

Instructions for Authors

Brain Imaging and Behavior

Authors are invited to submit their manuscripts on the submission and review tracking site:

<https://www.editorialmanager.com/bior> or

<https://www.springer.com/biomed/neuroscience/journal/11682>.

AIMS and SCOPE

Brain Imaging and Behavior is a bi-monthly, peer-reviewed journal that publishes innovative, clinically-relevant research using neuroimaging approaches to enhance knowledge regarding mechanisms, diagnosis, treatment, and prevention of disorders of higher brain function including cognition, affect, and motivation. Priority is given to innovative reports describing applications of advanced magnetic resonance imaging and positron emission tomography. Novel studies employing other neuroimaging methods may be considered on a case by case basis, especially if coupled with MRI or PET. Examples of particularly relevant types of studies include the use of brain imaging for identification of at-risk populations, diagnosis and treatment planning, and for monitoring the effects of behavioral, pharmacological, and neurosurgical interventions. Novel research on individual differences in representation of normal functions will also be considered in the context of large well-powered studies. Studies bridging the higher cognitive and molecular levels of analysis are particularly welcome including, for example, research relating genetic polymorphisms and other biomarkers to brain structure, function or treatment-induced changes. Translational imaging studies in model systems will also be considered if directly relevant to human disorders and treatment. These examples are meant to be illustrative and not exclusive. The research published in this journal is expected to be of broad interest to researchers and clinicians in fields addressing brain-behavior relationships (e.g., neuropsychology, psychiatry, neurology, neurosurgery, radiology, rehabilitation, and cognitive neuroscience). The journal publishes original research, brief reports, systematic reviews, and letters to the editor.

CATEGORIES OF ARTICLES

Original Research Article: Manuscript is limited to 3000 words, excluding the abstract, references, tables, and figure legends. The manuscript may contain up to 5 tables and figures. Online supplemental material may also be judiciously included without length restriction.

Brief Reports: Manuscript is limited to 1500 words, with no more than 1 figure, 1 table, and 15 references. Online supplemental material may also be included.

Review Articles: Reviews must be systematic, rigorous, and critical and address a topic of significant current interest. Manuscripts should be limited to 5000 words, excluding the abstract, references, tables, and figure legends. The manuscript may contain up to 5 tables and figures. Online supplemental material may also be judiciously included without length restriction.

Letters to the Editor, Replies, and Editorial Commentaries: These formats will be considered for brief discussion of topics of contemporary interest and should typically be limited to 1000 words or less. A few references and 1 figure or table may be permitted in support of key points. Online supplemental material is not expected for these categories but may be permitted at the Editor's discretion.

Word counts for the abstract and manuscript body (excluding the abstract, references, tables and figure legends) should be provided on the Title page for all categories of articles. Please specify the article type.

Manuscripts may be declined without further review if the editorial team determines that they do not fall within the scope and priorities of *Brain Imaging and Behavior*, have insufficient broad significance and novelty, or if they are too preliminary (e.g., small samples, underdeveloped or less than state-of-the-science methods, biased sampling, lack of key details, etc.). Manuscripts that are poorly written or require extensive editing for scientific English will also be declined.

MANUSCRIPT PREPARATION

Style, Format, and References

Brain Imaging and Behavior uses APA Style that is based on the Publication Manual of the American Psychological Association, Sixth Edition (<https://www.apastyle.org/manual>). Elements of APA Style can be found at: <https://www.apastyle.org/>.

Manuscripts should be written in American English (e.g., Behavior rather than Behaviour, Center rather than Centre).

Technical Quality

The organization of the material should be easy to follow, particularly when using subheadings. The scientific presentation should be straightforward, with a logical flow of information. For non-native English-speaking authors, the manuscript should be edited and proofread by a native English speaker or professional scientific editor.

If the English language in your manuscript would benefit from improvement in clarity or readability, you may wish to use one of the many English language editing services available. Two such services are provided by [Nature Research Editing Service](#) and [American Journal Experts](#). A discount may be available for authors submitting to *Brain Imaging and Behavior*.

All original articles should include the following sections: **Abstract, Keywords, Introduction, Methods, Results, Discussion, and Conclusions**. Authors may need to use subheadings within some sections for clarity.

