

Risk Management: Training Undergraduates in Research Ethics in Social and Behavioral Sciences

The risk of harm to students who serve as researchers or research assistants is an important consideration for faculty providing undergraduate research experiences. In the laboratory sciences, research environments may pose direct physical dangers, e.g., chemical hazards or dangerous devices/instruments. In contrast, the social-behavioral sciences typically present low physical risk to the researcher but require careful attention to risks that may harm human subjects.

Institutional Review Boards (IRBs) at universities across the country are charged with ensuring that human subjects participating in research are protected from all type of harm (e.g., physical, emotional, financial). Occasionally, these IRBs find that the primary risk associated with a social-behavioral study is not to the research subjects but to the researchers and research assistants who are conducting the study. As Chair of the University of South Florida's IRB for social and behavioral sciences, the first author of this article has reviewed several research protocols that held potential risk for the student researcher. In one case, a student working for a federally funded center on disaster research wished to conduct her thesis on approaches to curbing terrorism. She planned to collect data on various approaches to terrorism by interviewing several known "experts." The concern for the IRB was not about the safety of the subjects interviewed or the type of questions that would be included in the interviews (they all seemed relatively low risk), but rather where she planned to collect the data: Amman, Jordan; Cairo, Egypt; and Baghdad, Iraq. An American student asking questions of governmental and other sources about this topic in these locations raised safety concerns that had not been addressed in the IRB application.

In another case, a student working on a senior thesis wanted to explore homosexuality in today's society and, in particular, the dynamics involved when an adolescent "comes out" to make a public declaration of sexual orientation. The research design involved interviews of volunteers who responded to a flyer soliciting participants who came out during their adolescent years. The study was well designed to protect the identity and well being of the participants. The student researcher was not as thoughtful about protecting himself, however, as he intended to post his home address and contact information on recruitment flyers. The IRB was concerned that dis-



Kylie Nguyen, an REU student from California State University-Fullerton, discusses ethical issues associated with her research project on trauma-based treatment approaches with young children.

closure of the researcher's home address could place him at risk from extremist groups opposed to homosexuality. Thus the IRB asked the student researcher to reconsider his recruitment strategy.

As can be seen from these examples, undergraduate students can occasionally find themselves working on research that may involve some elevated personal risk. As inexperienced researchers, students may not know how to anticipate and/or avoid pitfalls that increase risk to themselves or their subjects. This article describes a research ethics training program implemented as part of a Research Experience for Undergraduates (REU) and provides some insights regarding risk assessment and protection for undergraduates in research.

REU in Behavioral Health

The Florida Mental Health Institute at the University of South Florida offers a Summer REU in Behavioral Health supported by the National Science Foundation. This REU prepares undergraduate students to assess the ethical issues involved in conducting research in behavioral health, a field that focuses on mental health and substance abuse disorders. As part of the REU, students conduct research studies related to behavioral health in populations ranging from young children with disabilities to elder populations with mental health and substance abuse disorders. The REU endeavors to reduce research risk by providing students with a comprehensive research training program that increases their understanding of issues associated with implementation of research protocols, offers multiple hand-on experiences, and fosters ethical judgment and decision-making.

The REU in Behavioral Health includes didactic methods (e.g., seminars, readings, critique exercises) and experiential opportunities (IRB



Vivian Lotts, an REU student from the University of South Florida, discusses ethical issues with her research project on involuntary treatment of individuals with mental health disorders.

observation, movies, exhibits, group ethics project, student interview training) that combine to provide an intensive program to prepare undergraduates not only for conducting solid research but also for identifying and reducing potential risks. The research ethics component goes beyond the discussion of concepts to the application of ethical decision-making in actual situations to help students develop a “moral compass”. In addition, ongoing discussion of student experiences assists them in anticipating situations that involve some elevated risk to themselves and/or subjects. The conceptual design of the REU is based on the thesis that undergraduates who have multimodal experiences in research ethics will be better prepared to protect research participants, and themselves, against undue risks associated with research.

The general structure of the REU is designed to allow 15 students each summer to participate in a nine-week intensive experience. Students conduct their own individual research projects (from conceptualization to presentation of findings) and obtain supplemental instruction on research design, research implementation, and ethics. A comprehensive overview of the program is provided elsewhere (Gum *et al.*, 2007). This article highlights several special methods employed by the REU to enhance student understanding of general ethical and risk issues.

Didactic Approaches. The research seminar provides students with a broad informational foundation in research theory, design, and implementation. A three-hour session, devoted specifically to ethical and IRB issues, provides an overview of classical ethical theories, the history of research ethics, application of ethical principles of the Belmont report in several high-profile studies, and ethical issues in areas ranging from research design and analysis to dissemination of findings. Conflict of interest, informed consent, confidentiality, and risk/safety are discussed within the context of conducting a research study. Case

vignettes are utilized to solidify concepts for students and provide opportunity for application of the ethical concepts in hypothetical real world situations.

