

# Data Sharing Policies in Scholarly Publications: Interdisciplinary Comparisons

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## Objective

Data sharing is promoted in different avenues; a powerful one is the scholarly publication process. This research examines interdisciplinary differences in journal data sharing policies and, to a smaller extent, data sharing policies of major publishers.

## Design

The websites of a sample of academic journals and of major journal publishers were examined for information on policies relating to the sharing of data supporting the research. Unlike the usual research strategy in the field, we opted for a broader, across-disciplines sample, albeit at the expense of depth.

## Data Sharing: definitions

Two definitions were adopted:

**Enabling data sharing:** policy of possible but not mandatory sharing of academic paper-related research data on a digital platform

**Strong data sharing** where at least some types of data *must* be deposited for open sharing as a condition for publication.

## Journal Sample

The journal sample was selected from fifteen disciplines, drawn from five main academic discipline categories. These are:

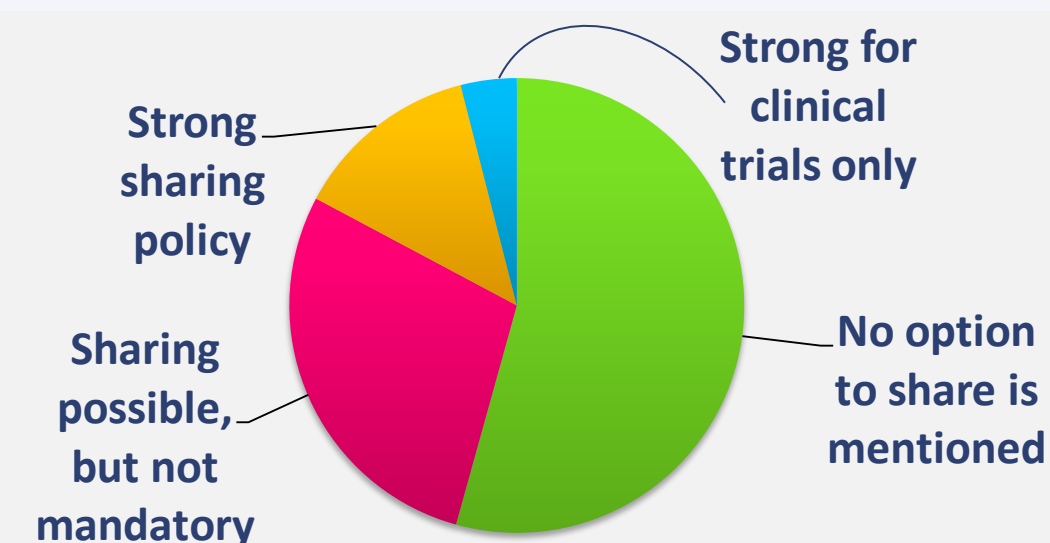
- **Biomedical Sciences**, including Life Sciences and Medicine;
- **Physical Sciences**, here meaning Natural Sciences without Life Sciences;
- **Social Sciences**;
- **Arts and Humanities**;
- **Formal Sciences**.

For each of the 15 disciplines, journals were ranked according to the Scientific Journal Ranking (SJR) score. 10 representative journals were selected through the ranking for each discipline.

In total, 150 journals were examined.

## Results

### Overall



Overall, 29% of the sample journals enable data sharing - but it is not mandatory. In 13% of the journals, strong data sharing policies are in place.

Over half of the journals provided no option for data sharing. See Chart.

## Interdisciplinary comparisons

The table shows the central results for journal policies in the 5 discipline categories

Discipline group	Discipline listing		Journals enabling data sharing		Journals with strong data sharing	
	No.	Discipline	No.	% **	No.	%**
Biomedical Sciences	4	Genetics, Neuroscience, Oncology, Pharmacology (Medical)	27	67%	12	30%
Physical Sciences	3	Chemistry, Geology, Ecology	13	43%	3	10%
Social Sciences	3	Economics, Social Psychology, Political Science & Int. Relations	14	47%	3	10%
Arts and Humanities	3	Archeology, Music, History	8	27%	1	3%
Formal Sciences	2	Computer Science, Statistics & Probability	7	35%	1	3%

\*\* Out of all the journals sampled for the discipline group

Notable differences across disciplines were found also in data hosting solutions for journals with strong data sharing policies. Details are available on request.

## Role of Publishers

The research showed the importance of the major journal publishers in promoting data sharing.

The *five leading publishers* account for 56% of the journals enabling sharing and 46% of the strong data sharing journals. Yet they publish only a third of the sample journals..

## Conclusions

Assuming that journal and publisher policies are an important indicator of actual data sharing, the results consolidate the notion of the primacy of *Biomedical Sciences* in the implementation of data sharing and the lagging implementation in the *Arts and Humanities*.

The results show similar levels of adoption in the *Physical* and *Social Science* and to the overlooked status of the *Formal Sciences*, which demonstrate low levels of data sharing implementation.

A caveat: Other tools for encouraging data sharing exist; these may be stronger than publication policies in less "journal-centric" disciplines.

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