- relevancy ranked
- secondary sources
- subject terms
- thesaurus
- truncation symbol
- wildcard symbol

Suggested Readings

- Granello, D. H. (2001). Promoting cognitive complexity in graduate written work: Using Bloom's taxonomy as a pedagogical tool to improve literature reviews. *Counselor Education and Supervision, 40*(4), 292–307.
- Lomand, T. C. (2007). *Social science research* (5th ed.). Glendale, CA: Pyrczak.

Web Links

- Dogpile search engine http://www.dogpile.com/
- Education Resources Information Center (ERIC) http://www.eric.ed.gov/
- Google search engine http://www.google.com
- Google Scholar http://scholar.google.com/
- IngentaConnect www.ingentaconnect.com
- The Internet Public Library http://www.ipl.org/

4

Conducting Ethical Research

(Continued)

> I have learned two lessons in my life: first, there are no sufficient literary, psychological, or historical answers to human tragedy, only moral ones. Second, just as despair can come to one another only from other human beings, hope, too, can be given to one only by other human beings.
>
> —Elie Wiesel

You might be wondering why it is necessary to include a chapter on ethical practices in research in a book on writing a master's thesis. Isn't it obvious that when conducting a study involving human subjects, the researcher would have to disclose the purpose and procedures of the study to the participants and get their permission? Doesn't the researcher know that she must treat the participants with respect, minimize their risk of harm, and protect their rights for confidentiality? Unfortunately, history tells us that this has not always been the case. At times, mistakes are made due to lack of experience or failing to think about the unintentional consequences of involving human subjects in research. The inexperienced researcher may not have received instruction on the ethical practices of conducting research or may be insensitive to the circumstances that arise in conducting research, or his research may have been a noninvasive intervention. Unfortunately, past situations have indicated that researchers have also intentionally deceived participants (at great personal cost) without their knowledge or consent. When conducting research of any kind, there is always the possibility that you will encounter ethical issues. Thus, it is especially important early in your research career that you understand the policies governing research with human subjects and develop an ethical perspective that will guide your research. Central to doing research is ensuring that you take the necessary steps to protect the rights of the human

subjects who consent to participate in your study. This chapter will provide you with an overview of the history of experiments with human subjects, legal and ethical standards related to the treatment of human subjects, and prevailing policies that govern the research you will be conducting for your master's thesis.

Background and History

Although the answers to the questions presented above were meant to be evident, it is important to recognize that until 1974, there were no regulations or standards with regard to the treatment of human subjects in research studies. This meant that physicians could conduct harmful and inhumane medical experiments on patients without the patients' knowledge or consent. Drug companies could manufacture and market unsafe drugs to the public that had not been approved by the Food and Drug Administration (FDA). Information about a life-threatening illness and medical treatment could be denied to patients even when a cure was available. Sadly, these are not hypothetical situations but actual events that took place in the history of research. You might question the relevance of these practices to your field of study or your proposed research. However, sometimes it is hard to distinguish between research that clearly places subjects at risk and research that might. Pharmaceutical and medical research may be more risky than social science research, but there is an element of risk in all research. Unfortunately, it was not until history revealed research practices that placed subjects in very serious harm that the public and in turn policymakers addressed the need for laws and polices to govern all research conducted with human subjects. Three of the most well-known abuses of human experimentation were in the Nazi concentration camps during World War II, the use of the thalidomide drug by pregnant women, and the Tuskegee Syphilis Study on African American males. Each one will be discussed briefly, highlighting their implications for conducting ethical research today.

Nuremberg Code

One of the most atrocious abuses of human experimentation occurred during World War II by the German Nazi regime. During this time, inhumane medical experiments were imposed on thousands of prisoners in concentration camps without their consent or knowledge. As a result of these experiments, all of the human subjects suffered tremendous physical and psychological harm, and most either died or were permanently crippled

("History of Research Ethics," n.d.). At the end of the war, the U.S. military courts held the Doctors Trial, the first of the Subsequent Nuremberg Trials, against 23 defendants (20 were doctors). In 1947, 16 of the defendants were found guilty and either received death sentences or prison sentences ranging from 10 years to life imprisonment ("The Nuremberg Trials," n.d.).

