

The White Bull effect: abusive coauthorship and publication parasitism

L S Kwok

J Med Ethics 2005;31:554–556. doi: 10.1136/jme.2004.010553

Junior researchers can be abused and bullied by unscrupulous senior collaborators. This article describes the profile of a type of serial abuser, the White Bull, who uses his academic seniority to distort authorship credit and who disguises his parasitism with carefully premeditated deception. Further research into the personality traits of such perpetrators is warranted.

Scientific authorship is evidence of creativity and originality.¹ For the young investigator, authorship of scientific publications is a reward for hard work and is a principal academic currency for a future career in medical research.² Unfortunately, this aspirational activity can be blunted and sabotaged by the greed and dishonesty of senior collaborators.³ Interpersonal relationships are an important ingredient in authorship arrangements⁴ but inexperienced, junior collaborators are most vulnerable in negotiating the authorship list and order.

Unscrupulous senior researchers can use their experience to distort the membership and order of authors on publications and conference presentations. The neophyte researcher would reasonably expect first authorship after making major contributions to planning, data acquisition, and writing of the manuscript. Most surveys of medical researchers find that the first author is generally acknowledged for key contributions to planning, conduct, and writing of the project.⁵ The general perception of what constitutes grounds for the remaining coauthorship roles and publication position are, however, mixed, except for the last author, who is often seen as the laboratory/group head. Indeed, Bhopal *et al*⁶ discovered that many academics and researchers in their medical faculty were not cognizant of authorship guidelines, disagreed with them or ignored them.

Fraudulent behaviour for personal gain is a recurring theme in many legends. In Greek mythology, the white bull was a disguise adopted by Zeus to seduce Europa.⁷ I propose that scientific misconduct from wilful and deliberate actions of a fraudster be called the White Bull effect. The White Bull is driven by a greed that is attracted to the rewards of scientific fraud at little risk.⁸ The White Bull perpetrator uses his experience and deviousness to exploit uncertainties or ambiguities in research guidelines and prospers in poorly regulated, grey areas. This is best illustrated by considering the “industry standard” for research conduct, the guidelines issued by the International Committee of Medical Journal Editors (ICMJE): the “Vancouver group”. The ICMJE section on authorship recommends that⁹: “Authorship credit should be based on 1) substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) drafting the article or revising it critically for important intellectual content, and 3) final approval of the

version to be published. Authors should meet conditions 1, 2, and 3.”

Bennett and Taylor² note that meeting all three conditions is “considered too restrictive and so, inevitably, is flouted”. Various systems have been proposed and implemented for defining coauthorship² but the problem with all of these is that they assume that free will, reason, and integrity prevail. These systems fail when a collaborator uses power asymmetry and intimidation to coerce junior collaborators to agree to unfair arrangements regarding authorship and recognition. In particular, the unscrupulous senior collaborator desirous of claiming credit or making money can usurp the first authorship, which is accorded a special place.¹⁰

The White Bull exploits the plethora of “ors” in this definition. The White Bull realises that complete disregard for the ICMJE guidelines is too risky and open to exposure, and that the old convenience of gift or ghost authorship is rapidly becoming unacceptable.^{2–6} Thus, the White Bull is careful to exhibit a public involvement in one or more of the following activities: (i) discussions on concept and design; (ii) data acquisition, and (iii) analysis and interpretation of data. After undertaking to read the manuscript, usually drafted by a junior collaborator, he then approves it. In this way, the White Bull technically satisfies all ICMJE criteria for authorship. At no stage, however, is the White Bull compelled to make more than a token effort. If his coauthorship is challenged, he can merely confirm that he did contribute to all three areas. The issue of whether this contribution was *significant* then becomes a very difficult and complex issue to prove.

