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One Editor's Views on Conflict of Interest

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ABSTRACT: The purpose of this article is to discuss the importance of recognizing conflict of interest or bias situations in the peer review and publication process of research papers and to identify some important guidelines or policies that help to minimize these situations. Communication of thoughts, ideas, and information is the basis of how we function as a society. Communicating research results requires us to clearly and accurately communicate all aspects of the research process, including the appropriate interpretation of results. A working definition for conflict of interest or bias with regard to publishing research results is that conflict of interest is a situation in which personal benefit (either direct or indirect) takes priority over the clarity and(or) accuracy of reporting research. These situations are

ethical issues and can represent either real or assumed situations. It is true that the review and publication process is not perfect; thus, some bias probably is always present and can be brought to the review and publication process by either the author or those responsible for the process. However, conflict of interest or bias that detracts from the objective evaluation of research or the integrity of a scientific journal is inappropriate. Conflict of interest or bias situations can occur at all levels of the review and publication process and should be dealt with on a factual basis. This article describes several situations as examples and several important guidelines that help minimize the occurrence of conflict of interest or bias.

Key Words: Communication, Conflict, Diffusion of Information, Research, Reviews, Scientists

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Introduction

Communication of thoughts, ideas, and information is the basis of how we function as a society. Publication of research results is a demanding and highly important process of communication. This process requires clearly and accurately communicating all aspects of the research process, including the appropriate interpretation of results. Additionally, the process requires that results and interpretation are placed in full context with regard to both the specific research area and their application and meaning for the lay public. It is critical, therefore, that the publication process be kept free of ethical issues and bias that may nullify or detract from the integrity of the research itself and the media that review and publish the research. All of those working in support

of the research review and publication process have a responsibility to ensure quality scientific communication.

This article describes the “What”, “Where”, and “How” questions concerning conflict of interest as it relates to the research review and publication process. The discussion will be based primarily on experiences gained while serving as a section editor and as editor-in-chief of the *Journal of Animal Science*, with some personal experiences as an author of scientific papers. However, it is my hope that the specific points of the discussion in this article will be generally applicable to other situations and to other research publication media.

What Is Conflict of Interest?

Conflict of interest is an ethical issue. Conflict of interest is defined in a Webster's dictionary (Neufeldt and Guralnik, 1988) as “a conflict between one's obligation to the public good and one's self-interest” and in a Random House dictionary (Stein and Urdang, 1973) as “the circumstance of a person who finds that one of his activities, interests, etc., can be forwarded only at the expense of another of them.” A more applicable working definition that I prefer for

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conflict of interest with regard to publishing research results is that conflict of interest is a situation in which personal benefit or economic gain (either direct or indirect via an individual's research program, institution, or individual reputation) takes priority over clarity or accuracy of the reporting of the research. Perceived benefits are typically related to money or funding, but they may not necessarily be financial in the short term. See Blair et al. (1990) for a discussion of conflict of interest as related to scientific publication.

A more general aspect of conflict of interest that is very important with regard to the research review and publication process is defined as *bias*. The concept of bias can be quite broad, including anything that prevents the accurate and objective interpretation of scientific studies. Many judge that the process of peer review and publication cannot be completely unbiased because it is an imperfect process conducted by imperfect people. I agree with this argument, but, if bias is at a degree that detracts from the objective review or evaluation of scientific results, then it must be kept out of the review and publication process. Thus, the working definition should include the recognition of those conflict of interest or bias situations that reduce the integrity of this communication process. It should be noted that conflict of interest or bias (real or assumed) can be associated with either the author or the reader (such as those responsible for the review and publication process). An important responsibility of those working within review and publication is to maintain the integrity of that process. Furthermore, because of past human imperfection, our literature base can inherently present an unbalanced viewpoint due to incomplete reporting, failure to consider other explanations of scientific results, failure to report negative or statistically nonsignificant studies, publication of preliminary results that are refuted in later studies, and situations unique to the project funding process.

Examples

The following examples are presented in general terms but represent real situations that were encountered as I have worked within the research review and publication process as an editor-in-chief, section editor, and author. Hopefully, these examples can be applied to other specific situations to help identify when conflict of interest or bias issues may be a concern.

