ETHICS IN EXPERIMENTATION

Experimentation in the social sciences, by its very nature, requires researchers to manipulate and control key aspects of the social setting so as to determine what effect, if any, these manipulations have on the people in that setting. Such studies, although unmatched in terms of their scientific yield, nonetheless raise questions of ethics: Do researchers have the moral right to conduct experiments on their fellow human beings? What practices are unacceptable and what procedures are allowable? Can standards be established to safeguard the rights of participants?

ETHICAL CONTROVERSIES AND HUMAN RESEARCH

Historically, ethical concern for the rights and well-being of participants in social science research emerged in the context of a heightened public scrutiny of all forms of research with human participants. This scrutiny resulted from the public debate surrounding a series of research projects dating back to the mid-1930s. As early as 1932, physicians in the United States, with sponsorship by the Public Health Service, began a study on the effects of untreated syphilis. This project, commonly known as the Tuskegee syphilis study, continued until 1973, even though penicillin was accepted as an effective cure for this disease in the 1940s. During World War II (1939–1945), German physicians conducted a series of appalling medical experiments in concentration camps, in which prisoners were routinely used to test the effectiveness of various procedures, with fatal results. From 1944 to 1974, U.S. researchers studied the effects of radiation poisoning by injecting people with plutonium without their consent. In the late 1950s, a drug manufacturer paid physicians to administer the drug thalidomide to patients, who were not warned that the drug was an experimental one not yet approved for general use. The drug caused birth defects when taken by pregnant women (Dunn and Chadwick 2002).

These studies raised fundamental questions about the rights of individuals and the ethical responsibilities of investigators. Physicians have long been bound by the oath of "do no harm," yet all these projects violated this principle of beneficence. Investigators denied participants basic freedoms of choice and self-determination, and they acted unjustly when they selected subjects based on prejudice and antipathy. The horrific German medical studies singled out for study Jews held illegally in Nazi concentration camps, and the Tuskegee syphilis study used disadvantaged, rural black men. These studies exploited people who society is duty-bound to protect.

Although social science research was considered relatively risk-free in comparison to these biomedical studies, Yale psychologist Stanley Milgram's 1963 study of obedience suggested that behavioral studies could also harm participants in significant ways. Milgram recruited volunteers from the local community to take part in what they

thought was a study of learning. The volunteers were ordered by the experimenter to give increasingly powerful and painful electric shocks to another participant whenever he made mistakes. The other participant was, in reality, a member of the research staff who deliberately made errors during the procedure. He did not actually receive any shocks, but he feigned pain and eventually begged to be released. Milgram, by using this elaborate procedure, discovered that the majority of the people he studied obeyed the experimenter's orders, and many experienced extreme distress during the procedure. He reported that fourteen of the forty original participants were seized by fits of nervous laughter, and three displayed "full-blown, uncontrollable seizures" (Milgram 1963, p. 375).

STANDARDS AND SAFEGUARDS

Public inquiry into these cases of scientific malfeasance resulted in the promulgation of codes of conduct for experimentation with human participants. The tribunal that judged the German doctors developed the Nuremberg Code, which stresses the importance of voluntary consent, the scientific value of the procedure, and the minimization of physical and mental suffering. In 1964 the World Medical Association issued the Declaration of Helsinki to clarify the ethical boundaries between therapeutic and nontherapeutic research. The U.S. Congress, in 1974, mandated the formation of the National Commission for the Protection of Human Subjects, and this commission crafted a set of guidelines commonly called the Belmont Report. This report stresses the need for consent, the protection of vulnerable populations, and the fair treatment of all participants. Professional associations, including the American Medical Association and the American Psychological Association, have also promulgated standards of ethics for investigators, and censure those members who violate their standards.

These standards of conduct for experimental research with human participants all recognize the substantial benefits of scientific research, but require that these benefits be weighed against the risk the research creates for participants. Possible risks include invasion of participants' right to privacy, physically or psychologically harming participants, subjecting participants to public embarrassment or legal sanction, and wasting their time and money. Ethicists also suggest that the use of deception by researchers, although necessary in order to gain valid data about their spontaneous reactions to social stimuli, may engender distrust and contribute to the dehumanization of research participants. Although these risks are offset, in part, by specific benefits for participants (such as monetary payment, educational gains, increased self-understanding, and self-approbation for having helped further scientific research), the key benefits are the contribution of the work to society and scientific knowledge. When risks to subjects are too great, researchers must use low-risk alternatives, such as nonexperimental procedures or simulations.

Ethical guidelines also require that participants be fully informed about the procedures and their risks, and that their understanding of these risks be documented in some way. In most laboratory experiments, the researcher provides participants with a brief but accurate description of their duties in the research and then gives them a choice to participate or not. This practice is known as *informed consent*, and it serves to remind subjects that they can terminate their participation in the study at any time if they choose to do so. In cases where the possibility of harm is negligible, then the requirement for consent can be waived, as it also would be when documentation of consent will harm participants by making them identifiable. If individuals are unable to provide full consent, because their autonomy as individuals is limited, then they must be afforded special protections. Children, for example, cannot fully understand or provide consent, and their parents' consent is required. Similarly, institutionalized individuals, such as prisoners, can only take part in research if they are completely uncoerced and if the risks posed by the study are minimal.

Most researchers also fully clarify the hypotheses once the study is over. This phase of the research process is typically known as *debriefing*, and it involves reviewing the hypotheses with participants, answering any questions, and removing any harmful effects of the experience. Such a debriefing phase is particularly critical when the investigator did not provide the participants with a full disclosure of the purposes of the study during the consent process—as is often the case when participants are deceived about the study's actual hypotheses or when research is conducted in a naturalistic field setting. Researchers are also enjoined to establish and follow data and safety monitoring procedures. The well-being of their participants must be monitored at all times, and if any unforeseen negative consequences of the study arise, the researcher must intervene and minimize those risks. The data generated by the research process must also be safeguarded, particularly when the research deals with sensitive, personal topics or the disclosure of the participants' responses would subject them to legal prosecution or social harm.

In many research settings, investigators must also submit their research plans to impartial reviewers before they carry out their research. Often referred to as *institutional review boards* (IRBs), these panels ensure that researchers are complying with required standards for research involving human participants, including the required elements of informed consent, protection of pri-

vacy, and minimization of all risks. Such panels would be responsible for reviewing, for example, deception studies: those research projects in which the participants are not informed of the actual purposes of the study in advance. Researchers request a waiver of the usual requirement for complete and accurate informed consent only in rare cases when they feel that participants would respond differently if they were fully informed of the study's purposes, and when they can provide clear evidence that the study will not harm participants in any way.

ETHICS AND SCIENCE

Social scientists, as members of the scientific community, strive to expand the knowledge of human behavior and apply that understanding for the enrichment of society and its members. But social scientists, as members of the larger social community, are also bound by norms that define what actions are considered moral and what actions are considered immoral. Researchers, in their quest for knowledge, cannot sacrifice the welfare of their participants in the name of maximizing the power of their research designs. The ethics guidelines that have emerged ensure that researchers' studies will be both scientifically valid and ethically acceptable.

SEE ALSO *Bioethics; Experiments, Human; Institutional Review Board; Milgram, Stanley; Tuskegee Syphilis Study*

BIBLIOGRAPHY

Dunn, Cynthia M., and Gary Chadwick. 2002. *Protecting Study Volunteers in Research: A Manuel for Investigative Sites*. 2nd ed. Boston: CenterWatch.

Milgram, Stanley. 1963. Behavioral Study of Obedience. *Journal of Abnormal and Social Psychology* 67 (4): 371–378.

Donelson R. Forsyth