

Values and Principles in the Responsible Conduct of Research



Illustration by David Zinn in Steneck (2004)

Reasons for adhering to ethical norms in research

“There are several reasons why it is important to adhere to ethical norms in research. First, some of these norms **promote the aims of research**, such as knowledge, truth, and avoidance of error. For example, prohibitions against fabricating, falsifying, or misrepresenting research data promote the truth and avoid error. Second, since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, many of these ethical standards promote the **values that are essential to collaborative work**, such as trust, accountability, mutual respect, and fairness. For example, many ethical norms in research, such as guidelines for authorship, copyright and patenting policies, data sharing policies, and confidentiality rules in peer review, are designed to protect intellectual property interests while encouraging collaboration. Most researchers want to receive credit for their contributions and do not want to have their ideas stolen or disclosed prematurely. Third, many of the ethical norms help to ensure that researchers can be held **accountable to the public**. For instance, federal policies on research misconduct, on conflicts of interest, on the human subjects protections, and on animal care and use are necessary in order to make sure that researchers who are funded by public money can be held accountable to the public. Fourth, ethical norms in research also help to build **public support** for research. People more likely to fund research project if they can trust the quality and integrity of research. Finally, many of the norms of research promote a variety of other important **moral and social values**, such as social responsibility, human rights, animal welfare, compliance with the law, and health and safety. Ethical lapses in research can significantly harm to human and animal subjects, students, and the public. For example, a researcher who fabricates data in a clinical trial may harm or even kill patients, and a researcher who fails to abide by regulations and guidelines relating to radiation or biological safety may jeopardize his health and safety or the health and safety and staff and students.”

<http://www.niehs.nih.gov/research/resources/bioethics/whatis.cfm> (last time accessed: July 30, 2009)

Principles for ethical conduct in research

"Honesty:	Strive for honesty in all scientific communications. Honestly report data, results, methods and procedures, publication status, research contributions, and potential conflicts of interest. Do not fabricate, falsify, or misrepresent data.
Objectivity:	Strive for objectivity in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing, expert testimony, and other aspects of research where objectivity is expected or required. Avoid or minimize bias.
Integrity:	Act with integrity in all aspects of the research process.
Carefulness:	Avoid careless errors and negligence; carefully and critically examine your own work and the work of your peers. Keep good records of research activities, such as data collection, research design, and correspondence with agencies or journals.
Openness:	Share data, results, ideas, tools, and resources. Be open to criticism and new ideas.
Confidentiality:	Protect confidential communications, such as papers or grants submitted for publication, personnel records, trade or military secrets, and patient records.
Respect for Colleagues:	Respect your colleagues and students; avoid harming them and promote their well-being. Treat your colleagues fairly.
Respect for Intellectual Property:	Honor patents, copyrights, and other forms of intellectual property. Do not use unpublished data, methods, or results without permission. Give credit where credit is due but not where it is not due.
Freedom:	Institutions, governments, and researchers should promote freedom of thought and inquiry.
Social Responsibility:	Strive to promote social good and prevent or mitigate social harms through research, public education, and advocacy.
Efficiency:	Make efficient use of human, financial, and technological resources.
Education:	Help to educate, mentor, and advise the next generation of scientists.
Competence:	Maintain and improve your own professional competence and expertise through lifelong education and learning; take steps to promote competence in science as a whole.
Equality of Opportunity:	Promote equality of opportunity for science students and colleagues; avoid discrimination in admissions decisions, personnel decisions, and peer review decisions.
Legality:	Know and obey relevant laws and governmental policies.
Animal Care:	Show proper respect and care for animals when using them in research. Do not conduct unnecessary or poorly designed animal experiments.
Human Subjects Protection:	When conducting research on human subjects, minimize harms and risks and maximize benefits; respect human dignity, privacy, and autonomy; take special precautions with vulnerable populations; and strive to distribute fairly the benefits and burdens of research."

Many of these principles may seem familiar to readers who have some experience with professional codes of ethics in research, government funding requirements, or journal policies. We recognize that there are now many useful sources of ethical guidance for researchers; our principles should complement but not undermine existing ethics codes and policies. Some readers may wonder whether these principles are redundant or unnecessary, because other rules and guidelines have already been stated publicly. However, we think the principles above have several important uses. First, they may cover problems and issues not explicitly covered by existing rules or guidelines. Second, they can be helpful in interpreting or justifying existing rules and guidelines. Third, they apply to new and emerging disciplines or practices that have not yet established ethical codes."

from Shamoo & Resnik (2003), p. 20-21