Following the **Conclusions**, the paper should provide any **Acknowledgments**, as well as sections for **Author Contributions, Funding Sources, Compliance with Ethical Standards, and Conflict of Interest**.

Figure legends, Tables, Appendices, References, and Figures will be reported at the end, in that order.

Title Page

The Title Page for the manuscript should be concise and informative. It provides the author's complete first and last name(s), middle initial if available, and affiliation(s), as well as the corresponding author's telephone numbers, fax number, and email address.

Stipulations for Authorship

All authors should meet ICMJE (<http://www.icmje.org/>) Criteria for Authorship (see <http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>). Other significant contributions that do not meet authorship requirements should be described in the "Acknowledgments" section of the manuscript.

All corresponding and contributing authors are strongly encouraged to include their ORCID ID number before proceeding with submission. ORCID is a non-proprietary persistent unique digital identifier for researchers that may be found at <http://orcid.org/>.

To avoid problems later, make certain that all author names and affiliations are correct at the time of submission. After the initial submission, authorship changes are discouraged, unless clearly and demonstrably warranted. If a major revision is submitted and authors are added, removed, or reordered, the rationale must be clearly indicated on the **Springer Nature Change of Authorship Request Form** (available from Springer if necessary), and all authors, prior and newly proposed, must sign and date the form indicating their agreement. Original signatures are required. A detailed explanation must be provided regarding the role of the deleted or newly added authors and the reason for any changes in author order. Changes are subject to approval by the Editor-in-Chief of the journal and will only be considered if full details are provided. After a paper is accepted no authorship changes of any type are permitted.

Abstract

The abstract should be between 150 to 250 words and contain no abbreviations or references. It should provide sufficient information to effectively summarize the manuscript. Letters to the editor and editorial commentaries do not include abstracts.

Keywords

List 3 to 5 keywords that are relevant to the research topic. Effective keywords provide a concise summary of the paper.

Abbreviations

Abbreviations should not be used in the title or abstract and should be limited to essential use only in the text.

Introduction

The introduction builds a rationale for the paper by establishing the context and significance of the research being conducted. It provides a focused, up-to-date, and scholarly review of the relevant literature, effectively summarizing the present understanding of the problem.

A purpose statement is provided that clearly defines the specific research problem being addressed in the report and is usually accompanied by a hypothesis or set of questions.

Motivations related to potential clinical implications for diagnosis, treatment, or mechanistic understanding of a health-related process that may be affected by the outcome of the research may be appropriate to mention in the introduction.

The introduction briefly mentions the methodological approach used to examine the problem and highlights the potential outcomes of the paper, focusing especially on any novel or innovative aspects that may have the potential to move the field forward.

Review articles and meta-analyses should follow the PRISMA guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). These specific guidelines may be found at <http://www.prisma-statement.org/>.

Methods

Study Design:

The study design should be methodologically rigorous and appropriate to the research question. All instrumentation and software used for data acquisition, preprocessing, and analysis of imaging, behavioral, biomarker, genetic or other data must be appropriate to the task, reliable, and well-described. Any replication data, available and/or analyzed, should be reported, as well as any factors that may produce a confound or a source of bias.

All study participants, including samples, cohorts, or model systems, should be sufficiently described and characterized in the method section. Inclusion/exclusion criteria must be defined in sufficient detail, and a rationale for the chosen sample size should be provided. For imaging studies, priority consideration will be given to well-powered samples that typically include 25 or more scans per group and appropriate controls. Inclusion of independent replication samples are highly encouraged, and those studies will be given priority in light of the well-known need for greater reproducibility in biomedical research.

Any overlap with prior samples, cohorts, or publications (e.g., human participants, animals, MRI or PET scans, or activation tasks), whether full or partial, must be disclosed. If biological assays were analyzed, the samples should be authenticated, and any steps taken to ensure quality assurance should be reported.

For **experimental studies**, any pharmacological, behavioral or other interventions or conditions should be fully described. The study design should have appropriate

randomization, adhere to intent-to-treat principles, blinding, prospective evaluation, and the use of an appropriate control group. It is important for the experimental design to build in adequate power to detect a pre-specified effect size.