Example 1. Delay of review benefited the reviewers. This example involved the development of a new analytical procedure. A reviewer of the manuscript delayed review until the reviewer's data of similar research were submitted for publication. The direct benefit to the reviewer was recognition as first to publish. These types of situations are difficult to

identify and even more difficult to prove. My judgment is that they are usually chalked up to experience and become a cautionary footnote for the future. The impact on the scientific journal could probably be great if allowed to continue to a point at which the integrity of the review process becomes suspect.

For the *Journal of Animal Science*, timeliness of reviews and conflict of interest issues are initially addressed because each manuscript that is sent out for review is accompanied by a cover letter asking that the manuscript be returned if the reviewer cannot do two things: 1) complete the review within 3 wk and 2) ensure that the review is free from conflict of interest or bias on the part of the reviewer. For reviewers that are not on the editorial board, there is typically communication such as a phone call or E-mail in advance of a formal letter.

Example 2. Author misrepresented data for personal benefit. Data were misrepresented to show specific positive results. The author accrued personal benefits through increased support for his research program (indirect) and recognition as a scientist (direct). Subsequently the scientist published padded data. The scientist was fired immediately, and his supervisor published a disclaimer of previous publications. The impact on the scientific journal of a situation like this may be minimal because of the factual documentation surrounding the problem. However, the peripheral damage to research progress and the embarrassment to institutions, colleagues, and the scientific community can be significant. Unfortunately, these types of situations are nearly impossible to identify except within the institution in which they occur. As a precautionary measure, when authors submit a manuscript, the *Journal of Animal Science* requires all authors to sign a form indicating they have complete knowledge of the reported research. Additionally, maintaining a reasonable openness to reporting duplicate and(or) similar studies helps establish true scientific fact. The appropriate amount of duplicative research varies depending on the field of research, type of data, questions being studied, and so on; however, scientific journal leadership and those involved in the review process are important gatekeepers to this important aspect of scientific publication.

Example 3. Scientific journals do not benefit from favoritism. This example is of real or assumed favoritism or bias by a reviewer, section editor, or editor-in-chief on behalf of a colleague or institution. These types of situations arose more frequently than I cared to believe as an editor and required a diligent effort to apply policy and standards. These situations may represent reality and simply grow out of a scientist's honest drive to move ahead but can involve the editor-in-chief's office directly in a perception of favoritism or bias toward his or her closer colleagues. Maintaining a standard of basing judgment calls on factual and objective reasoning will minimize this problem. As with Example 1, the impact on the

scientific journal could probably be great if allowed to continue to the point at which perception of the integrity of the review process becomes suspect.

Example 4. Reviewer bias can unfairly delay publication. The example describes a difference of opinion between reviewers and an author. A situation I experienced very early in my editorship involved the reporting of nutrient absorption and associated analytical techniques. The bottom line was that the reviewers could not fault the design and techniques or show how results could not have occurred as they did. The reviewers just did not believe the results based on accepted theory at that time. Manuscripts that contain new ideas and(or) data that conflict with dogma need to be reviewed with an open mind by reviewers and editors. For this example, the initial reviewers' recommendations were overridden after seeking other reviewers, the research was published, and today others are moving this area of research ahead. Basing judgments on factual and objective evaluation, being willing to seek additional reviews, and maintaining an open appeal process are essential in these cases. Impact on the scientific journal is probably marginal except that the journal may miss out on being the first to publish a major change in research direction.

Example 5. Unpublished policy is not viable policy. This example represents a philosophical opinion of a section editor. A section editor believed the journal should not publish certain types of data without the inclusion of supporting animal data (examples being in vitro and technique studies vs in vivo and production studies). Because this was not the stated policy of the journal, this philosophy was viewed as adding definite bias to the publication process. To minimize these situations, the editor-in-chief should review each manuscript file and distribute policies and guidelines annually. Impact on the scientific journal is probably minimal because these situations are easily recognized and dealt with.

Conflict of interest or bias situations such as the examples I have given can occur at different levels within the publication process, but they may not be recognized before publication. The important point to remember is that whenever and wherever conflict of interest or bias issues are identified, they should be dealt with immediately on the basis of documented factual information, and dealt with confidentially when possible.

Guidelines

The following are some important guidelines that can be used to avoid or minimize conflict of interest that may affect the review and publication process of scientific research. I have generally found scientists, reviewers, and editorial staff to be exceptionally trustworthy and fair and conflict of interest and(or) bias to be a minor occurrence. However, as is typical, a

single problem can be magnified beyond the scope of many positive experiences. Thus, a research review and publication process that has evolved for the *Journal of Animal Science* and most other scientific journals that recognizes the fact that conflict of interest and(or) bias issues can occur minimizes the disruptive nature of these issues.

