



# Increased Impact for Open Publishing

Susanne Mikki et al  
Munin conference





# Background

We know that

- About 20% of all Norwegian articles are gold OA
- According to GS link resolver
  - Our case study on climate\* showed that 74% of articles are open
  - Similar studies recently report an open share of 60-70%
- Open publications are more often cited than paywalled publications

\* Mikki, S., Al Ruwehy, H. A., Gjesdal, Ø. L., & Zygmuntowska, M. (accepted by Library Hi Tech). Filter bubbles in interdisciplinary research. A Case study on climate and society.





# Research questions

1. What is the open-share of all Norwegian articles according to GS link resolver and according to oaDOI?
2. Can the citation advantage for open articles been proved for the total article output of Norway?
3. Are open articles more frequently mentioned on social media platforms?
4. Is there a citation advantage for articles mentioned on social medias?





# Study design

- Article output as of Cristin (the Norwegian System), 2011-2015
- Search GS by DOI or title (January 2017)
  - Using automated queries and web scraping
  - Analyze by full text provider and citation counts
  - Determine recall (96%)

**Title**  
Phonological awareness and rapid automatized naming predicting early development in reading and spelling: Results from a cross-linguistic longitudinal study

**Format Provider**  
[HTML] nih.gov

B Fumes, S Samuelsson - Learning and Individual Differences, 2011 - Elsevier  
In this study, the relationship between latent constructs of phonological awareness (PA) and rapid automatized naming (RAN) was investigated and related to later measures of reading and spelling in children learning to read in different alphabetic writing systems (ie, Norwegian/Swedish vs. English). 750 US/Australian children and 230 Scandinavian children were followed longitudinally between kindergarten and 2nd grade. PA and RAN ...  
Cited by 106 Related articles All 15 versions Cite Save

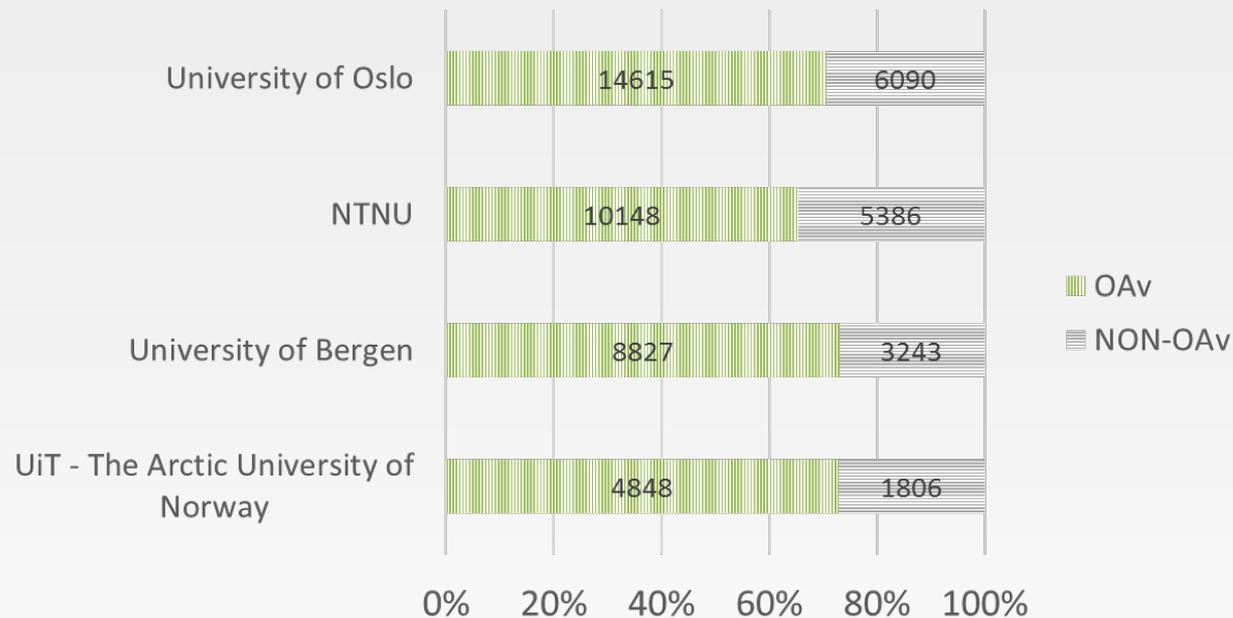
**Citations**      **Versions**

- Search oaDOI (for articles with DOI), analyze by type of oa
- Search altmetric.com by DOI, analyze mentions