For **observational studies**, including cohort or case control studies, the STROBE Reporting Guidelines should be followed. The STROBE checklist can be found at: <http://www.equator-network.org/reporting-guidelines/strobe/>.

Preclinical studies should follow the NIH *Principles and Guidelines for Reporting Preclinical Research* (<https://www.nih.gov/research-training/rigor-reproducibility/principles-guidelines-reporting-preclinical-research>).

Clinical trials should report the clinical trial registration number (see ClinicalTrials.gov or other databases). For Phase II/III trials, the study should comply with the CONSORT statement (<http://www.consort-statement.org/>) and CONSORT checklist (which should be included).

Studies involving tumor markers should follow the REMARK reporting guidelines and checklist (<https://www.nature.com/articles/6602678>).

Studies involving animal models should report species, strain, sex and age, and these factors should be controlled where appropriate, see <https://journals.plos.org/plosone/article/%0Bfile?type=supplementary&id=info:doi/10.1371/journal.pone.0146533.s001>.

Specific Guidelines for Neuroimaging:

Please see the detailed report and checklists developed by the **Organization for Human Brain Mapping (OHBM) Committee on Best Practices in Data Analysis and Sharing (COBIDAS)**; <http://www.humanbrainmapping.org/cobidas>) as well as the summary report “Best practices in data analysis and sharing in neuroimaging using MRI” (Nichols et al, *Nature Neuroscience* 2017; 20:299-303) that can be found at (<https://www.nature.com/articles/nn.4500>). Use of the highly detailed documentation checklists in the COBIDAS MRI report are strongly recommended to ensure that other researchers can independently replicate the study. Most of the guidelines also pertain to PET, SPECT, CT and other imaging modalities.

For neuroimaging (e.g., MRI, PET, PET/CT, PET/MR), vendor information, hardware types, and sequences names, as well as any contrast determining parameters, should be reported. Imaging parameters, such as acquisition resolution and coverage/field-of-view, are essential for reproducibility. For example, echo time and repetition time should be reported for structural MRI, tracer details for PET, and contrast agent for MRI and CT if applicable.

Studies combining MRI or PET with MEG should follow current guidelines for MEG research reporting (e.g., “Good practice for conducting and reporting MEG research” Gross et al 2013; *NeuroImage* 65:349-363).

In general, state-of-the art technology should be used for all specific imaging modalities.

Fully documented and transparent digital image processing and enhancements are acceptable. Documentation of all processing steps must be included in the Methods section. Processed

images must maintain a clear relationship between the original raw data and the resulting images. Results shown must be representative of the underlying data without loss of important characteristics that could lead to biased interpretation. The Editorial Office may request original versions of the data, images, and figures used to produce the final submitted figures to ensure that the original data is not misrepresented. Authors must agree to provide this information on request from the Editorial Office.

If software tools are used, software names and sources should be reported along with appropriate references for tools and commands being used. If in-house computing scripts are used, programming language and key functions, as well as code availability, should be described.

Data and Software Availability:

Data sharing for replication and reuse is strongly encouraged. Clearly state whether the data in this report is available, and if so, under what conditions or restrictions. Describe whether the data is available in a public repository via another method and whether a specific institutional data use agreement (DUA) is required for access. Publication of data description is encouraged (e.g., *Scientific Data*). Provide URLs, PUID (persistent, unique identifier), DOI, and accession numbers, as appropriate.

If specialized computer software and programs, scripts or other codes were used to generate results in the manuscript, this should be described, along with key commands, scripts, and their options. A statement specifying the availability of the software and code should be included. All versions employed and any restrictions should be documented, using URLs, filenames, versions, and accession numbers, as appropriate.

Statistical Analysis:

Statistical Analyses should be placed at the end of the **Methods** section.

This section should describe how data is systematically evaluated in a rigorous manner using analytical methods most appropriate to the study design. The rationale for each statistical analysis should be clear, and the procedure should be reproducible and well-documented. The criteria used to determine statistical significance must be clearly defined. When reporting significant and non-significant *p-values*, use no more than 3 decimal places ($p = 0.001$, $p < 0.05$). Large-scale genome-wide imaging genetics or similar studies may report smaller *p-values* where appropriate. For the American Statistician Association (ASA) Statement on Statistical Significance and *P-Values*, see

<https://amstat.tandfonline.com/doi/abs/10.1080/00031305.2016.1154108#.XNG5A5NKgcg>.

