



Research and Publication Ethics: dealing with and preventing misconduct

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The importance of ethics

“The collection of fundamental values, attitudes, and norms considered by most of the population as essential for personal life, life with one another, and life in relation to a society’s institutions.”

Povl Riis, in *Fraud and Misconduct in Biomedical Research*, Eds F. Wells and M. Farthing, 4th edition, 2008, p.4

Ethical transgressions can be considered to be misconduct

Ethical principles & ethics committees

Declaration of Helsinki (World Medical Association):

- “a statement of ethical principles for medical research involving human subjects, including research on identifiable human material and data”
- the well-being of the individual research subject must take precedence over all other interests
- also mentions respect for welfare of animals used in research and avoiding harm to the environment

Institutional Review Boards (IRBs)

- also known as research ethics committees (RECs), independent ethics committees (IECs), ethical review boards (ERBs)
- formally designated to approve, monitor and review all research studies involving human subjects
- great variation in existence/quality worldwide

Ethical issues connected to research in developing countries by researchers from developed countries

What is research misconduct?

- *“Research misconduct means fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.”*

(Office of Research Integrity, USA: <http://ori.hhs.gov/>)

- Range - from questionable behaviour to serious fraud, with legal implications (a slippery slope?)
- Overlap of research and publication misconduct – research misconduct becomes publication misconduct when that work is published

Why we should be concerned

- Influences research and clinical practice (e.g. vaccine scare following Wakefield *et al.* 1998 *Lancet* paper implying link between MMR vaccine and autism; pain treatment of millions of patients based on fraudulent work by anaesthesiologist Scott Reuben)
- Patients put at risk by flawed research
 - Steen (2011, *J Med. Ethics*) – 9,189 patients treated in 180 retracted primary studies (110 due to error, 70 due to fraud) published 2000-10
 - 70,501 patients treated in 851 secondary studies citing a retracted paper
- Retracted work goes on being cited
- Waste of resources, human and financial
- Damages public trust in research/science

Scale of the problem?

Surveys give some idea ...

“Scientists behaving badly”

Martinson *et al.* (2005), *Nature*, **435**, 737-738

- 2002 (anonymous) survey, responses from >3000 early- and mid-career NIH-funded scientists based in the USA
- Asked about work-related misbehaviour over past 3 years
- **33% admitted to misbehaviour in at least one of the top-10 most serious categories** (those sanctionable at institutional or federal level) – e.g. falsifying data, not disclosing commercial interests, plagiarism
- Other questionable behaviour
 - 5% published the same data or results in two or more publications
 - 10% had inappropriately assigned authorship credit
 - 11% had withheld methodology details or results in papers or proposals
 - 15% had dropped observations or data points
 - **28% admitted to inadequate record keeping**

These are thought to be conservative estimates

A recent systematic review

Fanelli (2009), *PLoS ONE*, 4(5), e5738

- Screened 3276 studies on research misconduct, 18 studies included in meta-analysis
- Looked at fabrication, falsification, and ‘cooking’ of data (behaviours that “distort scientific knowledge”)
- Around 2% admitted to having done this at least once
- **Up to a third admitted to other questionable research practices**
- **14% knew of colleagues who had engaged in falsification, up to 72% for other questionable research practices**

“Considering that these surveys ask sensitive questions ... it appears likely that this is a conservative estimate of the true prevalence of scientific misconduct”

Some high-profile cases of serious fraud ...



