



# Developments in Open Data Norms

Editorial

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## ABSTRACT

Open data has been transformative for the scientific and public understanding of the recent COVID-19 pandemic, bringing into sharp focus the clear benefits of increasing transparency and accountability within psychological research. Despite the knowledge that individual gatekeeping of data is antithetical to the goals of the scientific community, research norms across Psychology are changing too slowly. This editorial reviews the recent developments made in open data practices and norms, the upcoming demands of openness, and marks the changes made to the Journal of Open Psychology Data to further support progress towards a culture of transparency and collaboration.

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JOPD started in 2013 with the ambition of acknowledging and rewarding an open research culture [35], meeting some of the unmet needs of the research community [17]. Data sharing is fundamental for increasing the speed of scientific progress and driving research impact [20]. However, in many respects, progress has been slow. Data published by Prof Wicherts, JOPD's founding editor, suggests that data sharing is rare [36, 37] and that researchers can be highly reluctant and resistant to sharing data [15, 16]. Poor data accessibility is widely reported, even for the most 'high-impact' journals [1], and improvements in these areas are very modest [6]. Whilst the availability of data dramatically varies across journals and fields [30], recovering older datasets is increasingly problematic [33] even despite initiatives like the Data Ark [13].

We should have no further doubt that the individual-as-gatekeeper approach to data sharing is inefficient, ineffective, and that science would be better without the compromised practices embodied by the six words: 'Data are available upon reasonable request'.

However, despite only a few years having passed since establishing JOPD, the scope of changes in practices and norms in relation to open data has been dramatic and transformational for increasing the value of our science. No other issue has highlighted the role of open data more so than the COVID-19 pandemic, which continues to remind us of the clear role open data can have for responding to community and academic needs [11]. Indeed, attitudes (and subsequently practices), have been slowly changing (e.g. [31]) and there are a plethora of initiatives targeting journals, funders, and individual researchers which have emphasised the value of open data [16]. For example, a number of large-scale collaborative initiatives have embedded open data into their workflow to raise awareness of the value of data sharing, such as the Psychological Science Accelerator [21]. Furthermore, communities like FORRT (the Framework for Open and Reproducible Research Training; [2]) have been established to provide resources, support and encouragement to adopt and teach open practices.

Crucially, early meta-science research suggests the culture of sharing is finally being rewarded. For example, a number of works have evidenced a citation advantage for open data over closed data [25, 5] and some journals now offer 'badges' alongside articles to highlight how data has been made openly available [18]. Journals are also being recognised for the extent to which they support such open practices through initiatives like the Transparency and Openness Promotion Guidelines (TOP: [23]). Journal changes are important in embedding this change, although the consequences have been unfortunately mixed. Journal policies on data sharing can increase frequency of data sharing, but this is inconsistently managed for quality and as such this

commonly leads to suboptimal practice [14, 34]. For example, open data policies lead to claims of open data, but this does not always lead to accessible data [24]. My favourite example is of a paper where the data is stated to be included as a supplementary file, but upon opening the excel file there is simply a line of text which suggests 'data is available upon reasonable request'. Many have therefore raised valid concerns around 'open-washing' [9] and the lack of completeness and reusability of 'open' data [32].

As such, there has been a substantive tone change towards acknowledging that sharing a single datafile is not sufficient. Open data needs to be carefully managed, curated, and shared, to have maximum value. In this sphere, the most influential development has been in the development of FAIR data principles [38]. Here, data is best preserved when it is Findable, Accessible, Interoperable, and Reusable. The majority of the data shared in Psychology would not meet these FAIR standards and this only increases the likelihood of slowing progress. Here at JOPD we aim to improve this by valuing the data itself as a resource and prioritising clear and comprehensive documentation surrounding its creation and potential use.

