



Guiding Principles in an Evolving Research Publishing Landscape

Deborah Wyatt

VP, Society Research Publishing, Asia-Pacific, Wiley

Member, Scholarly and Journals Committee, Australian Publishers Association



Two Questions

- What are the Trends Shaping this Evolving Research Landscape?
- What is the Publisher's Role in Transparency?

Current Trends in an Evolving Landscape

Current Trends in an Evolving Landscape

- Changing expectations
- Increase in published research.
- Rates of global collaboration.
- Drive towards transparency and openness.

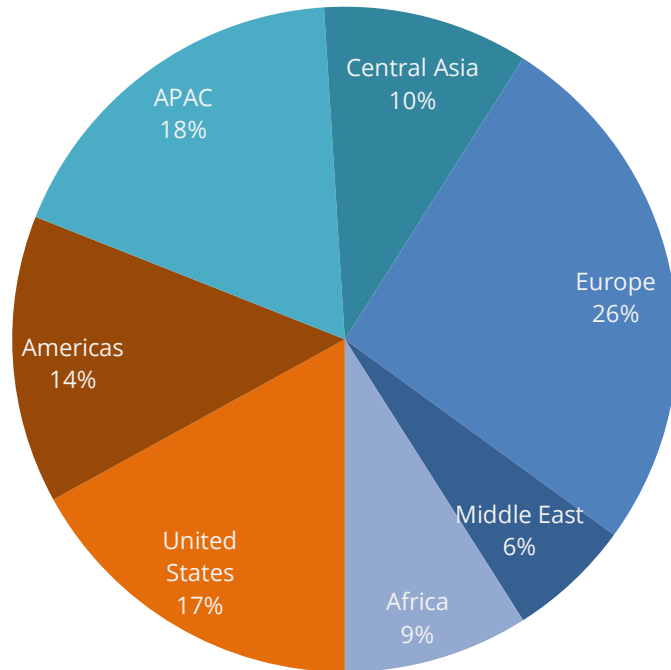
Changing Expectations

What do researchers expect?

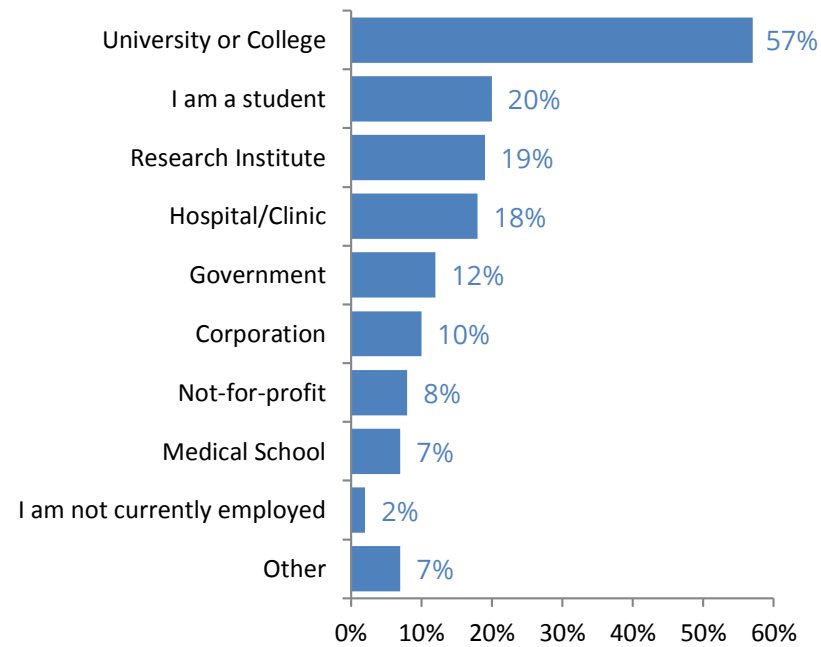
Trends in Media Consumption

2,156 participants who have read or used scientific or scholarly research in the past 12 months

