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Funder interference in addiction research: An international survey of authors

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ABSTRACT

Objective: Scientific research is essential to the development of effective addiction treatment and drug policy. Actions that compromise the integrity of addiction science need to be understood. The aim of this study is to investigate funder (e.g. industry, government or charity) interference in addiction science internationally.
Method: Corresponding authors of all 941 papers published in an international specialist journal July 2004 to June 2009 were invited to complete a web questionnaire. A sensitivity analysis with extreme assumptions about non-respondents was undertaken.
Results: The questionnaire was completed by 322 authors (response fraction 34%), 36% ($n = 117$) of whom had encountered at least one episode (median = 3, Interquartile range = 4) of funder interference in their research: 56% in Australasia, 33% in Europe, and 30% in North America. Censorship of research outputs was the most common form of interference. The wording or writing of reports and articles, as well as where, when and how findings were released were the areas in which influence was most often reported.
Conclusions: Funder interference in addiction science appears to be common internationally. Strategies to increase transparency in the addiction science literature, including mandatory author declarations concerning the role of the funder, are necessary.

1. Introduction

Independent, publicly funded science is fundamental to modern liberal democracy. Concerns about the validity of science can slow advancement in a field and reduce public confidence in the importance of scientific findings in the development of public policy. A prime example is the “reproducibility crisis”, whereby findings from earlier studies have proven impossible to replicate (Begley & Ioannidis, 2015; Couchman, 2014). The gravest concerns are about fraud by individual scientists (Fanelli, 2009), and more systemic biases reflecting the interests of commercial or other agendas, as typified by scientists working for the tobacco industry (Babor, Miller, & Edwards, 2010; Bero, 2005; Drope & Chapman, 2001).

High income countries have government agencies whose roles include funding investigator-initiated research or projects to meet specific policy objectives, e.g., the US National Institutes of Health. A considerable amount of research and development, some of it focused on health, is also undertaken by private companies (e.g., the pharmaceutical industry) and non-government organisations (e.g., Wellcome Trust). The third major research purchasing sector consists of government agencies (such as state or national health departments, such as SAMSHA in the USA, or the Victorian Commission of Liquor, Gaming and Racing in Australia) whose primary aims are service delivery, for which research and evaluation are commissioned to improve public services, e.g., by identifying strategies for more effective delivery of addiction treatment.

Kassirer (2005) revealed the willingness of pharmaceutical companies to disallow or substantially delay the publication of non-supportive findings; and to fund only certain types of research. The tobacco industry has been found to interfere with health science using a variety of methods such as suppressing unfavourable results and funding research on causes of disease other than smoking (Hirshhorn, Aguinaga-Bialous, & Shatenstein, 2001; King, 2006). The alcohol industry uses organisations, such as the International Center for Alcohol Policies (Washington DC), Drinkwise (Australia) and Drinkaware (UK), to support research biased toward ineffective countermeasures, such as

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alcohol education, while opposing supply-side policies shown to be effective in reducing alcohol-related harm (Babor & Xuan, 2004; Martino, Miller, Coomber, Hancock, & Kypri, 2017; McCambridge, Kypri, Miller, Hawkins, & Hastings, 2014; Miller, Babor, McGovern, Obot, & Buhringer, 2008).

Government bodies also interfere with research. In a 2006 survey of 302 public health academics from 17 institutions across Australia, respondents reported 142 incidents of 'suppression' of their findings by government bodies (Yazahmeidi & Holman, 2007). The most common incidents involved a government agency censoring, delaying or prohibiting the publication of findings. Of the researchers who experienced suppression, half believed it was because their finding drew attention to the failings of health services, while a quarter indicated it was due to their having highlighted the health status of a vulnerable group. In 87% of cases the government succeeded in modifying the reporting of research findings (Yazahmeidi & Holman, 2007).

Government interference in the reporting of public good research findings is not unique to Australia. A recent inquiry led by the Right Honourable Stephen Sedley, revealed that government departments in the UK commonly delayed the release of research for political reasons (Sedley, 2016).

A more recent Australian case study presented examples of contractual clauses that permit government agencies to determine whether the research they purchase from universities and other providers reaches the public domain. These included vesting sole ownership of intellectual property generated by the research in the funder, and the requirement that researchers seek permission from the funder to publish findings (Kypri, 2015b), the implication being that the funder could deny permission or specify what could be included in the report.