General Guidelines

These guidelines are directed toward the individual or individuals who provide oversight and policy for the editor-in-chief's office. For example, when a scientific journal(s) serves as an organ for a professional society, these guidelines would probably apply to the board of directors of that society or to its publications or journal oversight committee.

Editor-In-Chief, Section Editors, and Reviewers Should Be Active Scientists and Should Have the Support of Their Supervisors with Regard to Accepting the Responsibilities of These Activities. Active scientists are typically more knowledgeable of what is going on in the research arena. They typically have a vested interest in maintaining a fair and viable process for publishing research as a critical tool for the advancement of knowledge. The support from their supervisors offers the flexibility and time to accomplish the responsibility they are asked to accept.

The Editor-In-Chief and Section Editors Should Be Leading Researchers in Their Field. Leading researchers are typically known entities with regard to reputation as scientists. Additionally, the editor-in-chief and section editors must be individuals with an open mind and extreme dedication and be able to make fair but sometimes unpopular decisions. Those responsible for selecting these individuals typically have little difficulty identifying appropriate candidates through peer contact.

A High Degree of Organization and Ability to Work with People Is Necessary. Because of the workload and the timeliness required to maintain an acceptable review and publication process, individuals working in the process must be able to set priorities, establish personal working protocols within organization guidelines, and maintain clear documentation on which to base decisions and mediate or resolve questions and appeals.

Maintain and Annually Publish a Complete Description of Policies and Guidelines. An example of published policies and guidelines for the *Journal of Animal Science* (JAS, 1999) is updated and published annually in the January issue and is available on the Internet (<http://www.asas.org>). It is important that the complete process be clearly communicated, including the means for authors to appeal decisions.

Editor-in-Chief

Every Manuscript and Its Associated File Should Be Reviewed Before the Manuscript Is Accepted for Publica-

tion Or Rejected. A review of the manuscript reveals the appropriateness, quality, and completeness of the submission. Completeness of a manuscript includes not only the scientific content and format but also supporting information such as the financial support of the research. A thorough review of the file reveals concerns, problems, and necessary revisions identified by the reviewers and section editors along with rebuttals by the authors. This file information gives the editor-in-chief insight as to how a particular manuscript moved through the process and provides factual information on which to base a final decision. The file also includes supporting information that documents each coauthor's knowledge of the manuscript.

Maintain Complete Records of the Time Line, Reviewers, Reviews, Rebuttals, and Correspondence for Each Manuscript. This is critical because it provides a complete history of each submitted manuscript and is invaluable when concerns and(or) appeals to a decision are raised.

Review the Reviews as Carefully as the Manuscripts and Base Decisions to Accept or Reject on Fact. There is little room for subjective decision-making when evaluating a scientific manuscript and deciding on its acceptance and(or) rejection.

Deal with All Author Appeals and Inquiries of Conflict in a Timely and Factual Manner. As with the original consideration of manuscripts, follow-up items such as inquiries and appeals must be documented and objectively resolved. Even though appeals, for example, can take more time to resolve than the original consideration of a manuscript, it is important that the editor-in-chief's office is not seen as biased under the pressures of a demanding workload. For the *Journal of Animal Science*, justified appeals are made directly to the editor-in-chief, who is responsible for evaluating and clearly resolving the appeal in a fair and timely manner.

Carefully Select Section Editors: Section Editors and Their Cadre of Reviewers Are Critical Elements in the Review Process. The section editors' leadership provides the detailed, critical, and fair evaluation of research submitted for publication within a specific research area or discipline and evaluation of the validity of new approaches or ideas. The section editors are also gatekeepers for identifying inconsistencies and(or) ethical issues associated with a given submission because of their knowledge base of activities among peers within a specific research area.

Section Editor Guidelines

Select Reviewers Who Do Not Represent an Obvious Potential Conflict of Interest. The objective of a section editor should be to obtain from the review process a critical, accurate, and fair evaluation of the science and its interpretation that is submitted for consideration. Reviewers connected to authors through a common location or institution, a funding institution,

or other obvious connection and reviewers whose expertise and knowledge base is considered inadequate to review a specific topic may not be appropriate for a given submission.