As a result of the trials, the Nuremberg Code was established. The **Nuremberg Code** is a set of standards of ethical medical behavior that all physicians should adhere to when involving human subjects in medical experiments (see *Resources* for a web link to the text of the Nuremberg Code). One of the main standards of the Nuremberg Code is voluntary informed consent. **Voluntary informed consent** exists when a person has the capacity to give consent and receives sufficient and accurate information about the study (e.g., purpose, methods, risks, benefits) to make an informed decision to participate. The second main standard is avoiding all unnecessary physical and mental suffering and pain. This is to ensure that subjects are protected against injury, disability, or death. The third standard is to weigh the risks against the expected benefits. This is to ensure that the study will result in benefits to society but not at the expense of causing harm to the subjects. Although the Nuremberg Code was not a legal mandate, it was the first international document that supported voluntary participation and informed consent.

Thalidomide

The use of the thalidomide drug was another horrific abuse of human experimentation. In the late 1950s and early 1960s, thalidomide was sold and prescribed to pregnant women to abate symptoms of nausea and sleeplessness in over 40 countries, especially in Europe. The drug was not approved by the FDA in the United States since the side effects on humans were still unknown. Tragically, over 10,000 babies were born with severe birth defects (stunted limbs or no limbs at all) due to the effects of thalidomide (U.S. Department of Health and Human Services [USDHHS], 2005b). This disaster changed how drugs are tested, manufactured, and sold in the United States. In 1962, Congress passed the Kefauver-Harris Drug Amendments Act. The **Kefauver-Harris Drug Amendments** increased the regulatory powers of the FDA so that drug manufacturers had to prove that their drugs were safe and effective before marketing and selling them to the public. The act also required that subjects from medical studies give their informed consent (USDHHS, 2005a).

Tuskegee Syphilis Study

The Tuskegee Syphilis Study was another tragic example of the abuse of experimentation with human subjects. In 1932, the U.S. Public Health

Service and the Tuskegee Institute in Alabama began a study to monitor the effects of untreated syphilis on 600 low-income and mostly illiterate African American males (399 had syphilis and 201 did not). The men did not give informed consent to participate in the study and were not told that they had syphilis. Instead, they were told that they were being treated for "bad blood," and in exchange for their participation, the men received free medical exams, meals, and burial insurance (USDHHS, n.d.). Although the study was supposed to last for only six months, it continued for 40 years, even after a cure for syphilis (penicillin) was made available in 1947. The men in the study were not offered the penicillin by the researchers and were even prevented from receiving treatment elsewhere. As a result, many of the men unnecessarily died of syphilis during the study. The study was finally stopped in 1972 because of a leak to the press, and reparations for the subjects (and eventually their families) were started in 1974.

Legal and Ethical Principles

Ultimately, the abuses in research from the Tuskegee Syphilis Study attracted the attention of the media, which led Congress to pass the **National Research Act of 1974** (Public Law 93-348). The National Research Act created the **National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research**, the first national public group whose responsibility it was to identify a set of basic ethical principles and guidelines for conducting biomedical and behavioral research involving human subjects. The commission fulfilled this responsibility by preparing and releasing the Belmont Report in 1979. The **Belmont Report** is a summary of the basic ethical principles and guidelines for conducting research with human subjects. Following is a summary of the three fundamental ethical principles of the Belmont Report (see the *Resources* section for a web link to the full report).

Belmont Report

In the Belmont Report, the commission identified three fundamental ethical principles for conducting research with human subjects: (a) respect for persons, (b) beneficence, and (c) justice. These principles have implications for how researchers conduct ethical research today ("Ethical Principles," n.d.). I will discuss each one briefly.

Respect for persons. The first principle in the Belmont Report, **respect for persons**, includes "two ethical convictions: first that individuals should be treated as autonomous agents, and second, that persons with diminished

autonomy are entitled to protection," (USDHHS, 1979, Part B, para. 2). The first ethical conviction requires that researchers acknowledge that people are autonomous in their opinions and are capable of making and acting on their own choices. However, with respect to research involving human subjects, participants must be provided with adequate information to give their informed consent.