Miller and colleagues (Miller, Moore, & Strang, 2006) have previously identified the following six classes of funder interference: (1) censoring research reports, (2) prescribing or proscribing research designs, (3) restricting access to data, (4) employing private research companies and/or junior researchers to facilitate control over the outcome, (5) ensuring and emphasising funding insecurity, and (6) diluting the evidence base through the publication of contrary findings from research designed to suit the funder's interests. The aims of this study were to estimate the prevalence of these and other types of interference in addiction research.

2. Materials and methods

2.1. Design

We conducted a cross-sectional survey, the sampling frame included corresponding authors of articles published in the journal Addiction from July 2004 to June 2009 (60 issues in 5 volumes) with a valid e-mail address or those who were accessible via web search. Permission to conduct the study was granted by the Editorial Board of the journal, and the study protocol was approved by the Ethics Committee of King's College University of London, PNM/09/10-7.

2.2. Recruitment

From July 2004 to June 2009, the journal published 1570 articles from 1006 lead authors. Two e-mail invitations were sent to all eligible authors in April and June 2010. The eligible sample was reduced to 941 individuals after 65 e-mail addresses were found to be invalid and could not be replaced with a valid address upon searching publicly available records (e.g., university websites).

2.3. Measurement

The questionnaire included four sections (see Supplementary material):

(1) Respondent demographic characteristics: gender, year of birth, country of residence, highest qualification, publication record and peer review experience;
(2) Experience of research interference: the number of times interference was experienced and a description of each incident, when it occurred, the type of study being conducted, methods used, the research subject, who the funder was, who tried to interfere with the research, the nature of the interference, how the interference was communicated, and how the respondent dealt with the interference;
(3) Whether the respondent believed funder interference had changed over time; and
(4) Other comments the respondent wished to make.

2.4. Analysis

Statistical analyses were conducted in SPSS version 15 using Chi squared tests for differences between proportions. Free text responses were thematically coded according to the framework outlined by Miller et al. (2006) using NVIVO (QSR International Pty Ltd., 2004).

We undertook a sensitivity analysis to assess non-response bias under the extreme assumptions that the prevalence of funder interference among non-respondents was double that estimated from the respondents or that none of the non-respondents had experienced funder interference. Non-response in a cross-sectional study is logically equivalent to missing outcome data in a randomized trial, i.e., if non-response is non-random, the prevalence estimate is biased. For the analysis of trials with missing data, White and colleagues recommend sensitivity analysis based on explicit assumptions about the outcome status of subjects with missing data (White, Horton, Carpenter, & Pocock, 2011). We have applied their approach to make the equivalent of intention-to-treat estimates, following the logic that estimates of population parameters should be based on the random sample, and not the non-random selection of respondents. The analysis we propose gives an indication of how biased our prevalence estimate would be if extreme assumptions held.

3. Results

3.1. Respondent characteristics

The web questionnaire was commenced by 343 sample members, and 322 completed it (response fraction 34%; see Table 1). All those who dropped out did so by the end of the demographics section. Two-thirds of respondents were men ($n = 211$) whose mean age (52 years) was greater than that of women (45 years, $t = 5.136$, $p < 0.001$). Thirty countries were represented and the largest contributors were the USA (40%), Australia (12%) and the UK (9%). Respondents were grouped into six continental regions to facilitate analysis: Africa, Asia, Australasia, Europe, North America, and South America. The three with the largest numbers of respondents (North America 44%, Europe 36%, and Australasia 15%) were compared statistically.

3.2. Funder interference

One hundred and seventeen respondents (36% of the respondents, and 11.6% of all authors contacted) had encountered interference at least once in their careers (median = 3, interquartile range (IQR) = 4). Of these respondents, 105 provided at least a partial description of the experience, and 24 provided descriptions of two episodes. Proportions and frequencies were similar for men (38%; median = 3) and women (34%; median = 2). A larger proportion of respondents from Australasia (56%) than from Europe (33%), or North America (30%) reported funder interference ($p < 0.01$). The median number (and IQR) of such episodes across the three regions was: Australasia: 3 (3), Europe: 2.5 (3), North America: 2 (4).