Do Not Overload Any Single Reviewer, and Ensure That Reviews Are Completed in a Timely Manner. To properly review a submitted manuscript requires time and attention on the part of the reviewer. A rule of thumb is to not request a given reviewer to evaluate more than one manuscript at a time.

Review Both the Reviews and the Manuscript Critically and Factually, and Base Recommendations to the Editor-In-Chief on That Basis. The objective evaluation of a scientific manuscript submitted for publication is summarized by the section editor, who recommends either acceptance or rejection to the editor-in-chief. Appropriate revisions are made before a manuscript is forwarded to the editor-in-chief, and the editor-in-chief makes the final decision of acceptance or rejection. The importance of this protocol is that all final decisions are funneled through one person, thus strengthening consistency in the decision process across the various research areas included in the scientific journal and across authors.

Maintain Timely and Accurate Records. As with the editor-in-chief, it is important that the review process at all levels functions from an objective data base.

Do Not Accept Reviews That Contain Derogatory Comments. Comments that derogate, belittle, or otherwise detract from a scientific review are inappropriate. These types of comments, at a minimum, may indicate that the reviewer was pressed for time and the review was cursory in nature. More often, these types of comments are perceived as a significant bias on the part of the reviewer, and the authors may ignore or disregard important comments.

Reviewers

Accept the Invitation to Participate as a Reviewer as a Serious Commitment to Both the Scientific and the Publication Process. As reviewers, we are responsible to authors through the publication process.

Your Initial Judgment When Asked to Review a Manuscript Should Answer the Question "Can I Give a Fair and Timely Review?" Authors want their research to be fairly judged and considered for publication on a timely basis. Additionally, fair and timely reviews are the primary guidelines for a strong scientific journal.

Honor the Policy of Confidentiality. Authors expect the review and publication process of their manuscripts to be confidential. Reviewers can reveal their names to authors, but they should not share the author's manuscript with colleagues. If a reviewer notes a particular problem that cannot be adequately addressed, this should be handled through the section editor and editor-in-chief.

Base Reviews on Factual and Objective Reasoning. Reviewers are asked to arrive at a clear judgment of

acceptance, acceptance with revision, or rejection. When these judgments are objectively supported, a clear communication to authors is accomplished.

Subtleties That Can Cause a Perception of Bias

Pre-Reviewing a Manuscript. A member of the editorial board, section editor, or editor-in-chief on occasion may be asked by an author to read a paper before submission. Communication with the author in these cases must be very clear and specific. For example, the editor may indicate that the topic is appropriate for submission, but the author may interpret this to mean that the paper has an inside track for acceptance. In most situations, the author should be guided to a peer not involved with the review process for an opinion.

Colleagues Within Your Own Location or Institution. For those on the editorial board or editorial staff, a colleague down the hall may judge that his or her manuscripts will be given preferential treatment. For this reason, submitted manuscripts are not sent to reviewers from the same location as the authors; an ad hoc section editor is asked to handle manuscripts submitted from the same location as the section editor. These policies should be communicated to the author to help clarify and underscore fairness in the review process.

Special Review Papers. The *Journal of Animal Science* and some other journals do not solicit review papers. However, scientists who are invited to present special review papers at annual meetings have the opportunity to submit papers developed from those presentations for publication. Authors sometimes assume that these papers should be automatically accepted, disregarding the policy that their paper must meet the standards of the peer review process. Clear communication is necessary at the time a speaker is invited in order to minimize confusion in the publication process.

Finally, I would like to add a caveat. From my perspective, in the animal sciences we have a publication environment in which conflict of interest or the

perception of bias in the publication process is minimal. Over the past several years, I have noticed a more cautious attitude on the part of authors, an increase in private-sector acceptance of the independence of institutional scientists receiving funds from the private sector, and an increased responsibility to participate in an unbiased publication process. I assume that this observation applies more generally than it does in just animal science.

Implications

Conflict of interest or bias in the research review and publication process represent situations in which personal benefit takes priority over clarity and accuracy of the reporting of research. Although the review and publication process may not be devoid of these situations, if conflict of interest or bias detracts from the objective review and evaluation of scientific results, then they represent an ethical issue and must be kept out of the review and publication process. These issues can be real or assumed, can occur at all levels of the review and publication process, and can be associated with either the author or those working within the review and publication process. Clear guidelines and policies should help minimize conflict of interest and bias situations, but, when these situations are identified, they should be dealt with immediately and factually to protect the integrity of the process and the scientific journal involved.

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