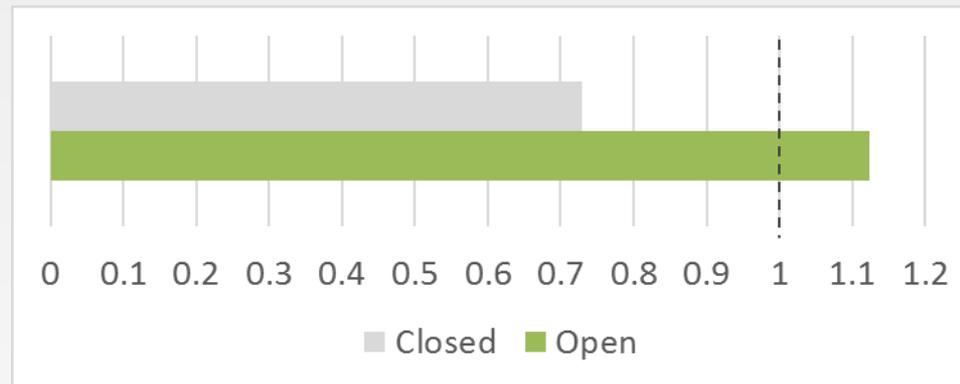
# Results: Open availability



We find

- About 70% openness across the research sector, with UiT and UiB at the top.
- The share is about the same as reported in our earlier study on climate and society.
- However, openness depend strongly on discipline (Typically, Health and Natural sciences at the top).

# Citation index normalized by field and year



The average citation rate for all articles is equal to 1.  
Open articles are cited more than 10% above average.  
Closed articles are cited almost 30% less than average.

Our study finds a clear citation advantage for open articles.





