

COMPETING INTERESTS, COMMITMENTS, AND VALUES

Researchers have many interests, including personal, intellectual, financial, and professional interests. These interests often exist in tension; sometimes they clash. The term “conflict of interest” refers to situations where researchers have interests that could interfere with their professional judgment. Managing these situations is critical to maintaining the integrity of researchers and science as a whole.

Conflicting interests arise in many ways. A researcher who wants to start a company to commercialize research results generated in the laboratory might feel pressure to compromise the progress of students by having them work on company-related projects that are less related to their academic interests. A researcher might need to decide whether to publish a series of narrowly focused papers that would build the researcher’s record of publication but not help the field progress as quickly as would a single paper containing the researcher’s main conclusions. Or a researcher might have to decide whether to accept a grant to do routine work that will help the researcher financially but may not help the researcher’s career or the careers of the students in the research group.

Conflicts of interest involving financial gain receive particular scrutiny in science. Researchers generally are entitled to benefit financially from their work—for example, by receiving royalties on inventions or bonuses from their employers. But in some cases the prospect of financial gain could affect the design of an investigation, the interpretation of data, or the presentation of results. Indeed, even the appearance of a financial conflict of interest can seriously harm a researcher’s reputation as well as public perceptions of science.

Personal relationships may also create conflicts of interest. Some funding agencies require researchers to identify others who have been their supervisors, graduate students, or postdoctoral fellows, since these relationships are seen as having the potential to interfere

with judgment about grants worthy of funding or papers worthy of publication. Similarly, though not formally acknowledged, romantic relationships can interfere with a researcher's judgment (and have the potential to lead to charges of sexual harassment and discrimination). For this reason, romantic relationships between professors and their advisees are generally unwise and are often prohibited by university policy.

Regulations and codes of conduct specify how some of these conflicts should be identified and managed. Funding agencies, research organizations, and many journals have policies that require researchers to identify their financial interests and personal relationships. Researchers should be aware of these policies and understand how they benefit science and their professional reputation. In some cases, the conflict cannot be allowed, and other ways must be found to carry out the research. Other financial conflicts of interest are managed through a formal review process in which potential conflicts are identified, disclosed, and discussed. However managed, timely and full disclosure of relevant information is important, since in some cases researchers joining a team or project may not be aware of a problem.

Conflicts of interest should be distinguished from conflicts of commitment. Researchers, particularly students, have to make difficult decisions about how to divide their time between research and other responsibilities, how to serve their scientific disciplines, how to respect their employer's interests, mission, and values, and how to represent science to the broader society. Conflicts between these commitments can be a source of considerable strain in a researcher's life and can cause problems in his or her career. Managing these responsibilities is challenging but different from managing conflicts of interest.

As in the case of conflicts of interest, many institutional policies offer some guidance on conflicts of commitment. For example, there are limits in many academic institutions regarding time spent on

A Conflict of Commitment

Sandra was excited about being accepted as a graduate student in the laboratory of Dr. Frederick, a leading scholar in her field, and she embarked on her assigned research project eagerly. But after a few months she began to have misgivings. Though part of Dr. Frederick's work was supported by federal grants, the project on which she was working was totally supported by a grant from a single company. She had asked Dr. Frederick about this before coming to his lab, and he had assured her that he did not think that the company's support would conflict with her education. But the more Sandra worked on the project, the more it seemed skewed toward questions important to the company. For instance, there were so many experiments she needed to carry out for the company's research that she was unable to explore some of the interesting basic questions raised by her work or to develop her own ideas in other areas. Although she was learning a lot, she worried that her ability to publish her work would be limited and that she would not have a coherent dissertation. Also, she had heard from some of the other graduate students doing company-sponsored work that they had signed confidentiality statements agreeing not to discuss their work with others, which made it difficult to get advice. Dr. Frederick and the company's researchers were very excited about her results, but she wondered whether the situation was the best for her.

1. Has Dr. Frederick done anything wrong in giving Sandra this assignment?
2. What potential conflicts in terms of data collection, data interpretation, and publishing might Sandra encounter as she continues with her research?

outside activities by faculty members. Training in laboratory management may offer valuable information on how to manage conflicts of commitment. As with conflicts of interest, identifying the conflict is an important first step in arriving at an acceptable solution.

Beyond conflicts of interest and commitment are issues related to the values and beliefs that researchers hold. Researchers can have strongly held convictions—for example, a desire to eliminate a particular disease, reduce environmental pollution, or demonstrate the biological underpinnings of human behavior. Or someone might have

strong philosophical, religious, cultural, or political beliefs that could influence scientific judgments.

Strongly held values or beliefs can compromise a person's science in some instances. The history of science offers a number of episodes in which social or personal beliefs distorted the work of researchers. For example, the ideological rejection of Mendelian genetics in the Soviet Union beginning in the 1930s crippled Soviet biology for decades. The field of eugenics used the techniques of science to try to demonstrate the inferiority of particular human groups, according to nonscientific prejudices.

Despite such cautionary episodes, it is clear that all values cannot—and should not—be separated from science. The desire to do good work is a human value. So is the conviction that standards of honesty and objectivity must be maintained. However, values that compromise objectivity and introduce bias into research must be recognized and minimized. Researchers must remain open to new ideas and continually test their own and other's ideas against new information and observations. By subjecting scientific claims to the process of collective assessment, different perspectives are applied to the same body of observations and hypotheses, which helps minimize bias in research.

Does the Source of Research Funding Influence Research Findings?

Information about sponsorship of academic research by tobacco companies over the last several decades has served to inform the scientific community about the issues to be considered in accepting funding from an interested party. The release of internal industry documents through a series of court cases has documented the deliberate effort to release experimental findings favorable to the companies.

Central to the story was the determination by the Environmental Protection Agency in 1993 that “environmental tobacco smoke” should be classified as a Class A carcinogen. Internal industry memoranda concluded that the possible banning of smoking in public places would reduce cigarette consumption and profits. In response to this shift in the regulatory environment, the tobacco industry created a nonprofit organization, the Center for Indoor Air Research, to fund well over 200 published studies to counter the EPA finding.^a Additional steps included (1) formation of a consultant program funded by U.S., Japanese, and European tobacco companies to present favorable findings at scientific meetings and to publish findings; (2) introduction of bias into studies by misclassification of study subjects to reduce the apparent impact of secondhand smoke; and (3) placement of industry in-house scientists on journal editorial boards.^b

This history of tobacco company funding does not mean that all industry-funded research is tainted. Companies, however, tend to fund external product studies that are likely to be favorable to them. This predisposition points toward the need for strong conflict of interest policies to minimize bias.

^aMuggli, Monique E, Jean L. Forster, Richard D. Hurt, and James L. Repace. “The Smoke You Don’t See: Uncovering Tobacco Industry Scientific Strategies Aimed against Environmental Tobacco Smoke Policies.” *American Journal of Public Health* (September 2001); 91(9):1419-1423.

^bTong, Elisa K. and Stanton A. Glantz. “Tobacco Industry Efforts Undermining Evidence Linking Secondhand Smoke with Cardiovascular Disease.” *Circulation* (2007); 116:1845-1854.