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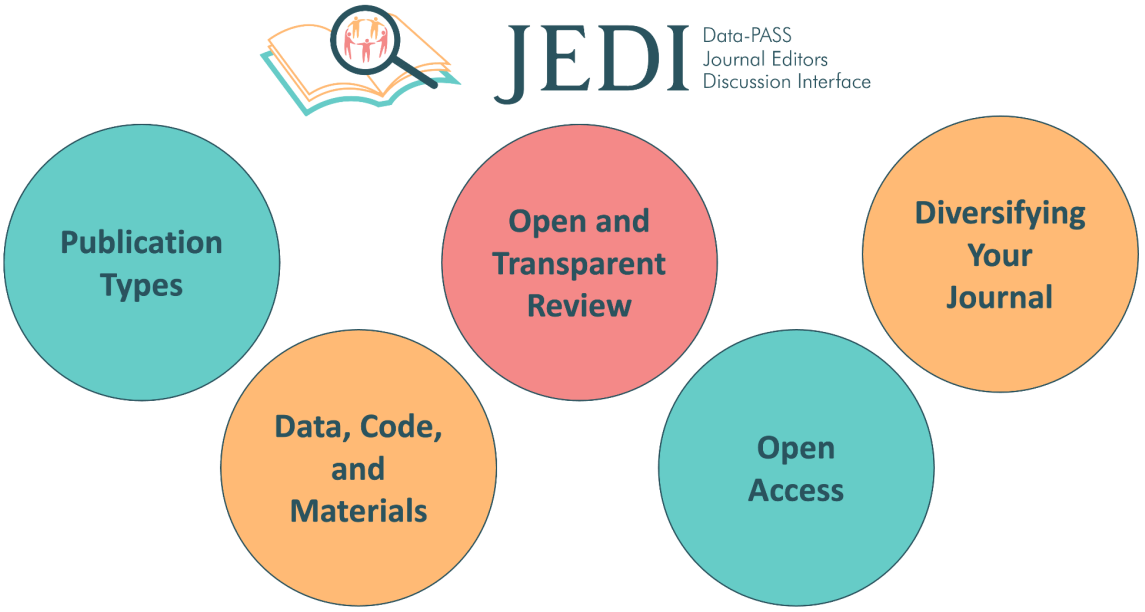
A Guide for Social Science Journal Editors on Easing into Open Science (FULL GUIDE)



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TOP guidelines

Policy/Practice:	**Transparency and Openness Promotion (TOP) Guidelines**
What:	TOP guidelines are a modular system of eight domains of transparency (Citation Standards, Data Transparency, Analytic Methods (Code) Transparency, Research Materials Transparency, Design and Analysis Transparency, Study Preregistration, Analysis Plan Preregistration, and Replication). Each of the eight domains are subject to three graded levels of adoption (Disclose, Require, and Verify).
Why:	TOP guidelines are a useful organizing framework for a variety of practices related to the openness and transparency of authors. The standards are managed by a community advisory board. Its modularity and flexibility (of levels) makes it well-suited to a variety of topical areas and disciplines. Journals are issued a "TOP factor," corresponding to their level of adoption of each domain, as an alternative metric for assessing journal transparency.
How:	Editors (or the relevant governing body such as a publication committee) can consult the standards and decide which of three levels to adopt in each of the eight domains. In general, level one requires disclosure: a statement in the article about the availability of a given resource. Level two makes it a requirement to share a given resource, barring legal or ethical restrictions (for example data cannot be shared because they are unable to be anonymised). Level three adds verification of the shared material by the journal or its designee. Journals may select whichever levels match their values and available resources. If necessary, a vote of the relevant governing body may be needed to authorize the levels. Periodic revisiting of levels after adoption is also recommended to ensure values, resources, and levels are aligned over time. After identifying the desired levels, the next step is to modify communications with submitting authors, including author submission guidelines. It can also be useful to publish an editorial explaining changes to authors. Additional communications (for example, emails, blog posts, even workshops at society meetings) should be used to supplement author and reviewer education so that everyone understands not only the required changes, but the rationale for the changes. A third step, which is not required but is very helpful for a robust

	implementation of the policies, is to modify article submission procedures to add a technical check verifying the inclusion of required TOP information in articles. Editorial staff can screen articles (or information provided via the journal's submission system) to verify the inclusion of relevant information. Many journals (for example, APA and APS journals) require that TOP information be disclosed in a separate subsection of the article's Method section. This is useful because it facilitates later checking of the existence of the disclosures. A checklist for journal staff can also be helpful to make sure that all domains are represented in disclosure statements (for example Aczel et al., 2020; Debruine, Corker, & Oswald, 2022). Notably, these checks should be performed at any level of TOP adoption. At level three, additional checks are performed on the actual shared material itself (for example, computational reproducibility check for data/code).
Worries:	Additional requirements will add to my workload. ● There is an increase in workload associated with the transition, but this increase is mitigated over time as editors, authors, and reviewers become accustomed to the new guidelines. There are existing resources that can assist editors to draft new policy and procedure language for the journal homepage (https://www.cos.io/initiatives/top-guidelines). ● Each level requires more editorial involvement, so selecting levels that match available resources can also mitigate this concern. The majority of the increased workload at level one adoption is with authors and to a small degree with journal staff (checking for the inclusion of the required information). ● TOP Factor is a rating, not a ranking. Journals with different scopes naturally have different TOP factors, and if some domains of transparency do not make sense for a specific journal, one may simply choose not to invest effort on improving the TOP factor in regards to such domains. Fewer authors will submit to journals with heavy transparency requirements. ● A variety of countervailing forces are making transparent research *more* (rather than less) attractive to authors, such as government or funder policies, counteracting this concern. ● To mitigate this, journals can coordinate requirements (including style requirements for the inclusion of TOP statements) with peer journals so that authors do not have to reformat work as they revise and submit to different journals. ● Journals can also keep the submission process in the editorial software as smooth and pain-free as possible (you can pilot test any changes and seek feedback about pain points). Reviewers will be less likely to review for journals that have a lot of transparency requirements because it may be more work to review a variety of supplemental materials in addition to the main manuscript. ● As always, reviewers are free to consult whatever parts of a submission that they feel they need to consult in order to evaluate the work. Thus, reviewers may regulate their own workloads without the need for editorial intervention. ● Editors can provide specific guidance to reviewers about how

	to treat supplemental materials if desired. • Editors can recruit specialist reviewers to review specific parts of the submission (for example supplemental materials). Members of the editorial board can even be recruited specifically for this task. • You can also consider having any additional transparency materials checked by journal staff (for example at the initial stage where journal requirements are checked) instead of reviewers
Resources:	Nosek et al., 2015: Promoting an open research culture TOP Guidelines

Publication types

Policy/Practice:	**Publish scientific critique**
What:	Scientific critique refers to a journal-based platform for peer-initiated critical discourse concerning specific research articles previously published in the same journal (Hardwicke et al., 2022). Journals can also welcome scientific critiques of articles published in different journals within the same remit.
Why:	Simple and complex errors making small and large impacts regularly slip through the peer review system and remain in published articles. Therefore, articles need to remain subject to scrutiny even after being published. Publishing such critiques can help readers who are engaging with the original research to evaluate the credibility of the claims made in the paper. Having the option to critique articles published in different journals expands the options for authors, especially given the current low availability of outlets for this publication type.
How:	See Box 1 from Hardwicke et al. (2022) for a list of policies that journals could adopt to facilitate post-publication critique. A journal can add new submission type(s) to the submission portal if these are not already available and update the policy wording on the journal's website. A journal can also implement expedient handling of post-publication critique submissions, editorials highlighting this option, tagging post-publication critique with appropriate meta-data to enhance discoverability, removing strict limits for length / time-to-submit / references, and hiring an independent editor for these manuscripts. Scientific critique should be indexed and citable (have a unique DOI).
Worries:	This critique can be done outside of the journal itself.

	● Unsuccessful attempts to do this have had low usage, for example PubMed Commons (NCBI Insights, 2018). There won't be any engagement with scientific criticism. ● Try making this more visible on your website, editorials highlighting the submission type, and removing word and time limits. ● Making them accessible and citable could provide rewards/incentives to encourage greater participation and use. ● You could even consider a special issue dedicated to publishing scientific criticism. ● Reviewers of accepted articles could be invited to write a critique (for example, if there are major differences in interpretation of results for an otherwise technically sound study). Articles in my journal will be perceived as lower quality if we actively encourage critiques of them. ● Critiques can already be published in other journals or as blog posts, etc. Publishing scientific criticism signals that you're aware that criticism is a part of science and that you embrace rather than hide from it. If we get rid of strict time and length limits, we will lose the option to have timely and concise debate. ● Important critiques may arise at any time and may need more words/references to be fully expressed. In fact, the more time that passes, the greater likelihood that the approach could be improved or the impact of the work can be established. I don't know how to decide on whether to publish a post-publication critique or issue a retraction. ● Editors can incorporate and/or reference COPE's Retraction Guidelines which establish thresholds for retraction vs. critique. ● Editors should evaluate the severity of the correction (see section on corrections and retractions). If the post-publication critique unequivocally undermines the findings of the original article, you can consider retraction. In the majority of cases though, post-publication critique will not be unequivocal and there will be room for nuance and disagreement. In the eventuality that an article is also retracted, the post-publication critique can still be published to aid transparency and document the article's history. I don't know whether I need to invite the authors of the critiqued paper as a reviewer of the critique. ● Journal policies on inviting authors to respond to criticisms may vary. It is certainly not required to invite authors of the critiqued paper to respond to the critique, but the original authors do have greater insight into their own work and can help prevent factual inaccuracies. That said, the original authors must be understood as motivated parties, and so Editors must consider this and not overly weigh their assessment when making an editorial decision. Transparent peer review can help make the COI explicit.
Resources:	Hardwicke et al. (2022): Post-publication critique at top-ranked

	journals across scientific disciplines: A cross-sectional assessment of policies and practice

Policy/Practice:	**Publish replication studies**
What:	A replication is when a study is run again with new data to see whether the same results that were found in the original study can be obtained again. The lines can be blurry with regards to how close a study needs to be to the original study to be considered a replication. Therefore, Nosek and Errington (2020) define a replication as "a study for which any outcome would be considered diagnostic evidence about a claim from prior research" (Nosek & Errington, 2020).
Why:	Several studies show low replicability across the social sciences (Camerer et al., 2016; 2018; Nosek et al., 2022). Therefore, replication studies are essential for correcting the scientific record. There is still a lack of replication studies within the social science literature (for example, Makel et al., 2012; Ryan & Tipu, 2022); we need a trustworthy published literature to aid scientific discovery and knowledge accumulation.
How:	Publishing replications can be done as a *practice*: i.e. the journal has no explicit replication policy but Associate Editors agree to publish and explicitly encourage well-designed replication studies in their journals. To go beyond this, journals can explicitly encourage the submission of replication studies (TOP Level I for Replication). Publishing replications can also be implemented as a journal *policy*, for example "the pottery barn rule" (Srivastava, 2012), whereby journals agree to publish a replication of any study previously published in their journal. Some journals go beyond this, to agree to publish a replication of any study published in a "major journal" (however they define this). To ensure that replications are assessed on the quality of their design rather than their results, a replication policy can include results masked review (TOP Level II) and/or be only for Registered Reports (TOP Level III).
Worries:	I don't know how to decide which replications to publish. ● Evaluate whether the replication effectively repeats the original study's procedure. ● Evaluate whether the replication is rigorous (for example adequately powered to detect the effect size of interest). ● You can also assess whether the original study is "worth" replicating (for example Isager et al., 2020). My journal will be flooded with submissions replicating trivial or well-established findings. ● There is no evidence that this occurs. All research requires substantial time and effort from numerous people, and there is little motivation to conduct such research just to get published.