The White Bull has a distinct behaviour pattern. Breen¹¹ has listed personality factors linked with research misconduct: (i) increasing academic expectations and increased need to publish; (ii) personal ambition, vanity, and the desire for fame; (iii) laziness; (iv) greed linked to direct financial gain; (v) mental illness; (vi) a messianic complex, and (vii) the lack of moral capacity to distinguish right from wrong. I propose that these factors be used as a starting point for defining the White Bull effect. It is an automatic corollary that when his fraud is exposed the White Bull will vehemently deny wrongdoing.¹²

In spite of guidelines being freely available, there is a spectrum of perceived ethical practices in coauthorship of collaborative works.⁶ These perceptions can differ according to academic rank or seniority.¹³ There are many different forms of research misconduct.^{14–15} Simple fraud and scientific dishonesty can be easy to detect¹⁶ so the White Bull resorts to subterfuge. For example, he could pressure a junior collaborator to surrender the important first author position on initial publication because the White Bull wants the accolade and career benefits of first authorship, or in some cases, wishes to make money from the results. After the

Abbreviations: ICMJE, International Committee of Medical Journal Editors; NH&MRC, National Health and Medical Research Council

discovery has been announced, the White Bull may relinquish the first author position but he has other tricks. Although the first author is generally credited with having done most of the work and writing the manuscript, credit can be significantly shifted to the last author by merely assigning that person as the corresponding author.⁵ Other methods of enhancing the White Bull's credit in a discovery include diluting the authorship by adding other "collaborators" (that is, nepotism or author inflation¹⁷) or reducing the number of authors by omitting collaborators who have left the field or host institution.¹⁰

The White Bull also knows that if the junior collaborator objects, the choice of whistleblowing is daunting because of its long history of career ending ineffectiveness. Disputes over authorship—particularly first authorship—can be extremely bitter, and even lead to legal action.¹⁸ Many cases of whistleblowing backfire, with the accused fraudster, usually a senior collaborator, escaping punishment while the accuser, usually the junior, suffers harmful publicity and notoriety.¹⁹ Fraudsters who have academic seniority, like the White Bull, can prosper under a code of silence.²⁰ Institutions have traditionally been reluctant to act or to take decisive and firm action for fear of litigation. Authorship disputes have been avoided by national regulatory agencies. In the United States, the Office of Research Integrity defers disputes about authorship to local authorities such as the host institution(s).²¹ In Australia, the National Health and Medical Research Council (NH&MRC) quotes the ICMJE guidelines and refers complainants to their host institution. Unfortunately, to complete the circle, many Australian universities then quote the NH&MRC guidelines, which are essentially the ICMJE guidelines. Strategies and advice for handling authorship disputes are available for junior researchers,²² but ideally institutions should adopt and enact effective and rigorous guidelines to protect all scientific collaborators regardless of rank.

The problem with relying on local bodies is that no national or international code of conduct is achieved. Authorship practices can vary widely between countries.²³ Research misconduct can also have different definitions, depending on the host country.¹⁴ In some countries senior academics have enormous power, which extends to publishing practices. Such power asymmetries can make a junior researcher extremely vulnerable to the White Bull effect. The junior researcher is seemingly disadvantaged by the formulaic evaluation of medical research funding, which is often based on publication rates.²⁴ The White Bull fraudster thrives in such a performance based funding environment, which especially suits senior academics who have easy access to research students and resources. A long term trend in scientific publishing has been the increase in authors per paper.¹⁷ In an analysis of original articles published in the *BMJ*, Drenth²⁵ found that a rise in the number of authors was mainly attributed to the rise in authorship among professors and department chairpersons. The numbers of authors per paper in medical journals has risen at a faster rate than it has for science journals.²⁶ A recent survey of prestigious US medical journals showed that the average number of authors per paper has risen from 4.5 in 1980 to 6.9 in 2000.²⁷ A recent analysis of high impact medical journals indicates that some original research articles can have as many as 22 authors or more (Kalapesi and Kwok, unpublished results). It is difficult to imagine the logistics involved in satisfying all three of the ICMJE guidelines where there is such a large number of collaborators. Scientific journals have recognised the problems that can arise in assigning fair and proper authorship credit, and have implemented guidelines for authorship. The majority of these benchmarks are voluntary and rely on honesty and hence their effectiveness against dishonest

conduct is problematic. A recent call for older, well established scientists to show active leadership in upholding research integrity is noteworthy and potentially useful.²⁴