To give informed consent, the participants (or their guardians if they are minors) must be fully aware of the purpose and procedures of the study. Thus, researchers should avoid using any methods in the study that involve deception. **Deception** occurs when the researcher omits information about the study or gives false information. If participants are deceived about the purpose or procedures used in the study, even if they agree to participate, they are not giving their informed consent (Drew, Hardman, & Hosp, 2008). Once they are fully informed about the study, then individuals can voluntarily agree to participate (rather than be coerced). Informed consent also means that the participants can voluntarily withdraw from the study at any time, without penalty or negative repercussions (Orcher, 2005). Thus, at a minimum, researchers should disclose information about the study in a language that is comprehensible to the participants to obtain their voluntary informed consent. Here are some basic information points that should be disclosed:

- Who is conducting the research, and how they can be contacted before, during, and after the study
- The purpose of the study
- The potential risks involved
- The benefits of the study

The second ethical conviction of respect for persons refers to protecting those individuals who are not fully autonomous because of age, illness, injury, disability, or restricted settings such as prison. In research, these individuals are commonly referred to as vulnerable populations. **Vulnerable populations** are children, pregnant women, prisoners, or others who may need additional protection from harm, depending on the risks involved.

Beneficence. The second principle in the Belmont Report, **beneficence**, refers to two general rules: "(1) do not harm; and (2) maximize possible benefits, and minimize possible harms" (USDHHS, 1979, Part B, para 7). The first rule, "do not harm," places an obligation on researchers (a) to guarantee the participants' well-being throughout the study and (b) not to injure or endanger, physically or psychologically, their human subjects, especially vulnerable populations. The best time to examine the proposed research relative to potential risk to participants is when you are framing your research

questions. If you wait until you have progressed into the design of the study, major changes may be required to eliminate or minimize serious risks. By examining the potential risks early, you save time and also increase your feasibility to conduct the study. Here are some questions to consider to ensure you are not proposing a study that may be harmful to participants:

- Is there potential for the participants to be harmed or be at risk for harm in any way (e.g., physically, psychologically, emotionally, socially, or academically)?
- If so, could I redesign my study so that I could protect the participants from harm but still get the information that I need to answer my research questions?
- Do I need to change my research questions to ensure my participants' well-being?
- Will this research require costly safeguards that require external support?

Sometimes, to benefit participants and society at large, it may be necessary to place subjects at risk for harm. Thus, the second rule, "maximize possible benefits, and minimize possible harms," refers to the cost-benefit analysis that researchers must consider when planning and conducting a study. In a **cost-benefit analysis**, researchers must weigh the potential benefits against the anticipated risks. They decide whether the benefits are so great that they justify putting subjects at a certain level of risk or whether the risks are so high that the benefits are not worth the potential harm to subjects. Fortunately, most typical research conducted in educational settings or other agencies involves little or no risk of harm to the participants (Fraenkel & Wallen, 2006). Here are some questions to analyze the cost-benefit ratio when designing your thesis study:

- Do the potential benefits outweigh the anticipated risks?
- Will the information that will be gathered as a result of the study be worth the potential risks placed on subjects?
- Have I designed the study in such a way that the risks have been minimized and the benefits maximized as much as possible?
- Have I explored all potential risks?

Justice. The third principle in the Belmont Report, **justice**, refers to fairness and equity in the selection of participants and the distribution of benefits. To meet this third principle, researchers must first consider if they are recruiting the participants for their study in a fair and equitable manner, making sure not to exploit any one segment of the population. The three historical cases of abuse in human research mentioned earlier were examples where extreme harm was caused to vulnerable populations (e.g., concentration

camp prisoners, pregnant women, poor and ill African American men). For your thesis study, make sure you are selecting subjects because they are the group most directly related to your research questions and not because they are in a vulnerable position in society (e.g., low income, children).

The second consideration for justice is the fair and equitable distribution of benefits. From the historical examples mentioned, the human subjects in the studies were not the recipients of the benefits of the studies—they were merely the guinea pigs to benefit others. To meet the justice principle, researchers must ensure that the results of the study provide benefits equitably. For example, a new drug to prevent diabetes should not be tested on low-income individuals and then, once found to be effective, made available only to those with the financial means to afford the drug. For your thesis study, consider whether there are fair and equitable benefits for the participants in your study as well as the larger population that they represent.

In addition to the ethical principles laid out in the Belmont Report, researchers in different fields and disciplines have developed and adopted their own ethical standards specific to the type of research that is conducted with human subjects. For example, the American Educational Research Association (AERA) has a set of ethical standards that focuses on educational research that often involves children and other vulnerable populations (see the *Resources* for a web link to the AERA ethical standards). The American Psychological Association (APA) also has a set of general principles and ethical standards for psychologists referred to as the Ethical Principles of Psychologists and Code of Conduct (see the *Resources* for a web link to the APA ethical principles). As a professional, it is important for you to know the ethical standards and principles that guide your field or discipline, especially as it relates to research with human subjects.