	Replications aren't relevant for my field / methodologies used in my field (for example qualitative research). ● There is ongoing debate about the possibility or usefulness of replication studies in different fields. For example, some argue that replication should be encouraged in qualitative research (Makel et al., 2012), whereas others argue that there are still open questions about whether replication is even *possible* in qualitative research (Pownall, 2022). Journals could consider posting a "positionality statement" regarding *why* they do or do not publish replication studies to signpost that this has been considered and the information is transparent. I don't know whether I need to invite the authors of the original study to review the replication. ● It is certainly not required to do so, but the original authors of course have greater insight into their own work and can help improve the paper. That said, the original authors must be understood as motivated parties, and so Editors must consider this and not overly weigh their assessment when making an editorial decision. Transparent peer review can help make the COI explicit.
Resources:	TOP Guidelines (Replication) Nosek & Errington, 2020: What is replication? Collaboratory Replication Lab

Policy/Practice:	**Publish Registered Reports**
What:	Registered Reports (RRs) are "a scientific publishing format that includes an initial round of peer review of the background and methods (study design, measurement, and analysis plan); sufficiently high quality manuscripts are accepted for in-principle acceptance (IPA) at this stage…Following data analyses and write up of results and discussion sections, the stage 2 review assesses whether authors sufficiently followed their study plan and reported deviations from it (and remains indifferent to the results)." (Parsons et al., 2022) RRs have two main features: 1) peer review before data collection, and 2) acceptance regardless of the results obtained (Montoya et al., 2021).
Why:	The RR format redirects the review's focus toward the proposed research question and methodology, rather than the anticipated results of the study (Parsons et al., 2022). The RR format eliminates several questionable research practices, such as low statistical power, selective reporting of results, and publication bias, while providing the flexibility to report any unexpected findings (COS RR).

	Because RR reviewers evaluate a Stage 1 study proposal and then evaluate the final Stage 2 manuscript, any deviations can be spotted clearly and reported in a more transparent way. Instead, with study preregistration, discrepancies between the preregistration and the final article may be harder to spot (TARG Meta-research Group & Collaborators, 2021). With Registered Reports reviews have added value, as the feedback and suggestions can still be incorporated into the study, rather than addressed afterwards.
How:	The Center for Open Science provides resources for editors (see "Resources for Editors" and "FAQ" tabs on the Registered Reports page). This includes email templates for all key sections, submission templates and journal policy guidelines.
Worries:	RRs are not necessary or relevant for my discipline. ● RRs can be conducted in any field that follows a research workflow which begins with study planning and design. ● RRs are especially helpful in any discipline where publication bias and questionable research practices exist. We work on rapid/fast-paced science for immediate impact – RRs are too slow. ● RRs can be achieved in a short time scale. Journals can offer 'rapid response' RRs for time-sensitive projects (for example, research in response to the COVID pandemic, Chambers & Dunn, 2022). ● Research that is fast-paced may lead to more errors, and so the RR format ensures that the study design can be reviewed before data collection commences to reduce the likelihood of errors at the design stage. I only want to publish significant results at my journal, because these are the results that will be cited more. ● A well designed study should lead to informative results regardless of the outcome. ● The increase of "null" results in RRs (Scheel et al., 2021) may be a better representation of the research being conducted as a whole. ● RRs are cited equivalently to, or at a slightly higher rate than, 'traditional' articles (Hummer et al., 2017). ● RRs are judged (through masked peer-review) as being higher in rigor, quality, and detail, as well as comparable in creativity and importance (Soderberg et al., 2021). RRs create more administrative burden, due to reviewers being required at Stage 1 and Stage 2. ● Compared to a 'traditional' manuscript, the RR manuscript is split into two stages: *Stage 1*, which focuses on the Introduction, Methods, and Analysis Plan, and *Stage 2*, which focuses on the Results and Discussion (Chambers & Tzavella, 2022). The *amount of total article* to be reviewed for an RR is therefore the same as a traditional manuscript, but of course the burden on reviewers and editors can be larger (especially because of the need to compare the Stage 1 and

	Stage 2 reports). As with everything else in this guide, editors will have to weigh up the pros and cons of adding additional steps to the review process. It will be harder to find reviewers. ● There is no evidence that this is the case, but you can outsource peer review to PCI-RR if you're worried about this (see below). ● Most RR reviewers are more motivated because their feedback can directly impact the work at a crucial time (before data collection). I might lose the reviewer of a Stage 1 manuscript at Stage 2. ● While peer-reviewers are invited to be reviewers for both stages of the RR review process, there may sometimes be difficulties in retaining reviewers for both the Stage 1 and Stage 2 reviews. In this case, a new reviewer should be sought at Stage 2. This is not too different from a revision of a traditional article format. RRs are not a suitable format for qualitative research. ● RRs are not just for quantitative research; they are also suitable also for qualitative studies. For authors, being able to receive feedback and transparently work toward agreed research questions can be valuable. For editors, being able to ensure the quality of the research plan and data/materials sharing can increase the quality of the publications. Authors may not want to use the RR format. ● Adding Registered Reports as an option does not require authors to use it, they can simply continue to submit traditional reports if they so choose. It does not require an extra load of resources to implement, so it is not a problem even if it is seldomly used. ● Most journals offering the RR format also offer the "'traditional" publishing track. The process of adding RRs to a journal is complicated and arduous. ● Installing RRs has become increasingly easy over time. With around 300 journals now offering them, all major publishers have at least one adopter under their umbrella. In many cases, the format and workflow can be imported very easily between journals and all central resources/templates required are openly available (see "How" section). The increased frequency of adoption means that major publishers are generally familiar with how to implement them in the manuscript systems.
Resources:	COS Registered Reports Nosek & Lakens, 2014: Registered Reports: A Method to Increase the Credibility of Published Results Chambers & Tzavella, 2022: The past, present and future of Registered Reports Montoya, Krenzer, & Fossum, 2021: Opening the Door to Registered Reports: Census of Journals Publishing Registered Reports (2013–2020)

	Karhulahti, 2022: Registered reports for qualitative research Registered Report Census Database

Policy/Practice:	**Join Peer Community In Registered Reports (PCI-RR)**
What:	Peer Community In is an initiative that allows editors to outsource part or all of their peer review to groups of volunteers. Peer Community in Registered Reports (PCI-RR) was launched in April 2021 and offers free and transparent pre- and post-study recommendations; managing the peer review of Registered Report preprints. The peer review is independent of journals but is endorsed by a growing list of journals that accept PCI-RR recommendations.
Why:	PCI RR provides journals with three key benefits: ● Journals have the option to publish transparent, high-quality studies with limited editorial effort. The PCI RR can be responsible for the entire peer review process. ● By using the PCI RR platform, your journal will be at the forefront of evolving open science practices and this helps the scientific community build a robust system of peer review. ● Journals can still collect article processing charges and provide added value for authors who wish to publish in the journal.
How:	Journals can join the PCI initiative either with "*PCI RR-friendly*" or "*PCI RR-interested*" status: ● A *PCI RR-friendly* journal endorses the PCI RR review criteria and commits to accepting without further peer review any manuscript that achieves a positive final recommendation from PCI RR while also meeting any additional procedural requirements that do not require further scientific evaluation by the journal. ● A *PCI RR-interested* journal does not automatically accept PCI RR recommendations but has signed up to be alerted when a new Stage 1 in-principle acceptance (IPA) or Stage 2 acceptance is recommended by PCI RR. The journal can then contact the authors to arrange additional peer review or make a direct publication offer. To join, please read the instructions and submit an application.
Worries:	It will be expensive to outsource peer review to another platform. ● The PCI initiative is a non-profit, non-commercial platform that has no costs. Furthermore, it reduces any additional drain on the journals' existing pool of reviewers. Joining PCI-RR will negatively impact our impact factor. ● RRs have been found to be of general high research quality and cited equivalently to, or at a slightly higher rate than,

	'traditional' articles (Hummer et al., 2017). ● If you are worried that some articles may not be suitable for your journal, you can also choose the *PCI RR-interested* option that allows you to re-assess each study before offering publication. The PCI-RR peer review process isn't stringent enough. ● PCI RR offers transparent peer review, i.e. all recommender and reviewer reports are published openly (with some exceptions). Readers and editors may assess the quality of peer review processes via existing recommendations and publications. ● Each joining journal defines their own standards and may choose to accept only those studies that meet the standards. ● Many processes have been put in place to protect quality. For example, recommenders have to complete training and an associated test. Our discipline isn't included in PCI-RR. ● PCI RR includes all research disciplines.
Resources:	Peer Community In Registered Reports Pennington & Heim, 2021: Reshaping the publication process: Addiction Research and Theory joins Peer Community In Registered Reports Short (1:31) video about PCI RR recommender work Longer (42:06) video about how PCI RR works Link to talk about PCI RRs: Pennington (2022)/RIOTS Science Club

Policy/Practice:	**Publish Exploratory Reports**
What:	Exploratory Reports are articles that allow submissions that do not follow the standard hypothetico-deductive framework. The purpose of these reports is to publish research activities that occur before testing hypotheses derived from substantive theories.
Why:	Exploratory Reports encourage exploratory research by offering a specialized publication format with an editorial team and review process specific to exploratory research. This makes it clear that authors are encouraged to submit exploratory work and will not be penalized in the review process for their work being exploratory. Studies with small samples of under-represented or hard to reach populations, or small samples using intensive methods, could be a good fit for Exploratory Reports, where the emphasis is on detailed descriptions rather than inferential statistics.
How:	This involves creating a new submission type in your submission

	portal and creating author and reviewer guidelines. The guidelines developed by *Cortex* (the journal that introduced this submission type) can be used or adapted for your journal's needs.
Worries:	Many papers include both confirmatory and exploratory elements, so they wouldn't fit into this article type. ● Offering this format doesn't mean that authors have to use it – these studies may not be appropriate for this article type, and could instead be submitted as regular research articles. My journal already publishes a lot of exploratory work, so we don't need a new article type. ● "The major driver is transparency, for researchers, reviewers and readers. Specific author guidelines make it clear that exploratory work does not have to mimic the conventions of hypothesis-testing to be published, but can focus more broadly on pattern-finding, parameter estimation, and hypothesis generation…A specific article type makes it unambiguous for readers that the evidence and hypotheses were generated in an exploratory mode, and should be interpreted in this context." (McIntosh, 2017)
Resources:	Exploratory reports at *Cortex* (first journal to introduce them) ● Editorial (McIntosh, 2017) ● Author guidelines

Policy/Practice:	**Publish Verification Reports**
What:	Verification Reports (VRs) are a publication type that emphasizes computational reproducibility and analytic robustness. Srivastava (2018) first suggested this format, which is for reproductions of analyses in published papers or new analyses of data associated with published papers. (Chambers, 2020)
Why:	Verification reports enable scientists to receive professional recognition for assessing one of the most crucial aspects of credibility, which is determining if the claims made in earlier studies are supported by their own data (Chambers, 2020). In science, it is sensible to verify basic reproducibility before proceeding to higher levels of confirmation. This implies that before investing in extending or replicating a study, we must first establish that the claims made in the original study are reproducible and robust based on the original data. If this criterion is met, then further work is justified, but if not, proceeding with a replication or extension could be premature and inefficient (Chambers, 2020).
How:	This involves creating a new submission type in your submission portal and creating author and reviewer guidelines. The guidelines developed by *Cortex* (the journal that introduced this submission type) can be used or adapted for your journal's needs. Like

	Registered Reports, VRs are reviewed over two stages to reduce publication bias.
Worries:	Reproductions are not novel or interesting enough to warrant a new article type. ● Reproductions are essential for verifying that the original authors' results can be reproduced, but if reproductions aren't incentivised, then very few will be conducted. One way to incentivise reproductions is to offer publication for these – as is the case with Verification Reports. ● There have been cases where reproductions have shown that major findings in a field are unreliable and flawed. For a great example, see the first published Verification Report (Chalkia et al., 2020), and the accompanying editorial outlining the full timeline for this study (McIntosh & Chambers, 2020). It will be harder to find reviewers. ● As this is a relatively new article type, it's hard to know. However, it doesn't seem to be the case that it's harder to find reviewers for RRs, and arguably the burden is lower for VRs.
Resources:	Verification reports at *Cortex* (first journal to introduce them) ● Introductory editorial (Chambers, 2020) ● Author guidelines Verification reports at *JOPD* (only journal not subfield-specific) ● Journal policy and templates Brief (3min) video on VRs

Policy/Practice:	**Publish data descriptors**
What:	Although it is common to share data alongside the manuscript (see section on sharing data) in empirical papers, datasets can also be the focus of what is published, without any analysis, instead the dataset is accompanied by a "data descriptor" article. There are several journals which are dedicated to publishing data descriptors (examples include *Scientific Data* for scientific disciplines and the *Journal of Open Humanities Data* for humanities disciplines). In psychology the *Journal of Open Psychology Data* *(JOPD)* offers this submission type.
Why:	Datasets – aside from research articles reporting the results of analyses – are valuable scientific contributions in their own right. In particular, data with a high potential for reuse, well-documented curation, and quality checks are of particular value to the community. In some fields, secondary reuse of high value datasets is common, and it is useful to have a centralized source that describes a dataset and its features, which can then be cited in studies that use the data, rather than rehashing all of the details of that dataset in every associated publication.

