducted on the data sharing policies of journals published across Asian regions

INTRODUCTION: BACKGROUND & RATIONALE

(3/3)

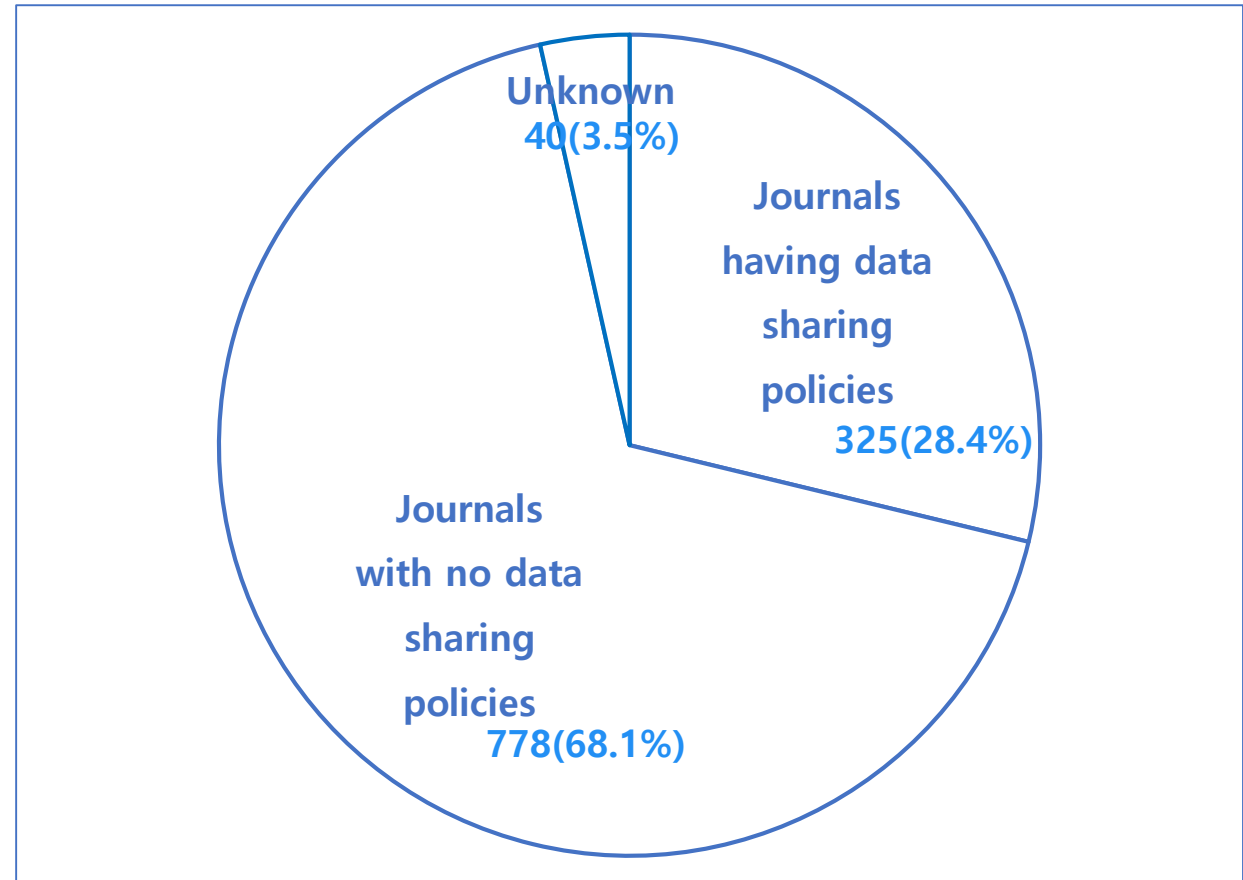
- **The purpose of this study was to investigate the current status of, and factors associated with having data sharing policies in terms of journals published in Asiatic regions**
 - Data from 1,103 journals from 16 countries were analyzed
- **Research questions**
 - To what extent do Asian journals have data sharing policies?
 - What factors are associated with whether Asian journals have data sharing policies?
 - How enforceable are the data sharing policies of Asian journals?

