Chapter 16

Research Ethics

Ethics is defined by Webster's dictionary as conformance to the standards of conduct of a given profession or group. Such standards are often defined at a disciplinary level though a professional code of conduct, and sometimes enforced by university committees called even Institutional Review Board. Even if not explicitly specified, scientists are still expected to be aware of and abide by general agreements shared by the scientific community on what constitutes acceptable and non-acceptable behaviors in the professional conduct of science. For instance, scientists should not manipulate their data collection, analysis, and interpretation procedures in a way that contradicts the principles of science or the scientific method or advances their personal agenda.

Why is research ethics important? Because, science has often been manipulated in unethical ways by people and organizations to advance their private agenda and engaging in activities that are contrary to the norms of scientific conduct. A classic example is pharmaceutical giant Merck's drug trials of Vioxx, where the company hid the fatal side-effects of the drug from the scientific community, resulting in 3468 deaths of Vioxx recipients, mostly from cardiac arrest. In 2010, the company agreed to a $4.85 billion settlement and appointed two independent committees and a chief medical officer to monitor the safety of its drug development process. Merck's conduct was unethical and violation the scientific principles of data collection, analysis, and interpretation.

Ethics is the moral distinction between right and wrong, and what is unethical may not necessarily be illegal. If a scientist's conduct falls within the gray zone between ethics and law, she may not be culpable in the eyes of the law, but may still be ostracized in her professional community, face severe damage to professional reputation, and may even lose her job on grounds of professional misconduct. These ethical norms may vary from one society to another, and here, we refer to ethical standards as applied to scientific research in Western countries.

Ethical Principles in Scientific Research

Some of the expected tenets of ethical behavior that are widely accepted within the scientific community are as follows.

Voluntary participation and harmlessness. Subjects in a research project must be aware that their participation in the study is voluntary, that they have the freedom to withdraw from the study at any time without any unfavorable consequences, and they are not harmed as a result of their participation or non-participation in the project. The most flagrant violations of

the voluntary participation principle are probably forced medical experiments conducted by Nazi researchers on prisoners of war during World War II, as documented in the post-War Nuremberg Trials (these experiments also originated the term "crimes against humanity"). Less known violations include the Tuskegee syphilis experiments conducted by the U.S. Public Health Service during 1932-1972, in which nearly 400 impoverished African-American men suffering from syphilis were denied treatment even after penicillin was accepted as an effective treatment of syphilis, and subjects were presented with false treatments such as spinal taps as cures for syphilis. Even if subjects face no mortal threat, they should not be subjected to personal agony as a result of their participation. In 1971, psychologist Philip Zambardo created the Stanford Prison Experiment, where Stanford students recruited as subjects were randomly assigned to roles such as prisoners or guards. When it became evident that student prisoners were suffering psychological damage as a result of their mock incarceration and student guards were exhibiting sadism that would later challenge their own self-image, the experiment was terminated.

Today, if an instructor asks her students to fill out a questionnaire and informs them that their participation is voluntary, students must not fear that their non-participation may hurt their grade in class in any way. For instance, it in unethical to provide bonus points for participation and no bonus points for non-participations, because it places non-participants at a distinct disadvantage. To avoid such circumstances, the instructor may possibly provide an alternate task for non-participants so that they can recoup the bonus points without participating in the research study, or by providing bonus points to everyone irrespective of their participation or non-participation. Furthermore, all participants must receive and sign an **Informed Consent** form that clearly describes their right to not participate and right to withdraw, before their responses in the study can be recorded. In a medical study, this form must also specify any possible risks to subjects from their participation. For subjects under the age of 18, this form must be signed by their parent or legal guardian. Researchers must retain these informed consent forms for a period of time (often three years) after the completion of the data collection process in order comply with the norms of scientific conduct in their discipline or workplace.

Anonymity and confidentiality. To protect subjects' interests and future well-being, their identity must be protected in a scientific study. This is done using the dual principles of anonymity and confidentiality. **Anonymity** implies that the researcher or readers of the final research report or paper cannot identify a given response with a specific respondent. An example of anonymity in scientific research is a mail survey in which no identification numbers are used to track who is responding to the survey and who is not. In studies of deviant or undesirable behaviors, such as drug use or illegal music downloading by students, truthful responses may not be obtained if subjects are not assured of anonymity. Further, anonymity assures that subjects are insulated from law enforcement or other authorities who may have an interest in identifying and tracking such subjects in the future.