Federal Regulations

The three ethical principles in the Belmont Report served as the foundation for the development of federal regulations in 1981 by the USDHHS for the protection of human subjects in research studies. In 1991, the core regulations were formally adopted as the Federal Policy for the Protection of Human Subjects, known as the Common Rule.

Common Rule

The **Common Rule** is a federal policy for the protection of human subjects followed by most of the federal departments and agencies that sponsor

research with human subjects (e.g., Department of Education, Department of Justice, Environmental Protection Agency, National Science Foundation, Consumer Product Safety Commission) (USDHHS, 1991). Three of the central requirements in the Common Rule are (a) any research supported or conducted by any federal department or agency must ensure compliance with the policy; (b) researchers must obtain written informed consent; and (c) institutions must have an Institutional Review Board (IRB) in place to review and approve research studies. The Common Rule also includes three subparts, B through D, that have additional protections for research that involve pregnant women, fetuses, neonates, prisoners, and children as human subjects (see the *Resources* section for a web link to the full regulation). In the next section, I will focus on the IRB procedures since this has major implications for much thesis research.

Institutional Review Board (IRB)

As mentioned, all institutions of higher education that receive federal funds (for research or scholarships) must have in place an Institutional Review Board (IRB). In compliance with the Common Rule, the IRB committee is made up of at least five members, representing a diverse group of expertise and backgrounds (e.g., from different schools and colleges within the university). The major role of the IRB is to ensure that all research with human subjects conducted by persons affiliated with the institution (including administrators, faculty, staff, and students) is done ethically and in compliance with federal regulations. In doing so, the IRB adheres to the three principles of the Belmont Report: respect for persons, beneficence, and justice. To apply these principles, the IRB requires that researchers (including undergraduate and graduate students) submit an IRB application for approval. A typical **IRB application** consists of the research plan, a cover letter to the participants, an informed consent letter, all of the measurement instruments that will be used in the study, and your chairperson's signature (it will be her responsibility to ensure that you conduct the research in an ethical manner). Your institution's IRB committee may require additional documentation, so make sure you check their requirements.

IRB Application Process

In this section, I will describe the typical IRB application process at a university. Although each IRB committee follows the Common Rule, the actual application process is university specific and will vary, so it is critical

for you to find out the IRB procedures and guidelines at your institution (there should be an IRB manual or website available). Typically, universities offering graduate degrees have a staff with responsibilities for assisting researchers in fulfilling their obligations in meeting the requirements related to conducting research involving human subjects. I suggest that you meet with a representative of this office early in your thesis planning process. They should also have a training program that you can complete online that will be helpful as well. Some institutions may also require an exam to certify your knowledge of the IRB principles. If you have additional questions about the IRB procedures, you should discuss these with your chairperson and/or the IRB chairperson at your institution.

The IRB application process begins with the initial application. Once the IRB receives the application, it is processed and sent out for review to a member of the IRB committee. In some complicated cases, a secondary IRB member may also review the application. Once the committee members have approved the application, the IRB chairperson must give his final approval. This process can take anywhere from three to four weeks with a complete application to six to eight weeks for an inadequate or incomplete application. Keep in mind that the IRB committee reviews applications from faculty, staff, and students from the entire university, so there will be times when they have a high volume of applications, especially at the beginning and end of the semester (this may cause longer process times). Thus, it is recommended that you start the IRB process well in advance of your anticipated research start date. The IRB approval must be granted *before* any recruitment procedures are enacted, contact with potential participants is made, or data are collected. Getting IRB approval before starting any component of your study is extremely important because the IRB does not retroactively approve applications, and if you start your study without IRB approval, you may not be able to use any of the data that were collected or complete your study, not to mention the ethical issues involved. Once you receive approval from the IRB committee, you typically have 12 months to complete your data collection involving human subjects. However, there are processes to renew the IRB application for additional time or to modify it for any changes to the study. In the next section, I will describe how to prepare the research plan for the IRB application.