Accepting that there is now much greater nuance with respect to what constitutes useful open data, a number of subsequent developments have captured our communities' growing interest in acknowledging the complexity of sharing data. For example, a number of projects using multiple independent analysis teams (e.g. [28]) have increased awareness of the garden of forking paths [12], evidencing how results can be sensitive to minor decisions made by researchers and thereby highlighting the importance of data accessibility and secondary analyses. New types of data have been discussed, including that of synthetic data [26], which can replicate the original statistical qualities and relationships between variables whilst providing no records of real participants. New data collection procedures have also featured in revised transparency guidelines [19], including 'born-open' data, which means data is automatically archived and made accessible without approval or opportunities for manipulation [27]. Finally, the assumed binary of open and closed has been discussed, highlighting the role and need for different data sharing processes, including that of partial data sharing, gatekeeping and embargos, and the involvement of multiple stakeholders to build sustainable options for when fully-open is not possible [8].

Here at JOPD, we want to represent our communities' needs for higher quality open *and* FAIR data. Acknowledging the growing complexity of negotiating data sharing, we have enacted a number of changes and new editorial policies to tackle such considerations.

## NEW EDITORIAL POLICIES AT JOPD

Whilst providing ongoing opportunities and recognition for open data, we as gatekeepers and scientific community members also have a responsibility for advancing other publishing practices in progressive ways. Science reform is a continuous effort and we look to push the standards expected for research to build the most robust and effective evidence-base possible.

We endeavor to promote scientific progress in our editorial practices and as such, in consultation with our editorial board, we have implemented the following policies with immediate effect:

### CONTRIBUTION STATEMENTS

Whilst many scientific stakeholders insist upon recognising and prioritising fundamentally-flawed individual metrics of success like teaching evaluations or (most) citation metrics, science is a team effort. To better facilitate a culture of collaboration and team science, we have requested all new submissions include a contribution statement (e.g. Contributor Roles Taxonomy, <http://www.casrai.org/credit.html>). In addition to representing important meta-data, we hope this encourages authors to better acknowledge the diverse range of contributions required for research.

### CONFLICT OF INTEREST STATEMENTS

A second issue, often perpetuated by this individualistic approach to science, is that of the potential for research decisions to be negatively influenced by the personal consequences to the researcher - conflicts of interests. These are a substantive issue within Psychology [4]. Ubiquity Press have always mandated such statements within their publications, but these have not been part of the submission template and as such have sometimes been introduced at the copy-editing stage. JOPD now requires all submissions to include a Conflict of Interest Statement upon submission as part of our new submission template. For this, we adopt a broad definition from COPE (2013): “when authors, reviewers, or editors have interests that are not fully apparent and that may influence their judgments on what is published. They have been described as those which, when revealed later, would make a reasonable reader feel misled or deceived”. We encourage all authors to fully consider the range of financial and non-financial conflicts that may exist, and if in doubt of their relevance, to declare them as early as possible.

### OPEN REVIEW

To-date, twenty-three of the 37 data papers (62%) published in JOPD have had their reviews published alongside the manuscript, of which 28 reviewers provided permission to publish their name. This is promising but leaves some gaps in our understanding of the development of manuscripts as they have passed

through our doors. Moving forwards, all manuscripts published in JOPD will be accompanied by the text of reviews at each major stage of review, with the option for reviewers to either be publicly recognised for such comments or to be anonymised. We will respect legitimate concerns around publishing reviewer names and hope that this additional level of openness evidences the value we add, and provides a transparent account of the review process for all to openly evaluate.

### CHANGES TO CONTENT REQUIREMENTS

We have made a number of improvements to the templates we provide to authors to facilitate clearer and more impactful data reporting. For example, we continue to encourage submissions from unpublished and published data, but ask authors to declare whether a paper on the data is in the File Drawer (unpublished elsewhere), or the data has been reported in another paper and/or contributed to a number of authored works. We have also put structures in place to capture more details, particularly in the methods section where the detail and nuance is particularly impactful, and have increased the word guide for the section discussing the value and reuse potential of the data collected. We hope these better meet our communities’ needs and we will continue to revise these templates to best meet the evolving standards for research dissemination.