Jan Hendrik Schön

Germany

Physics

Falsified and fabricated data in numerous publications

16 affected articles in *Science* and *Nature* 2000/01 alone

Investigation report Sept 2002

Doctorate revoked, Schön appealed



Woo Suk Hwang

South Korea

Stem cell cloning

Data fabrication and violation of bioethics laws

Involved 2 major *Science* papers 2004 and 2005

Investigation report Jan 2006

Charged with fraud and embezzlement



Jon Sudbø

Norway

Oral cancer

Data fabrication – 900 fictitious subjects - and manipulation

Published in *The Lancet* Oct 2005

Commission report June 2006

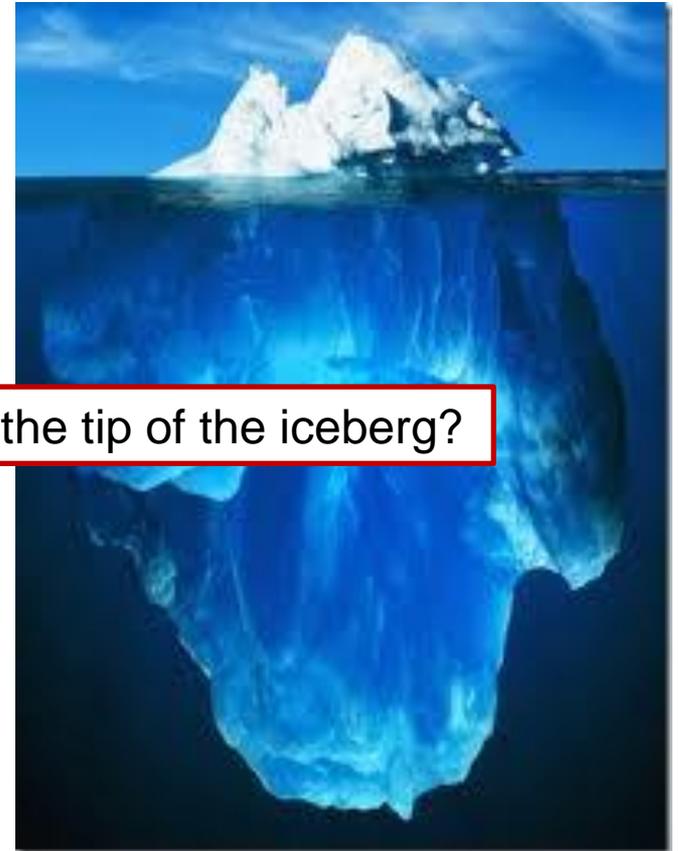
Licence to practice & doctorate revoked

Concerns

Is the incidence of research and publication misconduct increasing?

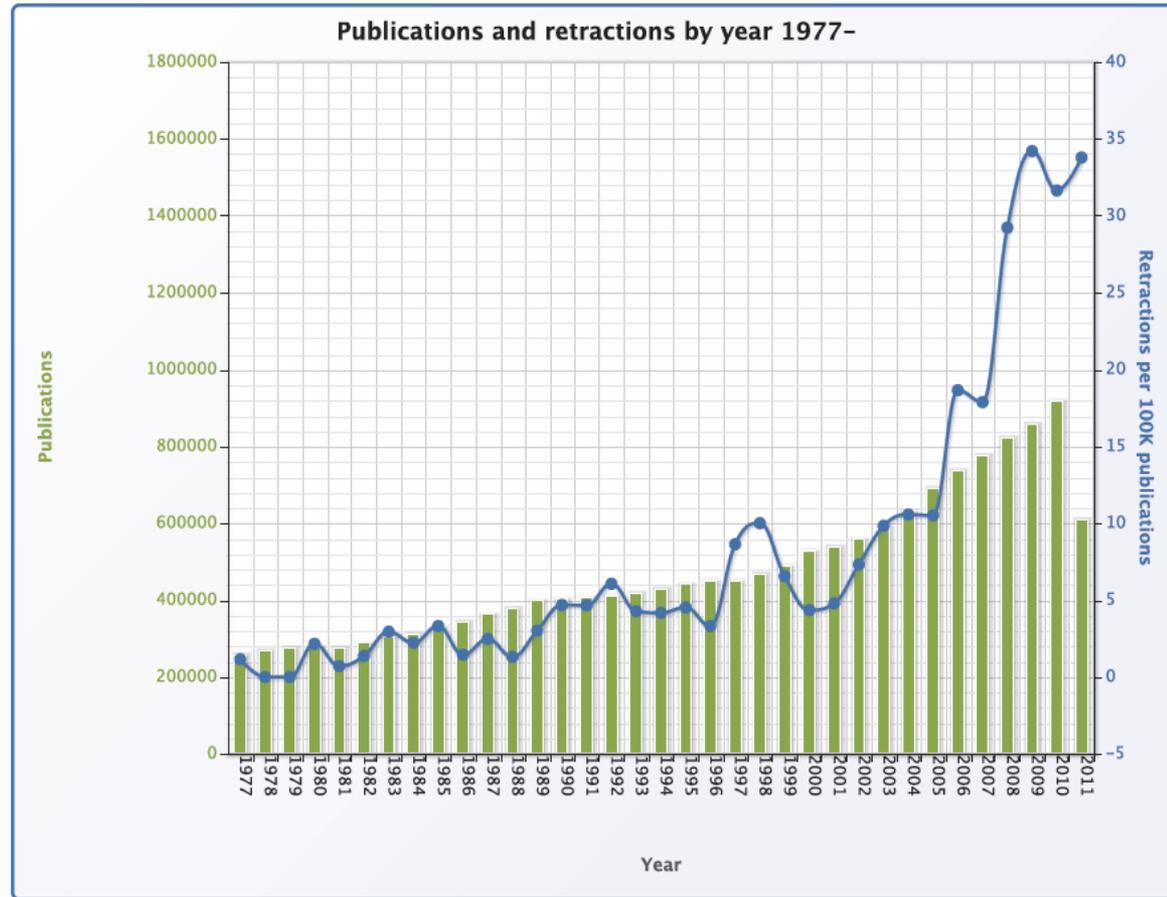
Are we seeing just the tip of the iceberg?