How:	The logistics involve creating a new submission type in your submission portal and creating author and reviewer guidelines. The Guide to Authors in *Scientific Data* or Author Guidelines from *JOPD* can be used as a template, which includes submission guidelines, manuscript templates, and data deposition policies.
Worries:	Authors can just submit to a data journal instead. ● Authors may have a specific audience in mind who would find the most relevance from their data. If journals offer publication of data descriptors, authors can communicate directly to their discipline. Data-only publications are less valuable than articles with introductions, results, and discussion sections. ● Offering the option doesn't mean that authors have to use it, and authors can at least obtain article citations for anyone reusing the dataset, which may be preferable for them due to article citations being a more common academic currency than dataset citations. ● Data descriptors are complementary to research papers, so they should not be considered in opposition with them.
Resources:	The Turing Way: Sharing your data through a Data Article McGillivray et al., 2022: Deep Impact: A Study on the Impact of Data Papers and Datasets in the Humanities and Social Sciences Example journals focused on this article type: ● Scientific Data ● Data in Brief ● Journal of Open Psychology Data ● The Journal of Open Humanities Data

Data, code, and materials

Policy/Practice:	**Incentivise or mandate sharing data, code, and research materials**
What:	Journals can encourage or require authors to share the data, code, and/or research materials that were used to produce the findings reported in an article (specific definitions and special considerations for each of these are included in the following sections specific to data, code, and research materials).
Why:	Reproducibility and replicability are key aspects for developing a transparent and cumulative science. However, often the description of the methods and procedures included in a manuscript are insufficient to replicate/reproduce the findings of the study. Sharing data, code, and/or materials allows readers to independently

	reproduce the results found in a published manuscript, or pursue independent replication using complete information about the implementation of a study. There is some evidence that some of these open practices are associated with more article citations (Colavizza et al., 2020), although a causal link has not yet been determined.
How:	There are many different options for journals to facilitate authors' sharing data and materials, ranging from informal incentives to formal mandates. For example, the issue can be handled on a case-by-case basis, where Associate or Managing Editors ask authors to include data, materials, and/or code during the review process. Journals can also offer Open Data and/or Open Materials badges as a way to incentive sharing. Note, the Open Materials badge can refer to either/both open research materials and open code. Journals can also implement open data, code, and research materials policies to mandate the sharing of these materials. This can include (but is not limited to) requiring a statement to describe whether data, code, and/or research materials are available, and if so, where to access them (TOP Level I for Data Transparency, Analytic Methods [Code] Transparency, and Research Methods Transparency, respectively), or requiring that data, code, and/or research materials are posted to a trusted repository (TOP Level II). Journal editors should think about how they will implement data, code, and research materials sharing policies. Some considerations include: ● At what stage will authors be required to share data, code, and/or research materials? At submission? Before publication? ● How will the data, code, and/or research materials be shared? Is the submission system able to handle the necessary file types, or should an external data repository be used? Will the journal mandate certain forms of sharing or a certain data repository or will the journal leave it up to the author to decide? See this Implementation Guide for discussion of implementation issues and concerns (includes issues/concerns specific to certain publishers and manuscript management software). This guide also contains models for how other journals have implemented data, code, and research materials sharing. Editors/journals can collaborate with a trustworthy data repository to develop guidance materials for authors that provide information on preparing and packing materials for submission to a repository to facilitate long-term access and use (Christian et al., 2020).
Worries:	I don't know who will check whether shared information is complete.

	● There are many ways that journals approach this issue. Some journals do not check the data, code, or research materials at all. Some fully verify that the shared data, code, and materials can be used to replicate the findings of the study. Please see the Implementation Guide and later sections on pre-publication verification for a detailed description of many of these options. Requiring data, code, or research materials sharing will lead to a decrease in submissions. ● This may be possible if you require the data, code, and/or research materials to be available at the time of submission. However, you can alternatively require that they are to be made available upon acceptance, which is less likely to impact submission rates. If using the latter approach, it is critical that the authors make a declaration about willingness to complete this requirement upon acceptance. This as a whole may be a suboptimal strategy however, as it may compromise review quality if all resources are not available at time of review. ● Many funding agencies and institutes have policies in place that require authors to make the materials underlying their publications available, so requiring this and providing workflows for it may positively impact submissions. Authors unfamiliar with open science won't know how to make their data, code, and/or research materials openly available / won't know what to include in an availability statement. ● The journal can include specific instructions on how to make data, code, and/or research materials openly available (for example if there is a preferred repository or format). ● The journal submission instructions can include a link to resources on how researchers can make data, code, and/or research materials openly available, for example The Turing Way or Transform to Open Science. ● The journal can provide suggested language for availability statements, for example see statements suggested by TOP guidelines. There will be an additional hosting burden for the journal. ● The journal can recommend that the materials be shared on an external but persistent location (for example, a "trusted repository"). Then the journal merely needs to link to these materials as part of the manuscript. ● Note, if authors share data/code/materials somewhere where authors can delete materials or remove public access (for example OSF), you may wish to require authors provide a static link of the project (for example for OSF this would be a registration of the project at the time of paper acceptance). I don't understand how we can keep authors' data/code/materials anonymous for masked peer review. ● Masking for peer review can be difficult – in manuscripts as well as in shared data/code/materials. Sometimes complete masking is not possible. ○ Journals can consider moving to an unmasked model (See Open and Transparent Review) ● For data/code/materials that you do intend for peer review,

	there are several options for ensuring that the *link and repository metadata* are anonymous: ○ See table of popular data repositories with information about anonymous link sharing in Implementation Guide ○ If you're not requiring that data, code, and/or research materials are shared via a data repository, authors can also anonymize them and share them as supplementary material (note that in some manuscript software systems, only pdf, text, and word files will compile into the pdf proof that reviewers see) ○ Advise authors to use Anonymous GitHub ● For data, code, and/or research materials that you do intend to make available for peer review, there are also several options helping to ensure that the *content* of the data, code, and/or research materials are anonymous, you can: ○ Apply the same policies and procedures that you use for manuscripts to data, code, and/or materials. For example, you can check them for self-citations, author names, and institution names and work with authors to remedy any issues with adequate masking ○ You can have authors sign a form or check a box indicating that they did not include identifying information in their data/code/materials. ○ You can check some data/code/materials but not others (for example, checking study protocols or survey instruments but not the full code for the project) ● Although it's preferable that data, code, and/or materials are included in the peer review process for the highest quality review (see "Why"), if resources are limited you may choose to only require these at the conditional accept stage or ask for them to be shared internally (for editorial review) at the submission stage but not share them with peer reviewers
Resources:	Badges to Acknowledge Open Practices (Open Data, Open Materials) TOP Guidelines (Data Transparency, Analytic Methods (Code) Transparency, Research Materials Transparency)

Policy/Practice:	**Special considerations for open study materials**
What:	Here, open materials refers to the actual materials used as stimuli in the study. These can include (but are not limited to) complete protocols, auditory and visual stimulus files, code for running experiments, participant questionnaires, consent documents, and videos of study implementation.
Why:	To facilitate effective evaluation and future replications and extensions. This can also enable reviewers and readers to identify

	possible confounds or other aspects of the materials that warrant discussion in the paper or future follow up.
How:	See general section above on data, code, and research materials sharing.
Worries:	Authors aren't allowed to share proprietary material (for example licensed questionnaires/tests). ● In cases where authors are secondary users, having open study materials involves providing detailed explanation/instructions for how the materials were accessed and how they can be accessed by readers.
Resources:	Badges to Acknowledge Open Practices (Open Materials) TOP Guidelines (Research Materials Transparency)

Policy/Practice:	**Special considerations for open data**
What:	Open data refers to data that can be used, reused, and redistributed by anyone.
Why:	Authors sharing data alongside their manuscripts means that readers/reviewers can see the structure of the data more clearly, verify analyses from the manuscript, run additional analyses, and use the data to answer new questions. Data-sharing has been shown to be associated with higher citation counts in disciplines where data sharing has not previously been implemented (Colavizza et al. 2020; Dorch et al., 2015; Henneken & Accomazzi, 2011; Pienta et al., 2010; Piwowar & Vision, 2013). Mandated data archiving policies greatly improve the odds of finding the data online compared to less stringent or no policies (Vines et al., 2013). In the long term, individual researchers cannot reliably preserve or provide access to their data by themselves (Vines et al., 2014).
How:	See general section above on data, code, and research materials sharing.
Worries:	We already require authors to provide data availability statements – this is enough. ● Although many authors state that data is available upon reasonable request, researchers often do not comply with this in practice (Gabelica et al., 2022), and therefore we suggest mandating data sharing (with exceptions for ethical and legal reasons where consent has not been given for data sharing or where data is too sensitive to share). At a minimum, we suggest mandating that authors who offer to share on "reasonable request" provide information on exactly how to

	submit requests and how decisions will be made about what is reasonable (for example, data are privately stored in a trusted repository and researchers make a request through the repository). My field involves a lot of sensitive or proprietary data that cannot be shared. ● There will be some cases where data cannot be shared, and it is important to be "as open as possible, as closed as necessary" (H2020 Programme Guidelines on FAIR Data Management). ● Even sensitive data can sometimes be shared, see Joel et al. (2018) and Casadevall et al. (2013), in particular with a reviewer or data editor. Or, in the case of Databrary, sensitive data can be openly shared with a community of institutionally authorized researchers who have agreed to protect data. ● Much "restricted secondary data" can be accessed by others, just not freely. This can be clearly stated in a Data Availability Statement. ● Some repositories offer managed access (for example, Qualitative Data Repository) which helps to balance participant privacy and researcher access. See the Implementation Guide for a list of popular data repositories with restricted access functions. ● When data cannot be shared, a codebook/data dictionary is still useful and can be shared. ● Authors can also give reviewers the opportunity to check basic code functionality (see section on code sharing) by providing synthetic data (Quintana, 2020). ● For proprietary or third-party data that the authors do not have the legal right to reshare, they can include detailed instructions for gaining access to the data through the original provider. Authors should check carefully with data providers for restrictions on data sharing, specific repositories for resharing, etc. Requiring open data will disadvantage early career researchers or underrepresented minorities because they will no longer have sole access to or control over their data. ● It is true that the consequences of not having sole access to or control over data will be different depending on career stage and other researcher identities. ● As a way around this, researchers can embargo data if they want sole (or shared with a specific group) access to it for a fixed period of time. ● In connection to a publication, the journal can require that researchers only publish openly the data required to verify the results (for exampe., can omit other collected variables, especially if the research team intends to publish additional products). ● Data are citable products, and researchers who use previously published data should be citing the original authors. Publishing papers with open data may *increase* the impact for ECRs and URMs, as well as open up collaboration opportunities. ● ECRs and URMs may also benefit from other researchers

	providing open data, by giving them access to otherwise expensive to collect data, difficult to reach samples, or time intensive data that they would not otherwise have access to. My journal/subdiscipline/field has primarily qualitative research and qualitative data can't be shared. ● There is a lot of debate about the advantages and disadvantages of open qualitative data (DuBois et al., 2018; Jones & Alexander, 2018; Tsai et al., 2016). Although there is much to consider, qualitative data should not be automatically excluded from open data requirements, see Karhulahti (2022). ● Qualitative Data Repository (QDR) and Finnish Social Science Data Archive (FSD) have many resources regarding qualitative data sharing, including how to manage access as necessary; Databrary has resources related to sharing video and audio recordings. ● If the data cannot be shared, journal editors should require a statement in the manuscript about why the data cannot be shared openly. ● Journal editors can provide alternatives to open data. For example, qualitative researchers may want to share data in a repository with restricted access (see Implementation Guide for a list of such repositories). Researchers won't understand how to share their data. ● Scientists might need training, for example, CONVERGE Publish Your Data, The Turing Way, and Transform to Open Science). You can link to training and other resources in the author guidance on your website.
Resources:	Badges to Acknowledge Open Practices (Open Data) TOP Guidelines (Data Transparency) Hrynaszkiewicz et al., 2020: Developing a Research Data Policy Framework for All Journals and Publishers Data editor websites: ● American Economic Association in particular this page ● The Review of Economic Studies ● The Economic Journals

