DESCRIPTION

The Journal of Applied Developmental Psychology (JADP) publishes scholarly empirical research relating to human development. The Journal focuses on two key concepts: human development and application of knowledge. Human development refers to the transformations and changes that occur during the life cycle and the processes or mechanisms which influence individuals' behavioral, cognitive, emotional, and moral development. Application refers to how the knowledge gained from research can be applied to the improvement of developmental outcomes, such as through policy making or within educational, clinical, and social settings. Consequently, papers published in JADP explicitly articulate how findings can be applied to improving the lives of children, youth and young adults. JADP publishes studies on a broad array of social issues and contexts (e.g., differences in cultural, racial, social and learning contexts) that impact human development.

Please see our Guide for Authors for more information.

Benefits to authors
We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our author services. If you require any further information or help, please visit our Support Center.

IMPACT FACTOR

2019: 2.000 © Clarivate Analytics Journal Citation Reports 2020

ABSTRACTING AND INDEXING

Scopus
ERIC
ERA (Educational Research Abstracts Online)

EDITORIAL BOARD

Editor-in-Chief
Kristin Moilanen, West Virginia University, Morgantown, West Virginia, United States of America
Associate Editors

Jamie Abaied, University of Vermont, Burlington, Vermont, United States of America
Rebecca Bulotsky-Shearer, University of Miami, Miami, Florida, United States of America
Gigliana Melzi, New York University, New York, United States of America
Bridget Murphy-Kelsey, Metropolitan State University of Denver, Denver, Colorado, United States of America

Editorial Board

Thomas Akiva, University of Pittsburgh, Pittsburgh, Pennsylvania, United States of America
Mairin Augustine, Hamilton College, Clinton, New York, United States of America
Carolyn Barber, University of Missouri Kansas City, Kansas City, Missouri, United States of America
Eric Buhs, University of Nebraska-Lincoln, Lincoln, Nebraska, United States of America
Stephen J. Ceci, Cornell University, Ithaca, New York, United States of America
Daniel Choe, University of California Davis Department of Human Ecology, Davis, California, United States of America
Antonius Cillessen, Radboud University, Nijmegen, Netherlands
Stephanie Curenton, Boston University, Boston, Massachusetts, United States of America
A. Diamond, The University of British Columbia Department of Psychiatry, Vancouver, British Columbia, Canada
Leanne Elliott, University of Pittsburgh, Pittsburgh, Pennsylvania, United States of America
Cynthia Erdley, University of Maine, Orono, Maine, United States of America
Xin Feng, OHIO STATE UNIVERSITY, Columbus, Ohio, United States of America
Sarah L. Friedman, The George Washington University, Washington, District of Columbia, United States of America
Manuel Gamez-Guadix, Autonomous University of Madrid, Madrid, Spain
Amy Gentzler, West Virginia University, Morgantown, West Virginia, United States of America
Jessica Grady, University of the Pacific Department of Psychology, Stockton, California, United States of America
Tamara Halle, Child Trends, Bethesda, Maryland, United States of America
Jill Hamm, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, United States of America
Heather Henderson, University of Waterloo, Waterloo, Ontario, Canada
Annemarie Hindman, Temple University, Philadelphia, Pennsylvania, United States of America
Ben Hinnant, Auburn University, Auburn, Alabama, United States of America
Jason Hustledt, University of Delaware, Newark, Delaware, United States of America
Sarah Kiefer, University of South Florida, Tampa, Florida, United States of America
Dawn Kriebel, Immaculata University, Immaculata, Pennsylvania, United States of America
Becky Ladd, Arizona State University, Tempe, Arizona, United States of America
Robert Laird, The University of Alabama, Tuscaloosa, Alabama, United States of America
Diana Leyva, Davidson College, Davidson, North Carolina, United States of America
Lynn S. Liben, Pennsylvania State University, University Park, United States of America
Yangyang Liu, Nanjing University Department of Psychology, Nanjing, China
Lisa M. Lopez, University of South Florida College of Education, Sarasota, Florida, United States of America
Meredith McGinley, University of Wisconsin-Parkside, Kenosha, Wisconsin, United States of America
Christine McWayne, Tufts University, Medford, Massachusetts, United States of America
Julia Mendez, University of North Carolina at Greensboro, Greensboro, North Carolina, United States of America
Barbara Morrongiello, University of Guelph, Guelph, Ontario, Canada
Eva Oberle, The University of British Columbia, Vancouver, British Columbia, Canada
Jamie Ostrov, University at Buffalo - The State University of New York, Buffalo, New York, United States of America
Sara Racz, University of Maryland Baltimore, Baltimore, Maryland, United States of America
Geetha Ramani, University of Maryland at College Park, College Park, Maryland, United States of America
Heather Rouse, Iowa State University, Ames, Iowa, United States of America
Diane N. Ruble, New York University, New York, United States of America
Shannon Russell, American Institutes for Research, Washington, District of Columbia, United States of America
Allison Ryan, University of Michigan, Ann Arbor, Michigan, United States of America
Kimberly Schonert-Reichl, The University of British Columbia, Vancouver, British Columbia, Canada
David Schwartz, University of Southern California, Los Angeles, California, United States of America
Anne Shaffer, University of Georgia, Athens, Georgia, United States of America
Catherine Snow, Harvard University, Cambridge, Massachusetts, United States of America
Deborah Stipek, Stanford University, Stanford, California, United States of America
Wendy Troop-Gordon, Auburn University, Auburn, Alabama, United States of America
Kelly Tu, University of Illinois at Urbana-Champaign, Champaign, Illinois, United States of America
Brendesha Tynes, University of Southern California, Los Angeles, California, United States of America
Patti Valkenburg, University of Amsterdam, Amsterdam, Netherlands
Tuomo Virtanen, University of Jyväskylä, Department of Education, Jyväskylä, Finland
Kathryn Wentzel, University of Maryland at College Park, College Park, Maryland, United States of America
Sharon Wolf, University of Pennsylvania Graduate School of Education, Philadelphia, Pennsylvania, United States of America
GUIDE FOR AUTHORS

