SPU Works

4-26-2018

Disseminating Open Scientific Communication in Psychology: An Overview of Platforms and Policies

Kristen Hoffman

Disseminating Open Scientific Communication in Psychology: An Overview of Platforms and Policies

Kristen I. Hoffman

Seattle Pacific University

Author Note

Kristen I. Hoffman, SPU Library, Seattle Pacific University

Correspondence concerning this article should be addressed to Kristen Hoffman, SPU Library, Seattle Pacific University, Seattle, WA, 98119. Email: khoffman@spu.edu

Abstract

The Association for Psychological Science and the American Psychological Association, along with other organizations and individuals, are promoting open practices in psychology research, including the open sharing of methods and results. Many publisher and institutional policies have changed in recent years to incorporate and promote open access options for articles and supplementary materials. Using platforms such as open or hybrid journals, disciplinary preprint archives, institutional repositories, data repositories, blogs, and social media, researchers have many options for sharing their work with other scholars and with the public.

Keywords: open access, scientific communication, psychology, scholarly communications

In January 1990, William K. Estes, founding editor of the Association for Psychological Science's (APS) flagship journal *Psychological Science*, described a rather dark future for psychology journals as he considered the challenges of journal proliferation and price increases. Estes imagined what drastic changes might take place with journal dissemination as he anticipated articles being on disc, with researchers accessing them electronically: "Most of the functions of journals will still be served, but the picture is one of a cold and unexciting future" (Estes, 1990, p.3). Yet even with this future in mind, he describes the uplifting purpose for the journal and for psychology journals in general as not only helping psychologists to keep up in their field, but also, to "[promote] interdisciplinary knowledgeability on the part of psychologists and [present] scientific psychology to people outside our field" (Estes, 1990, p. 3). While the way that the dissemination of scientific communication has changed drastically, Estes' vision of interdisciplinary sharing and telling the story of psychology to those outside the field is easier now that it has ever been, in part due to the policies and platforms that are changing the landscape of psychological research.

Open dissemination in psychology encompasses a wide range of activities, which can include publishing in open or hybrid journals (traditional journals with open article options). It can mean openly sharing not only the final published version of an article, but previous versions through self-archiving. It encompasses sharing data, methods, code, supplemental files, and more. Even blogging or being an active participant on twitter or Instagram can be a way to share the story of research with the broader public.

In 2014, APS began incentivizing open sharing of scientific communication with badges for open data and materials, as announced by Editor Eric Eich in *Psychological Science*. Describing the need for change, Eich explains that "despite the importance of open communication for scientific progress, present norms do not provide strong incentives for individual researchers to share data, materials, or their research process" (2014, p. 3). APS has continued their support for broader open science initiatives

in many ways since then, including signing on to the Transparency and Openness Promotion (TOP)

Guidelines for publishing and launching the journal *Advances in Methods and Practices in Psychological*

Science in March 2018 to "foster such discussions of and advances in practices, research design, and

statistical methods" (Nosek, Spies, & Motyl, 2018; Simons, 2018, p. 3).

Similar to APS, the American Psychological Association (APA) announced in August 2017 a

collaboration with the Center for Open Science (COS) to host data and preprints on PsyArXiv (American

Psychological Association, 2017). The preprint archive, run by the Society for the Improvement of

Psychological Science and hosted on the OSF Preprints platform launched in December 2016 (Center for

Open Science, 2016). APA's recommendation of PsyArXiv was a key step in affirming the value of open

scientific communication to the broader field of psychology. To further the conversations, *American*

Psychologist's February-March 2018 issue featured a special section on data sharing. APA has also

released new "Journal Article Reporting Standards," which are a move to open not only the

dissemination but the process of psychology research by building into the process clear expectations

and transparency (Appelbaum et al., 2018; Levitt et al., 2018). While it will take time for these standards

to be fully implemented by psychologists and publishers, the policies and recommendations that these

two major associations have implemented are in line with conversations going on in psychology.

Open dissemination of scientific communication is one part of the broader context of open

science and, as Chris Chambers describes it, "the need for renovation" of psychology as a science (2017,

p. ix). Chambers, a cognitive neuroscientist who set in motion the change to pre-register studies prior to

research, is one of many leading the charge for increased transparency and reliability in psychology

(Chambers, 2014; Dablander, 2017). Brian Nosek of the Center of Open Science and Simine Vazire of the

Society for the Improvement of Psychological Science are outspoken advocates of change as well (e.g.

Nosek, Spies, & Motyl, 2012; @BrianNosek; @siminevazire). Organizations such as the Committee on

Publication Ethics and the Peer Reviewers' Openness Initiative are pressing for broad changes in

publishing and peer reviewing standards (https://publicationethics.org/;

https://opennessinitiative.org/).