## Top providers according to GS link resolver

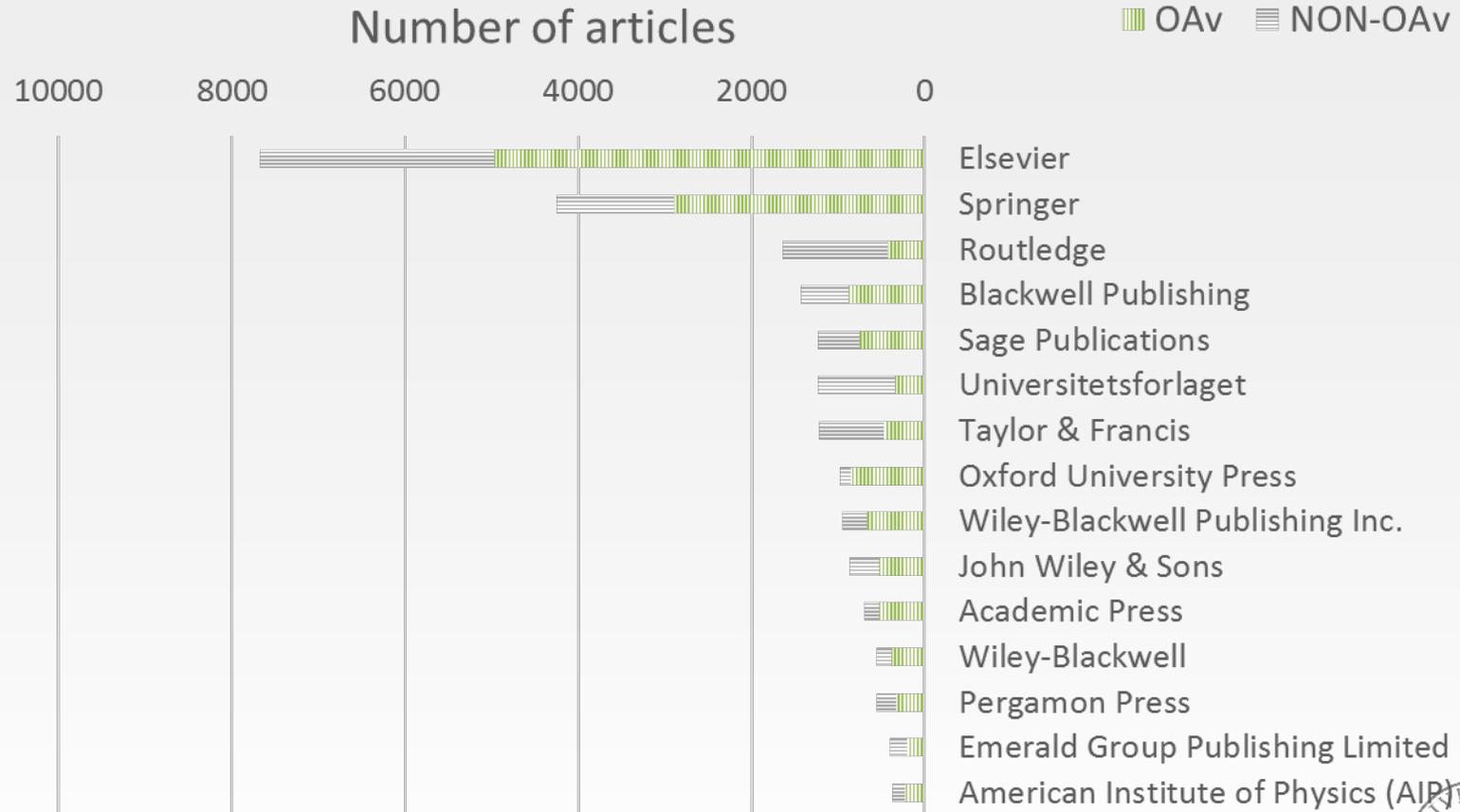
Top providers	Number of articles
researchgate.net	8644
academia.edu	2652
bibsys.no	2339
biomedcentral.com	2149
wiley.com	1987
sciencedirect.com	1784
arxiv.org	1671
plos.org	1394
oxfordjournals.org	1007
nih.gov	1006
springer.com	969
uio.no	877
psu.edu	711
uit.no	691

- Results biased by GS link priority, probably favoring RG and academia before IR and publisher sites.
- Whether articles are legally deposited in particular RG or academia is not clear.

Norwegian domains/archives	Number of articles
bibsys.no	2339
uio.no	877
uit.no	691
hio.no	554
uib.no	453
ntnu.no	392
idunn.no	220
novus.no	192
hioa.no	163
hit.no	108