Does the cumulative effect of 'minor' misbehaviours and ethical transgressions present a greater threat than high-profile serious misconduct cases?



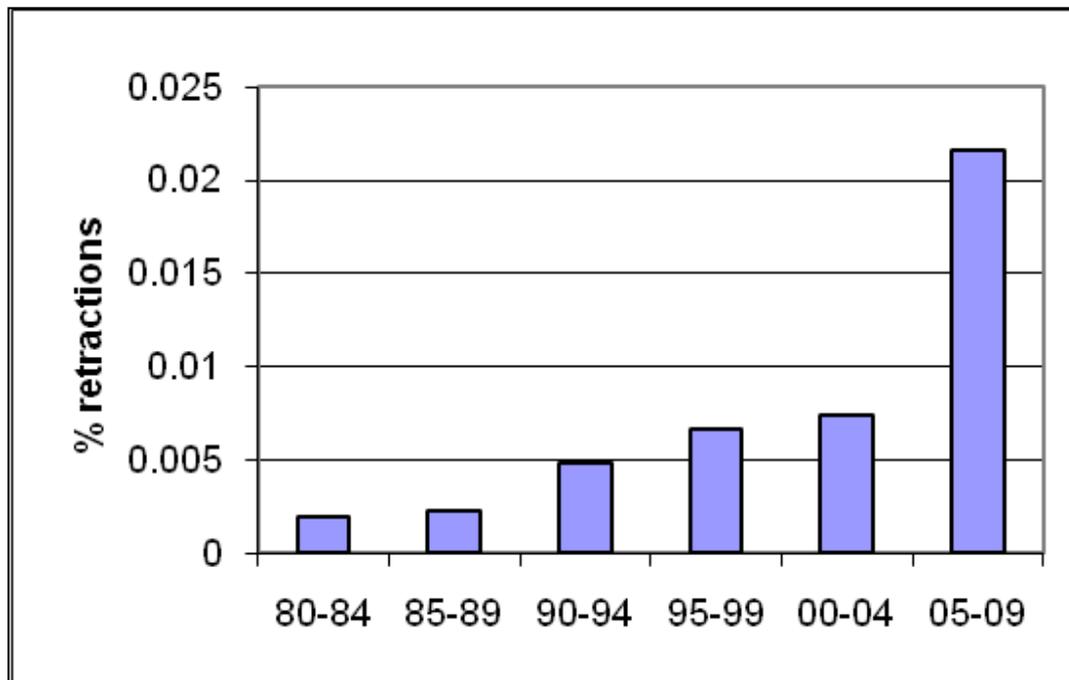
Publications & retractions 1977- 2011(9 Aug)

<http://pmretract.herokuapp.com/>



Retractions as % of Medline publications 1980-2009

Wager and Williams (2011), *J. Med. Ethics*, doi:10.1136/jme.2010.040964



Medline retractions due to:

Honest error	29%
Not able to replicate findings	11%
Misconduct (plagiarism)	28% (16%)
Redundant publication	17%
Non stated/unclear	5%

Wager and Williams (2011), *J. Med. Ethics*, doi:10.1136/jme.2010.040964

Reasons for more misconduct and unethical behaviour?