Any Post-Hoc analyses used to correct for multiple tests or comparisons must be described and referenced. Adjustments of *p-values* or critical thresholds based on post-hoc analyses must be clearly identified and explained.

Data exclusions should be justified and reported. The detection and classification of outliers, including any analytical methods used to address them, should be discussed.

Results

The results section of the manuscript summarizes the data and any statistical results that were calculated. It provides enough information to accurately evaluate the study findings and justify research claims, without providing interpretation.

Negative findings that do not support the original hypothesis should not be omitted, as these may provide potentially important information for other investigators.

The results section should be structured around the Tables and Figures or other illustrative material which make it easier for readers to quickly grasp the nature and meaning of the data. When these illustrations are presented, they must be discussed in the text body of the results section. The same data should not be presented in both a table and a figure, except in selected cases where it may be justifiable to include the other format as supplemental material.

Discussion

This section includes explains the significance of the findings in the context of what is already known about the research problem. Any new knowledge or insights, including any practical implications such as clinical/translational findings, should be considered and appropriately discussed. Avoid overinterpretation or claims not supported by statistically significant data presented in the manuscript.

Limitations of the study design must be presented and considered when making interpretations and drawing conclusions. Potential sources of bias and/or confounds should be disclosed. Topics that are extraneous to the main research topic should be avoided, as they detract from the overall focus and readability of the paper.

Implications for clinical care, if any, including diagnosis and therapeutic development should be provided. Implications for future research including important unanswered questions should be discussed. What experiments or observations need to be performed to validate, extend, or refute the present findings?

Conclusions

The Conclusions section briefly restates the central premise and summarizes the main point(s) of the study. This section should be a single short paragraph in length.

Acknowledgments

The purpose of the Acknowledgment section is to thank those people who made significant contributions to the research paper but who did not meet requirements for authorship. This may include people who provided technical help (e.g., editing, proofreading, graphics), special equipment, materials, and/or resources. See ICMJE <http://www.icmje.org/> for guidelines.

Author Contributions

Specify the contribution of each author by providing a one-sentence statement summarizing their contribution(s). An author may have more than one contribution. If there are more than a few authors, the following format (using author initials) is likely to be most appropriate:

Author contributions included conception and study design (ABC and DEF), data collection or acquisition (DEF, GHI and JKL), statistical analysis (DEF, JKL and MNO), interpretation of results (ABD, DEF, GHI and MNO), drafting the manuscript work or revising it critically for important intellectual content (ABC, DEF, GHI, JKL and MNO) and approval of final version to be published and agreement to be accountable for the integrity and accuracy of all aspects of the work (All authors).

Funding Sources

All funding sources directly or indirectly supporting this research must be acknowledged, including grant numbers where appropriate.

Compliance with Ethical Standards

This section should indicate whether appropriate Institutional Ethics Committee(s) have reviewed and approved the study protocol described in the manuscript. Specify the name of the committee and institution. Confirm that all study participants have provided written informed consent.

BIB does not typically permit patient photographs. However, if there is an important scientific reason to include patient photographs, the author must confirm that a consent to publish was obtained. In the highly unusual circumstance that unmasked photographs are required, signed consent forms must be forwarded to the Editorial Office and approved by the Editor-in-Chief.

For animal studies, this section should indicate compliance with the Institutional Animal Care and Use Committee (IACUC), see <https://olaw.nih.gov/resources/tutorial/iacuc.htm>. Following the ARRIVE Guidelines for improving bioscience research reporting (PLoS Biol 2010; <https://www.ncbi.nlm.nih.gov/pubmed/20613859>) is suggested.

Conflict of Interest

All authors must disclose any potential conflicts of interest, including any interest or relationship, financial or otherwise, that might be perceived as influencing an author's objectivity. A conflict of interest does not preclude publication in this journal.

Potential sources of conflict include but are not limited to patents, copyrights, royalties, stock ownership, membership on a company's board of directors, membership on a company's advisory board, and consultancy, travel support, or speaker's fees from a company. Disclosure does not imply that a financial relationship by a sponsoring organization is inappropriate.