Preparing the IRB Research Plan

The **IRB research plan** describes the need for the study and the research design and may include the following sections: (a) background and rationale, (b) sample, (c) recruitment, (d) consent process, (e) procedures, (f) potential risk to subjects, (g) minimization of potential risk, (h) potential benefits, (i) costs to subjects, (j) reimbursement/compensation to subjects, and (k) confidentiality of records ("Institutional Review Board," 2008). Although there are many sections to the research plan, you want to be as succinct as possible and use non-jargon language. I will discuss what you need to include in each of these sections (see Appendix A for a sample initial IRB application that shows an example of each of the components).

- Background and rationale: In this section, provide the background literature related to the research problem. Include citations from primary and secondary sources to support your claims. You should also provide the rationale (i.e., justification) for the necessity of the study. Adding statistical data (e.g., test scores, crime rates) to show the magnitude of the problem will strengthen the rationale. In addition, describe the purpose of the study and explain how your study is related to the research problem. This section shows the IRB committee that you have done the literature research related to the problem and that your study will make an impact on the problem.
- Description of sample: In this section, describe the sample group (referred to as participants) in the study. The description should include how many subjects will be in the study and the subjects' age/grade level, gender, ethnicity, and any special characteristics (e.g., disability, income level, English learner). You should also explain your relationship to the subjects and how you will have access to them. For example, the subjects may be students in your classroom or patients on your caseload. This section shows the IRB committee whether you are researching vulnerable populations (who may require additional safeguards) and that you will have access to subjects (so the study is feasible). The IRB committee may require a letter from the administrator at the school or agency stating his permission for you to access subjects at the site.
- Recruitment procedure: In this section, describe how you will recruit the subjects to participate in your study. This is different from having access to subjects. For example, the manager at a business can give you permission to access her employees, but it will be up to you to recruit them for the study. The recruitment section should explain the procedures to solicit participation. For example, you may meet with potential subjects face-to-face individually or as a group, send written notices, make phone calls, and so on. Keep in mind that your IRB committee may limit the amount of contact you have with potential subjects during the recruitment process. This section shows the IRB committee that you have a fair and equitable selection of participants. You may also need to include your recruitment materials (e.g., memos, flyers) with your IRB application.
- Subject consent process: In this section, describe how you will get the participants' informed consent to participate in the study. If the participants are minors (under the age of 18), then you will have to get their parent/guardian's consent. The procedure for obtaining consent may include face-to-face meetings, mailing written notices, phone calls, and so forth. If you are asking multiple groups of

individuals (e.g., administrators, teachers, students) to participate, you may need to have a specific informed consent form for each group. This section shows the IRB committee that your participants will provide voluntary informed consent. You will need to include either a cover letter or an informed consent form(s) with your IRB application (see Appendix B for a sample cover letter and Appendix C for a sample informed consent form).

- Procedures: In this section, describe the full procedures that the participants will be exposed to before, during, and after the study. The procedures include any type of manipulation or intervention that will be conducted (e.g., social skills training), samples of the materials or intervention (e.g., lesson plans, videos), and measurement instruments that will be used to collect data (e.g., surveys, pretest/posttests, interviews). You will also need to describe how the study will be conducted, such as grouping methods (e.g., experimental, comparison), time period (e.g., duration and frequency), and how data will be collected (e.g., face-to-face interviews). If you are audio or video recording any of the participants as part of data collection methods, this needs to be clearly stated in the research plan, cover letter, and informed consent form. This section shows the IRB committee that you are conducting ethical research and not harming your participants. You will need to include the sample materials and all measurement instruments in the IRB application, so make sure that you have compiled these before submitting your application.
- Potential risk to subjects: In this section, describe the potential risks of harm that subjects will be exposed to in the study. Remember that there are *always* some potential risks, however small. Minimal risks for the subjects could include anxiety, boredom, frustration, fatigue, loss of time, and loss of confidentiality. **Confidentiality** refers to protecting the participants' identity and records. This section shows the IRB committee that you are considering the potential risk of harm to your participants.
- Minimization of potential risk: In this section, describe how you will minimize the potential risks for the participants. For example, you could give the participants short breaks if they are frustrated or tired. You could also allow the participants to skip questions on a survey or interview that might cause them emotional discomfort. If you are unsure as to how to minimize the potential risks specific to your study, discuss this with your chairperson. This section shows the IRB committee that you recognize the potential risks and are trying to minimize them for your participants.
- Potential benefits to subjects: In this section, describe the potential benefits that will result from your study. The potential benefits should include direct benefits to the subjects (e.g., increased social, cognitive, time management, or vocational skills). You can also include the broader benefits to society, but be careful not to exaggerate the benefits. This section allows the IRB committee to weigh the potential risks against the potential benefits and ensure there is an equitable distribution of benefits.