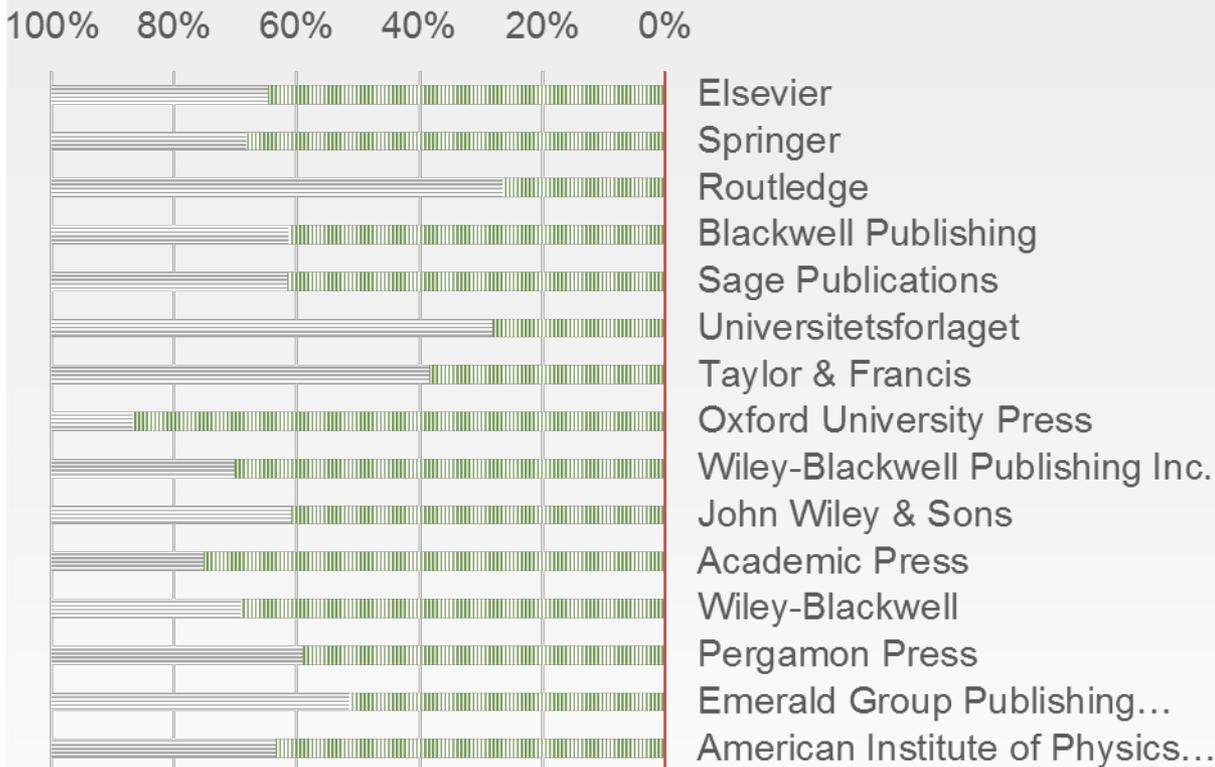


# Open availability by publisher





## Open shares by publisher (%)



Surprisingly high open availability by Elsevier and Springer, the largest publishers.

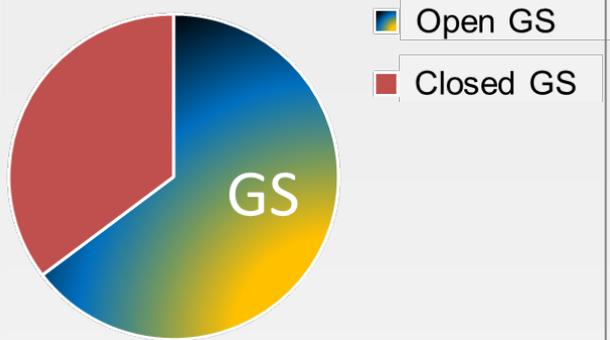
Is that due to

- Self-archiving
- Hybrid publishing
- Publishers' considerations to open up (articles have no cc-license, may at any time be closed)



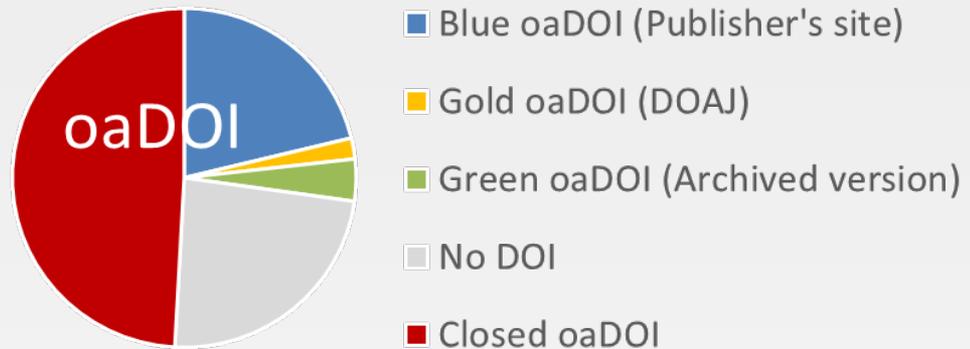


# GS-link resolver versus oaDOI



About 70% open articles in GS

Black here indicates open without permission.