### DATA IN VARIOUS FORMS OF OPEN

Whilst the vast majority of psychological research data can be made publicly open [22], there are of course various reasons why data sharing is counter-productive or, in some circumstances, unethical. For example, when it would be impossible to protect the identity of participants. As such, we have expanded our consideration of data articles to include those based upon partially-restricted data where valid reasons can be provided (e.g. legality or patient information). For such works, we ask authors to provide explicit and detailed comments on the limits to sharing alongside guidance as to how to access and use the data. We hope this will be a positive development in encouraging greater range of data sources e.g. organisational, clinical, etc. whilst also signposting the potential for subsequent works where barriers previously may have been considered insurmountable.

### VERIFICATION REPORTS [3, 29] AS A NEW SUBMISSION TYPE

We currently provide a platform for open data to be more widely discussed, accessed, and rewarded, however we find it important here to differentiate between open data and FAIR data. The two are not the same. Open data is not necessarily accessible or usable, although we hope we contribute to improving standards by placing value in peer-reviewing accompanying materials. In a commitment to continue

progress not only in the openness of data but also in the quality of sharing, we now accept Verification Reports. In essence, we will commit to working with researchers to publish attempts to reproduce analyses published using data from papers in our pages. We expect this to be of great benefit to evidence the accessibility of the data we publish about, highlight consistent areas of poor-quality sharing that would be of benefit to our community, and provide rewards within the current incentive scheme for researchers who attempt to reproduce (and perhaps extend) the analyses of others. We sincerely hope this provides low-cost opportunities for Early Career Researchers and those with less resources in particular, to be acknowledged for valuable research developments. To-date, ~50% of the papers published at JOPD contain data which has been analysed elsewhere and would be suitable for Verification Reports. We have published a comprehensive set of guidelines and support areas on our website, including a submission template.

## FINAL THOUGHTS

Finally, we must question open but for who? The greatest benefit of open data is the academic community [10]. Open data can support reproduction of analysis to check claims, update or change analyses to explore the garden of forking paths [12], and explore alternative research questions through secondary analyses. These primarily and predominantly impact researchers, with benefits slowly and indirectly for other important stakeholders. However, recent developments evidenced through COVID dashboards and R shiny apps suggest open data can have a direct and important impact upon the communities upon which researchers claim to serve.

Open practices like sharing data, or preregistration, are growing in basic academic research fields, but the barriers to their use in applied research are slowly being uncovered and overcome [7]. Data from applied or commercial research, and particularly that conducted by researchers within organisations, rarely require sharing, and it seems likely that as transparency in academic research improves, this may encourage changes in norms for these groups also. JOPD encourages researchers from any background with relevant data to work with us to share these, whether you are a consultant, academic, practitioner, or otherwise. We have much to gain from increasing transparency and working together.

JOPD will continue to adapt to the ever-changing norms surrounding research transparency, quality, and dissemination. It is our hope (but not expectation) that in the short-to-medium term we become redundant for academic research due to the improvements in data sharing practices, and in the long-term we are not needed due to changes in transparency across practices,

stakeholders, and industries. Perhaps then we can move on to tackling the increasingly demanding research questions that impact us all, like climate change and corruption, but in a more open, collaborative and rigorous way. Until then, JOPD is going to keep exploring the best ways to support the research community to be open, and we encourage anyone with shared passions in this to become involved in our community - discuss becoming an editorial board member, sign up to be a reviewer, share ideas about editorial policy ideas, use the data we publish about, and submit your new or file-drawer data for consideration. To echo Prof Wicherts [35], we hope that JOPD will continue to motivate researchers, from wherever they work, to share their data and contribute towards a renewed culture of transparency and collaboration which better meets the needs of those who rely on our science.

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## COMPETING INTERESTS

The author has no competing interests to declare.