These calls for opening scientific communication in psychology are fairly recent, when compared

to other disciplines. Disciplinary preprint archives, such as arXiv and SSRN (Social Science Research

Network) have been around for decades, launching in 1991 and 1994, respectively (Ginsparg, 2011;

Jensen, 2012). STEM fields have traditionally been more open in sharing their research, and the

expectation of sharing has normalized as grant-funding has further required open sharing of publicly-

funded research (e.g. National Institutes of Health, n.d.; National Science Foundation, n.d.). On the other

end of the spectrum, some disciplines are only in early stages of exploring what open scholarly

communications might mean for them, especially in the humanities, where traditional publishing has

been the norm and highly creative works are typically not shared freely.

Disciplinary policies have triggered changes in policy in other areas, including publishers and

institutions. Journal publisher policies vary widely in terms of what versions of articles they allow to be

shared and when (commonly known as "self-archiving") with many major traditional publishers enacting

embargo periods before an article can be shared on a scholar's personal website or in an institutional

repository. A helpful website with which to start researching current or prospective publishers' policies

on self-archiving is SHERPA/RoMEO (http://www.sherpa.ac.uk/romeo).

Many institutional policies are moving in the direction of openly sharing scholarly outputs as

well. Harvard faculty voted in 2008 for an open-access policy, requiring faculty to make their articles

openly available, with many other universities following, including Duke, Princeton, Rutgers, University

of California, Oregon State, and Florida State ("Additional resources - Harvard Open-access Project,"

n.d.). While some policies are adopted at the university level, others are at the school or department

level. Policies vary, depending on the priorities of the faculty and institution. The Harvard Open-access

Project offers guidelines for creating and adopting an open-access policy

(https://cyber.harvard.edu/hoap/Good_practices_for_university_open-access_policies).

The platforms used for open sharing are numerous. Some journals have chosen to move from

traditional models of publishing to being fully open access. Many traditional publishers now offer an

option to publish an article open-access for an additional fee called and article processing charge (APC).

This process is commonly referred to as "gold open-access" and is becoming more well-known among

researchers as they move to publish. Libraries or universities occasionally offer grant-funding to pay the

fees for faculty to publish open-access in journals that charge these fees, as some fully open-access

journals charge them as well to cover operating costs. As Estes discussed in his editorial, the number of

journals is always increasing, and that is especially true with open-access journals. While there are some

fraudulent publishers seeking only to scam researchers and profit from their need to be published, there

are many open-access publishers whose aim is to publish quality, peer-reviewed scholarship. As an

example, Frontiers, a self-described "community-rooted open-access publisher," publishes over 50

open-access journals indexed in MEDLINE and elsewhere (https://www.frontiersin.org/). Their journal

Frontiers in Psychology began in 2010, and articles are discoverable from PsycINFO, PubMed, and

Google Scholar, to name a few (https://www.frontiersin.org/journals/psychology). To navigate this wild

frontier of open-access journals, the Directory of Open-access Journals (DOAJ) is a reputable source for

searching for them by subject or other criteria and for determining what sort of fees, if any, are required

(https://doaj.org). Librarians are especially helpful in working with researchers to evaluate open-access

journals.

Platforms for self-archiving are numerous on this new landscape as well. As mentioned

previously, PsyArXiv is a disciplinary platform for sharing preprints (https://psyarxiv.com/). It also offers

a way to store whole projects, including supplemental files, scripts, and more (see example project with

associated preprint at https://osf.io/9w38r/).

Institutional repositories (IRs) are another common way to share one's scholarly and creative work, and they serve as a digital archive for a university. They may be sponsored by the library, the university as a whole, another campus group, or they may be held at a larger consortial level. Providing and preserving long-term, stable access to content are foundational principles of an IR, and while they sometimes do not offer the same level of usability as platforms for sharing content such as ResearchGate or Academia.edu, they come with support from university librarians or other staff ready to assist with deposits, copyright questions, and more. Content from IRs may be indexed in major search engines, making it more discoverable than content hosted on personal websites.

Data repositories are specialized repositories for data files and accompanying materials. These are especially useful for researchers required to share data from a grant-funded project. Funding sources for data repositories varies, as do the options to search for and link to data. For example, data repository Zenodo assigns DOIs to all datasets (https://zenodo.org/). Other large repositories include ICPSR (endorsed by APA), Harvard Dataverse, Figshare, and Dryad Digital Repository (https://www.icpsr.umich.edu, https://dataverse.harvard.edu/, https://figshare.com/, https://datadryad.org//). Some institutions host their own data repository, have it integrated with their institutional repository, or recommend one for their faculty. The Registry of Research Data Repositories offers a way to search over 2,000 data repositories (https://www.re3data.org/).

