

Transparency and Openness Policy – Additional Information

When and how resources should be made available

All resources should be available to peer-reviewers with the exception of physical materials.

Resources should be made publicly accessible by the time of publication.

There are three ways in which resources can be made available:

1. **In the article.**

Data and methods can be included in the journal article itself.

2. **As supplementary information.**

Resources that do not fit within the journal article itself can be included as supplementary information files, hosted by the journal. These will be available to peer-reviewers but will not be copy edited or otherwise modified before publication. See *Supplementary information files*, below, for more information.

3. **Deposition in community resources.**

Resources can also be placed in appropriate external repositories. See *Repositories*, below, for more information.

Any restrictions on the availability of resources must be reasonable, such as through material transfer agreements or charges applied to cover distribution costs. If resources are commercially distributed, then this should be indicated in the published article.

Sensitive and confidential resources

Some resources might not be possible to share publicly. As far as possible, these resources should be made available to appropriate researchers via a managed application processes. The ideal way to manage this process is through a third party repository that manages such requests as a service.

Some repositories that offer this service [are available here](#). In some cases it may be acceptable for resources to be made available to peer reviewers but not to others.

Articles should not include sensitive information, for example personally identifiable data. De-identified data should be provided as far as that is safe and practical to do. If that is not possible, aggregated data derived from sensitive data should be provided.

Data supporting figures

The data used to create graphs and other figures should be available to readers to allow further analysis. For example, the numerical values plotted in a graph can be provided as an alternative version of the figure or as a data file in the Supplementary Information.

Images

Original versions of images that have been edited or processed for a journal article should also be accessible in their original form. This is particularly important when an image is processed to highlight or extenuate a particular feature, as the original data allows readers validate the appropriateness of the image processing and the interpretation of the results.

Transparency in design and analysis

Methodology must not be reported in a vague or incomplete manner, and must be described in sufficient detail to allow readers to fully understand, interpret and verify new research findings.

Authors should be transparent about their research designs, methods and analytical techniques. [The Equator Network](#) is one community that curates reporting guidelines for many study designs, including quantitative and qualitative scholarship across many disciplines

Supplementary information files

Supplementary information files are not edited or otherwise modified by the journal. Authors should include any information that will be required by others to allow them to access, interpret and process the files.

In general there are no rules for what types of data or formats should be used. Open, standardized file formats are preferred to proprietary formats, though commonly used or ubiquitous proprietary file formats are acceptable.

The file format should be appropriate for the data it contains. For example, data tables should not be provided as PDFs, but as spreadsheets or tabular text formats.

Repositories

Data and other information or physical materials can be hosted in repositories that:

- Are committed to the long term preservation and accessibility of their content.
- Are supported and recognized by the community as appropriate for the resources they hold.
- Provide stable, unique identifiers for the information they hold.
- Support linking between their database records and associated published research articles.
- Allow free public access to their holdings, with reasonable exceptions (such as administration charges for the distribution of physical materials).

Author's personal or departmental websites do not meet these requirements.

Specialized repositories that are recognized by the academic community as key tools for particular types of data should be used whenever possible. Generalist repositories, which can host a wide variety of data types, should be used if no specialized repository exists: examples are [Dryad](#), [Zenodo](#), [Dataverse](#) and the [Open Science Framework](#).

As far as possible, repositories should follow FAIR principles to ensure that the materials are findable, accessible, interoperable, reusable (see [Wilkinson et al \(2016\), Scientific Data 3, 160018](#)).

Citation of external resources

Any datasets or other materials that are deposited in external resources must be referenced with sufficient information to allow readers to easily discover and access the content (irrespective of whether there are any access controls in place).

A unique identifier and, if available, a website address for each resource should be given, and any other key metadata should also be clearly provided.