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## REFERENCES

1. **Alsheikh-Ali, A. A., Qureshi, W., Al-Mallah, M. H., & Ioannidis, J. P.** (2011). Public availability of published research data in high-impact journals. *PLoS one*, 6(9), e24357. DOI: <https://doi.org/10.1371/journal.pone.0024357>
2. **Azevedo, F., Parsons, S., Micheli, L., Strand, J. F., Rinke, E., Guay, S., ... & FORRT.** (2019, December 13). Introducing a Framework for Open and Reproducible Research Training (FORRT). DOI: <https://doi.org/10.31219/osf.io/bnh7p>
3. **Chambers, C. D.** (2020). Verification Reports: A new article type at Cortex. *Cortex*, 129, A1–A3. DOI: <https://doi.org/10.1016/j.cortex.2020.04.020>

4. **Chivers, T.** (2019). Does psychology have a conflict-of-interest problem?. *Nature*, 571(7763), 20–24. DOI: <https://doi.org/10.1038/d41586-019-02041-5>
5. **Colavizza, G., Hrynaszkiewicz, I., Staden, I., Whitaker, K., & McGillivray, B.** (2020). The citation advantage of linking publications to research data. *PLoS one*, 15(4), e0230416. DOI: <https://doi.org/10.1371/journal.pone.0230416>
6. **Dos Reis, N. D., Ferreira, C. M., Silva, M. T., & Galvão, T. F.** (2021). Frequency of receiving requested data for a systematic review and associated factors: a cross-sectional study. *Accountability in Research*. DOI: <https://doi.org/10.1080/08989621.2021.1910029>
7. **Evans, T. R., Branney, P., Clements, A., & Hatton, E.** (2021). Improving evidence-based practice through preregistration of applied research: barriers and recommendations. *Accountability in Research*. DOI: <https://doi.org/10.1080/08989621.2021.1969233>
8. **Evans, T. R., Pownall, M., Collins, E., Henderson, E., Pickering, J., O'Mahony, A., Zaneva, M., Jaquier, M., & Dumbalska, T.** (Under review). A Network of Change: United Action on Research Integrity.
9. **Farrow, R.** (2017). Open education and critical pedagogy. *Learning, Media and Technology*, 42(2), 130–146. DOI: <https://doi.org/10.1080/17439884.2016.1113991>
10. **Fleming, J. I., Wilson, S. E., Hart, S. A., Therrien, W. J., & Cook, B. G.** (2021). Open accessibility in education research: Enhancing the credibility, equity, impact, and efficiency of research. *Educational Psychologist*, 56(2), 110–121. DOI: <https://doi.org/10.1080/00461520.2021.1897593>
11. **Gardner, L., Ratcliff, J., Dong, E., & Katz, A.** (2021). A need for open public data standards and sharing in light of COVID-19. *The Lancet Infectious Diseases*, 21(4), e80. DOI: [https://doi.org/10.1016/S1473-3099\(20\)30635-6](https://doi.org/10.1016/S1473-3099(20)30635-6)
12. **Gelman, A., & Loken, E.** (2013). The garden of forking paths: Why multiple comparisons can be a problem, even when there is no “fishing expedition” or “p-hacking” and the research hypothesis was posited ahead of time. *Department of Statistics, Columbia University*, 348.
13. **Hardwicke, T. E., & Ioannidis, J. P.** (2018). Populating the Data Ark: An attempt to retrieve, preserve, and liberate data from the most highly-cited psychology and psychiatry articles. *PLoS one*, 13(8), e0201856. DOI: <https://doi.org/10.1371/journal.pone.0201856>
14. **Hardwicke, T. E., Mathur, M. B., MacDonald, K., Nilsson, G., Banks, G. C., Kidwell, M. C., ... & Frank, M. C.** (2018). Data availability, reusability, and analytic reproducibility: Evaluating the impact of a mandatory open data policy at the journal *Cognition*. *Royal Society Open Science*, 5(8), 180448. DOI: <https://doi.org/10.1098/rsos.180448>