Less than 30% open articles in oaDOI

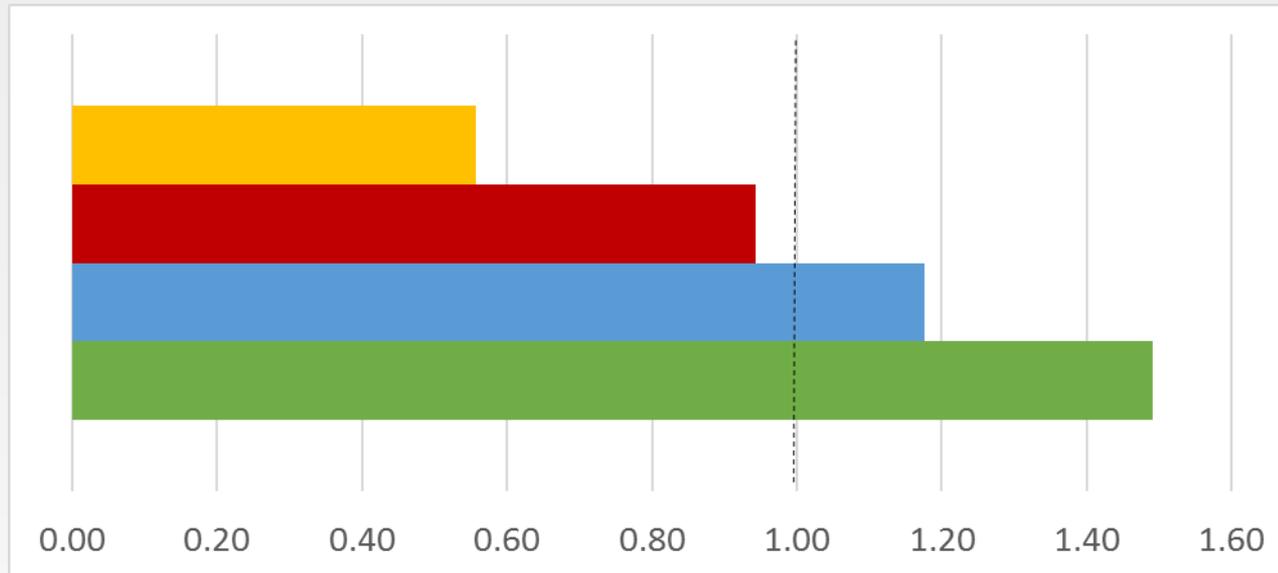
oaDoi does not identify all oa articles (77% recall)

oaDoi distinguishes between oa categories Blue, Gold, Green

- Categories are exclusive (example: Blue takes priority over Green, Gold over Green)
- Indeed, Blue is the largest category, confirming that publishers open up for own interests.