CONCLUSIONS

This article introduces a new entity in scientific fraud, the White Bull. This is more than just a new premeditated way to avoid the accusation of gift authorship. The White Bull is driven by laziness and greed, and resents the interference of institutional or international bodies such as the ICMJE, because the concepts of fairness and proper acknowledgement of juniors do not fit in with his values. The White Bull realises that "...the higher up the greasy pole of academia one climbs, the greater the fall when things go pear shaped".¹⁶ Therefore, the White Bull studiously avoids leaving evidence of his fraudulent activities. The White Bull is emboldened by the general avoidance of strong institutional action even when misconduct is proved.²⁸ Frazzetto²⁹ notes: "...there are no sanctions or other forms of punishment for fraudulent authors beyond firing them or denying them access to funding". To counter this new breed of fraudster, professional societies need to take a leadership role on the issue of research integrity.³⁰ Host institutions need to establish compulsory educational programmes on the concepts and principles of research integrity for all researchers.^{10 11} Whistleblowers need protection¹¹ and exposing fraudsters should be accepted as the duty of every ethical researcher. There is a need to have fairer and clear rules, on a global scale and across all medical disciplines. Education is especially indicated for medical staff who are new to research.³¹ There is an urgent need to revise current rules, especially those relying on the ICMJE to define research ethics.¹⁹ Deception in medical science is emerging as an issue for reconsideration, with the new concept of "authorised deception" applied to the masking of patients in clinical research where patients are deliberately misled during data gathering.³² Scientific misconduct is an important but poorly understood aspect of medical research. A survey by *Nature* of German scientists revealed that a majority of respondents confirmed they had had personal experience of scientific misconduct, and that it was a major problem in clinical research (80% respondents) and the life sciences (59%). Only 4%, however, felt it was problem in the hard sciences such as physics and chemistry.³³ More research is needed on possible attitudinal differences toward scientific misconduct in medicine compared with other disciplines.³⁴⁻³⁶

Finally, the personality profile of the scientific fraudster is a largely ignored area of study. More research is required on the personality and psychological aspects of scientific misconduct, and the sociology of scientific fraud.³⁷ The White Bull effect has been introduced here with masculine connotations, because most of the publicised cases of scientific misconduct involve male scientists. The White Bull can, however, be either male or female. More data on gender related aspects of scientific misconduct is needed, both on victims and perpetrators.³⁸ The White Bull, like Zeus in the Zeusean legend, can be charming, convincing, and even charismatic. Methods such as psychological profiling³⁹ may assist in the education of new researchers and perhaps raise institutional awareness of such possibilities of personality based scientific fraud.

The author was supported by a University of Ulster Visiting Scholar award. The author was on leave from the University of New South Wales, and was supported by a Visiting Scholars Award from the University of Ulster. There were no other funding sources for this work. The Visiting Scholars Award is an unrestricted research grant and the organisation (University of Ulster) had no financial gain/loss and thus had no influence on study design; in the collection, analysis, and interpretation of data; in the writing of the report, and in the decision to submit the paper for publication.

Competing interests: none declared

The author Lance Stephen Kwok is the guarantor of the paper. He accepts full responsibility for the conduct of the study, had access to the data, and controlled the decision to publish. The author conceived and wrote the manuscript by himself and takes full responsibility for its contents. Being the sole author he assures the *JME* that (1) all authors included on a paper fulfil the criteria of authorship; and (2) that there is no one else who fulfils the criteria but has not been included as an author.

Correspondence to: L S Kwok, Eagle Eye Vision Consultants, 14 Bedford St, Willoughby 2068, Australia; cedrlan@hotmail.com