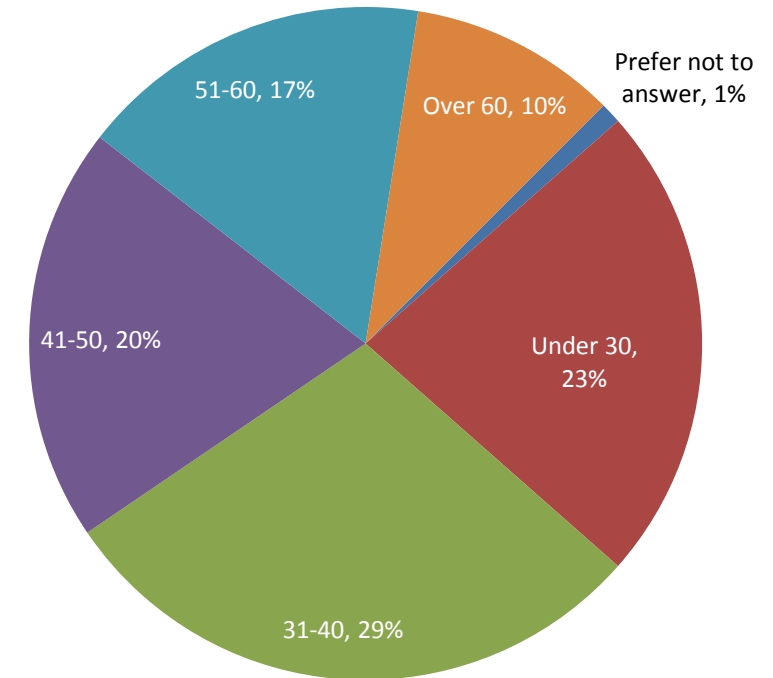
Geographic distribution



Work Setting



Age distribution



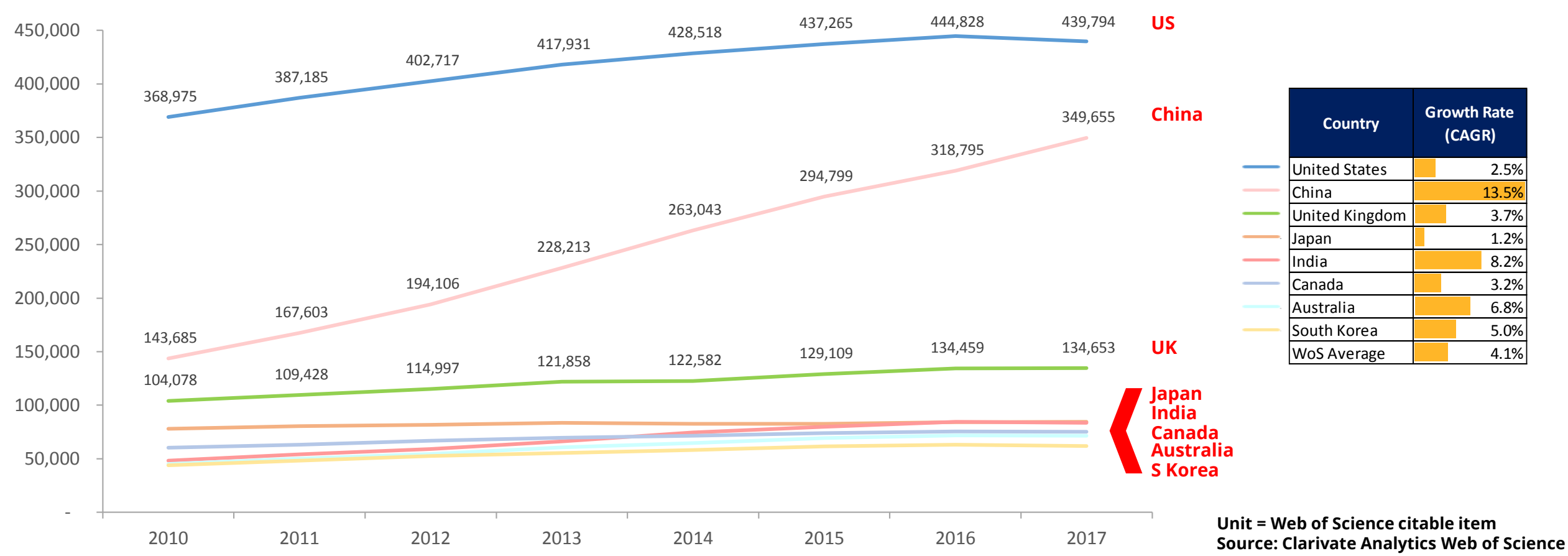
What do Researchers Expect?

- To read, search and collaborate online
- To identify content that is credible and relevant
- Immediate, easy access to research and research data online
- Immediate, easy access to information, tools and guidelines
- To share and discuss published work online
- Good service: responsive Editors and publishers