- **Downloaded data from the 2020 SCImago Journal and Country Ranking (SJR)**
(<https://www.scimagojr.com/>)
 - Conducted a search with three parameters on the 'Journal Rankings' menu in Jan. 2022
 - 'Asiatic Region' (regions/countries)
 - 'Journals' (types)
 - 'Only Web of Science (WoS) journals'
- **The following data were collected from 1,143 journals:**
 - Title
 - SJR Quartiles
 - Countries
 - Publishers
 - Subject categories

- **Identified the journals' data sharing policies**
 - Visited the journals' homepages and searched for data sharing policies
 - Mostly located in guidelines for authors
 - Selection criteria
 - Journals that explicitly mentioned requiring or encouraging research data sharing and/or data availability statements were included
 - Journals that only provided supplementary material policies were not included

RESULTS: JOURNALS WITH DATA SHARING POLICIES

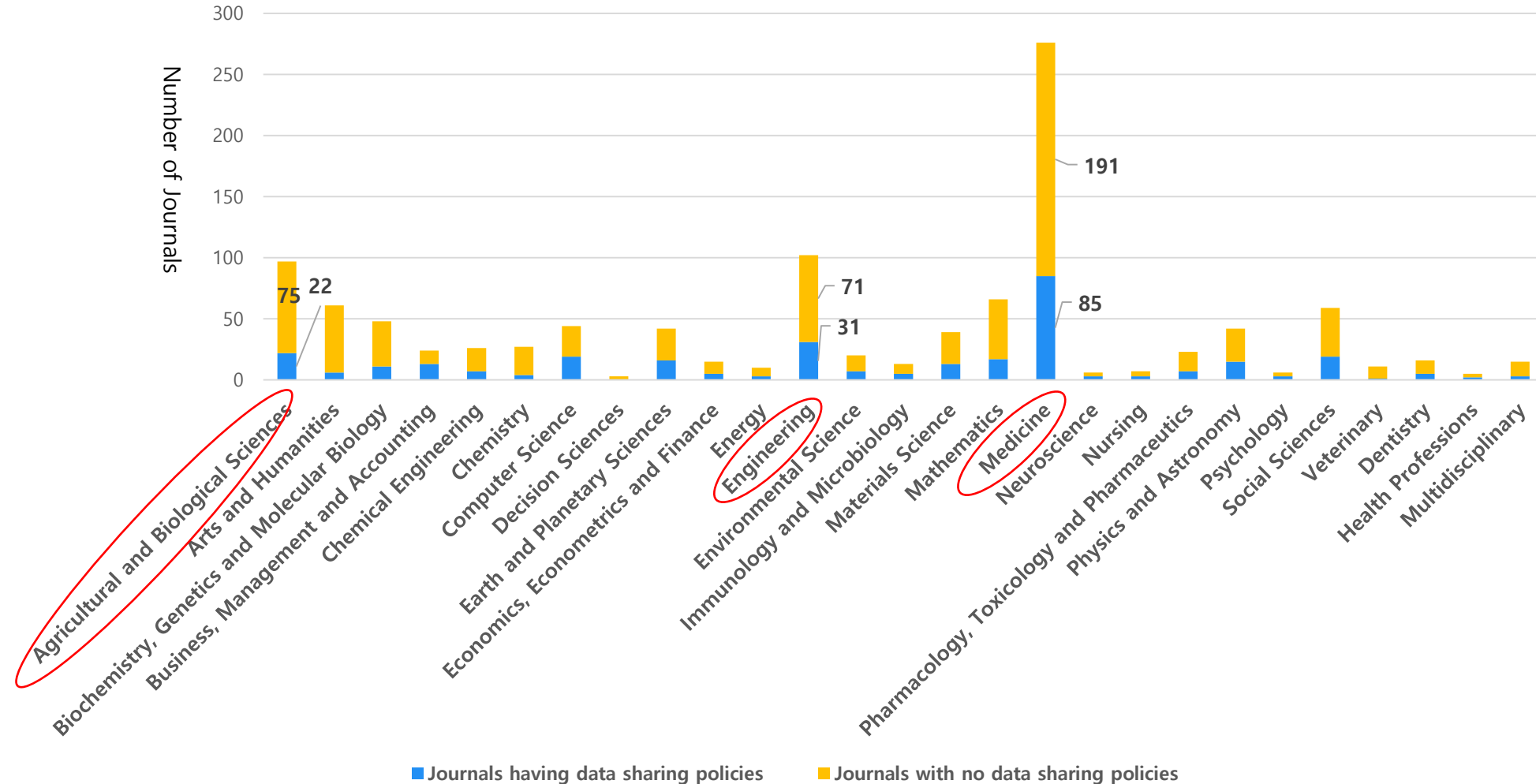
- Of the 1,143 journals searched, **325 (28.4%)** provided data sharing policies
- Forty journals could not be examined for the following reasons:
 - Inaccessible homepages
 - No English homepages
 - No author guidelines
- After excluding 40 journals, **1,103 journals** were analyzed