# Normalized Citation index, oaDOI



Green articles are cited most frequently

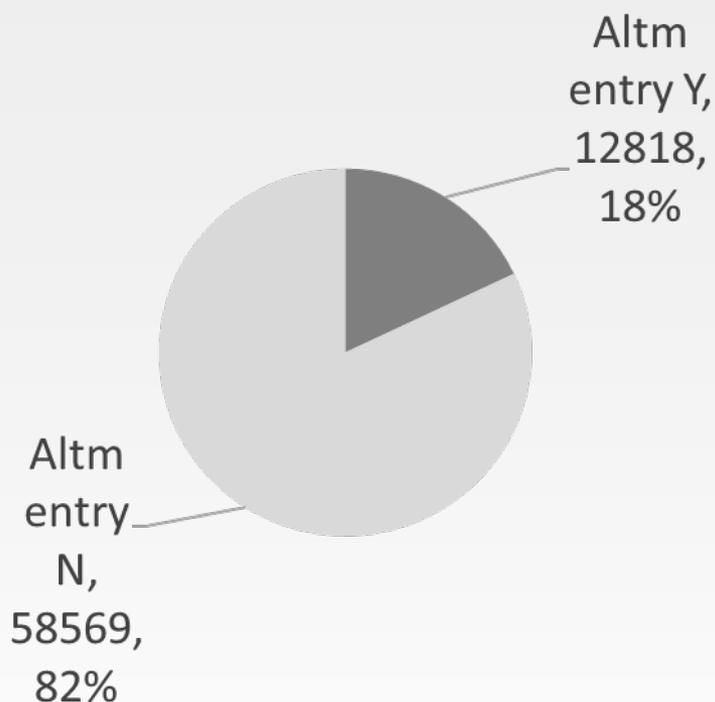
Findings in agreement with

Piowar, H., Priem, J., Lariviere, V., Alperin, J., Matthias, L., Norlander, B., . . . Haustein, S. (2017). The State of OA: A large-scale analysis of the prevalence and impact of Open Access articles. *PeerJ Preprints*, 5:e3119v1.

[doi:https://doi.org/10.7287/peerj.preprints.3119v1](https://doi.org/10.7287/peerj.preprints.3119v1)



## First results of our study on social media



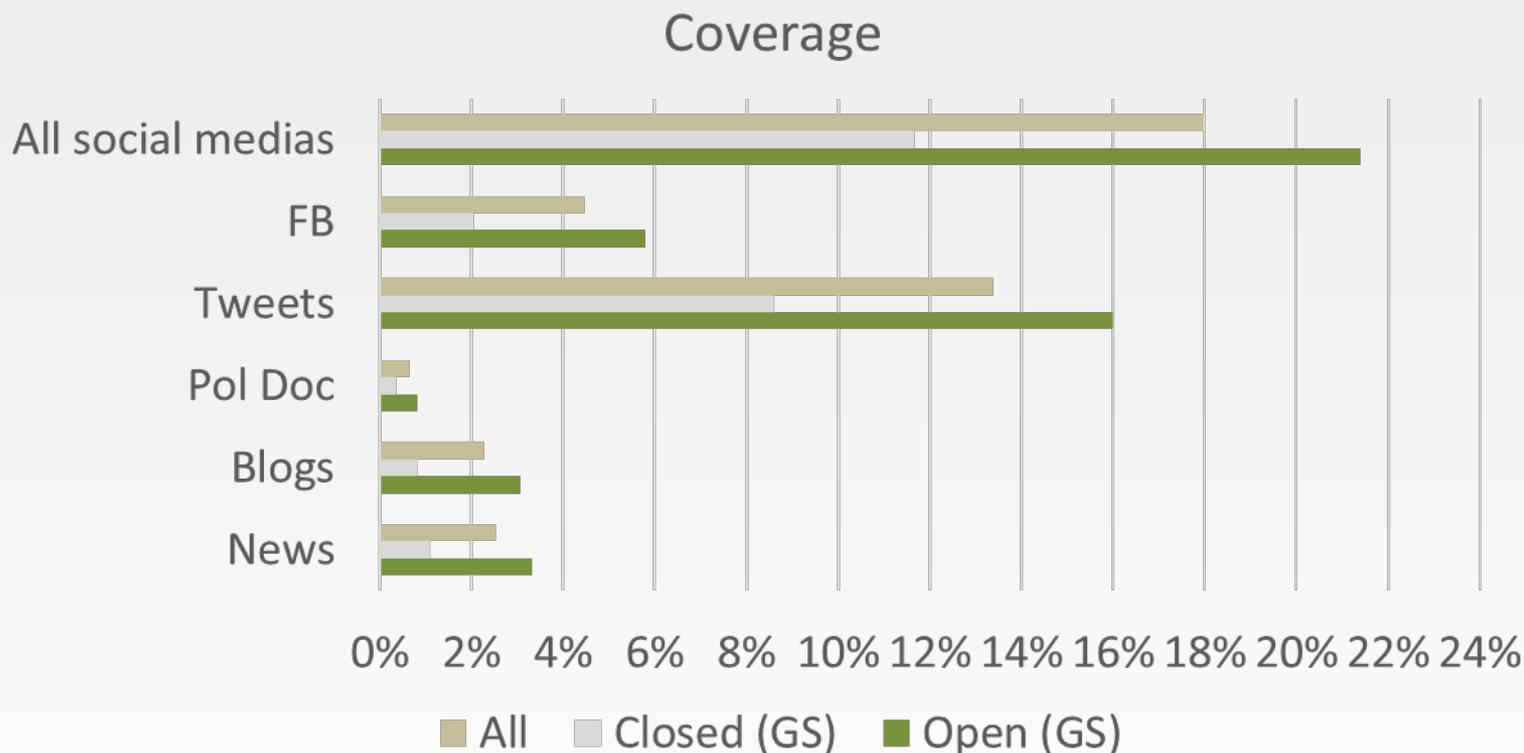
About 18% of all articles had an altmetric.com entry (Blog, Twitter, News, FB, Policy document)