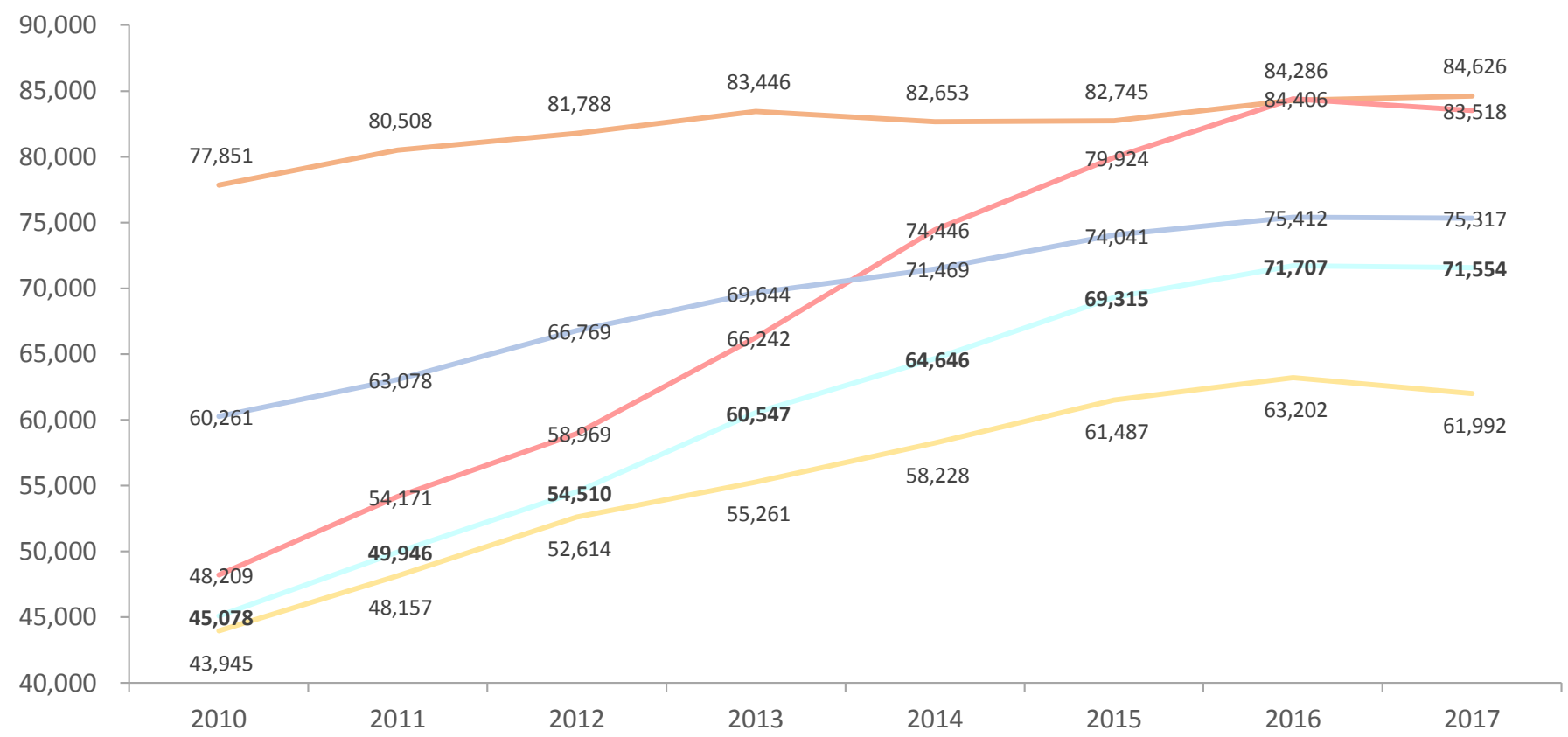
Growth of Published Research

Rates of growth in published research

2. Global Publication of Research



2. Global Publication of Research



Japan
India

Canada
Australia

S Korea

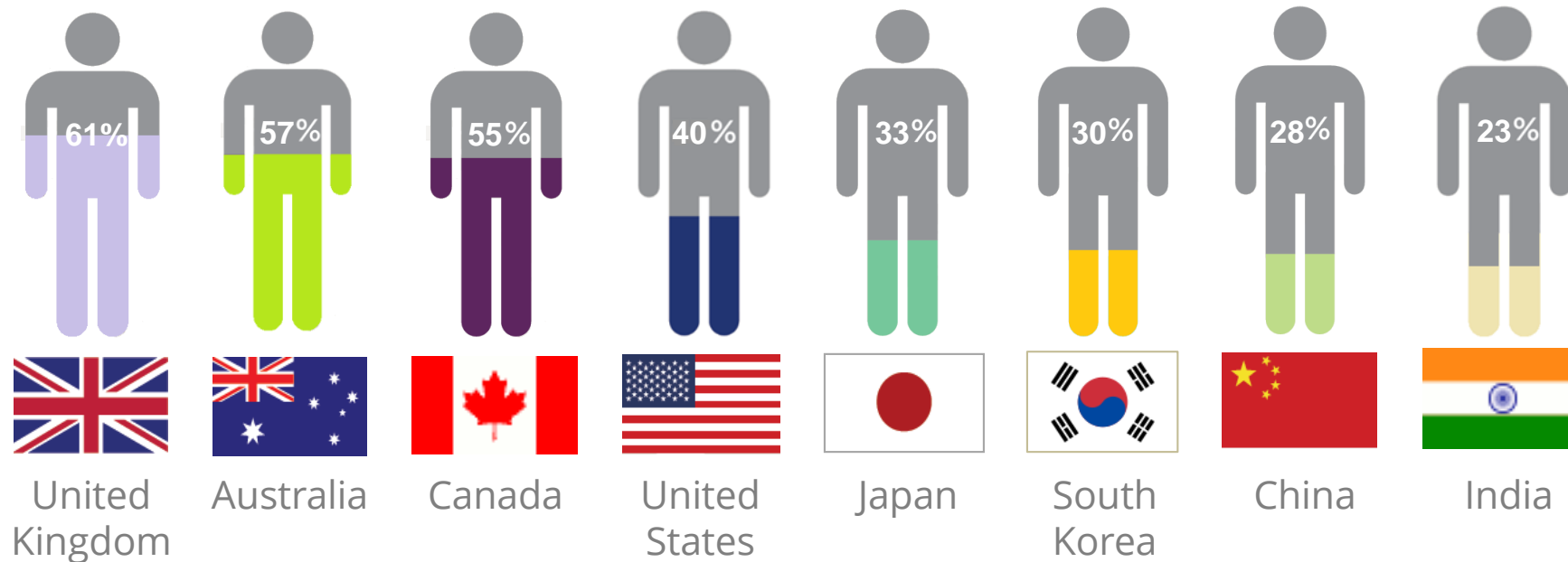
Country	Growth Rate (CAGR)
United States	2.5%
China	13.5%
United Kingdom	3.7%
Japan	1.2%
India	8.2%
Canada	3.2%
Australia	6.8%
South Korea	5.0%
WoS Average	4.1%