If the authors have no conflict of interest to declare, they must also state this at submission. It is the responsibility of the corresponding author to review procedures and collect **Disclosure Forms** from all authors.

For more information on Compliance with Ethical Standards, Consent, and Conflict of Interest statements, see <https://www.springer.com/us/authors-editors/journal-author/journal-author-helpdesk/publishing-ethics/14214>.

Figure legends, Tables, Appendices, References, and Figures will be reported at the end of the manuscript, in that order.

Figure legends:

Each figure legend should be listed on a separate page and numbered consecutively using Arabic numbers (i.e., Fig 1), as referred to in the text.

Figures:

- Figures should be submitted electronically in TIF, EPS, PDF, or JPG file format and be of high quality and in sufficient size and clarity to be reproduced.
- Reproduction in the journal requires TIF files (1200 dpi for line drawings and 300 dpi for color, or preferably greater). For black and white graphics, shading should not be used.
- Scanned line drawings and line drawings in bitmap format should have a minimum resolution of 1200 dpi. All lines should be at least 0.1 mm (0.3 pt.) wide. Assure that all lines and lettering within the figures are legible at final size. For vector graphics, the preferred format is EPS. Vector graphics containing fonts must have the fonts embedded in the files.
- Particularly compelling figures may be selected as cover art for the journal.

For useful information on preparing figures for publication, go to

<http://art.cadmus.com/da/index.jsp>.

Tables:

Tables should be numbered consecutively using Arabic numbers as referred to in the text. Each table should be typed, double spaced, and placed on a separate sheet of paper. A brief title should be provided at the top of the table. Footnotes or other specific explanatory information should be placed beneath the table and include a key to any annotations. Tables should not be overcrowded or have excessive wording. Horizontal lines, but not vertical lines should be used, as needed, to enhance clarity.

Halftone Art:

- Halftone Art includes: photographs, drawings, or paintings with fine shading, etc.
- Halftones should have a minimum resolution of 300 dpi, though 600 dpi or greater is preferred. TIFF format or MSOffice files are acceptable. Any magnification used in the photographs should be indicated by a scale bar within the figure itself.
- Combination halftone and line art (e.g., halftones containing line drawing, extensive lettering, or color diagrams, etc.) should have a minimum resolution of 600 dpi.

References

The reference list should include only those works that are cited in the text and that have been published or accepted for publication. Permanently retrievable documents with DOI locators may be included as appropriate. Personal communications and unpublished works should be mentioned in the text only.

Always use the standard abbreviation of a journal's name according to the ISSN List of Title Word Abbreviations, see www.issn.org/2-22661-LTWA-online.php.

THE REVIEW PROCESS

Manuscripts that meet the scope and priorities of the Journal are sent out for external peer review.

The review process generally includes two to three reviewers who are qualified to evaluate the scientific and biomedical merit of the work. Additional reviewers may be recruited if special expertise is required and in the case of highly divergent opinions.

Authors are asked to provide a list of at least five well-qualified reviewers. Authors may also request the exclusion of certain individuals when they submit their manuscripts. When suggesting reviewers, authors should make sure they are non-conflicted, i.e., independent and not connected to the work under review in any way. For each recommendation, please provide the institutional email address and indicate the specific relevant area(s) of expertise. Please note that the Journal may or may not use the author suggestions, but these are appreciated and may help facilitate the peer review process.

Selecting Peer Reviewers:

Brain Imaging and Behavior aims to maintain the highest quality in peer review standards. Therefore, qualified reviewers are selected from a diverse international cadre of scientists and clinical researchers.

Qualified reviewers are selected based on specialized expertise, professional experience and reputation, and recommendations from other experts. The Journal strives to select reviewers who are able to work quickly but carefully and who are able to clearly communicate the reasoning behind their views.

To be considered as a reviewer, it is mandatory to provide: full name, degree(s), full institution/organization, and affiliated e-mail. If Gmail, Hotmail or other non-affiliated e-mail is used, additional contact information must be included. Relevant professional expertise must be verifiable.

Brain Imaging and Behavior

Editor-in-Chief: Saykin, A.J.

ISSN: 1931-7557 (print version)

ISSN: 1931-7565 (electronic version)

Journal no. 11682