RESULTS: DATA SHARING POLICIES BY SUBJECT

(1/2)

- The number of journals with a data sharing policy vs. those with no such policy by subject areas



RESULTS: DATA SHARING POLICIES BY SUBJECT

(2/2)

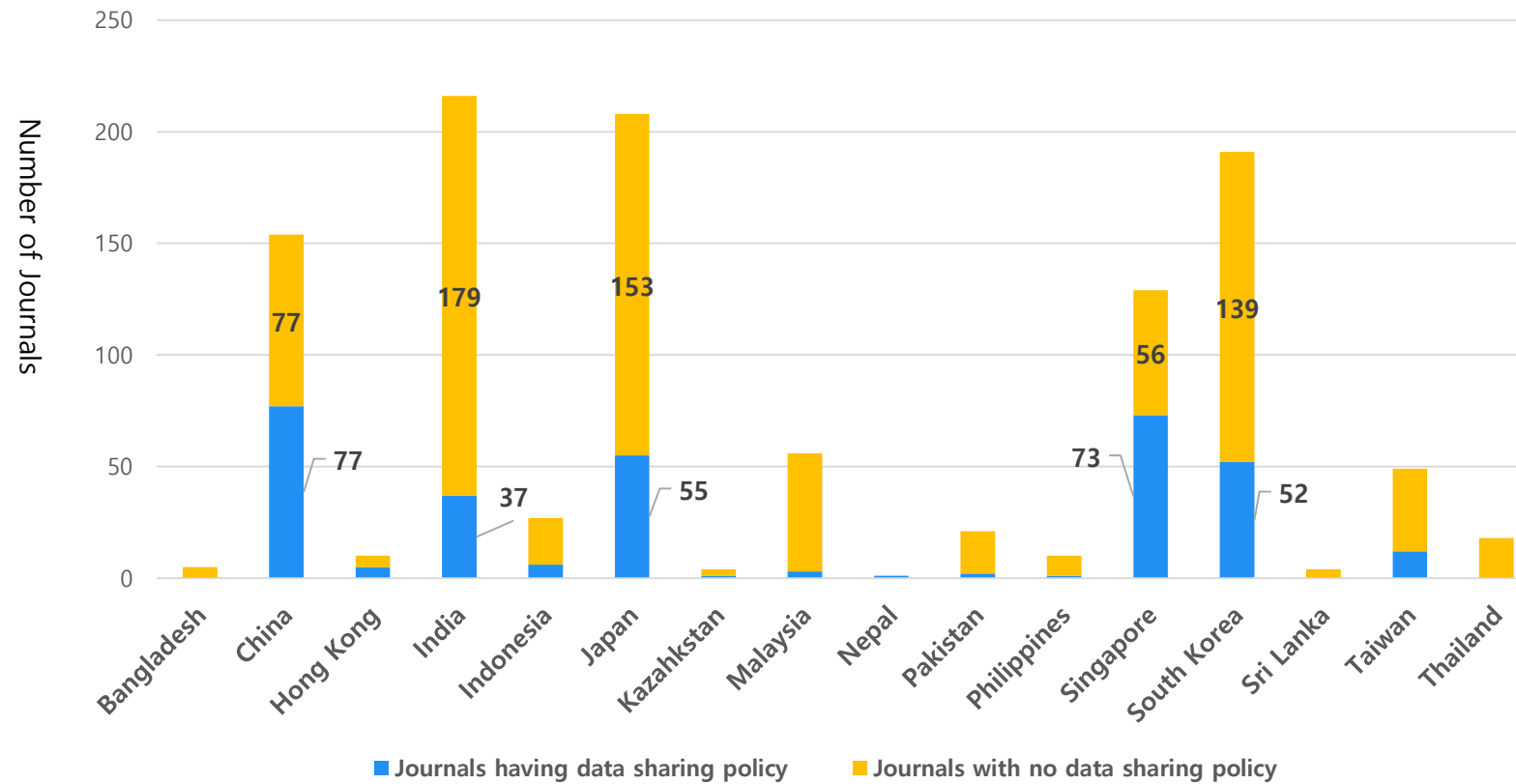
- Subject areas of journals with a data sharing policy
 - Sorted by the total number of journals in each subject area