In addition to the special session on IRB issues, ethical issues are integrated throughout all lectures and discussions in the seminar. For example, in a discussion on survey research methods, the issue of multiple recruitment solicitation, e.g., the Dillman method, is specifically addressed to help students learn when such techniques may become coercive – or may even be considered harassment. In other seminars, students critique research articles to examine the ethical and risk issues raised in each research study, particularly in relation to recruitment and data collection methods. Students also provide weekly updates on the progress of their own studies, fielding questions and concerns about ethics and risk from other students and REU faculty.

Experiential Approaches. Students also learn about research ethics through active hands-on experiences provided through the REU in Behavioral Health. For example, to gain insight into the broader research compliance and regulatory systems, all of the students complete on-line, interactive training on the IRB as well as the Health Information Portability and Accountability Act (HIPAA), the federal law regarding privacy of health information. The students prepare their own IRB applications under the guidance of their faculty mentor and attend a meeting of the Social and Behavioral IRB to observe the discussion of board members as they review IRB applications. Students consult with the IRB members after the meeting to discuss the issues raised during the meeting and to learn how risk issues are viewed through the perspectives of IRB members. As part of these discussions, IRB members often share specific examples in which student researchers have unknowingly placed themselves at risk and describe modifications that can reduce those risks in the research design.

The research ethics component of the REU includes a film series based on some of the landmark cases that led to the current standards for human subject protection in research. Among the films in the series is a PBS documentary, *The Deadly Deception*, on the Tuskegee syphilis study. In this study, 399 African American males participated in a research study for forty years without knowing the true nature of their illness and without receiving treatment once an effective treatment became available. Another film, *Obedience*, focuses on the famous authoritarianism studies conducted by Stanley Milgram in which “teachers” administered increasingly higher levels of shock for every mistake made by a “learner” and continued to do so obediently even

when the learner screamed in pain and begged the teacher to stop. In a film entitled *Quiet Rage: The Stanford Experiment*, the question of what happens when you put good people in an evil place is explored. This film portrays the classic study conducted by Philip G. Zimbardo who ended his prisoner study prematurely because students participating as “guards” began to demonstrate sadistic behaviors resulting in their student “prisoners” exhibiting signs of severe stress and depression.

Another important film in the series, *Ethics and Scientific Research*, focuses on research misconduct when it is reported by “whistleblowers.” This film draws on a famous case in which Dr. Robert Sprague reported a colleague for research misconduct and the struggles he experienced in getting appropriate action taken. Following the viewing of this film, a whistleblower from our own university meets with REU students to discuss her experience as the informant in a research project that used English-only informed consent in conducting medical tests with pregnant Spanish monolingual women (this high profile case received national media attention in the mid-1990s). The whistleblower, who was a nurse at a local hospital at the time and is now a faculty member at our university, discusses the factors she considered in making the decision to report the physicians and the long-term impact this decision had on her personal and professional life.

The role of a whistleblower is an important risk consideration that students may face if they observe misconduct with research subjects, unfair treatment of research colleagues (including themselves), or even their faculty mentor. As students, they may fear retaliation from faculty mentors who are in a position to impose negative consequences, such as poor grades or unsatisfactory recommendations to graduate school. Thus, the REU research ethics component informs students not only about their rights as researchers in cases of scientific misconduct but also provides them with guidance on procedures to use if they observe research misconduct or if they feel they are being treated unfairly.

In addition to individual research projects, the REU students conduct a group ethics research project. The students select a topic related to research ethics and design a study to investigate an issue of interest to the group. In 2006, the REU students conducted a project comparing researcher and non-researcher perceptions of informed consent. In the process of designing and conducting the research, students raised many risk issues including the appropriateness of surveying individuals who are known to the researcher, potential conflict of interest in dis-

seminating controversial results, and authorship issues. Through this exercise, students experienced the complexities of working in teams, negotiating roles, and the value of bringing multiple perspectives to the design of a project.

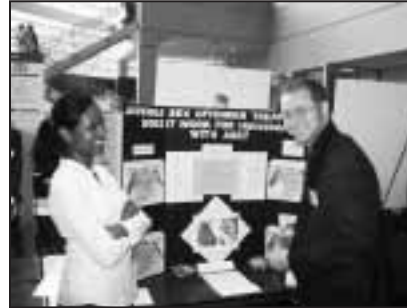
REU students also attend local museum exhibits that are related to moral and ethical issues. In 2006, they attended *BODIES...The Exhibition*, the national touring exhibit sponsored by the Museum of Science and Industry. Because the REU students had developed a special interest in the informed consent process, they participated in a lively and thought-provoking dialogue with the museum president on ethical issues to consider when individuals, such as those in the exhibit, are not able to give explicit consent. In 2007, the REU students will visit the Florida Holocaust Museum to study ethical issues associated with the medical experiments conducted in concentration camps and the dilemma posed with the use of knowledge garnered from unethical experimentation. These experiences help students place controversial topics within an ethical decision-making framework and allow for introspection about their own personal emotional reactions to issues. In social-behavioral studies, emotional risk can be as powerful as other types of risk. Students who have experienced powerful emotions in an educational environment and have an ethical framework to assist their decision-making are more likely to deal with such issues appropriately in other research-based settings.