In some research designs such as face-to-face interviews, anonymity is not possible. In other designs, such as a longitudinal field survey, anonymity is not desirable because it prevents the researcher from matching responses from the same subject at different points in time for longitudinal analysis. Under such circumstances, subjects should be guaranteed **confidentiality**, in which the researcher can identify a person's responses, but promises not to divulge that person's identify in any report, paper, or public forum. Confidentiality is a weaker form of protection than anonymity, because social research data do not enjoy the "privileged communication" status in United State courts as do communication with priests or lawyers. For

instance, two years after the Exxon Valdez supertanker spilled ten million barrels of crude oil near the port of Valdez in Alaska, the communities suffering economic and environmental damage commissioned a San Diego research firm to survey the affected households about personal and embarrassing details about increased psychological problems in their family. Because the cultural norms of many Native Americans made such public revelations particularly painful and difficult, respondents were assured confidentiality of their responses. When this evidence was presented to court, Exxon petitioned the court to subpoena the original survey questionnaires (with identifying information) in order to cross-examine respondents regarding their answers that they had given to interviewers under the protection of confidentiality, and was granted that request. Luckily, the Exxon Valdez case was settled before the victims were forced to testify in open court, but the potential for similar violations of confidentiality still remains.

In one extreme case, Rick Scarce, a graduate student at Washington State University, conducted participant observation studies of animal rights activists, and chronicled his findings in a 1990 book called *Ecowarriors: Understanding the Radical Environmental Movement*. In 1993, Scarce was called before a grand jury to identify the activists he studied. The researcher refused to answer grand jury questions, in keeping with his ethical obligations as a member of the American Sociological Association, and was forced to spend 159 days at Spokane County Jail. To protect themselves from travails similar to Rik Scarce, researchers should remove any identifying information from documents and data files as soon as they are no longer necessary. In 2002, the United States Department of Health and Human Services issued a "Certificate of Confidentiality" to protect participants in research project from police and other authorities. Not all research projects qualify for this protection, but this can provide an important support for protecting participant confidentiality in many cases.

Disclosure. Usually, researchers have an obligation to provide some information about their study to potential subjects before data collection to help them decide whether or not they wish to participate in the study. For instance, who is conducting the study, for what purpose, what outcomes are expected, and who will benefit from the results. However, in some cases, disclosing such information may potentially bias subjects' responses. For instance, if the purpose of a study is to examine to what extent subjects will abandon their own views to conform with "groupthink" and they participate in an experiment where they listen to others' opinions on a topic before voicing their own, then disclosing the study's purpose before the experiment will likely sensitize subjects to the treatment. Under such circumstances, even if the study's purpose cannot be revealed before the study, it should be revealed in a debriefing session immediately following the data collection process, with a list of potential riska or harm borne by the participant during the experiment.

Analysis and reporting. Researchers also have ethical obligations to the scientific community on how data is analyzed and reported in their study. Unexpected or negative findings should be fully disclosed, even if they cast some doubt on the research design or the findings. Similarly, many interesting relationships are discovered after a study is completed, by chance or data mining. It is unethical to present such findings as the product of deliberate design. In other words, hypotheses should not be designed in positivist research after the fact based on the results of data analysis, because the role of data in such research is to test hypotheses, and not build them. It is also unethical to "carve" their data into different segments to prove or disprove their hypotheses of interest, or to generate multiple papers claiming different data sets. Misrepresenting questionable claims as valid based on partial, incomplete, or improper data analysis is also dishonest. Science progresses through openness and honesty,

and researchers can best serve science and the scientific community by fully disclosing the problems with their research, so that they can save other researchers from similar problems.

Institutional Review Boards

Research ethics in studies involving human subjects is governed in the United States by federal law. Any agency, such as a university or a hospital, that wants to apply for federal funding to support its research projects must establish that it is in compliance with federal laws governing the rights and protection of human subjects. This process is overseen by a panel of experts in that agency called an **Institutional Review Board** (IRB). The IRB reviews all research proposal involving human subjects to ensure that the principles of voluntary participation, harmlessness, anonymity, confidentiality, and so forth are preserved, and that the risks posed to human subjects are minimal. Even though the federal laws apply specifically for federally funded projects, the same standards and procedures are also applied to non-funded or even student projects.

The IRB approval process require completing a structured application providing complete information about the research project, the researchers (principal investigators), and details on how the subjects' rights will be protected. Additional documentation such as the Informed Consent form, research questionnaire or interview protocol may be needed. The researchers must also demonstrate that they are familiar with the principles of ethical research by providing certification of their participation in an research ethics course. Data collection can commence only after the project is cleared by the IRB review committee.

Professional Code of Ethics

Most professional associations of researchers have established and published formal codes of conduct describing what constitute acceptable and unacceptable professional behavior of their member researchers. As an example, the summarized code of conduct for the Association of Information Systems (AIS), the global professional association of researchers in the information systems discipline, is summarized in Table 16.1 (the complete code of conduct is available online at http://home.aisnet.org/ displaycommon.cfm?an=1&subarticlenbr=15). Similar codes of ethics are also available for other disciplines.