Rank	Subject areas	Journals having data sharing policy		Total no. of journals	Rank	Subject areas	Journals having data sharing policy		Total no. of journals
		freq.	%				freq.	%	
1	Medicine	85	30.8	276	15	Pharmacology, Toxicology and Pharmaceutics	7	30.4	23
2	Engineering	31	30.4	102	16	Environmental Science	7	35.0	20
3	Agricultural and Biological Sciences	22	22.7	97	17	Dentistry	5	31.3	16
4	Mathematics	17	25.8	66	18	Economics, Econometrics and Finance	5	33.3	15
5	Arts and Humanities	6	9.8	61	19	Multidisciplinary	3	20.0	15
6	Social Sciences	19	32.2	59	20	Immunology and Microbiology	5	38.5	13
7	Biochemistry, Genetics and Molecular Biology	11	22.9	48	21	Veterinary	1	9.1	11
8	Computer Science	19	43.2	44	22	Energy	3	30.0	10
9	Earth and Planetary Sciences	16	38.1	42	23	Nursing	3	42.9	7
10	Physics and Astronomy	15	35.7	42	24	Neuroscience	3	50.0	6
11	Materials Science	13	33.3	39	25	Psychology	3	50.0	6
12	Chemistry	4	14.8	27	26	Health Professions	2	40.0	5
13	Chemical Engineering	7	26.9	26	27	Decision Sciences	0	0.0	3
14	Business, Management and Accounting	13	54.2	24	Total		325		1,103

RESULTS: DATA SHARING POLICIES BY COUNTRY

(1/2)

- The number of journals with a data sharing policy vs. those with no such policy by countries



RESULTS: DATA SHARING POLICIES BY COUNTRY

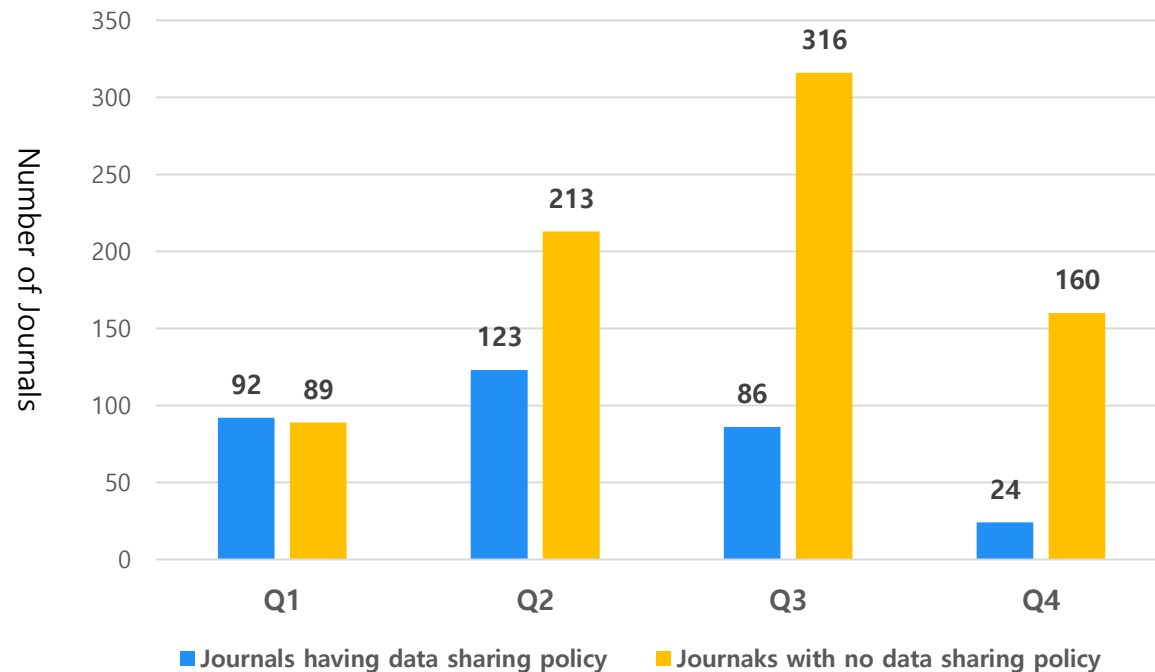
(2/2)