Unit = Web of Science citable item
Source: Clarivate Analytics Web of Science

Globalization and Global Collaboration

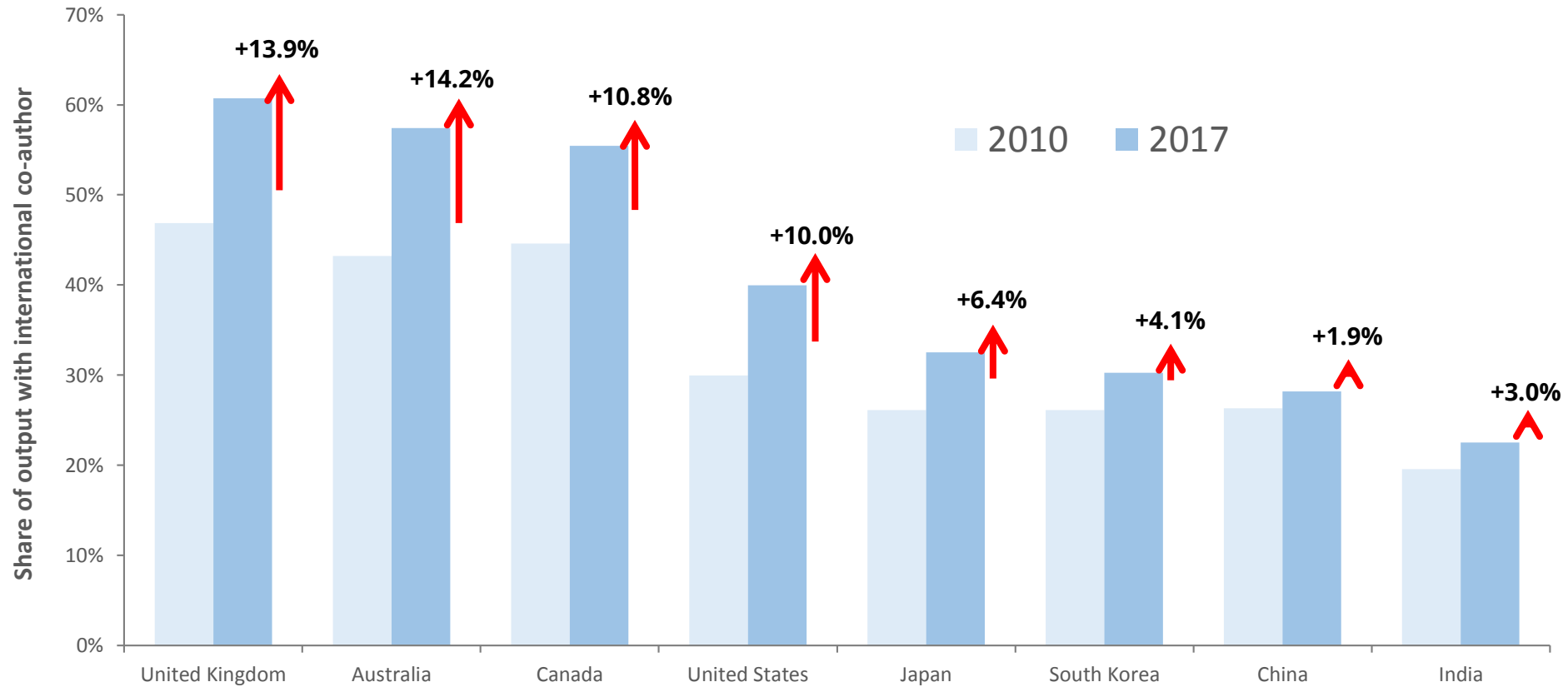
Global Collaboration: Authorship

Percentage of articles with overseas co-author(s) 2017



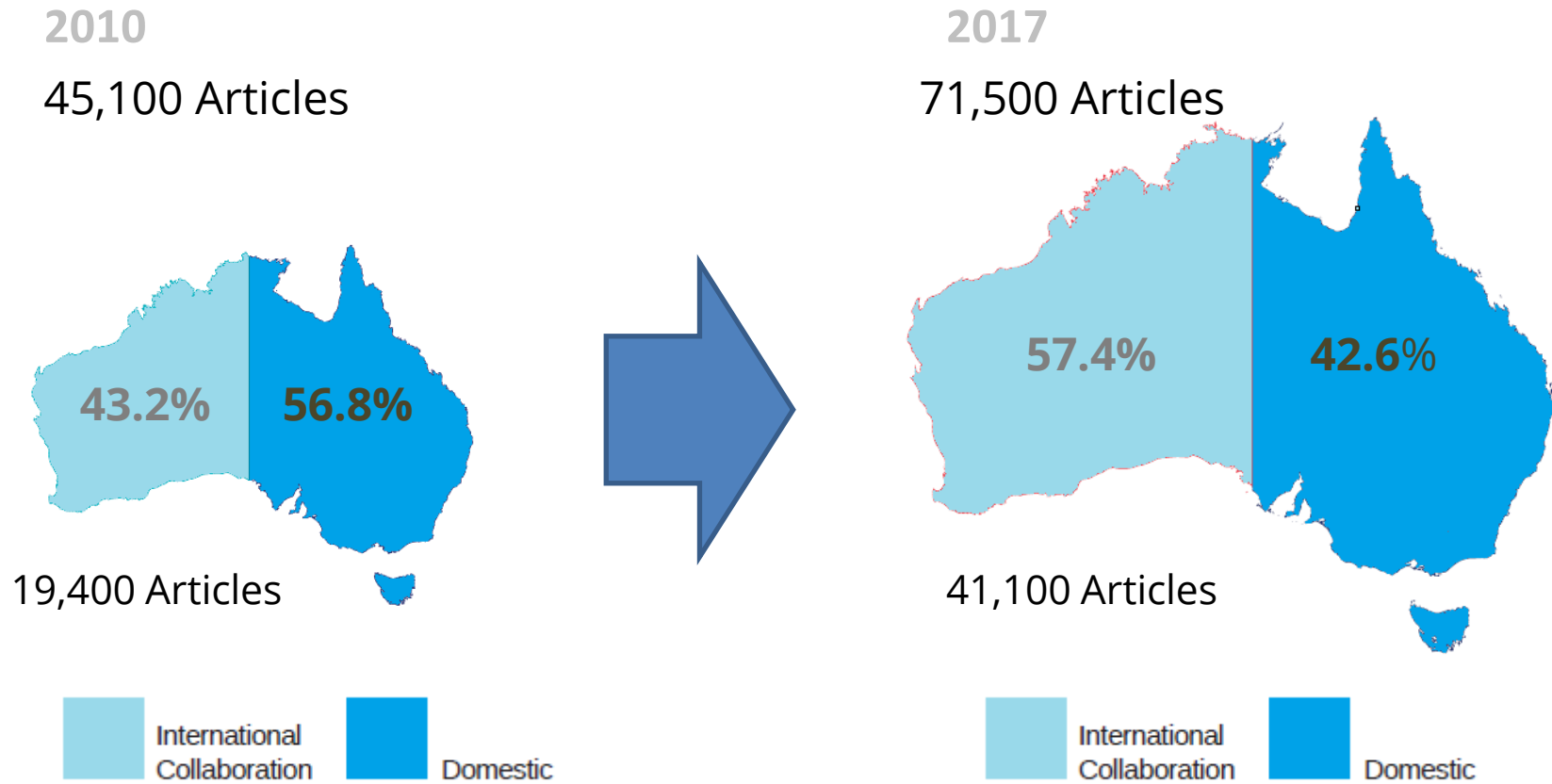
Source: Clarivate Analytics WoS, Wiley EBAC