Open articles were more likely mentioned on social media platforms





# Selected services tracked by altmetric.com. Percentage of all Norwegian articles

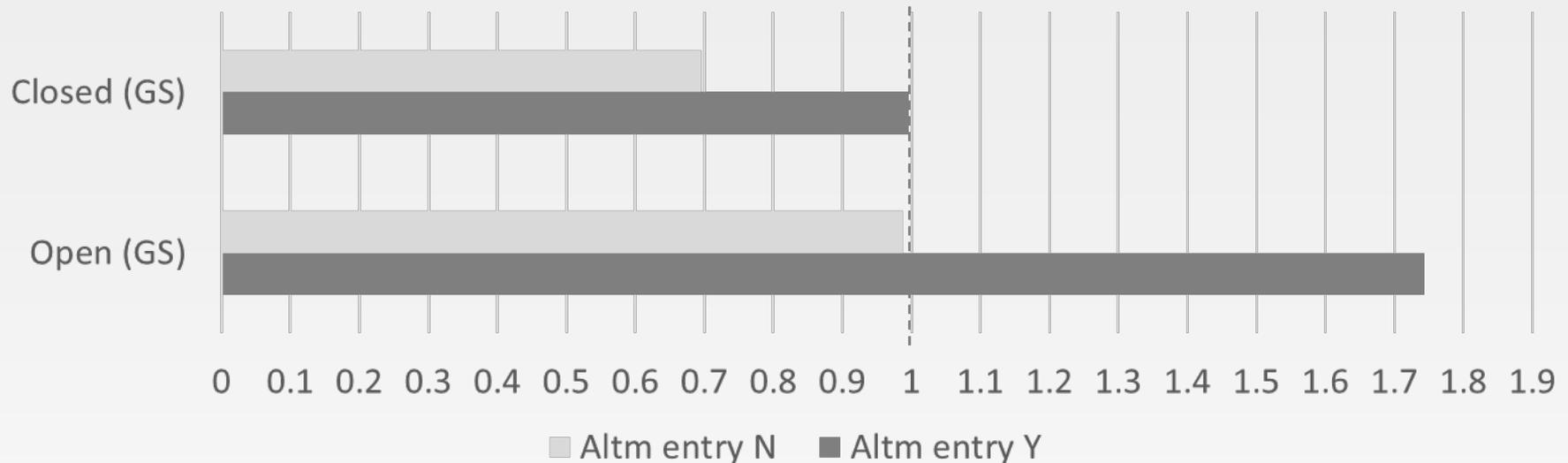


Open articles were more likely mentioned on social media platforms.





## Normalized citation index, altmetric.com



Open and mentioned articles receive the most citations.

Citation data from GS, accounted for year and field.





# Conclusions

We find

- 70% of Norwegian articles open (GS)
- 18% are mentioned on at least one social media service (Altmetric.com)
- Citation advantage for
  - Open articles
  - Articles with social media mentions
- Our findings indicate that the readers/citers follow the open trail
- Publishers open up articles for readers (no licence involved)
- However, we are uncertain about the authors and their move towards open publishing. Gold publishing still seems less attractive (lesser cited).

Mikki, S. (2017). Scholarly publications beyond pay-walls: increased citation advantage for open publishing. *Scientometrics*.  
*doi:10.1007/s11192-017-2554-0*