Policy/Practice:	**Special considerations for open code**
What:	"Making computer code (for example, programming, analysis code, stimuli generation) freely and publicly available in order to make research methodology and analysis transparent and allow for reproducibility and collaboration. Code can be made available…enabling others to evaluate and correct errors and re-use and modify the code for subsequent research." (Parsons et al., 2022)
Why:	Authors sharing code alongside their manuscripts means that

	reviewers/readers can help users understand the nature of variables and datasets, see the analyses that were conducted more clearly, and check reproducibility (through synthetic data). Authors sharing both data and code alongside their manuscripts has all the same benefits of sharing separately, but also means that reviewers/readers can check the computational reproducibility of the results. The more strict the data and code sharing policy is, the higher the computational reproducibility (Trisovic et al., 2021).
How:	See general section above on data, code, and research materials sharing.
Worries:	Code that has been shared may not be to a standard that we're happy with for our journal. ● If you mandate open code but not open data, then the only checks that could be done on the code are that the analyses seem to match those described in the manuscript. ● If you mandate the sharing of both data and code, you could check for computational reproducibility (see section on pre-publication verification of analyses and section in Implementation Guide on verifying shared data, code, and/or materials). ● You can require or incentivize sharing code without verifying (see section "**Incentivise or mandate sharing open data, code, and materials**" and the Implementation Guide for a full discussion of options for verifying (or not verifying) shared data, code, and materials). Requiring open code will lead to a decrease in submissions. ● It is unknown whether sharing code without data will lead to an decrease in submissions. However, unlike data sharing, all statistical software has a way to save and share the syntax. This may only be difficult where analyses were conducted a long time ago and/or by people who are not authors of the paper, and the syntax wasn't originally saved. ● Some researchers may feel like their code isn't good/clean/well-documented/automated enough to share, however you can be clear in your instructions to authors that you're happy for them to share "freely provided working code — whatever its quality" (Barnes, 2010, see also Wilson et al., 2017). ● If you're worried about this, you could make it a practice to request open code at the review stage, but not make it mandatory for publication. This way, most/all authors will include the code if they have it, and explain why if they don't. I don't understand what we should do with code from proprietary softwares. ● You can still ask that authors share the code, even if not everyone will have access to reproducing the analyses. You can suggest they share it in proprietary and non proprietary formats (for example both sps and copied into a .txt file) so that at least people without access to the proprietary software can still *read* the code to see which analyses were performed.

Resources:	Badges to Acknowledge Open Practices (Open Materials) TOP Guidelines (Analytic Methods (Code) Transparency) CODECHECK

Policy/Practice:	**Perform pre-publication verification of analyses**
What:	A policy whereby data and code are not only required for publication in the journal, but must be checked before publication to ensure that analyses are computationally reproducible – that the results in the manuscript match the results that are produced when someone who is not one of the authors re-runs the code on the data.
Why:	Even when data and code are shared, this doesn't guarantee that analyses are reproducible (Kingi et al., 2018; Trisovic et al., 2021). Performing pre-publication verification of analyses is the only way to catch any mistakes or inconsistencies between the analyses described / results reported in the paper and the data / code at a point where any revisions can still be made to the paper itself (or in the worst case, publication can be stopped).
How:	Willis & Stodden (2020) outline how to leverage policies, workflows, and infrastructure to ensure computational reproducibility in publication. Economics is leading the way for this by appointing "data editors" to be in charge of this process. They have developed detailed data and code guidance for authors, reviewers, re-analysts, and editors (see resources). Requiring that reported analyses are reproduced independently prior to publication like this is TOP Level III for Data Transparency and Analytic Methods (Code) Transparency.
Worries:	My journal can't make this work financially. ● There can be substantial costs associated with hosting the data and performing the reproductions (see below) if done internally, so you will need to consider different options and which makes sense for your journal. ● Under the current system, data/statistical editors, data repositories, or external parties will usually need to be paid to perform the reproductions, which will not be financially feasible for all journals. ● Depending on the volume of submissions and the types of analysis that are common in your field, this doesn't have to be a major expense – for example you can hire an editorial assistant (for example a PhD student) to work a few hours a week to perform these checks. ● Some journals rely on the conventional peer review system (i.e., inviting specific reviewers to perform the verification), which is doable but not ideal.

	● You will need to ensure the person/people performing these verifications have the capacity (for example time, knowledge, etc.) to fulfill this role. I don't understand where the data and code will be hosted. ● Sometimes, where data and code consist of very large files, it can be expensive to host these, and this burden shouldn't be placed on the authors as this can increase inequalities. In these cases, it is important to offer an option for where authors can share these files, for example in a data repository that allows for large files to be shared. This will increase time-to-publication. ● This is likely, but not necessarily if the analyses are very simple, as these checks are performed in parallel to the normal review process.
Resources:	Willis & Stodden, 2020: Trust but Verify: How to Leverage Policies, Workflows, and Infrastructure to Ensure Computational Reproducibility in Publication Nuijten, 2020: Assessing and Improving Robustness of Psychological Research Findings in Four Steps Social Science Data Editors Data and Code Guidance AEA Data and Code Preparation Guidance CodeOcean (commercial system to run code and publish verified versions thereof) cascad (non-profit system to explicitly test code reproducibility) WholeTale (academic free system to share computational resources and publish "recorded runs") Binder (open notebooks in an executable environment, making your code immediately reproducible by anyone, anywhere) Institute for Replication (coordinates post-publication reproducibility and replication attempts) Social Science Reproduction Platform (platform to support reproducibility and replication attempts, for educational and other purposes)

Policy/Practice:	**Incentivise or mandate adherence to methodological reporting guidelines**
What:	Standards for transparency or disclosure are sets of elements about data collection practices which are shared or made available in order for readers to evaluate research protocols. In many fields,

	transparency standards are available which specify specific elements of study design which should be disclosed.
Why:	Research data collection often involves numerous elements and steps, each of which might be implemented slightly differently, and which can either increase variability or bias in estimates and conclusions. The diversity of scientific backgrounds of different reviewers, editors, and authors may lead to discrepancies between the information reported in one article versus another. The use of consistent standards or checklists insures a minimum level of transparency and disclosure that is common across all studies. For example, survey research protocols include the target population of a survey, the mode or modes of data collection, source or sources of the sample frame, sample stratification, sampling protocols, dates and specifications of field protocols, response rates, specific wording of questions, interviewer instructions, and others. Different standards for reporting these elements exist in different fields, such as the AAPOR transparency Initiative standards for survey research, the EQUATOR guidelines for a variety of types of health research, the CONSORT standards for clinical trials, the STROBE standards for observational studies in epidemiology, the SRQR guidelines for observational studies, the MOOSE guidelines for meta-analyses, APA's Journal Article Reporting Standards (JARS) and others.
How:	This can be done on a case-by-case basis, where Associate Editors ask authors to report further study details based on minimum standards for that particular type of research. Journals can adopt a policy requiring that studies meet a pre-existing set of guidelines, potentially using different sets of guidelines for different sets of studies, or can develop their own standards. For TOP Level I for Design and Analysis Transparency, authors are encouraged to review relevant reporting standards for the type of research they have conducted, for Level II authors are required to confirm that they have followed any relevant standards, and for Level III the journal will review whether the standards were appropriately adopted.
Worries:	What if the shared information is not complete. ● If you decide to check this information, you can make this part of the review process (either an expectation of the usual reviewers, or inviting a specific reviewer to check against particular guidelines). The required elements of a standard may not be available for a study because the study was collected prior to the existence of a certain standard. ● This can be disclosed during the journal submission process, and even explained within the manuscript itself so as to

	become part of the public research record, and editors and reviewers can evaluate the paper in light of the disclosure information that is available. Generic reporting guidelines don't make sense for my field/methodology. ● Reporting guidelines might not make sense for all fields and methodologies, and it is very important to ensure that any guidelines that do get made take into account which kinds of research they actually apply to (Steltenpohl et al., 2023; Clarke, 2022).
Resources:	TOP Guidelines (Design and Analysis Transparency) An example of standards for disclosure in JAMA AAPOR Disclosure Standards and Survey Disclosure Checklist Enhancing the QUAlity and Transparency Of health Research (EQUATOR) standards for reporting of health studies CONSORT checklist for Randomized Clinical Trials Levitt, 2020: Reporting qualitative research in psychology: How to meet APA style journal article reporting standards

Policy/Practice:	**Incentivise or mandate formally citing datasets**
What:	A policy encouraging or requiring that datasets used in the analysis presented in an article be formally cited, whether the data was produced by the article authors or another researcher or organization (Cousijn et al., 2018).
Why:	Gives due credit to data collectors and recognizes datasets as important research products, similar to research articles (Cousijn et al., 2018, JDDCP, 2014). Creating a publishing environment in which datasets are routinely, formally cited may also alleviate fears over the ownership and credit deserved with respect to the production of datasets. Citing datasets can increase the citation score of outlets where the data was published - thus, it might also benefit one's own journal. Citing datasets/material/code makes it much easier to track usage and impact (Moss & Lyle, 2018). Researchers strongly favor formal data citation (Tenopir et al., 2011, Kratz & Strasser, 2015), even though formal citation is still uncommon (Park et al., 2018).

How:	This one is relatively easy to implement because there already exists the expectation that research articles will be formally cited. Journal editors can simply require that datasets used in the analysis are cited in text and in the reference list. DataCite has created standards for the appropriate formatting of dataset citations (be aware that some standard citation formats will not, by default, include all appropriate pieces of information, for example APA, ASA). The Joint Declaration on Data Citation Principles has been endorsed by almost 300 organizations and individuals and synthesizes guiding principles for data citation. Instruct any editorial staff involved in formatting or editing (for example editorial assistant, production editor) to check data citations. Include the DataCite format in the journal's style guide for dataset citations. For TOP Level 1 Citation Standards, journals need to provide clear instructions and examples of data citation on their website. Level II involves communicating that authors are expected to include appropriate citations in their articles, whereas Level III requires that authors do so as a condition of publication. Requiring a DOI is at the journal's discretion and should be clearly indicated in the instructions to authors. It is considered best practice and highly recommended that DOIs be attached to datasets and included as part of the citation.
Worries:	Journals will have to store the data being cited which will be too big of a storage burden. ● There is no expectation that the journal will house the dataset that is being cited. The dataset can continue to be stored at a location of the authors choosing. Authors will have to make their data open, which comes with all those additional worries above. ● No, data citation can also refer to restricted access datasets. Others will cite the dataset instead of the article, leading to reduced citations for the paper. ● This is always possible, but at least it is still the author's product that is being cited. Authors can specify in data availability statements and README files which output they prefer that re-users cite.
Resources:	TOP Guidelines (Citation Standards) Cousijn et al., 2018: A data citation roadmap for scientific publishers. Scientific Data Altman & King, 2007: A proposed standard for the scholarly citation of quantitative data DataCite

	Data Citation Synthesis Group: Joint Declaration of Data Citation Principles, 2014 Social Science Data Editor website: Some tricky data citations and proposed solutions

Open and transparent review

Open and transparent review concerns *what* is open and to *whom*. The following table summarizes some of the "*what"s* and "*whom"s*, and then the following tables go into detail for some of the "*what*"s.