- Costs to subjects: In this section, describe any costs that participants will incur. Costs can include monetary costs related to the treatment (e.g., medication) as well as other costs for transportation, child care fees, and so on. Non-monetary costs include the time and effort that participants will expend during the study. In most cases, you should try to keep participants' costs at a minimum. This section allows the IRB committee to make sure that subjects are not unduly burdened by participating in the study.
- Reimbursement/compensation to subjects: In this section, describe any reimbursement or compensation that will be given to participants and the rationale. This can be very tricky, so be careful. If possible, participants should be reimbursed for reasonable costs (e.g., transportation, parking). However, you want to avoid offering a reimbursement/compensation that could look like you are "inducing" participants to agree to the study. You also want to be careful not to offer compensation contingent on completion of the study, as this is perceived as coercion. This section allows the IRB committee to make sure that participants are truly volunteering to participate and are not being coerced.
- Confidentiality of records: In this section, describe how you will keep the study records and files secure and the participants' identities confidential. There are several strategies to maximize participants' confidentiality. First, you need to decide whether the participants will remain anonymous. Anonymous is different from confidential. Anonymous means that there is no way to trace the data back to the individual participant. To give the participants anonymity, you need to remove all names and identifying information (e.g., addresses) from the measurement instruments (e.g., survey) and code the measurement instruments so that each participant is assigned a number. Obviously, there are some data collection procedures (e.g., interviews) where anonymity is very difficult to ensure. If you need to know each individual's data to answer the research question, then you may prefer to code the data for confidentiality rather than anonymity. For confidentiality, remove all names and identifying information from the measurement instruments and code the measurement instruments so that each participant is assigned a number. Then create a master list that matches the number with the identification of each participant so that you can trace the individual data if necessary. Once the data are collected, only the researcher, research assistants, and the chairperson should have access to the data. In addition, the data should be stored in a secure location such as a locked file cabinet or a computer that is password protected (personal information should always be encrypted). Remember that it is imperative that before, during, and after the study, the participants' identity and records should not be revealed. This section shows the IRB committee that you are protecting the participants' right to confidentiality.

Once you have received approval from the IRB, make sure to obtain permission from any other necessary agency (e.g., school district, hospital,

business). In some cases, you will need to go through a separate application process, and in other cases, outside agencies will require a copy of the IRB approval from your institution. Only when you have received approval from all parties can you access participants. If the participants are adults, have them sign a written consent form. Remember that you cannot simply ask the person to sign a consent form that he cannot read or comprehend (that would not be *informed* consent). Thus, if necessary, use an interpreter during a face-to-face meeting with the individual participant if she cannot read or hear. Translate the information about the study into the participant's native language if you are sending a written notice. If the participants are minors (under 18), you need to get informed consent from their parents/guardians. The IRB may also require you to give the participants a copy of their Research Subject Bill of Rights. The **Research Subject Bill of Rights** is a list of rights that is guaranteed for every participant in a study. Make sure the participants receive a copy of the informed consent form for their records and keep a copy for your files. After you have received the participants' informed consent, then you may begin your study!

Ethical Behavior

Completing the IRB process and adhering to the requirements when conducting your study is only one element of ethical behavior as a researcher. When conducting and reporting research, it is critical that you demonstrate ethical behavior and integrity at all times. Now is the time to learn as much as you can about ethics in research and internalize the information so it is a natural part of your professional behavior. This includes being honest in your interactions with participants as well as complying with ethical standards in your field for data collection, analysis, and reporting. As a beginning researcher, you will find that unanticipated situations will occur. When this happens, the appropriate solutions will be evident, but there may be less appropriate solutions in the form of shortcuts. These will be equally apparent and need to be avoided. Your master's thesis will be a public document that will be read by many researchers as they search the literature for similar problems. I will not go into all of the situations that might occur, but following are some examples. During data collection, do not interfere with, influence, or modify the participants' responses to measurement instruments. This is critical when the participants do not "answer" in the way that you anticipate or want, which happens in the best of research studies. During data analysis, do not inflate, delete, or manipulate the data to obtain desirable results. This too is important. Remember

it is not uncommon for your hypotheses to be unsupported by the results. You conduct the research to find that out. Keep in mind that in research, the researcher is also taking risks, and the results may not always be what are expected or desired. Discovering that an intervention does not work for a particular sample is still making a contribution to the literature.