Received 24 November 2004

Accepted for publication 25 November 2004

REFERENCES

- Vuckovic-Dekic L. Authorship-coauthorship. *Arch Oncol* 2003;**11**:211–12.
- Bennett DM, Taylor DM. Unethical practices in authorship of scientific papers. *Emerg Med (Fremantle)* 2003;**15**:263–70.
- Garfield E. More on the ethics of scientific publication: abuses of authorship attribution and citation amnesia undermine the reward system of science. In: *Essays of an information scientist, 1981–82, vol 5*. Philadelphia, PA: 151, 1983. <http://www.garfield.library.upenn.edu/essays/v5p621y1981-82.pdf> (accessed 3 Dec 2004).
- Mainous AG 3rd, Bowman MA, Zoller JS. The importance of interpersonal relationship factors in decisions regarding authorship. *Fam Med* 2002;**34**:462–7.
- Bhandari M, Einhorn TA, Swiontkowski MF, et al. Who did what? (Mis)perceptions about authors' contributions to scientific articles based on order of authorship. *J Bone Joint Surg Am* 2003;**85**:1605–9.
- Bhopal R, Rankin J, McColl E, et al. The vexed question of authorship: views of researchers in a British medical faculty. *BMJ* 1997;**314**:1009.
- Rose HJ. *A handbook of Greek mythology, including its extension to Rome*. London: Methuen, 1958:183.
- Fenning TM. Fraud offers big rewards for relatively little risk. *Nature* 2004;**427**:393.
- ICMJE Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication (updated October 2004). <http://www.icmje.org/> (accessed 3 Dec 2004).
- Marco CA, Schmidt TA. Who wrote this paper? Basics of authorship and ethical issues. *Acad Emerg Med* 2004;**11**:76–7.
- Breen KJ. Misconduct in medical research: whose responsibility? *Intern Med J* 2003;**33**:186–91.
- Dalton R. The stars who fell to Earth. *Nature* 2002;**420**:728–9.
- Lynoe N, Jacobsson L, Lundgren E. Fraud, misconduct or normal science in medical research—an empirical study of demarcation. *J Med Ethics* 1999;**25**:501–6.
- Gilbert FJ, Denison AR. Research misconduct. *Clin Radiol* 2003;**58**:499–504.
- Mojon-Azzi SM, Mojon DS. Scientific misconduct: from salami slicing to data fabrication. *Ophthalmologica* 2004;**218**:1–3.
- McCroly P. Fraud and misconduct in publication. *Br J Sports Med* 2003;**37**:95.
- Garfield E. Giving credit only where it is due: the problem of defining authorship. *The Scientist* 1995;**9**:13.
- Abbott A. Dispute over first authorship lands researchers in dock. *Nature* 2002;**419**:4.
- Van Der Weyden MB. Managing allegations of scientific misconduct and fraud: lessons from the "Hall affair". *Med J Aust* 2004;**180**:149–51.
- Wilmschurst P. The code of silence. *Lancet* 1997;**349**:567–9.
- US Department of Health and Human Services Office of Research Integrity. ORI provides working definition of plagiarism. <http://ori.dhhs.gov/html/policies/plagiarism.asp> (accessed 3 Dec 2004).
- Albert T, Wager E. How to handle authorship disputes: a guide for new researchers. <http://www.publicationethics.org.uk> (accessed 23 Nov 2004).
- Anon. Authorship without authorization. *Nat Mater* 2004;**3**:743.
- Lawrence PA. The politics of publication. *Nature* 2003;**422**:259–61.
- Drenth JP. Multiple authorship: the contribution of senior authors. *JAMA* 1998;**280**:219–21.
- Onwude JL, Staines A, Lilford RJ. Multiple author trend worst in medicine. *BMJ* 1993;**306**:1345.
- Weeks WB, Wallace AE, Kimberly BCS. Changes in authorship patterns in prestigious US medical journals. *Soc Sci Med* 2004;**59**:1949–54.
- Dennis C. Misconduct row fuels calls for reform. *Nature* 2004;**427**:666.
- Frazzetto G. Who did what? *EMBO Rep* 2004;**5**:446–8.
- Steneck NH. The role of professional societies in promoting integrity in research. *Am J Health Behav* 2003;**27**(suppl 3):239–47S.
- Geggie D. A survey of newly appointed consultants' attitudes towards research fraud. *J Med Ethics* 2001;**27**:344–6.
- Wendler D, Miller FG. Deception in the pursuit of science. *Arch Intern Med* 2004;**164**:597–600.
- Abbott A, Graf P. Survey reveals mixed feelings over scientific misconduct. *Nature* 2003;**424**:117.
- Murray CA, Das DR. The price of scientific freedom. *Nat Mater* 2003;**2**:204–5.
- Brumfiel G. Time to wise up? *Nature* 2002;**418**:120–1.
- Minkel JR. Reality check: alleged fraud gets physicists thinking about misconduct. *Sci Am* 2002;**287**(5):20–1.
- Katsavdakakis KA, Gabbard GO, Athey GI Jr. Profiles of impaired health professionals. *Bull Menninger Clin* 2004;**68**:60–72.
- Lawrence PA. Rank injustice: the misallocation of credit is endemic in science. *Nature* 2002;**415**:835–6.
- Kocsis RN. Criminal psychological profiling: validities and abilities. *Int J Offender Ther Comp Criminol* 2003;**47**:126–44.