	Authors Transparent in Peer Review	**Reviewers** Transparent in Peer Review	Handling **Editor** Transparent in Peer Review	**Consultants** Transparent in Peer Review	Peer Review **Reports** Transparent	Peer Review **Responses** Transparent	Peer Reviewer **Selection** Transparent	Received and Accepted **Dates** Transparent
To **authors**		Reviewers visible to authors	Handling editor visible to authors	Review consultants visible to authors	Review reports visible authors		Selection process visible to authors	
To **reviewers**	Authors visible to reviewers	All reviewers visible to all reviewers	Handling editor visible to reviewers	Review consultants visible to reviewers	All review reports visible to all reviewers	Review responses visible to all reviewers	Selection process visible to reviewers	Dates visible to reviewers
To **chief** editor	Authors visible to chief editor (at desk)	Reviewers visible to chief editor		Review consultants visible to chief editor	Review reports visible to chief editor	Review responses visible to chief editor	Selection process visible to chief editor	Dates visible to chief editor
To handling **editor**	Authors visible to handling editor							
To other **editors**	Authors visible to all editors	Reviewers visible to all editors	Handling editor visible to all editors	Review consultants visible to all editors	Review reports visible to all editors	Review responses visible to all editors	Selection process visible to all editors	Dates visible to all editors
To **consultants**	Authors visible to consultants	Reviewers visible to consultants		Review consultants visible to other consultants	Review reports visible to consultants	Review responses visible to consultants	Selection process visible to consultants	Dates visible to consultants
To **readers**	Authors visible to readers	Reviewers visible to readers	Handling editor visible to readers	Consultants visible to readers	Review reports visible to readers	Review responses visible to readers	Selection process visible to readers	Dates visible to readers

Policy/Practice:	**Move to open peer review (identities)**
What:	Open peer review is "A scholarly review mechanism providing disclosure of any combination of author and referee identities, as well as peer-review reports and editorial decision letters, to one another or publicly at any point during or after the peer review process." (Parsons et al., 2022).

	Open identities refers to author, reviewer, and editor identities. In open reviewing, everyone knows the identity of everyone. In single-masked, only reviewers are made anonymous. In double-masked, the editor knows the identity of reviewers and editors, reviewers and authors know the identity of the editor, but authors and reviewers don't know the identity of each other. In triple-masked, the identity of the editor, authors, and reviewers are all masked from each other.
Why:	Open review is argued to increase the accountability of the reviewer, giving less scope for biased or unjustified judgements (although see "Worries" for the reverse argument). Godlee et al. (2002) offers a good introduction to the benefits of making reviewers open.
How:	There is no one-size-fits-all solution, but it's important to think carefully about which policy makes sense for your journal. Once you have decided on a system, logistical changes can be made in the editorial management software and instructions to authors and reviewers. This may include encouraging reviewers to join the Peer Reviewers' Openness Initiative. Journals should also consider fully disclosing their own editorial decision making processes (Karhulahti & Backe 2021), for instance, by transparently reporting who contributed or otherwise engaged in the decision. The International Association of Scientific, Technical and Medical Publishers (STM) has developed a peer review taxonomy. This terminology is now being adopted as a NISO standard. Journals should adopt this terminology to describe their approach to peer review in a standardized way.
Worries:	Reviewers will be treated unfairly for giving unfavorable reviews. ● There is evidence that reviewers are less likely to express criticism (Mulligan et al., 2013; Ross-Hellauer et al., 2017) and are less likely to reject articles (Bravo et al., 2019; Bruce et al., 2016; Sambeek & Lakens, 2021; Walsh et al., 2000) if their identity is known to authors. If you're worried about this, you could consider implementing a single-masked system with the option for reviewers to choose to also identify themselves. ● If you decide this is a good enough reason to keep reviewer identities anonymous, you can still consider making the reviews themselves open (see next section). ● For ECRs and others who wish to sign their reviews, journals can provide consultation and support in order to increase reviewer confidence and prevent possible review mistakes If author identities are open, this opens up the option for bias or retaliation. ● There is evidence that open author identities can be biased towards papers with famous authors and from high-prestige institutions (Huber et al., 2022; Tomkins et al., 2017). If you're worried about this, you could consider a double-masked system, with the option for reviewers to self-identify if they wish to. However, with the open scholarship movement

	becoming more prominent, double-masked reviewing is becoming less enforceable as reviewers may search preprints, open data, open code, measures and discover the identities of the authors. Note that masked review is not intended to ensure, at all costs, that reviewers are not aware of the authors identities, rather that journals are simply not providing this information as part of the review process. • Open peer review allows the process to be evaluated (Godlee et al. (2002) in many ways, including for potential bias or retaliation, as the content is accessible. This may in fact offer peer reviewers some protection – if they are accused of bias, the review content can be scrutinized, or the reviewer record can be checked independently, and the reviewer can be protected with the review record being open.
Resources:	Ross-Hellauer and Görögh, 2019: Guidelines for open peer review implementation Besançon et al., 2020: Open up: a survey on open and non-anonymized peer reviewing Horbach et al., 2022: Sunlight not shadows: Double-anonymized peer review is not the progressive answer to status bias. Peer reviewers' Openness Initiative

Policy/Practice:	**Move to transparent peer review (reviews)**
What:	It is possible to make the reviews themselves openly available alongside published manuscripts (with or without the reviewers being identified).
Why:	Transparent peer review makes evaluations publicly visible, providing background information for readers and distinguishing between journals with robust evaluations and those with superficial standards, including 'predatory' journals and established journals without uniform criteria (Waltman et al., 2020). Transparent peer review allows both scrutiny and evaluation of the review process. It can generate recognition for the peer review process – reviews may be given DOIs to be cited, and thus reviews can be better credited for their contribution.
How:	In order to publish reviews your online publishing platform will need to allow this logistically. Some publishers include open reviews as part of their article records (for example, BMC, BMJ); these reviews may be freely available but difficult to index, locate, and cite because the reviews are not assigned unique titles and DOIs. ScholarOne offers an integration with Web of Science that is used by several publishers to implement transparent peer review. There is a workaround if you

	want to implement open reviews without changing platforms, or while you're still in conversation with your publisher about how to implement this: you can attach a supplement to the published manuscript that includes all of the reviews. At the very least, even if you decide not to implement open peer reviews yourself, you can make it clear through your author and reviewer communication that either authors or reviewers are welcome to make the reviews public. If you want to encourage reviewers to publish their reviews (especially if the article under review is already available on a preprint server), you may consider supporting ASAPbio's Publish Your Reviews initiative.
Worries:	Having reviews published will dissuade authors from submitting manuscripts to my journal. ● It is possible that some authors would be put off by this – if you're worried about this you could consider having the possibility for authors to opt in to this option during the submission process. Having reviews published will dissuade reviewers from reviewing for my journal. ● Wiley found that there was negligible effect of transparent review on the willingness of researchers to review for journals (Graf, 2019). Similar to author opt–outs described previously, it may also be possible to allow for reviewer opt-outs, where they can review the manuscript without their review subsequently being made public. Reviewers will have a positive bias because they know that the reviews will be published. ● See same question in previous section on open identities.
Resources:	Ross-Hellauer and Görögh, 2019: Guidelines for open peer review implementation Besançon et al., 2020: Open up: a survey on open and non-anonymized peer reviewing Moylan et al., 2020: Transparent Peer Review at Wiley: Two years on what have we learnt? Cosgrove and Cheifet, 2018: Transparent peer review trial: the results Wolfram et al., 2020: Open peer review: promoting transparency in open science Waltman and Van Eck, 2022: The growth of open peer review The Turing Way: Open Peer Review

Policy/Practice:	**Streamlined review**

What:	Journals can choose to let authors “bring” reviews from previous journals with them to their journal. There can be some time or scope limit to this, for example “authors whose articles have been rejected within the previous 365 days from other journals for reasons that are not due to lack of scientific, methodological, or ethical rigor can resubmit to the journal along with prior reviews and decision letters” (*Collabra: Psychology*)
Why:	Promotes transparency ● Your journal will have full access to what previous reviewers and editors thought of the manuscript, enabling a more thorough review of the paper Normalizes rejection ● Having this option may make authors feel like rejection is a normal part of the publication process and that your journal will value the previous reviews Saves time and resources ● You may choose to invite fewer reviewers (or none, for example if the issue is journal scope) if you’re happy with the reviews that have been conducted at a previous journal, speeding up the editorial process
How:	This is how *Collabra: Psychology* handles streamlined review irrespective of publisher: ● Requesting streamlined review in the cover letter ● Indicating from which journal the article was rejected ● Describing the nature of any changes that were made to the manuscript in response to the prior set of reviews ● Including a copy of the previous editor's action letter along with copies of all of the written reviews from the prior submission Some publishers of multiple journals may also allow manuscripts to transfer between titles. This can be an especially good option for authors when the reasons for rejection are related to a specific journal’s scope rather than the quality of the manuscript. For example, it might be possible for a manuscript rejected by JAMA to be considered by JAMA Internal Medicine or for a manuscript rejected by BMJ to be considered by BMJ Open. Transfering between journals using the same submission system and having the same formatting requirements can be relatively seamless for authors.
Worries:	The reviewers may not be able to ignore the fact that the article has already been rejected elsewhere, and therefore are probably not entirely unbiased. ● Consider sending reviewers specialized instructions for reviewing these types of manuscript that encourage them to – if anything – applaud authors for their transparency. ● Consider a process where for the first round of review, only the editor views the previous materials (ensuring an unbiased first review).

Resources:	Editorial Policies Collabra: Psychology (see “Streamlined Review”)

Policy/Practice:	**Structured peer review**
What:	A set of (mandatory) questions designed to improve the quality of peer review by focusing reviewers to provide feedback on items essential for decision making and manuscript improvement.
Why:	Peer review of scholarly manuscripts has been shown to have abysmal inter-rater agreement (Bornmann et al., 2010), and while this could be due to different expertise evaluating different aspects of paper, it is believed that encouraging reviewers to answer the same set of specific questions could lead to better reviews and subsequently better manuscripts.
How:	A set of questions that could be applied by journals, have recently been developed and is being piloted across 250 journals by Elsevier. Questions include: ● *Are the objectives and the rationale of the study clearly stated?* ● *Is the method/study reported in sufficient detail to allow for its replicability and/or reproducibility?* ● *Have the authors clearly stated the limitations of their method/study?* This is followed by requests to specifically state how the authors could improve those aspects (i.e. “Please provide suggestions to authors on how to improve the replicability/reproducibility of their study. Please number each suggestion so that the author(s) can more easily respond.”) Other journals have their own sets of questions, and an effort is being undertaken by the EASE Peer Review Committee to collect different templates and distribute them to the wide publishing community, so that editors could choose those best suited for the types of studies they publish. Editors are encouraged to implement the questions in their editorial management platforms, and devise editorial instructions to highlight that reviewers should answer these questions (ideally before or instead) of providing the traditional free text form. Editors should also explicitly describe the structured review process and criteria on their public-facing website to make it transparent to prospective authors.
Worries:	This might not even improve the quality of reviews. ● Metascience and randomized controlled trials of peer review are still too limited, and scientific proof of effectiveness of

	structured peer review is still lacking. However, several studies are due to be disseminated shortly, and their results, which will include reviewer and editors feedback, should provide insights on effectiveness, barriers and facilitators of structured peer review. My discipline has a less structured article format so this wouldn't be relevant. ● Some disciplines may benefit from non-structured peer review more. Structured peer review is specifically beneficial in disciplines with highly structured article formats.
Resources:	Elsevier: ● Structured peer review question banks ● Structured Peer Review: Editor overview ● Completing a Structured Review Form in Editorial Manager