- Countries of journals with a data sharing policy
 - Sorted by the total number of journals in each country

Rank	Country	Journals having data sharing policy		Total no. of journals
		freq.	%	
1	India	37	17.1	216
2	Japan	55	26.4	208
3	South Korea	52	27.2	191
4	China	77	50.0	154
5	Singapore	73	56.6	129
6	Malaysia	3	5.4	56
7	Taiwan	12	24.5	49
8	Indonesia	6	22.2	27
9	Pakistan	2	9.5	21
10	Thailand	0	0.0	18
11	Hong Kong	5	50.0	10
12	Philippines	1	10.0	10
13	Bangladesh	0	0.0	5
14	Kazakhstan	1	25.0	4
15	Sri Lanka	0	0.0	4
16	Nepal	1	100.0	1
Total		325		1,103

RESULTS: DATA SHARING POLICY BY SJR QUARTILES

- The number of journals with a data sharing policy vs. those with no such policy by SJR Quartiles

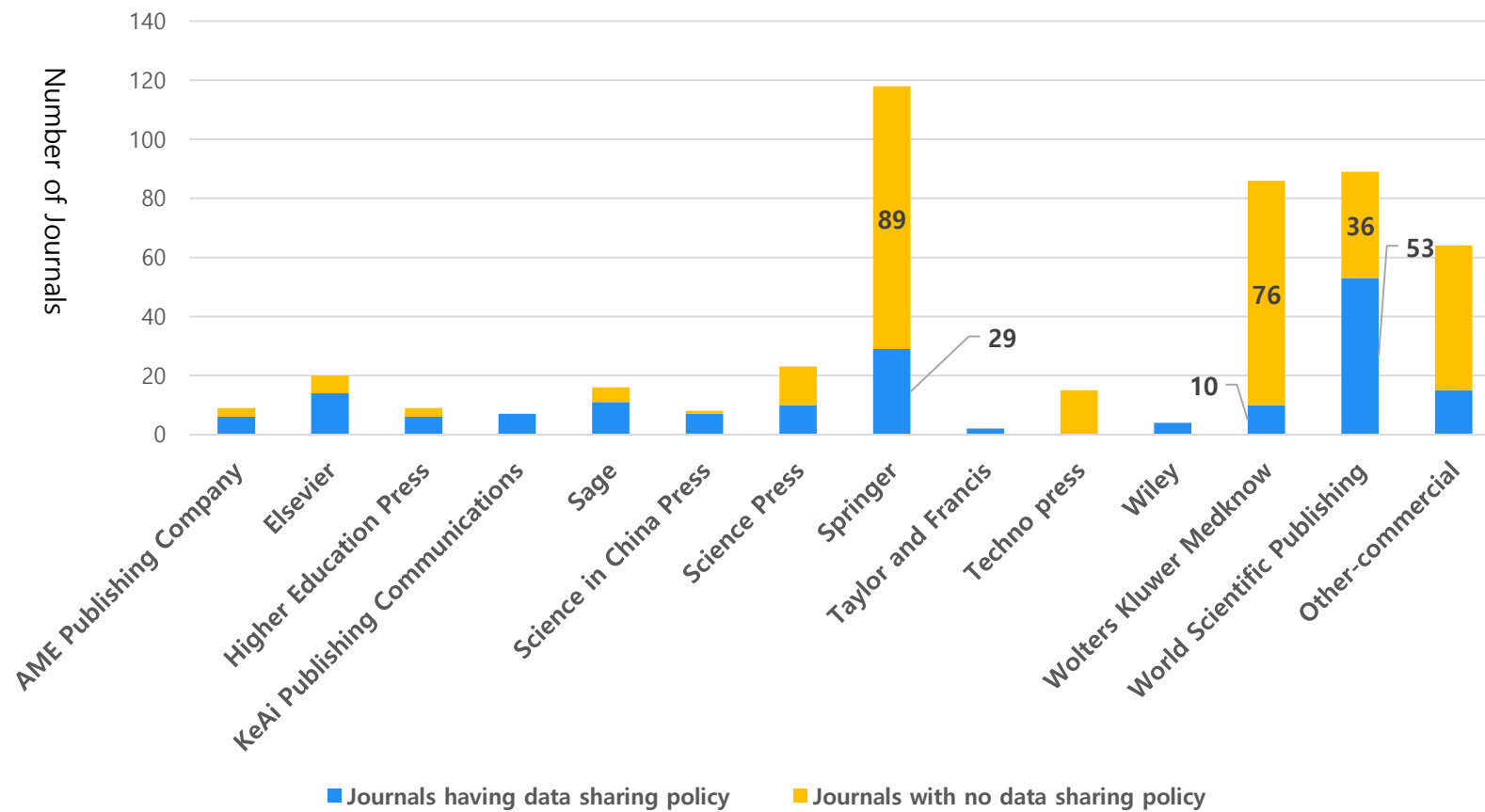


- A chi-square test was performed to examine if there was an association between whether journals have data sharing policies and SJR quartiles
 - There was a significant association between journals' having a data sharing policy and SJR quartiles ($\chi^2(3) = 84.47, p < .001$)

RESULTS: DATA SHARING POLICY BY PUBLISHER

(1/4)

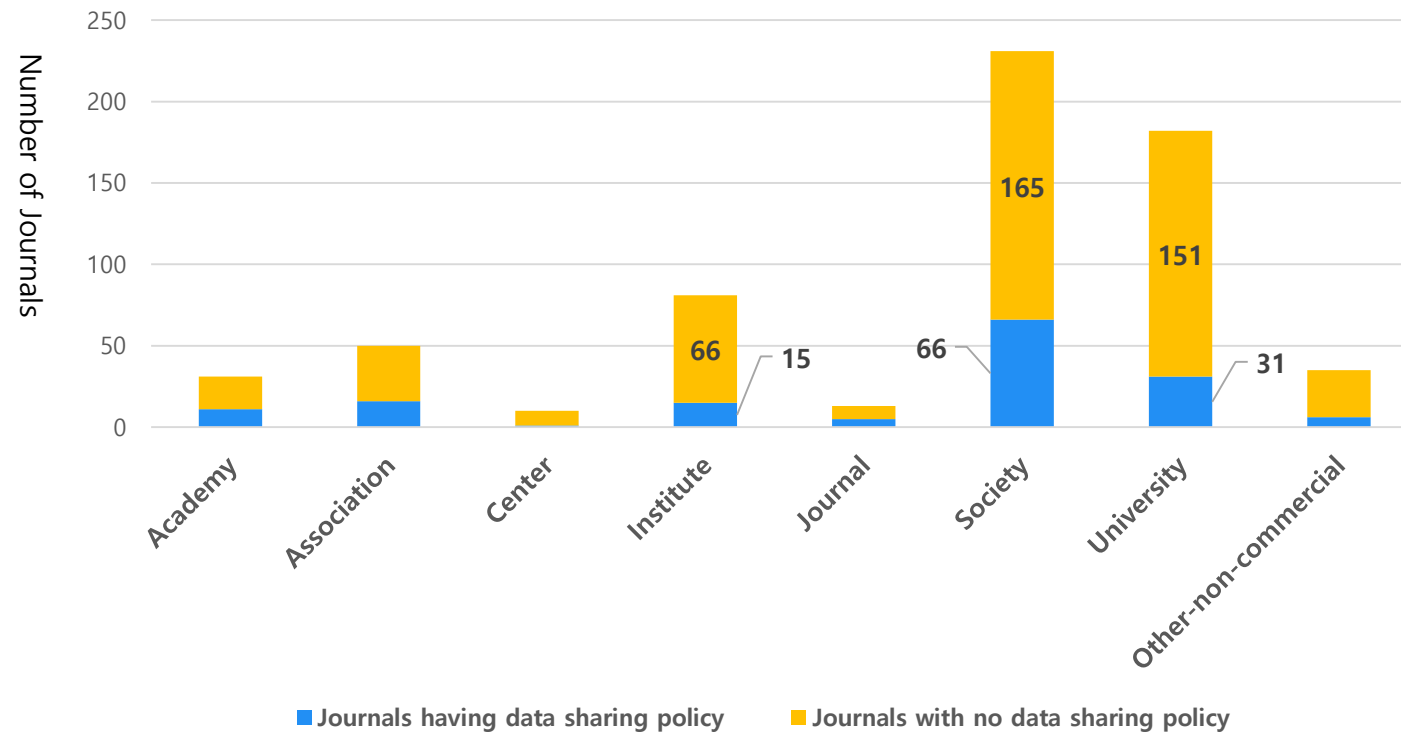
- The number of journals with a data sharing policy (n=174) vs. those with no such policy (n=296) by commercial publishers (n=470)