Global Collaboration: Authorship



Source: Clarivate Analytics WoS, Wiley EBAC

Global Collaboration: Authorship



Source: Clarivate Analytics WoS, Wiley EBAC

Drive Towards Transparency

Developments in Open Science

Open Science

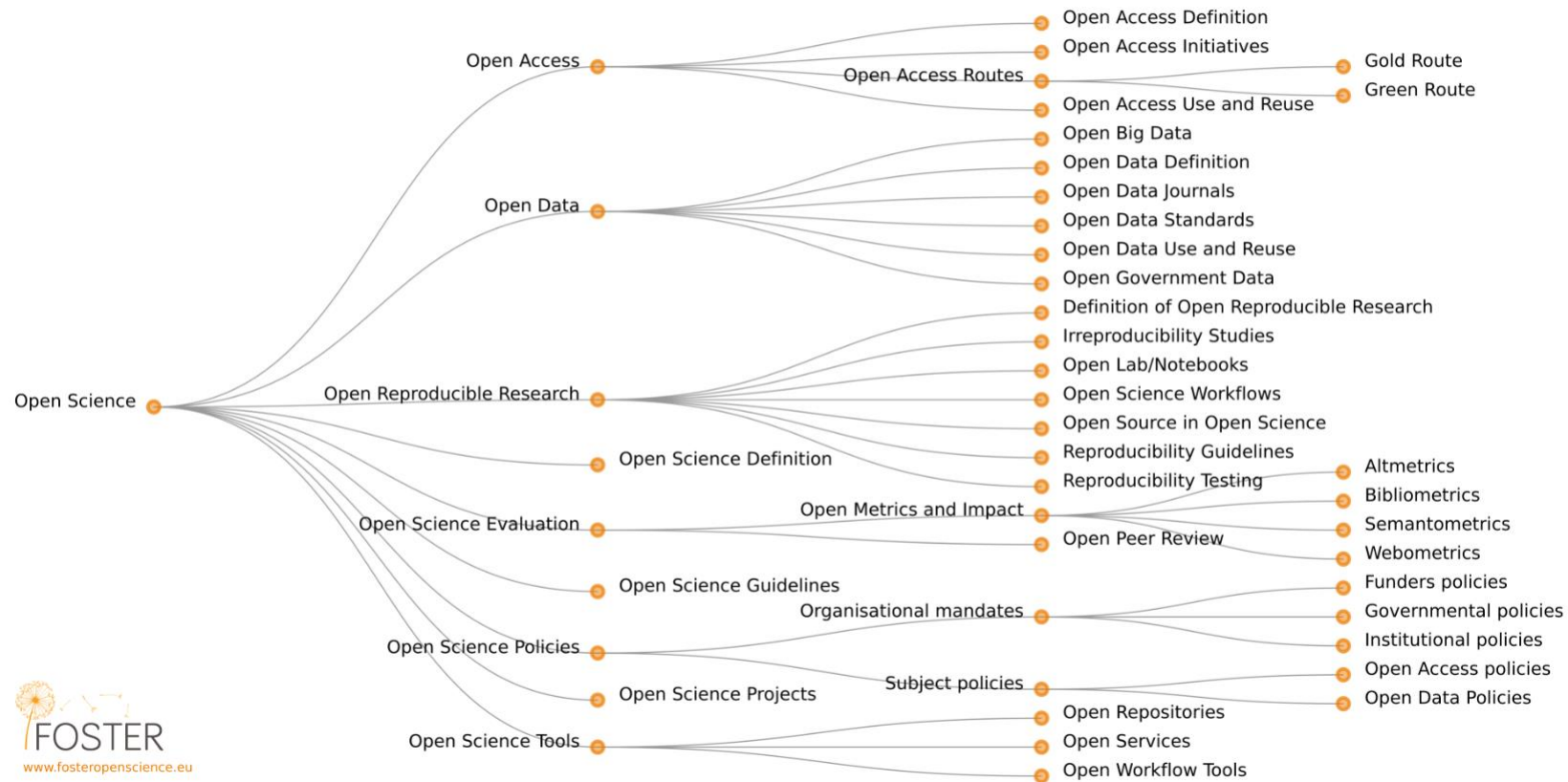


This Open Science revolution is being driven by new, digital tools for scientific collaboration, experiments and analysis and which make scientific knowledge more easily accessible by professionals and the general public, anywhere, at any time.

European Commission

Open Science

Open Science Taxonomy



Open Science

FAIR data:

Findable

Accessible

Interoperable

Re-usable



Current Trends in an Evolving Landscape

Researchers expect **immediate access** to content **online**

There is **vastly more published research** than ever before.

Research is global: and rates of **global collaboration** are growing.

These features, and others, fuel the **drive towards transparency** and openness.



The Publishers' Role in Transparency

Listen to the Research Community

Work Together on Solutions:

- Collaborate
- Set Standards and Policies
- Continuously Improve Infrastructure, Processes and Products
- Consider Incentives and Recognition



Listen to the Research Community

Scientists Perceive a Reproducibility Crisis

IS THERE A REPRODUCIBILITY CRISIS?

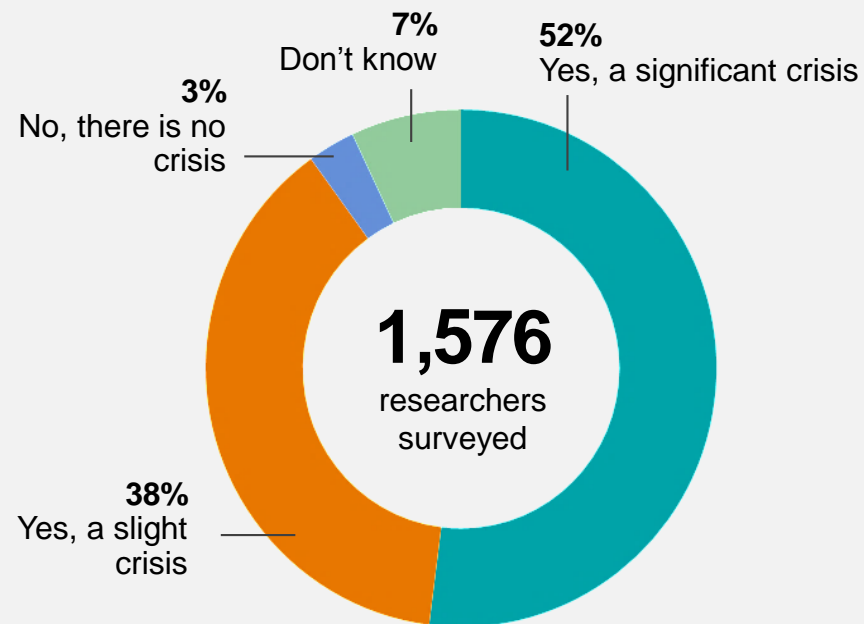
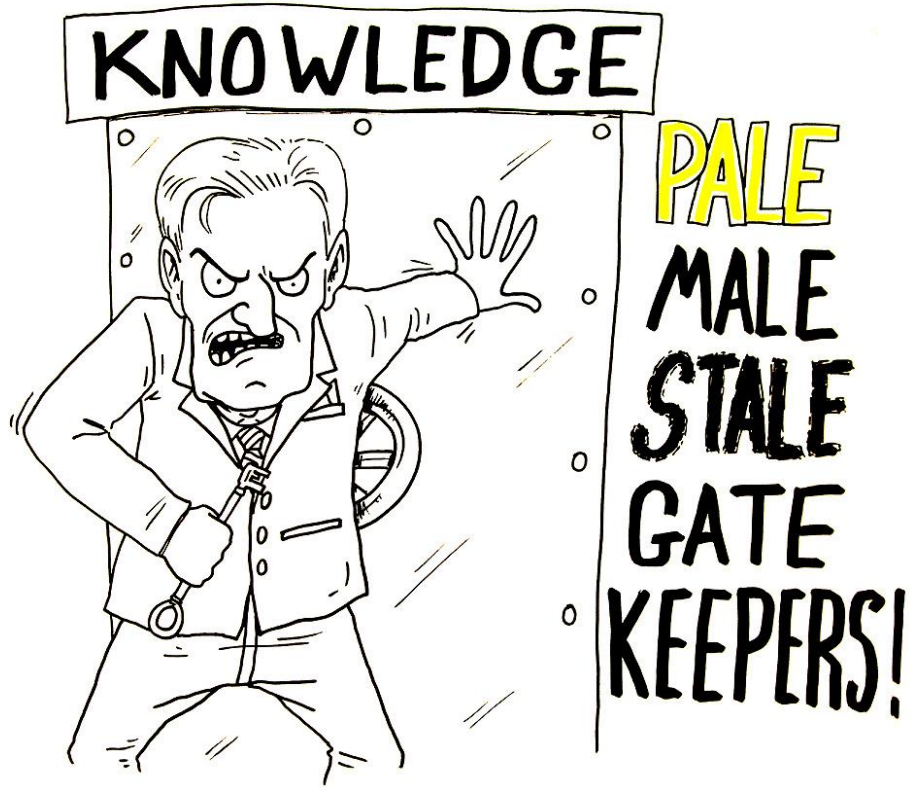