Plagiarism

Finally, in writing the thesis and reporting the results, do not plagiarize. To **plagiarize** refers to using another person's ideas or words without giving them proper credit ("What Is Plagiarism," n.d.). Plagiarism can be any of the following: "turning in someone else's work as your own; copying words or ideas from someone else without giving credit; failing to put a quotation in quotation marks; giving incorrect information about the source of a quotation; changing words but copying the sentence structure of a source without giving credit; or copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not" (para 4). For more information about how to avoid plagiarizing, refer to the Plagiarism.Org website (http://www.plagiarism.org). You are not expected to know everything about the topic that you are researching, but you are expected to credit the individuals whose work you review and integrate into your study. Plagiarism can be tempting because there is easy access to so much information on the Internet. Thus, it is important to monitor yourself. Just as it has become easy for students to plagiarize, it has also become easier for instructors and universities to identify plagiarized material. Informed people are likely to identify content from other sources without a citation, and there is software (e.g., Turnitin, Plagiarism-Finder, Viper) available that is designed to identify plagiarized material. If a student is caught plagiarizing, this can result in failing a class, expulsion from a program, or even withdrawal of a degree. If a member of a profession is caught plagiarizing, the consequences for her career cannot likely be overcome. Thus, it is not worth succumbing to the temptation of plagiarism (even if others around you are doing it), and it is easy to avoid by being professional in your behavior. Based on the definition above, there are several ways to prevent plagiarism: (a) Do your own work, (b) give credit to the original source or idea, and (c) paraphrase rather than copy someone's writing. To **paraphrase** is to maintain the gist or essence of the original work (with appropriate citations) but to write it in your own words. Paraphrasing and citing sources are two very important skills that will help you to be successful in writing the thesis.

The purpose of a thesis is to demonstrate research skills and to do original work. Knowing and adhering to ethical practice is as important

as knowing and adhering to sound research methodology. By maintaining your ethical behavior and integrity throughout the research process, you will have conducted an original study and written a master's thesis that you can be proud of.

Summary

Understanding the ethical standards and principles related to conducting research with human subjects is a critical part of your formation as a researcher. As you plan and design your study, make sure that you take into consideration the main ethical principles and standards from the Nuremberg Code and the Belmont Report. This will ensure that you prepare an ethical and successful research study application for the Institutional Review Board for the Protection of Human Subjects (IRBPHS). In the next chapter, I will discuss how to write Chapter One, Introduction, for your thesis. Here is a summary of the most critical points from Chapter 4:

- The three main standards of the Nuremberg Code are (a) voluntary informed consent, (b) avoiding all unnecessary mental and physical pain and suffering, and (c) weighing the risks against the expected benefits.
- In 1962, Congress passed the Kefauver-Harris Drug Amendments, which increased the regulatory powers of the Food and Drug Administration.
- The National Research Act of 1974 created the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research.
- In the Belmont Report, the commission identified three fundamental ethical principles for conducting research with human subjects: (a) respect for persons, (b) beneficence, and (c) justice.
- Researchers in different fields and disciplines have developed and adopted their own ethical standards specific to the type of research that is conducted with human subjects.
- In 1991, the core regulations by the Department of Health and Human Services (USDHHS) for the protection of human subjects in research studies were formally adopted as the Federal Policy for the Protection of Human Subjects, known as the Common Rule.
- Three of the central requirements in the Common Rule are (a) any research supported or conducted by any federal department or agency must ensure compliance with the policy; (b) researchers must obtain written informed consent; and (c) institutions must have an Institutional Review Board (IRB) in place to review and approve research studies.
- The major role of the IRB is to ensure that all research with human subjects conducted by persons affiliated with the institution (including administrators, faculty, staff, and students) is done ethically and in compliance with federal regulations.

- The IRB requires that researchers (including undergraduate and graduate students) submit an IRB application for approval *before* any recruitment procedures are enacted, contact with potential participants is made, or data are collected.
- When conducting and reporting research, it is critical that you demonstrate ethical behavior and integrity at all times.