- Lack of knowledge about research and publication ethics
- Larger, multi-disciplinary and more global collaborations
- Increasing pressure on researchers to publish
- Financial inducements compromising integrity

“Cash for papers”

- South Korea - US\$3,000 (**first and corresponding author**, papers in key journals)
- Pakistan – US\$1,000-20,000 (based on cumulative 1-year Impact Factor of publications)
- China – **up to US\$50,000 for high-impact papers** (US\$31,000 for *Nature*, *Science* or *Cell*; Impact Factor ‘scale’- IF 3-5 = US\$250/point, IF>10 = US\$875/point)

(*Nature*, 2006, **441**, 792)

Three common problem areas

- Authorship
- Conflicts of interest
- Plagiarism

Authorship guidelines

General rule: all individuals named as authors should qualify for authorship, and all those who do qualify should be listed (should be no 'guest' or 'ghost' authors)

International Committee of Medical Journal Editors (ICMJE, www.icmje.org) – 3 conditions to be met

- substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data
- drafting the article or revising it critically for important intellectual content
- final approval of the version to be published

Getting funding, data collection, or general supervision alone do not justify authorship

Being head of the department or institute doesn't qualify for authorship

Responsibility?

Who has responsibility for integrity of the work?

- Corresponding author, all authors?
- *“An author must take responsibility for at least one component of the work, should be able to identify who is responsible for each other component, and should ideally be confident in their co-authors’ ability and integrity”* (ICMJE, www.icmje.org)
- American Physical Society (www.aps.org)
 - all co-authors share some degree of responsibility
 - only some have responsibility for the whole paper
- Multi-centre papers – one author from each centre?
- Fictitious co-author blamed (e.g. Dr S Dutta Roy and D V Kupp)

Contributors & guarantors

Move to 'contributorship' and 'guarantorship'*

- greater transparency and fairness
- more descriptive approach (who did what?)
- helps reduce inappropriate authorship
- good record-keeping essential
- one or more authors act as guarantors – take responsibility for integrity of the work as a whole

(*see Rennie *et al.* 1997, *JAMA*, **278**, 579-585. 'When authorship fails. A proposal to make contributors accountable')

Who is responsible for resolving authorship problems?

The authors are

- Not the role of journals and editors to arbitrate in inter-author disputes
- Disputes will delay review or publication
- Agree early on who will be an author, name order, and who will co-ordinate submission and correspondence
- Serious disputes can lead to legal action and court injunctions

Help is available ...

Help with authorship issues

- ICMJE (International Committee of Medical Journal Editors, <http://www.icmje.org/>), 'Uniform Requirements for Manuscripts Submitted to Biomedical Journals'
- 'How to handle authorship disputes: a guide for new researchers' by Albert and Wager
<http://www.publicationethics.org/files/u2/2003pdf12.pdf>
- COPE Authorship flowcharts (... more later)
(<http://www.publicationethics.org/resources/flowcharts>)
- 'Best Practice Guidelines on Publication Ethics: A Publisher's Perspective' (<http://www.blackwellpublishing.com/publicationethics/>)

Conflicts of interest

“Conflict of interest exists when an author (or the author’s institution), reviewer, or editor has financial or personal relationships that inappropriately influence (bias) his or her actions (such relationships are also known as dual commitments, competing interests, or competing loyalties).”(ICMJE, <http://www.icmje.org/>)

- Potential for Col can exist whether or not an individual believes that the relationship affects his or her judgement
- Can be financial, personal, academic competition, ideological
- All potential conflicts and all sources of funding and support must be declared
- Always aim for transparency - if unsure, check
- Ask yourself the ‘embarrassment’ question

Plagiarism

- Many journals are screening for textual duplication in an effort to stamp out plagiarism – using ‘CrossCheck’
- Are cultural differences in what is thought to be acceptable
- Confusion about ‘self-plagiarism’
- Importance of mentorship and education of new researchers
- Check what your co-authors are doing, watch out for variation in writing quality, be well-organised in note-making and writing resources
- Editors are acting stringently - ignorance or ‘accidental’ plagiarism is no defence
- Check out ‘Retraction Watch’ - <http://retractionwatch.wordpress.com/>

Possible sanctions

- May be barred from submitting to journals
- Institutions may be notified – career implications
- Professional bodies may be notified – may be prevented from practising
- Grant funders may be notified – funding may be withdrawn