RESULTS: DATA SHARING POLICY BY PUBLISHER

(2/4)

- The number of journals with a data sharing policy (n=151) vs. those with no such policy (n=482) by **non-commercial publishers (n=633)**



RESULTS: DATA SHARING POLICY BY PUBLISHER

(3/4)

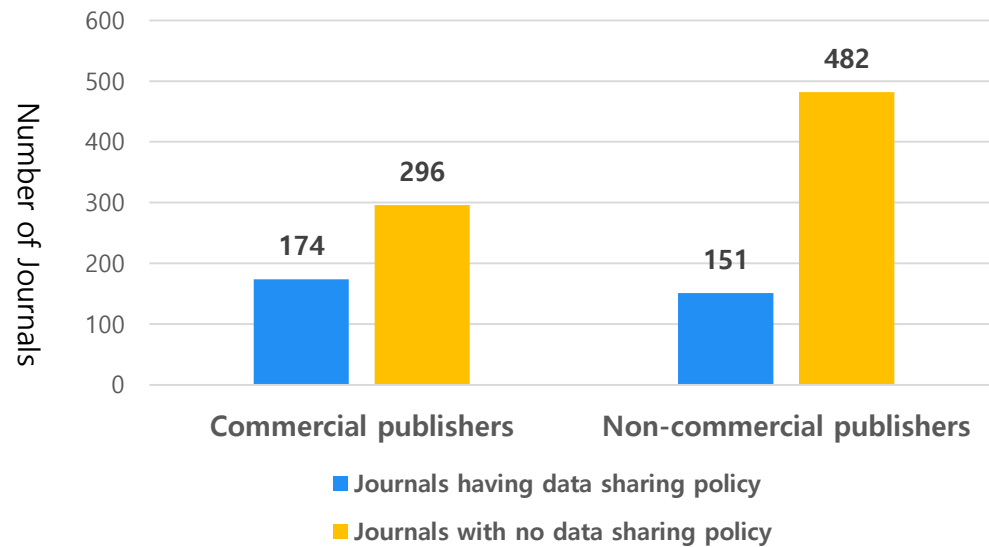
- Publishers of journals with a data sharing policy
 - Sorted by the total number of journals per publisher

Rank	Commercial publishers	Journals having data sharing policy		Total no. of journals
		freq.	%	
1	Springer	29	24.6	118
2	World Scientific Publishing	53	59.6	89
3	Wolters Kluwer Medknow	10	11.6	86
4	Science Press	10	43.5	23
5	Elsevier	14	70.0	20
6	Sage	11	68.8	16
7	Techno press	0	0.0	15
8	AME Publishing Company	6	66.7	9
9	Higher Education Press	6	66.7	9
10	Science in China Press	7	87.5	8
11	KeAi Publishing Communications	7	100.0	7
12	Wiley	4	100.0	4
13	Taylor and Francis	2	100.0	2
	Other-commercial	15	23.4	64
	Total	174		470

Rank	Non-commercial publishers	Journals having data sharing policy		Total no. of journals
		freq.	%	
1	Society	66	28.6	231
2	University	31	17.0	182
3	Institute	15	18.5	81
4	Association	16	32.0	50
5	Academy	11	35.5	31
6	Journal	5	38.5	13
7	Center	1	10.0	10
	Other-non-commercial	6	17.1	35
	Total	151		633

RESULTS: DATA SHARING POLICY BY PUBLISHER

(4/4)



- A chi-square test was performed to examine if there was an association between whether journals have a data sharing policy and whether publishers were commercial or non-commercial
 - There was a significant association between journals' having a data sharing policy and whether publishers were commercial or not ($\chi^2(1) = 22.72, p < .001$)

RESULTS: STRENGTHS OF DATA SHARING POLICY

(1/2)

		Data availability statement is published	Data have been shared	Data have been peer-reviewed
Level 1	Encourages data sharing	optional	optional	optional
Level 2	Expects data sharing	required	optional	optional
Level 3	Mandates data sharing	required	required	optional
Level 4	Mandates data sharing and peer-reviews data	required	required	required

- The vast majority of data sharing policies in 325 Asian journals encouraged data sharing
 - Level 1: 241 (74.2%)
 - Level 2: 52 (16.0%)
 - Level 3: 32 (9.8%)
 - Level 4: 0 (0.0%)

Source: Modified from [Wiley's Data Sharing Policies](#)

RESULTS: STRENGTHS OF DATA SHARING POLICY

(2/2)

- Examples of policy statements

1

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. [...] you are encouraged to cite the data in your manuscript and reference list.