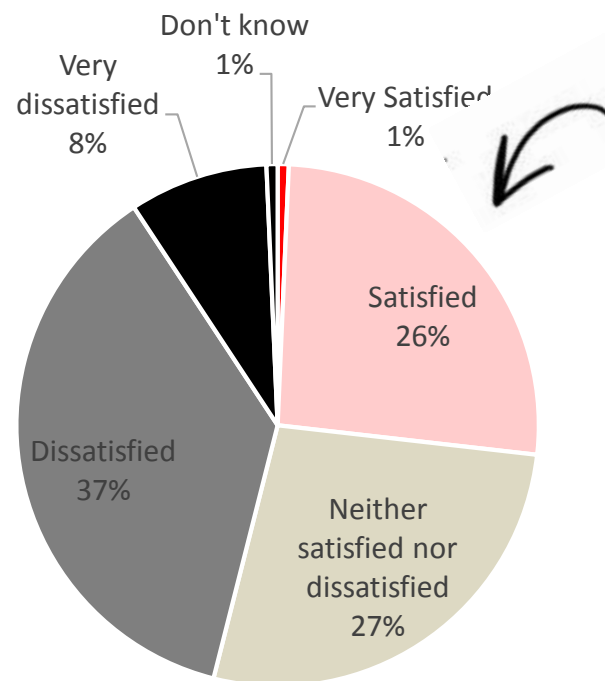
Chart redrawn from Nature <http://www.nature.com/news/1-500-scientists-lift-the-lid-on-reproducibility-1.19970>

Early Career Researchers Worry about Bias



Dissatisfaction with Peer Review

Overall, how satisfied are you with the peer review system used by scholarly journals?



The community wants a better solution

#bioPeerReview





Work Together on Solutions

Transparency



Reproducibility of research can be improved by increasing transparency of the research process and products



PSA... You can listen to Brian talking about reproducibility and Open Science on the Wiley Society Podcast!



Brian Nosek and colleagues. *Guidelines for Transparency and Openness Promotion (TOP) in Journal Policies and Practices* “The TOP Guidelines” <https://osf.io/ud578/>

TOP Guidelines

1. Citations (data, code, materials)
2. Data
3. Analytic methods
4. Materials
5. Design and analysis
6. Preregistration of studies
7. Preregistration of analyses
8. Replication

Nosek, Alter, Banks et al. Science. Promoting an open research culture. 348;6242:1422-1425.
 DOI: 10.1126/science.aab2374.
<http://science.sciencemag.org/content/348/6242/1422>

Summary of the eight standards and three levels of the TOP guidelines

Levels 1 to 3 are increasingly stringent for each standard. Level 0 offers a comparison that does not meet the standard.

	LEVEL 0	LEVEL 1	LEVEL 2	LEVEL 3
Citation standards	Journal encourages citation of data, code, and materials—or says nothing.	Journal describes citation of data in guidelines to authors with clear rules and examples.	Article provides appropriate citation for data and materials used, consistent with journal's author guidelines.	Article is not published until appropriate citation for data and materials is provided that follows journal's author guidelines.
Data transparency	Journal encourages data sharing—or says nothing.	Article states whether data are available and, if so, where to access them.	Data must be posted to a trusted repository. Exceptions must be identified at article submission.	Data must be posted to a trusted repository, and reported analyses will be reproduced independently before publication.
Analytic methods (code) transparency	Journal encourages code sharing—or says nothing.	Article states whether code is available and, if so, where to access them.	Code must be posted to a trusted repository. Exceptions must be identified at article submission.	Code must be posted to a trusted repository, and reported analyses will be reproduced independently before publication.
Research materials transparency	Journal encourages materials sharing—or says nothing.	Article states whether materials are available and, if so, where to access them.	Materials must be posted to a trusted repository. Exceptions must be identified at article submission.	Materials must be posted to a trusted repository, and reported analyses will be reproduced independently before publication.
Design and analysis transparency	Journal encourages design and analysis transparency or says nothing.	Journal articulates design transparency standards.	Journal requires adherence to design transparency standards for review and publication.	Journal requires and enforces adherence to design transparency standards for review and publication.
Preregistration of studies	Journal says nothing.	Journal encourages preregistration of studies and provides link in article to preregistration if it exists.	Journal encourages preregistration of studies and provides link in article and certification of meeting preregistration badge requirements.	Journal requires preregistration of studies and provides link and badge in article to meeting requirements.
Preregistration of analysis plans	Journal says nothing.	Journal encourages preanalysis plans and provides link in article to registered analysis plan if it exists.	Journal encourages preanalysis plans and provides link in article and certification of meeting registered analysis plan badge requirements.	Journal requires preregistration of studies with analysis plans and provides link and badge in article to meeting requirements.
Replication	Journal discourages submission of replication studies—or says nothing.	Journal encourages submission of replication studies.	Journal encourages submission of replication studies and conducts blind review of results.	Journal uses Registered Reports as a submission option for replication studies with peer review before observing the study outcomes.