“Promoting integrity in research publication”

COPE

- COPE provides advice and resources to editors and publishers on all aspects of publication ethics
- Work is guided by an elected Council
- Council members are trustees of COPE as a charity and also directors as COPE is a limited company
- Day-to-day management of COPE's business affairs is the responsibility of the permanent staff (Operations Manager, Natalie Ridgeway, and Administrator, Linda Gough)
- Specific projects are managed by various committees

The history of COPE

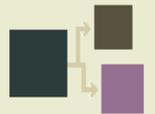
- Began in 1997 as an informal forum for editors in the UK to discuss ethical issues related to research and publication in biomedical journal publishing
- In 2007-08 was established as a limited company and a UK-registered charity
- In 2007-08 membership increased from ~350 editors to ~3500 (as publishers started to sign up their journals)

Today ...

- COPE currently has about 6400 members and is international in its reach and membership
- All academic disciplines are covered
- 18 Council members from 7 countries and a range of disciplines (biomedicine, feminist media studies, geophysics, life sciences, literary studies, maths, psychiatric nursing)

Promoting integrity in research publication

COPE is a forum for editors and publishers of peer-reviewed journals to discuss all aspects of publication ethics. It also advises editors on how to handle cases of research and publication misconduct. Read more [About COPE...](#)



Flowcharts

Our flowcharts are designed to help editors follow COPE's Code of Conduct and implement its advice when faced with cases of suspected misconduct.



Guidelines

Access COPE's official guidance, including the Retraction Guidelines.



COPE Research Grant

COPE offers a grant of up to £5000 to a COPE member for a research project into publication ethics. The next deadline for applications is 1st June 2011.



Code of Conduct

COPE aims to define best practice in the ethics of scholarly publishing and to assist editors, editorial board members, owners of journals and publishers to achieve this.

NEWS & OPINION

News / COPE Forum agenda for 6 June 2011 meeting

31/5/2011 3.09pm

News / Spanish version of flowcharts now available

25/5/2011 4.58pm

News / COPE Research Grant - deadline looming

23/5/2011 3.41pm

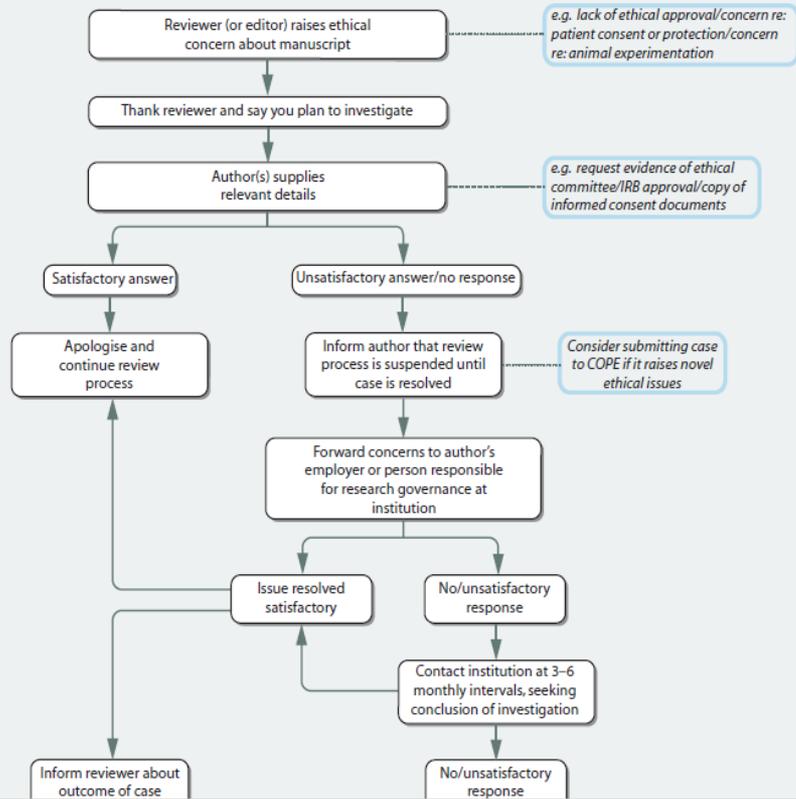
COPE in action: guidance documents

COPE has produced **guidelines**:

- Code of Conduct and Best Practice Guide for Journal Editors
- Code of Conduct for Journal Publishers
- Guidelines for Retracting Articles
- Guidelines for the Board of Directors of Learned Society Journals
- Guidance for Editors on Research, Audit and Service Evaluations
- Sample letters for handling common problems
- A series of flowcharts (also available translated into Italian, Spanish, Chinese, Croatian, Japanese, Persian (Farsi) and Turkish – more planned)

All available at <http://www.publicationethics.org>

What to do if you suspect an ethical problem with a submitted manuscript



The flowcharts cover

- Redundant (duplicate) publication
- Plagiarism
- Fabricated data
- Changes in authorship
- Ghost, guest or gift authorship
- Conflicts of interest
- General suspected ethical concerns
- Reviewer misconduct
- How COPE deals with complaints

COPE in action: advice and guidance to members

COPE offers advice and guidance to its members, primarily through its quarterly **Forum meetings**:

- held in London but members worldwide can take part via telephone-conference
- allow members to benefit from the views and experiences of other members
- case summaries on the website (database of > 400 cases, searchable by year and keywords, some now recorded)



Pages

Attachments

Comments



My account Sign out

What are you looking for

Submit a Case

Home / Cases

All the cases COPE has discussed since its inception in 1997 have been entered into a searchable database. This database now contains over 400 cases together with the advice given by COPE. For more recent cases, the database also includes follow-up information about outcome. We hope this database will provide a valuable resource for editors and those researching publication ethics.

You can search by keyword using either the search field top left or by filtering your inquiry using the years and keywords listed in the word cloud below.

We encourage members to look at the database before submitting a case to the Forum to see if similar cases have already been discussed and to see the format used for presenting cases. However, please note that advice from the COPE Forum meetings is specific to the particular case under consideration and may not necessarily be applicable to similar cases either past or future.

The keywords have been assigned to help users search the database. They do not necessarily indicate that a particular form of publication misconduct has occurred. Therefore the keywords should not be regarded as an indication of how often particular types of publication problems occur or a judgment on a specific case.

COPE accepts no liability for any loss or damage caused or occasioned as a result of advice given

- ARCHIVE BY YEAR**
- 2011
 - 2010
 - 2009
 - 2008
 - 2007
 - 2006
 - 2005
 - 2004
 - 2003
 - 2002
 - 2001
 - 2000
 - 1999

COPE: other services

- Ethics Audit (members only)
- Annual seminars (European, North American, and – new for 2011 - Asia-Pacific) – free for members
- Research Grants (members only)
- eLearning course (members only) - launching September 2011, with 4 of the planned 11 modules: An Introduction to Publication Ethics, Plagiarism, Fabrication, and Falsification
- Quarterly Newsletter '*Ethical Editing*' 

COPE: *Ethical Editing*

COPE COMMITTEE ON PUBLICATION ETHICS

Volume 3 Issue 1 Spring 2011

ethical editing

Theme: The Editor-Publisher Partnership

Right in the middle

The Ancient Egyptians believed that the pharaoh was a bridge between the human and divine realms. It was the pharaoh's responsibility to maintain justice and harmony in human society and order in the universe.

On a (much) smaller scale, publishers also maintain justice and order on behalf of their journals. The Editor-Publisher Partnership is the theme of the Spring 2011 issue of Ethical Editing, and in the Feature, "Working together to address ethical issues" (page 5), seven publishers describe what they do for their editors. "Publishers should be available to provide guidance and advice and ensure the editor feels fully supported throughout the process," says publisher Niki Haunch of Emerald Group Publishing.

Publishers are also go-betweens, transferring knowledge to their editors from organizations like COPE. "Publishers sit in a unique place: right in the middle," says publisher and COPE Council member Chris Graf in this month's Peer to Peer essay on the role of publishers (page 8).

COPE, meanwhile, has been busy supporting both publishers and editors, among other things by revising the Code of Conduct for editors (page 2), producing a "Short guide to ethical editing for new editors" (page 3), awarding a grant for a project to develop



Editor Jeannie Wurz in Egypt

Inside this issue

2-4 The Scoop from COPE
All the latest news and updates from COPE: 2011 UK Seminar; revised COPE Code for Journal Editors; COPE research grant; report from the COPE Chair on the

COPE contact details

Thank you!

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