15. **Hardwicke, T. E., Thibault, R. T., Kosie, J. E., Wallach, J. D., Kidwell, M. C., & Ioannidis, J. P.** (2021). Estimating the prevalence of transparency and reproducibility-related research practices in psychology (2014–2017). *Perspectives on Psychological Science*, 17(1), 239–251. DOI: <https://doi.org/10.1177/1745691620979806>
16. **Houtkoop, B. L., Chambers, C., Macleod, M., Bishop, D. V., Nichols, T. E., & Wagenmakers, E. J.** (2018). Data sharing in psychology: A survey on barriers and preconditions. *Advances in Methods and Practices in Psychological Science*, 1(1), 70–85. DOI: <https://doi.org/10.1177/2515245917751886>
17. **Hrynaszkiewicz, I., Harney, J., & Cadwallader, L.** (2021). A survey of researchers' needs and priorities for data sharing. *Data Science Journal*, 20(1), 31. DOI: <https://doi.org/10.5334/dsj-2021-031>
18. **Kidwell, M. C., Lazarević, L. B., Baranski, E., Hardwicke, T. E., Piechowski, S., Falkenberg, L. S., ... & Nosek, B. A.** (2016). Badges to acknowledge open practices: A simple, low-cost, effective method for increasing transparency. *PLoS biology*, 14(5), e1002456. DOI: <https://doi.org/10.1371/journal.pbio.1002456>
19. **Klein, O., Hardwicke, T. E., Aust, F., Breuer, J., Danielsson, H., Mohr, A. H., ... & Vazire, S.** (2018). A practical guide for transparency in psychological science. *Collabra: Psychology*, 4(1), 20. DOI: <https://doi.org/10.1525/collabra.158>
20. **Levenstein, M. C., & Lyle, J. A.** (2018). Data: Sharing is caring. *Advances in Methods and Practices in Psychological Science*, 1(1), 95–103. DOI: <https://doi.org/10.1177/2515245918758319>
21. **Moshontz, H., Campbell, L., Ebersole, C. R., IJzerman, H., Urry, H. L., Forscher, P. S., ... & Chartier, C. R.** (2018). The Psychological Science Accelerator: Advancing psychology through a distributed collaborative network. *Advances in Methods and Practices in Psychological Science*, 1(4), 501–515. DOI: <https://doi.org/10.1177/2515245918797607>
22. **Nosek, B. A., Spies, J., & Motyl, M.** (2012). Scientific Utopia: II - Restructuring Incentives and Practices to Promote Truth Over Publishability. *Perspectives on Psychological Science*, 7, 615–631. DOI: <https://doi.org/10.1177/1745691612459058>
23. **Nosek, B. A., Alter, G., Banks, G. C., Borsboom, D., Bowman, S. D., Breckler, S. J., ... & Yarkoni, T.** (2015). Promoting an open research culture. *Science*, 348(6242), 1422–1425. DOI: <https://doi.org/10.1126/science.aab2374>
24. **Nuijten, M. B., Borghuis, J., Veldkamp, C. L., Dominguez-Alvarez, L., Van Assen, M. A., Wicherts, J. M., ... & Chambers, C.** (2017). Journal data sharing policies and statistical reporting inconsistencies in psychology. *Collabra: Psychology*, 3(1):31. DOI: <https://doi.org/10.1525/collabra.102>
25. **Piwovar, H. A., Day, R. S., & Fridsma, D. B.** (2007). Sharing detailed research data is associated with increased citation rate. *PLoS one*, 2(3), e308. DOI: <https://doi.org/10.1371/journal.pone.0000308>
26. **Quintana, D. S.** (2020). A synthetic dataset primer for the biobehavioural sciences to promote reproducibility and hypothesis generation. *Elife*, 9, e53275. DOI: <https://doi.org/10.7554/eLife.53275.sa2>
27. **Rouder, J. N.** (2016). The what, why, and how of born-open data. *Behavior Research Methods*, 48(3), 1062–1069. DOI: <https://doi.org/10.3758/s13428-015-0630-z>