Level 1

Indian Heart Journal
(Cardiology Society of India)

2

All manuscripts must include an 'Availability of data and materials' statement. Data availability statements should include information on where data supporting the results reported in the article can be found including, where applicable, hyperlinks to publicly archived datasets analysed or generated during the study.

Level 2

Protection and Control of Modern Power Systems
(Singapore, Springer Open)

3

Open Data Policy

For clarification on result accuracy and reproducibility of the results, raw data or analysis data will be deposited to a public repository or CERM homepage after acceptance of the manuscript. Therefore, submission of the raw data or analysis data is mandatory.

Level 3

Clinical and Experimental Reproductive Medicine
(Korean Society for Reproductive Medicine)

CONCLUSIONS AND FUTURE WORK

- **The proportion of Asian journals with a data sharing policy was less than one-third (28.4%)**
 - Asian journals have gradually adopted data sharing policies
- **Most journals only encourage data sharing, and some require data availability statements, which does not necessarily mean that data are actually shared** ([Federer et al., 2018](#); [Naudet et al., 2018](#))
 - Considering varying degrees of policy strength and an effective way to make researchers comply with data sharing policies is important
- **Factors associated with whether Asian journals have a data sharing policy**
 - Impact factors
 - There is a relationship between impact factors and the existence of data sharing policies
 - Types of publishers
 - Major commercial publishers (e.g., Springer) actively support data sharing
- **Further research on other factors that can affect the presence or strength of a data sharing policy is needed**

REFERENCES

- Federer, L. M., Belter, C. W., Joubert, D. J., Livinski, A., Lu, Y.-L., Snyders, L. N., & Thompson, H. (2018). Data sharing in PLOS ONE: An analysis of Data Availability Statements. *PLoS ONE*, *13*(5), e0194768. <https://doi.org/10.1371/journal.pone.0194768>
- Ikeuchi, U., & Itsumura, H. (2016). Data sharing policies in scholarly journals across different disciplines: A comparative analysis. *Journal of Japan Society of Library and Information Science*, *62*(1), 20–37. https://doi.org/10.20651/jslis.62.1_20
- Jeong, G. H. (2020). Status of the data sharing policies of scholarly journals published in Brazil, France, and Korea and listed in both the 2018 Scimago Journal and Country Ranking and the Web of Science. *Science Editing*, *7*(7), 136–141. <https://doi.org/10.6087/kcse.208>
- Kim, J., Kim, S., Cho, H.-M., Chang, J. H., & Kim, S. Y. (2020). Data sharing policies of journals in life, health, and physical sciences indexed in Journal Citation Reports. *PeerJ*, *8*, e9924. <https://doi.org/10.7717/peerj.9924>
- Kim, S. Y., Yi, H. J., & Huh, S. (2019). Current and planned adoption of data sharing policies by editors of Korean scholarly journals. *Science Editing*, *6*(1), 19-24. *Science Editing*. <https://doi.org/10.6087/kcse.151>
- Kim, Y., & Burns, C. S. (2016). Norms of data sharing in biological sciences: The roles of metadata, data repository, and journal and funding requirements. *Journal of Information Science*, *42*(2), 230–245. <https://doi.org/10.1177/01655515155592098>
- Naudet, F., Sakarovitch, C., Janiaud, P., Cristea, I., Fanelli, D., Moher, D., & Ioannidis, J. P. A. (2018). Data sharing and reanalysis of randomized controlled trials in leading biomedical journals with a full data sharing policy: Survey of studies published in The BMJ and PLOS Medicine. *BMJ*, *360*, k400. <https://doi.org/10.1136/bmj.k400>
- Wang, Y., Chen, B., Zhao, L., & Zeng, Y. (2022). Research data policies of journals in the Chinese Science Citation Database based on the language, publisher, discipline, access model and metrics. *Learned Publishing*, *35*(1), 30–45. <https://doi.org/10.1002/leap.1437>
- Woods, H. B., & Pinfield, S. (2022). Incentivising research data sharing: A scoping review. *Wellcome Open Research*, *6*, 355. <https://doi.org/10.12688/wellcomeopenres.17286.2>

*Thank
you*