INTRODUCTION

The Journal of Applied Developmental Psychology is intended as a forum for communication about empirical research with a bearing on human development. Articles describing quantitative empirical research from social and behavioral disciplines about lifespan developmental issues with relevance for application in social, educational, clinical, and other settings are appropriate. Discussion of intervention or policy issues or recommendations are appropriate when data based. The journal does not publish unsolicited conceptual papers, methodological reviews, position papers, or book reviews.

Thank you for your interest in JADP as an outlet for your research! The following information is intended to help you determine if JADP is an appropriate outlet for your study. It is hoped that such information will help you prepare your manuscript for submission and avoid having your paper not considered for publication because it is not a good fit with the Journal.

For example, while JADP prefers longitudinal studies, well-conducted cross-sectional design studies are appropriate for JADP. However, qualitative studies and studies conducted with convenience samples or small samples (e.g., under-powered) are not appropriate. Moreover, JADP does not currently consider papers that focus only on measurement development; but measurement issues may be part of a larger study demonstrating the application of a developmental process to an aspect of human development. Please feel free to use the following Checklist to determine if your manuscript is appropriate for consideration for publication in the Journal of Applied Developmental Psychology.

Thank you again for considering the Journal of Applied Developmental Psychology as an outlet for your research.

JADP Checklist
Your paper is appropriate for consideration (full review) in JADP, if it

• reports original empirical findings. Reviews of existing literature are not considered.
• utilizes a quantitative, not qualitative, statistical approach.
• examines developmental phenomena, mechanisms or processes. Papers that focus solely on measurement are not considered.
• clearly discusses how new findings are applicable in improving developmental outcomes, such as through policy or within applied settings.
• relies on strong developmental methodological designs, such as short- or long-term longitudinal designs or a well-designed cross sectional design.
• is well-written in scholarly English (American and British are both acceptable).
• is in APA format. (see here)
• does not exceed 45 pages all-inclusive of title page, abstract, narrative, references, tables and figures. A typical accepted manuscript is between 30 and 40 pages. Longer manuscripts may be considered if justification is provided in the submission cover letter as to why the extra pages are needed.
• does not utilize convenience or small n samples (exceptions may be made, such as when findings are not hypothesized to generalize beyond the sample).

BEFORE YOU BEGIN

Ethics in publishing
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

Studies in humans and animals
If the work involves the use of human subjects, the author should ensure that the work described has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans. The manuscript should be in line with the Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals and aim for the inclusion of representative human populations (sex, age and ethnicity) as per those recommendations. The terms sex and gender should be used correctly.

Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed.
All animal experiments should comply with the ARRIVE guidelines and should be carried out in accordance with the U.K. Animals (Scientific Procedures) Act, 1986 and associated guidelines, EU Directive 2010/63/EU for animal experiments, or the National Institutes of Health guide for the care and use of Laboratory animals (NIH Publications No. 8023, revised 1978) and the authors should clearly indicate in the manuscript that such guidelines have been followed. The sex of animals must be indicated, and where appropriate, the influence (or association) of sex on the results of the study.

Declaration of interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double anonymized) or the manuscript file (if single anonymized). If there are no interests to declare then please state this: 'Declarations of interest: none'. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

Submission declaration and verification
Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

Preprints
Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

Author contributions
For transparency, we encourage authors to submit an author statement file outlining their individual contributions to the paper using the relevant CRediT roles: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; Writing - review & editing. Authorship statements should be formatted with the names of authors first and CRediT role(s) following. More details and an example

Changes to authorship
Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed. Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

Copyright
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see more information on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.
Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete a 'License Agreement' (more information). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.

**Author rights**
As an author you (or your employer or institution) have certain rights to reuse your work. More information.

Elsevier supports responsible sharing
Find out how you can share your research published in Elsevier journals.