28. **Silberzahn, R., Uhlmann, E. L., Martin, D. P., Anselmi, P., Aust, F., Awtrey, E., ... & Nosek, B. A.** (2018). Many analysts, one data set: Making transparent how variations in analytic choices affect results. *Advances in Methods and Practices in Psychological Science*, 1(3), 337–356. DOI: <https://doi.org/10.1177/2515245917747646>
29. **Srivastava, S. [@hardsci]**. (2018, December 18). “In the same spirit as the Pottery Barn Rule. Call them Verification Reports. One-pager online reports linked from the original, where you can report you reran the analyses to verify the numbers in the paper, + possibly ran other analyses to verify strength of conclusions” [Tweet]. Retrieved from <https://twitter.com/hardsci/status/107506585851329740>
30. **Tedersoo, L., Küngas, R., Oras, E., Köster, K., Eenmaa, H., Leijen, Ä., ... & Sepp, T.** (2021). Data sharing practices and data availability upon request differ across scientific disciplines. *Scientific Data*, 8(1), 1–11. DOI: <https://doi.org/10.1038/s41597-021-00981-0>
31. **Tenopir, C., Dalton, E. D., Allard, S., Frame, M., Pjesivac, I., Birch, B., ... & Dorsett, K.** (2015). Changes in data sharing and data reuse practices and perceptions among scientists worldwide. *PloS one*, 10(8), e0134826. DOI: <https://doi.org/10.1371/journal.pone.0134826>
32. **Towse, J. N., Ellis, D. A., & Towse, A. S.** (2021). Opening Pandora’s Box: Peeking inside Psychology’s data sharing practices, and seven recommendations for change. *Behavior Research Methods*, 53(4), 1455–1468. DOI: <https://doi.org/10.3758/s13428-020-01486-1>
33. **Vines, T. H., Albert, A. Y., Andrew, R. L., Débarre, F., Bock, D. G., Franklin, M. T., ... & Rennison, D. J.** (2014). The availability of research data declines rapidly with article age. *Current Biology*, 24(1), 94–97. DOI: <https://doi.org/10.1016/j.cub.2013.11.014>
34. **Vines, T. H., Andrew, R. L., Bock, D. G., Franklin, M. T., Gilbert, K. J., Kane, N. C., ... & Yeaman, S.** (2013). Mandated data archiving greatly improves access to research data. *The FASEB Journal*, 27(4), 1304–1308. DOI: <https://doi.org/10.1096/fj.12-218164>
35. **Wicherts, J.** (2013). Science revolves around the data. *Journal of Open Psychology Data*, 1(1). e1. DOI: <https://doi.org/10.5334/jopd.e1>
36. **Wicherts, J. M., Bakker, M., & Molenaar, D.** (2011). Willingness to share research data is related to the strength of the evidence and the quality of reporting of statistical results. *PloS one*, 6(11), e26828. DOI: <https://doi.org/10.1371/journal.pone.0026828>
37. **Wicherts, J. M., Borsboom, D., Kats, J., & Molenaar, D.** (2006). The poor availability of psychological research data for reanalysis. *American Psychologist*, 61(7), 726–728. DOI: <https://doi.org/10.1037/0003-066X.61.7.726>
38. **Wilkinson, M. D., Dumontier, M., Aalbersberg, I. J., Appleton, G., Axton, M., Baak, A., Blomberg, N., Boiten, J.-W., da Silva Santos, L. B., Bourne, P. E., Bouwman, J., Brookes, A. J., Clark, T., Crosas, M., Dillo, I., Dumon, O., Edmunds, S., Evelo, C. T., Finkers, R., ... & Mons, B.** (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data*, 3(1), 160018. DOI: <https://doi.org/10.1038/sdata.2016.18>

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