The process of disseminating scientific communication has changed immensely since Estes wrote his editorial in 1990. In his introduction to APS's newest journal, Daniel Simons writes that despite the many valid concerns with psychological research practice, the future is bright: "These are exciting times for psychology. The past 7 years have seen a dramatic and fieldwide transformation, with more and more people becoming interested in evaluating and improving their own research practices and those of the field as a whole" (Simons, 2018, p. 3). While previously the focus has been on providing access to a final journal article, policies are shifting to encourage researchers to openly share content

related to the process of research. On the horizon are new opportunities for using current or existing

platforms to share one's own scholarly contributions. Non-profits and for-profits alike are creating new

platforms to make content more open and more discoverable (e.g. https://massivesci.com and

https://www.semanticscholar.org/). With these vast ways to openly share one's research process and

outputs, both with other researchers in the field as well as with the general public, open scientific

communication in psychology has the opportunity to usher in increased transparency, rigor, and

interpersonal and interdisciplinary connections, strengthening psychology as a whole.

References

Harvard Open Access Project. (n.d.). Additional resources. Retrieved April 6, 2018, from

    https://cyber.harvard.edu/hoap/Additional_resources

American Psychological Association. (2017, August 1). APA journals program collaborates with Center for

    Open Science to advance open science practices in psychological research. Retrieved from

    http://www.apa.org/news/press/releases/2017/08/open-science.aspx

Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., & Rao, S. M. (2018). Journal

    article reporting standards for quantitative research in psychology: The APA Publications and

    Communications Board task force report. *American Psychologist*, *73*(1), 3–25.

    https://doi.org/10.1037/amp0000191

Chambers, C. (2014, May 20). Psychology's 'registration revolution.' Retrieved April 16, 2018, from

    http://www.theguardian.com/science/head-quarters/2014/may/20/psychology-registration-

    revolution

Chambers, C. (2017). *The seven deadly sins of psychology : A manifesto for reforming the culture of*

    scientific practice. Princeton, New Jersey: Princeton University Press.

Dablander, F. (2017, May 25). Are you registering that? An interview with Prof. Chris Chambers.

    Retrieved from http://blog.efpsa.org/2017/05/25/are-you-registering-that-an-interview-with-

    prof-chris-chambers/

Eich, E. (2014). Business not as usual. *Psychological Science*, *25*(1), 3–6.

    https://doi.org/10.1177/0956797613512465

Estes, W. K. (1990). Editorial: Journal, journals, journals. *Psychological Science*, *1*, 1–3.

Ginsparg, P. (2011). It was twenty years ago today … Retrieved from http://arxiv.org/abs/1108.2700

Jensen, Michael C. (2012, February 2). About SSRN: From the desk of Michael C. Jensen, Chairman.

    Retrieved https://www.ssrn.com/update/general/mjensen.html

Levitt, H. M., Bamberg, M., Creswell, J. W., Frost, D. M., Josselson, R., & Suárez-Orozco, C. (2018).

Journal article reporting standards for qualitative primary, qualitative meta-analytic, and mixed

methods research in psychology: The APA Publications and Communications Board task force

report. *American Psychologist*, *73*(1), 26–46. https://doi.org/10.1037/amp0000151

National Institutes of Health. (n.d.). NIH sharing policies and related guidance on NIH-funded research

resources. Retrieved https://grants.nih.gov/policy/sharing.htm

National Science Foundation. (n.d.). Frequently asked questions (FAQs) for public access. Retrieved April

17, 2018, from https://www.nsf.gov/pubs/2018/nsf18041/nsf18041.jsp

Nosek, B. A., Spies, J. R., & Motyl, M. (2012). Scientific utopia: II: Restructuring incentives and practices

to promote truth over publishability. *Perspectives on Psychological Science*, *7*(6), 615–631.

https://doi.org/10.1177/1745691612459058

Simons, D. J. (2018). Introducing Advances in Methods and Practices in Psychological Science. *Advances

in Methods and Practices in Psychological Science*, *1*(1), 3–6.

https://doi.org/10.1177/2515245918757424

Center for Open Science. (2016, December 5). The Center for Open Science releases a comprehensive,

open source preprints solution. Retrieved from https://cos.io/about/news/center-open-science-

releases-comprehensive-open-source-preprints-solution/

Nosek, B. A., Alter, G., Banks, G. C., Borsboom, D., Bowman, S. D., Breckler, S. J., … DeHaven, A. C.

(2018). *Transparency and openness promotion (TOP) guidelines*. Retrieved from

https://osf.io/9f6gx/