The AIS code of conduct groups ethical violations in two categories. Category I includes serious transgressions such as plagiarism and falsification of data, research procedures, or data analysis, which may lead to expulsion from the association, dismissal from employment, legal action, and fatal damage to professional reputation. Category 2 includes less serious transgression such as not respecting the rights of research subjects, misrepresenting the originality of research projects, and using data published by others without acknowledgement, which may lead to damage to professional reputation, sanctions from journals, and so forth. The code also provides guidance on good research behaviors, what to do when ethical transgressions are detected (for both the transgressor and the victim), and the process to be followed by AIS in dealing with ethical violation cases. Though codes of ethics such as this have not completely eliminated unethical behavior, they have certainly helped clarify the boundaries of ethical behavior in the scientific community and reduced instances of ethical transgressions.

CATEGORY ONE: Codes in this category must ALWAYS be adhered to and disregard for them constitutes a serious ethical breach. Serious breaches can result in your expulsion from academic associations, dismissal from your employment, legal action against you, and potentially fatal damage to your academic reputation.

1. Do not plagiarize.
2. Do not fabricate or falsify data, research procedures, or data analysis.

CATEGORY TWO: Codes in this category are recommended ethical behavior. Flagrant disregard of these or other kinds of professional etiquette, while less serious, can result in damage to your reputation, editorial sanctions, professional embarrassment, legal action, and the ill will of your colleagues.

3. Respect the rights of research subjects, particularly their rights to information privacy, and to being informed about the nature of the research and the types of activities in which they will be asked to engage.
4. Do not make misrepresentations to editors and conference program chairs about the originality of papers you submit to them.
5. Do not abuse the authority and responsibility you have been given as an editor, reviewer or supervisor, and ensure that personal relationships do not interfere with your judgement.
6. Declare any material conflict of interest that might interfere with your ability to be objective and impartial when reviewing submissions, grant applications, software, or undertaking work from outside sources.
7. Do not take or use published data of others without acknowledgement, or unpublished data without both permission and acknowledgement.
8. Acknowledge the substantive contributions of all research participants, whether colleagues or students, according to their intellectual contribution.
9. Do not use other people's unpublished writings, information, ideas, concepts or data that you may see as a result of processes such as peer review without permission of the author.
10. Use archival material only in accordance with the rules of the archival source.

ADVICE: Some suggestions on how to protect yourself from authorship disputes, mis-steps, mistakes, and even legal action.

1. Keep the documentation and data necessary to validate your original authorship for each scholarly work with which you are connected.
2. Do not republish old ideas of your own as if they were a new intellectual contribution.
3. Settle data set ownership issues before data compilation.
4. Consult appropriate colleagues if in doubt.

Table 16.1. Code of ethics for the Association of Information Systems

An Ethical Controversy

Robert Allen "Laud" Humphreys is an American sociologist and author, who is best known for his Ph.D. dissertation, *Tearoom Trade*, published in 1970. This book is an ethnographic account of anonymous male homosexual encounters in public toilets in parks – a practice known as "tea-rooming" in U.S. gay slang. Humphreys was intrigued by the fact that the majority of participants in tearoom activities were outwardly heterosexual men, who lived otherwise conventional family lives in their communities. However, it was important to them to preserve their anonymity during tearoom visits.

Typically, tearoom encounters involved three people – the two males engaging in a sexual act and a lookout person called a "watchqueen." The job of the watchqueen was to alert the two participating males for police or other people, while deriving pleasure from watching the action as a voyeur. Because it was not otherwise possible to reach these subjects, Humphreys showed up at public toilets, masquerading as a watchqueen. As a participant observer, Humphreys was able to conduct field observations for his dissertation, as he normally would in a study of political protests or any other sociological phenomenon.

Humphreys needed more information on the participants. But because participants were unwilling to be interviewed in the field or disclose personal identities, Humphreys wrote down the license plate numbers of the participants' cars, wherever possible, and tracked down their names and addresses from public databases. Then he visited these men at their homes, disguising himself to avoid recognition and announcing that he was conducting a survey, and collected personal data that was not otherwise available.

Humphreys' research generated considerable controversy within the scientific community. Many critics said that he should not have invaded others' right to privacy in the name of science, others were worried about his deceitful behavior in leading participants to believe that he was only a watchqueen, when he clearly had ulterior motives. Even those who considered observing tearoom activity to be acceptable because the participants used public facilities, thought that the follow-up interview survey in participants' homes under false pretenses was unethical, because of the way he obtained their home addresses and because he did not seek informed consent. A few researchers justified Humphrey's approach saying that this was an important sociological phenomenon worth investigating, that there was no other way to collect this data, and that the deceit was harmless, since Humphreys did not disclose his subjects' identities to anyone. This controversy was never resolved, and it is still hotly debated in classes and forums on research ethics.