Open Access

Policy/Practice:	**Support the integration of preprints**
What:	Preprints are a publicly available version of any type of scientific manuscript/research output preceding formal publication in a journal (Parsons et al., 2022).
Why:	Similar to open reviews, integrating preprints with the final manuscript provides helpful background information and context for readers of an article. It also shows how the paper evolved while under review at your journal, showing the added benefit of peer review. It has been found that bioRxiv-deposited journal articles had higher citation/altmetric counts compared to non-preprinted articles, and this difference was not explained by the resulting journal articles' publication venue or authorship (Fraser et al, 2020). Open Access aligns with many professional society values (Steltenpohl et al. 2019; Steltenpohl et al. 2021). Preprint servers enable open preprint peer review or other such feedback mechanisms which could in return be used by an editor to reach a decision whether an article should be published or not (Avissar-Whiting et al., 2023). Even if a journal doesn't provide their own Open Access option, allowing preprints ensures that the research is accessible by everyone, and journals should allow preprinting of the final accepted version (a postprint) to allow readers access to the most up-to-date version of a manuscript.
How:	Develop a clear and comprehensive preprint policy and include it in

	the Instructions to Authors. Register the policy in Sherpa Romeo. Gather preprint information (for example DOI or other identifier) during manuscript submission. You can also choose to support peer review organized around preprint platforms without having to change infrastructure at your own journal, for example by outsourcing peer review to the Peer Community In initiative (for example PCI Neuro, PCI RR [see section on Registered Reports], see full list here). Journals can choose to include the link to a preprint version of the manuscript in the final published version. This will require a publishing platform that allows this logistically. As a workaround, you could encourage authors to link to preprint versions in the manuscript itself. Some journals now offer integrated workflows that enable authors to easily post a preprint when they submit their work to a journal (for example see SciPost). Again, this will take more work with changing and/or moving publishing platforms, but is worth it if you wish to integrate multiple changes at once that require this (for example a system where all reviews and corresponding previous versions of the manuscript are accessible along with the final version).
Worries:	My journal has masked review – allowing preprints will mean reviewers can find out who the authors are. ● Allowing preprints does not mean requiring them – authors will be aware that if they post a preprint they might be identifiable to reviewers. ● A completely masked review process is difficult to achieve for other reasons (for example reviewers seeing work presented at conferences, finding non-anonymised data/code/materials etc. online – see section on open review), so preprints are likely not the only way that reviewers will be able to find out the identity of the authors. ● As part of the masked review process, it is expected that reviewers will not go searching for the identity of the authors. Rather, the journal is not providing this information as part of the review process. Weak, unreviewed work could be taken up by the media. ● While this is a legitimate downside of preprints, it isn't something that is the responsibility of the journal editor – if the manuscript is weak, it will not be accepted and therefore not associated with the journal. Additionally, weak work being taken up by the media is already a problem with published work, and thus is not unique to preprints.
Resources:	ASAPbio preprint FAQ Fry et al., 2019: In praise of preprints Moshontz et al., 2021: A Guide to Posting and Managing Preprints

Policy/Practice:	**Move to Open Access**
What:	Open Access means making research outputs freely available to all. “Different methods of achieving Open Access (OA) are often referred to by color, including Green Open Access (when the work is openly accessible from a public repository), Gold Open Access (when the work is immediately openly accessible upon publication via a journal website), and Platinum (or Diamond) Open Access (a subset of Gold OA in which all works in the journal are immediately accessible after publication from the journal website without the authors needing to pay an article processing fee [APC]).” (Parsons et al., 2022)
Why:	Open Access is important for disseminating and sharing scientific results with scientists and members of the public around the world. New research can be accessed immediately after paper acceptance all around the world. Research is often funded by the government, thus tax money is used to pay for research. In return, all taxpayers (i.e. the general public) should have access to this research when it is published without any costs. Open Access aligns with many professional society values (for example, Steltenpohl et al., 2019; Steltenpohl et al., 2021). Many funders also require Open Access publishing. The funders working together in cOAlition S are a prominent example. Open Access research can be read by everyone and therefore may be cited more often than articles that cannot. A higher citing score of articles benefits the journal. Studies indeed indicate that Open Access articles have a higher research impact (for example, Antelman, 2004; Wang et al., 2015, but see Langham-Putrow et al., 2021). Now that funders and researchers are valuing making work Open Access more and more, authors may refrain from submitting to journals that do not provide an option for Open Access.
How:	Green Open Access: ● At a minimum, allowing authors to post postprints (the final, author formatted version of the accepted manuscript) means that there will be some Open Access version of the manuscript available (see previous section on preprints) Gold Open Access: ● In order to implement Gold Open Access, check whether your publisher already has a system in place for this (they likely offer this option at other journals already) ● You will have to make a decision about whether to be an Open Access journal (meaning that all authors may have to pay the Open Access APC) or a hybrid journal (where authors can choose to pay the Open Access APC to make their article

	Open Access) Platinum/Diamond Open Access ● In order to implement a Platinum/Diamond Open Access, you will need to move to a publisher that supports this, or self-publish In the case of Gold and Platinum/Diamond Open Access, you need to consider under which license manuscripts will be published. The most common choice is the CC BY license. Authors typically retain their copyright. In the case of Gold Open Access, be aware that funders are taking an increasingly critical stance toward hybrid OA journals and may be unwilling to cover the APCs of such journals. Make sure to register the Open Access policy of your journal in Sherpa Romeo and/or the Directory of Open Access Journals (DOAJ).
Worries:	I won't be able to convince my publisher to offer an Open Access option. ● Many funders now have Open Access initiatives that require that authors publish their research Open Access (for example Plan S, UKRI, Open Access Policy (fwf.ac.at)), so authors will be unable to publish in your journal if you don't offer them an Open Access option. My journal is under a publisher that I believe is charging too much for Open Access publishing. ● You can leave your publisher and/or start a new journal independently from the publisher. For example, the editorial team from the journal *Lingua* broke off from Elsevier and launched a fully Open Access journal: *Glossa*. Those interested in taking similar steps may wish to read about their journey; here are some slides on the transition, a blog post by one of the previous Executive Editors, and an interview with one of the previous associate editors. A similar step was also taken by the editorial team of *Journal of Informetrics*, who launched the Open Access journal *Quantitative Science Studies*. More information can be found in this news piece. Moving to Open Access with higher APCs will hinder open science by excluding researchers (for example those from less well-resourced institutions or countries and/or early career researchers) who may not be able to afford the APCs. ● It is true that APC-based open access can lead to inequities in who is able to publish open access. Some journals who have gone with an APC-based system have adopted a policy where they waive APCs for certain author groups. If you are pursuing this route, discuss this with your publisher. It is also important to allow/encourage authors to preprint their work as a way of ensuring their work can be open access even if they cannot afford the APC. If you are in a position to pursue non-APC (e.g. Diamond) based routes for open access, this would always be preferable.

Resources:	The Turing Way's guide to Open Access SciELO (Scientific Electronic Library Online), the LatinAmerican cooperative electronic publishing model of Open Access journals Action Plan for Diamond Open Access

Diversify your journal

Policy/Practice:	**Support language editing**
What:	Checking and correcting a document's grammar, spelling, usage and punctuation to ensure the meaning is understood by the audience.
Why:	Many journals are published in English. This creates a barrier for scholars working in other languages. Supporting scholars in creating and promoting material in their primary language should be considered (Ortega, 2020; Steltenpohl et al., 2021) Writing a scientific research article in L2 as opposed to L1 is perceived as 24% more challenging, generating 11% more dissatisfaction and 21% more anxiety (Hanauer & Englander, 2011).
How:	These solutions are possible, but they necessitate resources and commitment, including education, time, and money. Publishers of English-language journals should consider covering the costs of proofreading and English editing services when necessary (Ortega, 2020).
Worries:	Authors may think that they can put less work into editing a manuscript if there are free editing services available. • It's unlikely that authors won't submit their best work to the journal. Even if editing is available, if the reviewers cannot understand the content of the paper it will receive unfavorable reviews, which is not in the authors' best interests.
Resources:	Ortega, 2020: Science's English dominance hinders diversity—but the community can work toward change Puthillam et al. 2022: Guidelines to Improve Internationalization in Psychological Science.

Policy/Practice:	**Positionality statements**
What:	Contextualize the researcher and research environment to define the

	boundaries in the research output (Jafar, 2018; Parsons et al., 2022).
Why:	To provide additional context around how the study was conducted, including researcher experiences, perspectives, and potential biases.
How:	Editors can either encourage (on a case-by-case basis) or mandate (through journal policy) that authors include positionality statements, whereby a researcher outlines their background, lived experience and 'position' within and towards the research in the method section.
Worries:	Positionality statements are the same as conflict of interest statements and we already include these. ● No, conflict of interest statements typically focus on financial conflict of interests and are not part of a reflexive process. Authors will be forced to disclose everything about themselves. ● No, only what authors are comfortable sharing, if it's relevant to the study. Positionality statements are not meant to be biographies. I don't understand whether authors should be allowed to do research on a group that they are not a part of. ● There are benefits and drawbacks both to being an insider or outsider when doing a research study. Ideally, a research team has both. ● Positionality statements are meant to be reflexive in nature. If a team is composed entirely of researchers who have outsider (or insider) status, that is okay. It is good for the researchers to consider how this might have affected how they designed, implemented, and analyzed the study and its implications, both positively and negatively. A reviewer will be able to recommend rejection based on the positionality statement(s). ● Journal editors should not allow for rejections based on positionality statements. Adding positionality statements will preclude masked review. ● Journals can allow for authors to mask some or all of a positionality statement if authors feel they will be too identifiable. Adding positionality statements will make papers more political. ● All research sustains values (Conry-Murray & Silverstein, 2022; Steltenpohl, 2020) -- making our research processes more transparent helps to illuminate what values are being sustained and helps us to better critique the work (for example, what the researchers might have missed or unique perspectives they were able to bring to the work).
Resources:	How-to videos for authors on creating positionality statements Positionality statements instructions to authors (*Personal Relationships*) Holmes, 2020: Researcher positionality--A consideration of its influence and place in qualitative research--A new researcher guide Jacobson & Mustafa, 2019: Social identity map: A reflexivity tool for

	practicing explicit positionality in critical qualitative research Jamieson et al., 2023: Reflexivity in quantitative research: a rationale and beginner's guide

Policy/Practice:	**Editorial fellowships/training**
What:	Providing fellowships, creating Emerging Editor Boards, or other training programs to train early career researchers or other inexperienced but aspiring editors, especially those from historically excluded groups.
Why:	The process to become an editor at a journal is not transparent, and this may be especially true for those people who come from historically excluded groups, or even from academic environments that contain fewer current editors. To create a smoother, fairer, and more equitable pipeline, fellowships and training programs can be offered by journals for early career researchers or people who have not been a journal editor but would like to learn more about the role and potentially take on editorial responsibilities in the future.
How:	An application portal would be created, and advertisements posted or distributed. Fellows and trainees would work with at least one current editor from the journal to handle manuscript submissions. For example: "[a fellow or trainee may] manage approximately 6 to 12 manuscripts over the course of the year. This process will include screening manuscripts for appropriateness, identifying reviewers, making an editorial decision based on reviews, and shepherding the manuscript through to publication if accepted, all with mentorship from the editor or associate editor. The successful candidate will also be expected to participate in monthly meetings with their mentor to ensure goals are met." (from the *Neuropsychology* fellowship program website). Journals may also opt to create an Emerging Editor Board, composed of advanced graduate students and postdoctoral fellows who are interested in professional development as future editors. *Personality and Social Psychology Review* began piloting such a board in 2022. Members of the Emerging Editor Board receive developmental feedback on their reviews.

Worries:	This will create extra work for current journal editors. ● Having trainees manage a certain number of manuscripts per year will mean fewer manuscripts for the other editors to manage, even if some of their time will instead be dedicated towards mentorship of the trainees. ● Having trainees manage a certain number of manuscripts per year will increase the request-to-accept ratio when editors solicit reviewers. ● Having mentoring/trainee opportunities may be a desired development opportunity for current editors.
Resources:	Fellowship for people from historically excluded groups in *Group Dynamics* Fellowship for people from historically excluded groups in *Neuropsychology* Fellowship for scholars from historically excluded groups (prioritizing scholars working in the Global South and Indigenous scholars) in *Personality and Social Psychology Review*.