Cross-Publisher Collaboration



The Australian Publishers Association's Scholarly & Journals Committee (SJC) represents its members in matters of local importance where there is a need for group representation, debate and input from the perspectives of scholarly and journals publishers.

Its primary objectives are to:

- Actively encourage participation from scholarly publishers based in Australia
- Share expertise and knowledge
- Encourage information exchange
- Engage with stakeholders in the scholarly and journals arena

Scholarly publishers have a strong track record of embracing new technologies and publishing models. The SJC is committed to continuing to meeting the needs of the academic and research communities in Australia.

Standards, Guidelines and Policies

The screenshot shows the RDA (Research Data Alliance) website. The main navigation bar includes 'ABOUT RDA', 'GET INVOLVED', 'GROUPS', 'RECOMMENDATIONS & OUTPUTS', and 'RDA FOR...'. The page title is 'Data policy standardisation and implementation' with a breadcrumb trail 'Home » Working And Interest Groups ». The 'IG' (Interest Group) section is titled 'Group details' and includes 'Status: Under community review' and 'Secretariat Liaison: Lynn Yarmey'. Below this is a 'History' link. The 'Background and motivations' section discusses the increasing availability of research data for reuse and the growing research data policy landscape.

Common Standards for Open Data

Best Practice for Publication Ethics

The screenshot shows the COPE (Committee on Publication Ethics) website. The main navigation bar includes 'Home' and 'About COPE'. The page title is 'About COPE'. The main text states: 'COPE is committed to educate and support editors, publishers and those involved in publication ethics with the aim of moving the culture of publishing towards one where ethical practices becomes the norm, part of the publishing culture. Our approach is firmly in the direction of influencing through education, resources and support of our members alongside the fostering of professional debate in the wider community.' Below this are four main sections: 'Best practice & guidance' (Core practices are the policies and practices journals and publishers need, to reach the highest standards in publication ethics. Each area includes cases with advice, guidance, education and events. View Resources), 'Advice' (Members can submit cases to the quarterly Forum for discussion and advice. All the cases, together with advice from the Forum, are available to search by core practice. View Cases), 'Education' (Our eLearning course gives practical guidance on topics including: plagiarism, falsification, authorship, conflicts of interest and misconduct. View eLearning), and 'Authority' (Our purpose is to ensure ethical practices become part of publishing culture. We speak about current debates and issues at events and in newsletters and articles. View News & Opinions).

Cross-Publisher Infrastructure



- Reference linking
- Similarity checking
- Content registration
- Metadata delivery
- Version of Record

We are Crossref, a not-for-profit membership organization for scholarly publishing working to make content easy to find, link, cite, and assess. We do it in five ways: rallying the community; tagging metadata; running a shared infrastructure; playing with new technology; and making tools and services to improve research communications.

It's as simple—and as complicated—as that.

Registered Reports



Peer review prior to data collection emphasizes the importance of the research question and the methods. High-quality studies are provisionally accepted.

This eliminates questionable research practices, including low statistical power, selective reporting, and publication bias.

REGISTERED REPORTS

PEER REVIEW BEFORE RESULTS ARE KNOWN TO ALIGN SCIENTIFIC VALUES AND PRACTICES

ELIMINATE BIAS & INCREASE RIGOR



DEVELOP IDEA



EDITORIAL TRIAGE & PEER REVIEW

Emphasizes the importance of research questions and strength of proposed methods.



DO YOUR SCIENCE



WRITE UP RESULTS

Published without regard to outcome after peer reviewed quality checks are met.

EXPLORATORY OUTCOMES

Data-led discovery
Generates new hypotheses



CONFIRMATORY OUTCOMES

Showcases results that reach the highest standards of reproducibility

Transparent Peer Review



WILEY

The Wiley Network

About

Develop Educate Discover

Discover the Future of Research

Transparent Review at the European Journal of Neuroscience: Experiences One Year On

Posted in Discover the Future of Research on Sep 14, 2017 12:06:35 AM



Paul Bolam
Co-Editor-in-Chief, EJN



John Foxe
Co-Editor-in-Chief, EJN

At the Society for Neuroscience meeting in San Diego on November 15th, 2016, the editorial board decided to institute a transparent peer review system for the European Journal of Neuroscience (EJN). For papers submitted from that day, all peer review documents including all our correspondence are available as a supplementary document attached to the published paper. This decision was a long time in gestation and the subject of much discussion and argument, but we were both committed to open review and transparency in science and had already introduced a system to reveal the section editors dealing with our papers. Despite our fears, apprehension and nervousness, we excitedly 'bit the bullet' and 'pressed the button' in November last year. We are now 10 months into the new transparent system, so what are our experiences, have our fears been born out, have our hopes been realized?



Fears

- We can't get reviewers! This was our greatest worry; people would be afraid to review, to be revealed and to see their comments in print. *This has proved not to be the case.* At the time of writing, we have invited 3293 scientists to review papers for EJN and only 18 have declined because of the transparent review system.
- We can't get new members to join our board of Section Editors or Reviewing Editors. *This has proved not to be the case.* No one has declined to become a Section Editor on the basis of the review system and only one of over 40 invitees to the board of Reviewing Editors declined on this basis.
- The careers of young scientists will be destroyed by evil senior scientists on whose paper they have commented negatively. As far as we know *this has proved not to be the case.* This was a fallacious fear anyway, as most scientists at every level, are supportive of accountable review and transparency.

“All-in-all, we consider that we have successfully and smoothly moved into a transparent review process, we have received only encouragement and support and we urge other journals to join the ever-increasing number of journals truly committed to transparency in science.”

Better Peer Review?