Given the substantive focus of behavioral health research, e.g., mental health and substance abuse, and the fact that many students are involved in projects requiring the collection of data from individuals affected with these conditions, students need adequate training to inform, prepare, and protect them from potentially uncomfortable and risky situations that might arise during the research experience. More specifically, given the client population of interest and the fact that primary data collection often occurs in participant residences, students may need training focused on basic issues such as how to dress, precautions to take in working in the at-risk neighborhoods in which many of the participants reside, and methods to handle unwanted advances of all types. The REU in Behavioral Health attempts to address these training needs through group interview training sessions as well as through individual consultation with students.

As part of behavioral health research, students are often exposed to grave societal inequities and service system failures. Students frequently interact with individuals who live in substandard housing, have



REU students toured *Bodies...The Exhibit* and discussed ethical issues associated with the exhibit with the Executive Director of the Museum. Photo courtesy of Premier Exhibitions.



Summer Research Institute participants, Shaila Siraj and Daryl Flink, discuss Shaila's research project on juvenile sex offender treatment at the 2006 USF Undergraduate Research Symposium.

serious difficulties accessing needed assistance, and/or are experiencing intense hopelessness. Because direct exposure to these issues can have a profound impact on the emotional well-being of students, training must also adequately inform and prepare students for the uncomfortable emotional reactions they may experience during the data collection phases of the project. REU faculty and mentors debrief students regularly about their experiences and assist them in learning processes to resolve adverse emotional reactions.

Addressing Risk in Individual cases. The emphasis on research ethics throughout the REU results in students becoming highly attuned to potential risks. Thus, students raise ethical issues in progress reports, with their mentors, and in discussions with REU faculty. In doing so, REU faculty are able to assist students to assess and deal with potential risk issues on an individual basis. For example, one student project involved interviewing individuals in an inpatient substance abuse facility. He kept the REU faculty apprised of his activities and it was obvious that his mentor was providing close supervision and training. He received careful training and made several site visits with his mentor, observed interviews and talked informally with clients prior to conducting any formal interviews. Another student, while studying driving under the influence of alcohol (DUI), observed police DUI checkpoints and participated in "ride-alongs" with police officers working on DUI cases. She and her mentor carefully planned these activities with the police to ensure the student's safety. A third REU student wanted to conduct focus groups with family members to discuss their views of assisted suicide either while they were anticipating an impending death of a loved one or immediately following the death. The REU faculty were concerned about the impact of this discussion on family members so close to the time of death and the emotional risk to the student given the potential of dealing with distraught or angry family members and alerted the student to the concern.

Following discussion and explanation of these concerns, the student modified his project to examine these same issues but conducted his research with family caregivers of older adults with chronic conditions rather than those who were near or at death.

Conclusion

Risk is inherent in many forms of research, including social-behavioral research. Protecting undergraduates against undue research risk on a case-by-case basis is essential; however, it is preferable to provide students with the educational foundation and experience to protect themselves from such risks. As we continue to develop the REU in Behavioral Health, we will maintain our focus on providing undergraduates with tools to identify and attenuate potential research dangers as they happen, as well as to develop sensitivity to broader ethical issues so that all participants in the research process (including undergraduates) are safe from the inherent risks of research.

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CUR NSF-CCLI Award

CUR has recently been awarded a Course, Curriculum, Laboratory Improvement grant in the amount \$499,066 from the National Science Foundation. CCLI activities include eight regional workshops over the next two years and follow-up activities for institutions that participate in the regional workshops. The purpose of the grant is to assist campuses to make institution-level change to establish, formalize and expand undergraduate research opportunities. These workshops will be directed toward campuses that have not yet institutionalized undergraduate research. Workshops sites have been identified and dates are confirmed.

Mid-Atlantic

Penn State Delaware County, September 28-30, 2007

Southeast

Spelman College, October 26-28, 2007

Northwest

Lewis & Clark College, November 2-4, 2007

South Central

University of Texas, El Paso, January 18-20, 2008

West

University of California, Northridge, February 15-17, 2008

Northeast

Buffalo State College, September 26-28, 2008

Great Lakes

Hope College, October 10-12, 2008

Central

Truman State University, October 24-26, 2008

Please visit www.cur.org/ccli.html for more details and for workshop applications.