Policy/Practice:	**Peer review training**
What:	Programs and training materials to help train peer reviewers to ensure a minimum quality standard in peer review.
Why:	People who conduct peer review of submitted scientific manuscripts rarely, if ever, receive formal training in how to conduct peer review, and there are very few openly available online training materials (Willis et al., 2022). If they do receive training, it is likely to be facilitated by a supervisor or mentor, which means that existing inequities will be propagated over intellectual generations. Due to the lack of formal training, peer review is not standardized. Some reviewers may be more rigorous than others, and the conclusions reached may be different. Manuscripts may “sneak in” when peer reviews are less rigorous and err on the side of acceptance, or may be rejected unnecessarily when peer reviews are less rigorous and err on the side of rejection.

How:	Like the Editorial Fellowships mentioned above, journals can create programs that match up new peer reviewers with existing peer reviewers to collaboratively review manuscripts. The “senior” reviewer could even review the peer review of the junior reviewer, which would leverage the expertise of the senior reviewer and potentially reduce their workload, as new reviewers are more readily equipped with peer review skills and integrated into the peer review process. Journals can also create standardized training materials for new peer reviewers, in order to ensure that reviews are conducted with a minimum amount of standardization.
Worries:	If peer review is standardized and peer reviewers are trained, everyone will think the same way so there will be less diverse perspectives reviewing submitted manuscripts. ● Journals should be mindful of the training materials that they share and ensure that they cover a diverse range of perspectives and are not too prescriptive.
Resources:	Patel 2014: A case study of peer review standards for reviewing clinical trials Wiley videos on how to conduct peer review Open Reviewers Reviewer Guide Equator network peer review training and guides

Policy/Practice:	**Open call for new reviewers**
What:	Have an open call for new reviewers on the landing page of the journal (see Journal of Open Source Software “volunteer to review”).
Why:	This makes it easy for people not on the radar of the journal to let the journal know they are willing to review.
How:	This could be as simple as an open form to make it easy and low threshold to sign up for this. Outline the expectations for new reviewers and highlight that filling out the form may not automatically mean that they are selected.
Worries:	It may lead to some spam or low quality reviews. ● Associate Editors can have access to the sign up form (in the same way they have access to information about Editorial Board members or previous reviewers), but can be told to

	research the individuals before inviting them for review.
Resources:	Journal of Open Source Software homepage

Policy/Practice:	**Journal code of conduct**
What:	Set up, train, and enforce codes of conduct for journals to promote professional engagement that is constructive and not derogatory.
Why:	A lot of behavior between research professionals happens through reviews. There are many stories of people receiving horrible reviews, and there is very little that helps people know that they will be treated in a respectful manner either by the reviewers or by the editors in the peer review process.
How:	Journals implement a code of conduct, select a committee, committee members receive training, and regular public reporting of the number of reports, resolutions and such.
Worries:	This isn't the journal's responsibility. ● It is. Many professional societies, conferences, and communities now have codes of conduct, and journals aren't any different. It is likely that the journal will already have "deal breakers" for things they wouldn't allow in reviews (for example slurs); a code of conduct just enables this to be standardized and a clear process for dealing with breaches. It will take too much time, effort, and active engagement from the journal staff and editors. ● There are many existing codes of conduct that can be used as a template, to make the work minimal (for example the COPE one below). I'm not sure what to do when the code of conduct is breached. ● This is part of establishing a code of conduct and these procedures will guide you through any breaches. It is important to set these up before breaches take place.
Resources:	Code of conduct and best practice guidelines for journal editors (Committee on Publication Ethics)

Policy/Practice:	**Collect and share data on demographics of editors, reviewers, and authors**

What:	Collect demographic information (for example, gender, age, ethnicity) about editors, editorial board members, reviewers, and authors, in order to track any inequities, and systematically measure progress. Also pursue data collection about demographics of contributors in the journal's history.
Why:	Recommendations have been proposed in psychological science to collect and make public the demographic information of editors and authors (Roberts et al., 2020; Rad et al., 2019). It is particularly important to collect information about authors at the time of submission (for example through the submission portal) to detect implicit bias in the peer review process. Furthermore, this data will help editors and editorial board members make thoughtful decisions about ways to increase sample and researcher diversity. A data-driven approach to diversity can help not only change current incentive structures but also create an impetus for shifting the norms in the field.
How:	Editors and editorial board members ● Collect internally when new editors join the team (and backfill for existing editors and editorial board members) Reviewers ● Collect when reviewers are invited to review manuscripts Authors ● Collect during the submission process ● Arrange a team to collect archival data on the journal's history. *Sharing diversity data*: Create an open repository of the information available to view on the journal website, and/or publish annual reports with your findings. Anonymity is very important. *Setting concrete diversity goals:* Based on the data available, editors and editorial boards can set diversity metrics to systematically measure, track and advance sample and researcher diversity. For example, the journal editor can set clear targets for achieving X% sample diversity and X% researcher diversity in their next issue.
Worries:	There are complicated ethics surrounding collecting sensitive demographic data. ● Some journals collect gender, first-author country affiliation and race data when tracking reviewer or author information. We need to ensure that this data is collected in a sensitive and respectful manner. Further, we also must expand the definition of diversity beyond the Western perspective and understand the limits of using first-author country affiliation as a proxy, as this may not be fully informative for authors who are originally

	from low-and-middle income countries but may be affiliated with an institution in a high-income country. Adding country of origin could be one way of mitigating this. Journals could also have open-ended responses to pick up other forms of marginalized and diverse identities These practices may reveal uncomfortable inequities. ● And that's the point! We should be working towards dissolving such inequities. There are costs (for example, time) associated with collecting this information and making it public. ● For most journals only slight additional work might be necessary as they often collect demographic data of (corresponding) authors in surveys after the acceptance of articles anyway.
Resources:	Roberts et al., 2020: Racial Inequality in Psychological Research: Trends of the Past and Recommendations for the Future Expanding the diversity definition beyond the Western perspective Rad et al., 2019. Towards a psychology of Homo Sapiens. The giant plan to track diversity in research journals

Policy/Practice:	**Name change policy**
What:	Allowing authors to retrospectively change the name associated with their publication(s) in your journal.
Why:	Although retroactive name changes may seem strangely placed in a section on diversity, the historical inability to retroactively change names in publications is likely to disproportionately impact marginalized individuals. Women are historically more likely than men to change their name after marriage and/or divorce. Although many authors who have changed their names after marriage or divorce have no problem authoring publications under different names, for others viewing their previous name will be traumatic (for example, where a marriage ended because of domestic violence). In addition, transgender individuals often choose to change their names, and being referred to by their previous name ("deadnaming") can be traumatic.
How:	Instituting a name change policy and allowing people to request a name change at their convenience - after which all metadata gets updated (as it can). These policies can be implemented at the publisher level, the society level, or the individual journal level.

	It is important to ensure that these are *silent* name changes (i.e., do not come with a correction note) and to communicate this clearly to authors on your journal website to make the process clear, accessible, and inclusive.
Worries:	This practice will require a large amount of work. ● Now that journals function predominantly online, this is a relatively simple process! Most major publishers already have a policy, so your only job as an editor would be advertising this clearly on your journal website and directing authors enquiring about this option to the right place. This will result in a lot of confusion and inability to identify authors. ● This will result in a more accurate reflection of the publication record. In combination with the use of ORCIDs, authors' contributions can be more accurately tracked.
Resources:	Wiley name change policy Elsevier name change policy American Psychological Association name change policy American Chemical Society name change policy

Policy/Practice:	**Translating abstracts and articles to other languages**
What:	Translating abstracts, or even entire articles, to other languages to increase accessibility and ensure they are understood by the audience.
Why:	Many journals are published in English. “Publishing in English is a barrier for scholars who work primarily in other languages, so it may be beneficial to consider how best to support scholars as they create and promote material in other languages (Ortega, 2020).” (Steltenpohl et al., 2021)
How:	By including a translator option and by asking publishing fees to pay for the services, which would require education time, money and will.
Worries:	It will be expensive to translate manuscripts as there are multiple articles to translate. ● Yes, there are significant costs associated with this initiative. This will depend on journal budget and publisher sensibilities. If you do not have the funds to translate entire manuscripts, you may consider translating just abstracts. ● However, by increasing accessibility to the manuscript, one can ensure that the article is understood and more accessible by several individuals, thus increasing citations of the manuscripts and increasing the impact factor of the journal.

	• Review platforms like the PCI (see above) are making publishers with APCs less and less relevant. Providing translations can serve as the added value for which authors wish to publish in a journal in the future. It will be difficult to translate such detailed and specific scientific writing accurately. • This is a very legitimate worry. Translators would need an understanding of the cultural values and assumptions that underpin the discourses of text to act as cultural mediator and consider text construction. However, this is still a worthwhile activity for increasing the accessibility of work in your journal.
Resources:	Tools such as CrowdIn can facilitate the translation process

Policy/Practice:	**Promoting high-quality and inclusive citation practices**
What:	Citations convey prior ideas, credit, and resources to readers to justify claims made in a manuscript. Currently, authors have few external incentives to cite well, except for the chance that a particularly thorough reviewer or editor raises concerns. Journal editors can implement various practices to encourage better citing practices across all submissions.
Why:	Citations vary in quality, and misleading, negligent, and/or exclusionary citations undermine the cumulativeness and inclusiveness of research (Lawson, Murphy, et al., 2023). Because citations are an important form of currency in academia, low-quality citing is likely to exacerbate the Matthew Effect ("the rich get richer, the poor get poorer"; Merton, 1968), whereby papers with many citations receive even more and papers with few citations never get integrated into the literature. This is especially relevant for replication failures, which often have minimal impact on subsequent citation rates of the original articles (for example, von Hippel, 2022). Given existing academic inequities, low-quality citing disproportionately harms researchers from historically excluded groups, including women (Dworkin et al., 2020) and Black and Hispanic scholars (Liu et al., 2023). Existing efforts (for example, "Cite Black Women" movement; Smith et al., 2021) aim to minimize inequities in citing, and updating journal policies and incentive structures can support individual changes initiated by authors.

How:	In addition to existing attestations authors provide when submitting a manuscript, "...require that authors attest that they have checked the substantive accuracy of each citation and searched for replication studies relevant to key points and appropriately cited them alongside original studies" (Lawson, Murphy, et al., 2023, p. 25). Journals with strict word limits can request and/or require that authors annotate their references by writing 1-4 sentences about why each cited work was included in the manuscript (for an example, see https://osf.io/aup8x). Annotated references (included in the Supplement and/or an OSF page) are a place for authors to add further information about a cited work without adding details that would be distracting in the manuscript and/or push the manuscript over the allotted word limit (see a template). Annotating references also encourages authors to be transparent about works they have not fully read and can deter automatic, frivolous citations that promote the Matthew Effect and reinforce systemic inequities. Request and/or require authors to include a Citation Diversity Statement, which is a paragraph acknowledging the importance of equitable citing practices and a discussion of their efforts in the present manuscript (Zurn et al., 2020). Invite reviewers to explicitly attend to citations in submitted manuscripts. Develop policies to prevent reviewers from requesting citations to their own work where it is not appropriate (Lockwood, 2020).
Worries:	Authors will engage in over-citation to avoid critiques from editors/reviewers about omitting important prior work, resulting in confusing and vague citations. ● Engaging in high-quality citing is not simply citing everything tangentially-related to a topic, but instead making clear the importance of each citation in-text. Burying relevant citations in long strings is often comparable to omitting the citation altogether because readers cannot understand why the specific study was cited. Annotated Reference sections make over-citation difficult, as it adds an extra layer for adding an additional citation. Implementing these practices will be too much work for authors and it will deter them from submitting to your journal. ● Proper citations are foundational to a cumulative and collaborative research literature; there is no shortcut. Like all open science practices, even incremental progress can lead to gains in the quality of published research, so journals need not adopt all practices at once. Recommending (vs. requiring) citation practices can also allow for an on-ramp to test out which practices are easiest for authors to implement. Authors are using AI to generate citations and there is nothing journals can do to stop that. ● Current AI software (for example, Chat-GPT) is unable to generate accurate substantive citations and, even down the

	line, it is unlikely that AI can engage in high-quality citations practices like writing an Annotated References section. Implementing explicit citation policies allows journals to be clear in their expectations and avoid later problems with AI.
Resources:	"Considering citation disparities" in JEDI Resources Society for Personality and Social Psychology (SPSP) Guidelines for Promoting Inclusive Citing Practices Recorded discussion on the importance of inclusive citing practices