**Role of the funding source**
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

**Open access**
Please visit our Open Access page for more information.

Elsevier Researcher Academy
Researcher Academy is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

**Language (usage and editing services)**
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's Author Services.

**Submission**
Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

**PRESENTATION**

**Peer review**
This journal operates a double-blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.
**Double anonymized review**

This journal uses double anonymized review, which means the identities of the authors are concealed from the reviewers, and vice versa. More information is available on our website. To facilitate this, please include the following separately:

**Title page (with author details)**: This should include the title, authors' names, affiliations, acknowledgements and any Declaration of Interest statement, and a complete address for the corresponding author including an e-mail address.

**Anonymized manuscript (no author details)**: The main body of the paper (including the references, figures, tables and any acknowledgements) should not include any identifying information, such as the authors' names or affiliations.

**Essential title page information**

Provide the following data on the Title Page only (in the order given).

**Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

**Author names and affiliations.** Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and the e-mail address of each author.

**Corresponding author.** Clearly indicate who is willing to handle correspondence at all stages of refereeing and publication, also post-publication. Ensure that telephone and fax numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address.

**Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

**Highlights**

Highlights are mandatory for this journal as they help increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: [example Highlights](#).

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 125 characters, including spaces, per bullet point).

**Abstract**

A concise and factual abstract is required (100 - 150 words). The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separate from the article, so it must be able to stand alone. References should therefore be avoided, but if essential, they must be cited in full, without reference to the reference list.

**Graphical abstract**

Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view [Example Graphical Abstracts](#) on our information site. Authors can make use of Elsevier's Illustration Services to ensure the best presentation of their images and in accordance with all technical requirements.
Keywords
Immediately after the abstract on the first page of the manuscript, provide a maximum of 6 keywords. These keywords will be used for indexing purposes.

Abbreviations
Define abbreviations that are not standard in this field at their first occurrence in the article: in the abstract but also in the main text after it. Ensure consistency of abbreviations throughout the article.

Acknowledgements
Collate acknowledgements and author notes, including grant and other support for the research, in a separate file. Do not, therefore, include them on the title page, as a footnote to the title or otherwise.

Formatting of funding sources
List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Artwork

Electronic artwork

General points
• Make sure you use uniform lettering and sizing of your original artwork.
• Embed the used fonts if the application provides that option.
• Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Provide captions to illustrations separately.
• Size the illustrations close to the desired dimensions of the published version.
• Submit each illustration as a separate file.
• Ensure that color images are accessible to all, including those with impaired color vision.

A detailed guide on electronic artwork is available.

You are urged to visit this site; some excerpts from the detailed information are given here.

Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format. Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings, embed all used fonts.
TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:
• Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
• Supply files that are too low in resolution;
• Submit graphics that are disproportionately large for the content.
Line drawings Supply high-quality printouts on white paper produced with black ink. The lettering and symbols, as well as other details, should have proportionate dimensions, so as not to become illegible or unclear after possible reduction; in general, the figures should be designed for a reduction factor of two to three. The degree of reduction will be determined by the Publisher. Illustrations will not be enlarged. Consider the page format of the journal when designing the illustrations.

Photocopies are not suitable for reproduction. Do not use any type of shading on computer-generated illustrations.

Photographs (halftones) Supply original photographs for reproduction, printed on glossy paper, very sharp and with good contrast. Remove non-essential areas of a photograph. Do not mount photographs unless they form part of a composite figure. Where necessary, insert a scale bar in the illustration (not below it), as opposed to giving a magnification factor in the legend.

Note that photocopies of photographs are not acceptable

Color artwork Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.

Figure captions Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References Follow the most recent edition of APA formatting. Responsibility for the accuracy of bibliographic citations lies entirely with the authors. Download checklist here.

Citation in text Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list but may be mentioned in the text. If these references are included in the reference list, they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired or can be included in the reference list.

Data references This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.
References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference management software
Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal’s style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:
http://open.mendeley.com/use-citation-style/journal-of-applied-developmental-psychology
When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

Supplementary material
Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Research Data
This journal encourages and enables you to share data that supports your research publication where appropriate and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods, and other useful materials related to the project.
Below are several ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

**Data linking**
If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

**Mendeley Data**
This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

**Data in Brief**
You have the option of converting any or all parts of your supplementary or additional raw data into a data article published in Data in Brief. A data article is a new kind of article that ensures that your data are actively reviewed, curated, formatted, indexed, given a DOI and made publicly available to all upon publication (watch this video describing the benefits of publishing your data in Data in Brief). You are encouraged to submit your data article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed, published open access and linked to your research article on ScienceDirect. Please note an open access fee is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief data article.

**Data statement**
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

**AFTER ACCEPTANCE**

**Online proof correction**
To ensure a fast publication process of the article, we kindly ask authors to provide us with their proof corrections within two days. Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors. If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

**Offprints**
The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's Author Services. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

**AUTHOR INQUIRIES**
Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch. You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | https://www.elsevier.com