Resources

Common Obstacles and Practical Solutions

1. One of the common emotions that students face at this stage is anxiety about the IRB process. Words that come to mind are, "What if I don't get approval?" Do not worry. Most student research puts participants at minimal risk of harm (unless you are doing something very bizarre or something you shouldn't). However, it is necessary for the IRB committee to review your application to make sure that your study is feasible and you have minimized potential harm with maximum benefit for the participants. Think of the committee as a friendly guard dog.
2. Another common obstacle faced by students is getting approval to conduct research from other related organizations (e.g., school districts, hospitals, prisons). Most organizations have their own research approval process, and this tends to take longer than the university's IRB process. Therefore, it is critical that you find a main contact person, follow their guidelines exactly, and start the process early!

Reflection/Discussion Questions

As you begin to design your study, it is important to consider the effects or consequences of your study on others, especially the participants. In doing so, reflect on the tragedies and unethical treatment of past research studies. The following reflection/discussion questions will help identify the main standards and ethical principals that must be applied while conducting research with human participants. Remember the wise words of the great philosopher George Santayana who once said, "Those who cannot learn from history are doomed to repeat it."

1. What are the main standards and ethical principles from the Nuremberg Code and the Belmont Report? Give specific examples of how they relate or could be applied to your field or discipline area.

Try It Exercises

The following exercises are designed to help you successfully complete the Institutional Review Board (IRB) application to conduct research at your institution. Doing this early in the process is critical, as you cannot begin data collection without IRB approval. In Activity One, you will research the IRB process at your specific institution. In Activity Two, you will develop the IRB application for your study.

1. Activity One: For this activity, focus on the IRB website or campus office at your institution.
   - Search your institution's website to locate the IRB website or campus address.
   - Search the IRB website or visit the IRB office and list the name of the chairperson and the other members of the committee (with their respective school/college/department).
   - Search the IRB website or visit the IRB office and obtain a manual or guide to complete the application process. Get samples of the IRB application, informed consent form, and cover letter if available.
   - Read the IRB manual and make a list of all the necessary components of the IRB application.
2. Activity Two: For this activity, focus on the IRB procedures and guidelines at your institution from Activity One.
   - Develop an IRB research plan for your study (per IRB application guidelines).
   - Develop a participant informed consent form or cover letter for your study (per IRB application guidelines).
   - Develop/locate and copy all measurement instruments that will be used for your study (if required by the IRB).
   - Copy samples of any materials that will be used for your study (if required by the IRB).
   - Obtain a letter of permission to access participants from the research site administrator (if required by the IRB).

Key Terms

- Belmont Report
- beneficence
- Common Rule
- confidentiality
- cost-benefit analysis
- deception
- Institutional Review Board (IRB) application
- Institutional Review Board (IRB) research plan
- justice
- Kefauver-Harris Drug Amendments
- National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research
- National Research Act of 1974 (Public Law 93-348)
- Nuremberg Code
- paraphrase
- plagiarize
- Research Subject Bill of Rights
- respect for persons
- voluntary informed consent
- vulnerable populations

Suggested Readings

- Gray, C., & Carville, S. (2008). Ethical research practices across disciplinary boundaries: The process of research involving children with a visual impairment. *Child Care in Practice, 14*(2), 217–228.
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- Sales, B. D., & Folkman, S. (2000). *Ethics in research with human participants*. Washington, DC: American Psychological Association.
- Shore, N. (2009). Student research projects and the Institutional Review Board. *Journal of Teaching in Social Work, 29*, 329–345.
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Web Links

- American Educational Research Association (AERA) Code of Ethics http://www.aera.net/Portals/38/docs/About_AERA/CodeOfEthics%281%29.pdf
- American Psychological Association (APA) Ethical Principles of Psychologists and Code of Conduct http://www.apa.org/ethics/code/index.aspx
- The Belmont Report http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.htmlThe Common Rule http://www.hhs.gov/ohrp/policy/common.html
- The Nuremberg Code http://www.hhs.gov/ohrp/archive/nurcode.htmlPlagiarism.Org http://www.plagiarism.org/
- Teaching the Responsible Conduct of Research in Humans (RCRH) http://www.ori.dhhs.gov/education/products/ucla/default.htm