Miscellaneous

Policy/Practice:	**Incentivise or mandate preregistration**
What:	Preregistration is "The practice of publishing the plan for a study, including research questions/hypotheses, research design, data analysis before the data has been collected or examined…A preregistration document is time-stamped and typically registered with an independent party (for example, a repository) so that it can be publicly shared with others (possibly after an embargo period). Preregistration provides a transparent documentation of what was planned at a certain time point, and allows third parties to assess what changes may have occurred afterwards…Preregistration aims to clearly distinguish confirmatory from exploratory research." (Parsons et al., 2022)
Why:	The literature is currently biased in favor of positive or promising results – this is commonly called "publication bias". Publication bias is an issue that has been discussed in the medical sciences for decades (for example Simes, 1986). One potential solution is study registration (for example Meinert, 1987), whereby new studies plans are registered and these registrations are openly available to view by anyone, meaning that they cannot be hidden or "file drawered". "Mistaking generation of predictions with testing of predictions reduces the credibility of research findings reduces the credibility of research findings. However, ordinary biases in human reasoning, such as hindsight bias, make it hard to avoid this mistake. An effective solution is to define the research questions and analysis plan before observing the research outcomes – a process called preregistration." (Nosek et al., 2018) Preregistration helps to promote rigor and transparency in science by reducing questionable research practices such as *p*-hacking.
How:	Journal editors and reviewers can weigh whether or not a study was pre-registered (and reported consistent with the pre-registered plan)

	when deciding whether to accept an article for publication on a case-by-case basis. Journals can offer a preregistration badge. Journals can require that authors state in the manuscript whether or not the study is preregistered (TOP Level I for Study Preregistration and Analysis Plan Preregistration), can require that if a study was preregistered this preregistration is available for peer review (TOP Level II), or require preregistration for all empirical work (TOP Level III). Each of these levels can be for preregistration generally, or preregistration with an analysis plan. Journals may consider specifying how/where studies should be preregistered, depending on field. For example, clinical psychology studies can and should be registered on the centralized ClinicalTrials.gov. It can be helpful to look at journals in other fields that have been doing this well for years (Mayo-Wilson et al., 2018). Journals can consider whether to also add "discrepancy review", whereby journals assign peer reviewers specifically to check for both outcome and non-outcome discrepancies and ask them to prepare an itemized list of constructive recommendations to manuscript authors for how to reduce or disclose discrepancies between their registration and submitted manuscript (TARG Meta-Research Group and Collaborators, 2022).
Worries:	Preregistration doesn't make sense in my field. ● "A variety of practical strategies are available to make the best possible use of preregistration in circumstances that fall short of the ideal application, such as when data are pre existing. Services are now available for preregistration across all disciplines…" (Nosek et al., 2018) ● Templates are now available for a variety of fields and types of research, including those that have not used prepregistration as often historically, such as qualitative studies (for example, Haven et al. 2020) ● Qualitative researchers may use preregistration differently (for example as a tool for reflexivity rather than as guardrails for their analytical choices), and journals/reviewers need to understand this if they want qualitative researchers to preregister studies (Steltenpohl et al., 2023). ● If preregistration is not possible for one's research field, that should be clearly stated in the article, for example sometimes exploratory research doesn't need to be preregistered Preregistrations may not be adequate. ● You can ask reviewers to check preregistrations, or invite a specific reviewer who has been asked to check the correspondence between the preregistration and the manuscript Mandating preregistration means that no one can submit work that was already completed before preregistration was the norm.

	• This is a decision you can make based on norms in your field. For example, preregistration has been common in psychology for a few years now, so you would still have lots of eligible research to publish if you mandated preregistration now. You may choose to have a grace period, or a rule contingent on when data were collected
Resources:	TOP Guidelines (Study Preregistration and Analysis Plan Preregistration) COS preregistration Badges to Acknowledge Open Practices Nosek et al., 2018: The preregistration revolution

Policy/Practice:	**Openness of metadata**
What:	Make the metadata of publications, such as reference lists, abstracts, author affiliations, and funding acknowledgments, openly available through appropriate infrastructures, in particular Crossref.
Why:	Openness of publication metadata enables the development of open bibliographic databases that offer alternatives to proprietary databases such as Web of Science and Scopus (for example, OpenAlex and OpenCitations). This allows researchers and others who cannot afford the subscription fees of proprietary databases to get access to bibliographic data free of charge. An increasing number of tools for searching scientific literature rely on open metadata submitted by publishers to Crossref. Openness of metadata therefore enhances the discoverability of scientific publications. Bibliographic data is often used in research evaluations. Openness of this data enables more transparent and more responsible research evaluations. The importance of openness of publication metadata was also stressed in a recent editorial in *Nature*.
How:	Publishers need to submit comprehensive publication metadata to Crossref (just like they submit metadata to Web of Science, Scopus, and PubMed). Publishers can check their Crossref Participation Report to get an overview of the metadata they are already submitting to Crossref. Publishers can show their commitment to open metadata by joining open metadata initiatives such as the Initiative for Open Citations

	(I4OC) and the Initiative for Open Abstracts (I4OA).
Worries:	Some publishers may not have the resources to register DOIs for their publications (at Crossref, DataCite, or some other DOI registration agency) or to submit metadata to their DOI registration agency. ● Crossref has introduced a new Global Equitable Membership (GEM) program to help resolve this issue.
Resources:	Crossref Initiative for Open Citations (I4OC) Initiative for Open Abstracts (I4OA) Metadata 20/20 Crossref as a source of open bibliographic metadata

Policy/Practice:	**Persistent identifiers**
What:	Integrate persistent identifiers for related people/objects for a publication. This is for example the ORCID for the authors, the ROR for the affiliations, grant IDs, clinical trial numbers, etc. Make sure the identifiers are made openly available through appropriate infrastructures, in particular Crossref.
Why:	These persistent identifiers help link different pieces of the research landscape and trace the relations. ● For authors, ORCID helps them get credit and keep track of their work easily, disambiguates between researchers with the same name, and enables linking publications under a previous name ● For organizations, ROR helps them track their output and disambiguate between institutions ● Grant IDs help track the specific outputs of specific grants ● Clinical trial IDs help find the original registrations ● DOIs help link a publication to the corresponding preprint, to the underlying data, to openly available peer review reports, and to the works cited in the publication
How:	This is primarily a technical implementation that runs through for example Crossref. This needs to be implemented into publishing procedures and the relevant information needs to be collected from authors. Once the persistent identifiers have been included in the metadata of a publication in Crossref, there isn't any additional work. Ensure ORCIDs are recorded for all authors, not just the corresponding one.

Worries:	This may prove to be too much of an investment for individual journals and only be done by bigger publishing houses. ● The use of (free) PKP Open Journal Software provides many of the same functionalities, mostly out of the box.
Resources:	ORCID Research Organization Registry Open Journal Systems | Public Knowledge Project Publications should be FAIR

Policy/Practice:	**Handling corrections and retractions**
What:	A retraction refers to the act of withdrawing a previously published academic article or research paper from the academic literature by either the authors or the journal editors (Azoulay et al., 2015). Corrections are where the online version is updated to correct something (usually with a note explaining the correction).
Why:	Retractions maintain the integrity of the scientific literature, but the notices for them are often inconsistent and uninformative. This hinders people from evaluating papers and developing strategies to promote integrity, and can also unfairly stigmatize authors for honest errors (Vuong, 2020). Now that most/all publications are available online (or even online-only), it is no longer necessary that mistakes be left in the final versions of publications. Correcting the original version (with transparent versioning) means that readers have access to the most correct information.
How:	For retractions, follow guidance (for example, from COPE or Retraction Watch) for providing useful information about corrections and retractions. For example, Retraction Watch outlines a list of “bare minimum requirements” and “optimal notices”. These include outlining the specific reasons and timeline/history of the retraction. Make sure to link to an Open Access version of this information clearly from the webpage for the manuscript itself. Work with the editorial assistant and production editor to clarify policy and process for corrections, and make these policies and processes clearly visible to authors on the journal website. It is important that retraction statements are standardized (Ivory & Elson, 2023). Corrections can also apply to open data/materials/code (see other sections) - fixing these materials does not necessarily entail changing or correcting an article (although best practice would be to clearly

	identify which changes were made and when in a README). Journals may also consider adapting an “update” model where authors may submit updated versions of the articles for further peer review (such as Open Research Europe)
Worries:	For retractions, authors may not cooperate or may become litigious. ● Retractions are a difficult thing to deal with as an author and editor. It is important to have a good policy in place *before* retractions happen, so that you and your publisher are clear on the rules and guidelines at your journal. That way, following these rules consistently and clearly will protect your journal in the case of litigation. The final version of a manuscript should be final. ● If the change is so small that it’s not meaningful, the change will not impact the “finalness” of the manuscript (for example a typo being sorted out). If the change is so big that it changes the conclusions of the article, then it is important to communicate this to readers. So, either way, corrections are a good thing
Resources:	COPE Guidance Retraction Watch Guidance Sample policy on “replication package revisions” (American Economic Association) Responsible handling of ethics in data publication

Policy/Practice:	**CRediT author contribution statements**
What:	CRediT (Contributor Roles Taxonomy) is a high-level taxonomy, including 14 roles, that can be used to represent the roles typically played by contributors to research outputs. The roles describe each contributor’s specific contribution to the scholarly output.
Why:	CRediT grew from a practical realization that bibliographic conventions for describing and listing authors on scholarly outputs are increasingly outdated and fail to represent the range of contributions that researchers make to published output. Furthermore, there is growing interest among researchers, funding agencies, academic institutions, editors, and publishers in increasing both the transparency and accessibility of research contributions.

How:	CRediT adoption can be achieved via a manual workflow outside of Submission and Peer Review systems, or through using a system with an existing CRediT integration. The roles given in the above taxonomy include, but are not limited to, traditional authorship roles. The roles are not intended to define what constitutes authorship, but instead to capture all the work that allows scholarly publications to be produced. Recommendations for applying the CRediT taxonomy are: ● List all Contributions – All contributions should be listed, whether from those listed as authors or individuals named in acknowledgements; ● Multiple Roles Possible – Individual contributors can be assigned multiple roles, and a given role can be assigned to multiple contributors; ● Degree of Contribution Optional – Where multiple individuals serve in the same role, the degree of contribution can optionally be specified as 'lead', 'equal', or 'supporting'; ● Shared Responsibility – Corresponding authors should assume responsibility for role assignment, and all contributors should be given the opportunity to review and confirm assigned roles; ● Make CRediT Machine Readable – CRediT tagged contributions should be coded in JATS xml v1.2
Worries:	Some of the 14 roles distinguished in the CRediT taxonomy may be less relevant in the social sciences. ● The taxonomy can also be used in applied format, i.e. disclosing other additional roles or leaving some of the 14 default roles unfilled. CRediT taxonomy may not cover all contributions, especially contributions that do not directly contribute to authorship. ● See above. Better to make a start with tracking contributions than to ignore contributor roles.
Resources:	CRediT Tenzing Recommendations for Authorship Attribution

Policy/Practice:	**Conflict of Interest Disclosures**
Relevant to:	Editors, Publishers
What:	Require authors to submit a COI disclosure form upon manuscript submission.

Why:	Public trust in the scientific process and the credibility of published articles depend in part on how transparently an author's relationships and activities, directly or topically related to a work, are handled during the planning, implementation, writing, peer review, editing, and publication of scientific work.
How:	Many major journal platforms have conflict of interest declarations built into the submission process. If this is not possible, ask authors to download a form (for example, the ICMJE form), complete it, and submit the completed form to the journal when submitting the manuscript.
Worries:	Authors may not know what constitutes a conflict of interest. ● Journals can and should provide clear guidance to authors on what types of potential conflicts should be declared.
Resources:	https://www.icmje.org/disclosure-of-interest/ Chivers, 2019: Does psychology have a conflict-of-interest problem?

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