What does better peer review look like? Definitions, essential areas, and recommendations for better practice

Heidi Allen, Emma Boxer, Alexandra Cury, Thomas Gaston, [Chris Graf](#), Ben Hogan, Stephanie Loh, Hannah Wakley, [Michael Willis](#)

Created on: April 20, 2018 | Last edited: May 08, 2018

A 40-plus-page manuscript with:

- 5 essential areas – Integrity, Ethics, Fairness, Usefulness, Timeliness
- Literature review and discussion, 40 case studies
- Recommendations
- 1 self-assessment checklist with better practice standards for each essential area, around 60 questions that journal teams might use in self-assessment →

Draft for preprint

What does better peer review look like? Definitions, essential areas, and recommendations for better practice

Heidi Allen, Emma Boxer, Alexandra Cury, Thomas Gaston, Chris Graf, Benjamin Hogan, Stephanie Loh, Hannah Wakley, and Michael Willis*

John Wiley & Sons, Ltd, 9600 Garsington Road, Oxford, OX4 2DQ, UK

ORCID
H. Allen: 0000-0003-2195-8886
E. Boxer: 0000-0002-5177-1599
A. Cury: 0000-0002-9326-3357
T. Gaston: 0000-0001-6040-2595
C. Graf: 0000-0002-4699-4333
B. Hogan: 0000-0003-2201-7826
S. Loh: 0000-0002-1371-3021
H. Wakley: 0000-0002-6722-6149
M. Willis: 0000-0002-3110-3796

[Download preprint](#)

Abstract

Aim: To define a set of standards for better peer review. Method: We set out the of five groups of stakeholders in the peer review process: authors, reviewers, editors and the general public. We then solicited case studies from people involved in peer review to capture practical insights into how journal teams address the ...

[See more](#)

Preprint DOI

[10.17605/OSF.IO/4MFK2](https://doi.org/10.17605/OSF.IO/4MFK2)

License

[CC-BY Attribution 4.0 International](#)

Disciplines

[Life Sciences](#) [Other Life Sciences](#) [Physical Sciences and Mathematics](#)
[Other Physical Sciences and Mathematics](#) [Medicine and Health Sciences](#)
[Other Medicine and Health Sciences](#) [Social and Behavioral Sciences](#)
[Other Social and Behavioral Sciences](#)



Consider Incentives and Recognition

Validation and Disambiguation

Gain recognition with an ORCID iD

- Add your ORCID iD when submitting your article to ensure your published work is clearly linked back to you
- Colleagues, funders and institutions can highlight your achievements and contributions
- Your research is easily discoverable through your ORCID record

*Hint: To have your ORCID record update automatically each time you publish an article, simply add your ORCID iD during submission and grant permission to **Crossref's auto-update**.*



Unique and persistent identifier that distinguishes a researcher from every other researcher, and connects that researcher to their research activities.

Why?

- Disambiguation
- Attribution, recognition and credit
- Funder compliance

Recognising Open Practice

Open Science Badges from Center for Open Science help us encourage authors to publish research with us that's more transparent.

With badges we celebrate authors who take advantage of the new transparent choices our journals offer them, like data sharing and citation and Registered Reports.



EMPIRICAL STUDY



Contextual Richness and Word Learning: Context Enhances Comprehension but Retrieval Enhances Retention

Gesa S. E. van den Broek,^{a,d} Atsuko Takashima,^{a,b,c}
Eliane Segers,^a and Ludo Verhoeven^a

^aBehavioural Science Institute, Radboud University, ^bMax Planck Institute for Psycholinguistics, ^cDonders Institute for Brain, Cognition, and Behaviour, Radboud University, and ^dDepartment of Education, Utrecht University

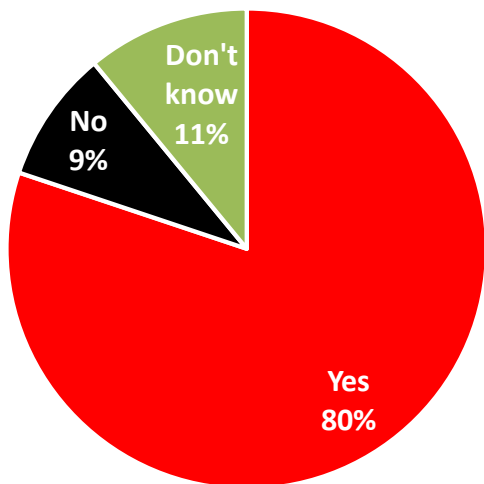
Learning new vocabulary from context typically requires multiple encounters during which word meaning can be retrieved from memory or inferred from context. We compared the effect of memory retrieval and context inferences on short- and long-term retention in three experiments. Participants studied novel words and then practiced the words either in an uninformative context that required the retrieval of word meaning

Credit and Training for Peer Review

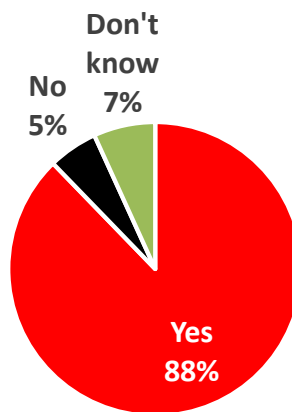
#bioPeerReview

ASAPbio

Should a researcher's peer reviewing activity be taken into consideration when they are evaluated for grants, jobs or promotions?

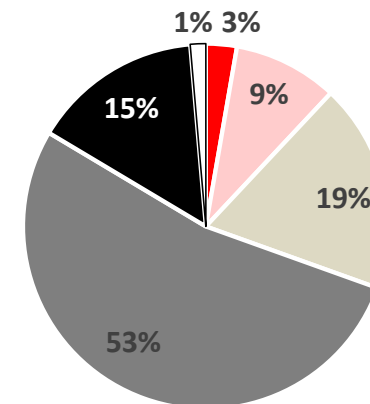


If a student or postdoc participates in peer review, should they be identified as a peer reviewer to the editor?



Researchers are adequately trained in how to perform effective peer review.

Legend:
■ Strongly agree
■ Agree
■ Neutral
■ Disagree
■ Strongly disagree
□ Don't know



Publons Makes Peer Review Rewardable

When researchers review for participating journals they can opt-in to get credit on Publons. Researchers can then claim their reviews.

By default, the content of reviews is not publicly displayed on Publons.

Wiley reviewers

114,552+

Wiley reviews

507,029+

publons



Guiding Principles in an Evolving Landscape

Focus on **rigour, quality, ethics** and **integrity**.

Listen, and deeply **understand what motivates** the communities that we serve .

Emphasise **collaboration** in all that we do.



Guiding Principles in an Evolving Research Publishing Landscape

Thank you