

## **CHAPTER 2: RESEARCH METHODS**

### **CHAPTER AT A GLANCE**

#### ***MEASURING HEALTH***

##### **Borrowing from Epidemiology**

*Mortality vs. Morbidity*

*Incidence, Prevalence and Relative Risk*

*Proximal vs. Distal Causes of Illness*

#### ***METHODOLOGY***

##### **Qualitative Studies**

*Case Studies*

*Focus Groups*

*Interviews*

##### **Correlational Studies**

##### **Experimental Studies**

*Independent vs. Dependent Variables*

*Experimental vs. Control Groups*

*Random Sample*

*Longitudinal vs. Cross-Sectional Design*

##### **Intervention Studies**

##### **Ethical Considerations in Experimental Design**

##### **Quasi-experimental Intervention Studies**

#### ***RESEARCH ETHICS AND POLICY***

##### **Reactions to the Word ‘Research’**

##### **The Tuskegee Syphilis Study**

##### **The Nuremberg Code of 1947**

##### **Study of Interpersonal Dynamics (Stanford Prison Experiment)**

##### **Research without Informed Consent**

### **CHAPTER OBJECTIVES**

After studying this chapter, students will be able to:

1. Identify and describe the five classic indicators of health.
2. Explain proximal and distal causes.
3. Identify and describe non-experimental research designs.
4. Explain the relevance of non-experimental designs for health research.
5. Identify and describe experimental designs.
6. Explain the relevance of experimental designs for health research.
7. Describe intervention studies.
8. Explain the relevance of intervention studies for health research.
9. Identify historical events leading to the establishment of the Nuremberg Code of Conduct, the Declaration of Helsinki and the US National Research Act.
10. Describe IRBs, their role and their function.
11. Identify and explain the two principle violations of research ethics in the Tuskegee Study.
12. Identify and explain the psychological harm to participants in the Stanford Prison Experiment.
13. Explain the concept ‘research without informed consent’.

## IMPORTANT TERMS

adverse event	longitudinal study design
atrial septal defect	morbidity
baseline measures	mortality
Belmont report	negative correlation
case study	nonexperimental study
cause and effect relationship	null hypothesis
closed-ended questions	Nuremberg Code
cohort	Office of Human Research Protection (OHRP)
community-based study	one-on-one interviews
control group	open-ended questions
correlational studies	Pearson correlation coefficient ( $r$ )
cross-sectional study design	positive correlation
Declaration of Helsinki	post-test
dependent variable	predisposing factor
distal cause of illness	pre-post-post-test design
E. coli 0157:H7 bacterium	pre-posttest studies
eligibility criterion	pretest-posttest studies
encephalitis	prevalence
epidemiology	prevalence rates
experimental group	proximal cause of illness
experimental study	qualitative studies
focus group	qualitative data
Framingham Heart Study	quasi-experimental design

hexamethonium	random assignment
hypertension	random sample
incidence	randomized clinical trial
Incidence rates	rates
Independent variable	raw data
Infant mortality rate	relative risk
Latent stage	research hypothesis
Longitudinal study design	research without informed consent
morbidity	retrospective analysis
mortality	Stanford Three Community Study
mortality rates	Study of Interpersonal Dynamics (Stanford Prison Experiment) Tuskegee Syphilis Study

## LECTURE OUTLINE

### I. *Measuring Health*

#### A. *Borrowing from Epidemiology*

1. Health psychology borrows some concepts from the field of **epidemiology**, the study of factors which determine the health status of population groups. **Epidemiologists** can be thought of as medical detectives who determine the origins of disease by examining the earliest known human infected and the agent causing the infection. From there, they work to determine the risk of the disease to current and future populations.

#### B. *Mortality versus Morbidity*

1. **Mortality** (death rates) and **morbidity** (disease rates that may contribute to mortality) are two important measures of the health of a population.
2. Health researchers use two types of data when reporting mortality and morbidity statistics: **raw data** (actual numbers) and **rates** (the calculation of the number affected divided by the total population). Raw data can be misleading because they do not allow us to determine the overall percentage of the population affected.
3. **Infant mortality rates** are considered an important measure of the overall health of a community. For example, the leading causes of infant death in the US in 1997 were birth defects, prematurity, and sudden infant death syndrome. Since the main causes of birth defects are lack of prenatal care and substance abuse (maternal factors), infant death rates are also indicators of maternal health.

#### C. *Incidence, Prevalence and Relative Risks*

1. **Incidence** refers to the number of new cases of a disease in a population for a given time period. Incidence rates allow us to see how quickly a disease is spreading through a population.
  2. **Prevalence** is the total number of cases (old and new) of a specific disease in a population, for a specific time period.
  3. **Relative risk** is an estimate of the risk of acquiring a disease by persons who are members of a particular group, compared to members of another group. For example, IV drug users have about a 60% higher relative risk of contracting HIV, as compared to non-IV drug users.
- D. *Proximal vs. Distal Causes of Illness*
1. **Proximal** (immediate) and **distal** (remote in time) causes of illness may include individual, situational, or environmental factors. For example, in an outbreak of gastrointestinal illnesses a proximal factor may be the **e-coli 0157:H7 bacterium** in a particular food or restaurant. Distal causes may predate an illness by months or even years. For example, heart disease can be caused by genetic or congenital defects, hypertension, and other (distal) **predisposing factors**.

## II. Methodology

### A. Qualitative Studies

1. Qualitative studies are used to gather rich, contextual, non-statistical data that help to explain a behavior or outcome in the environment in which it occurs.
2. **Case studies** are used to gather in-depth information on a relatively small group of individuals.
3. **Focus groups** bring together small groups of people in discussions that are facilitated by a moderator. The four main functions of focus groups are: to gather information, generate insight, explore a decision-making process, and encourage interactions that create new insights.
4. **Interviews** use **closed-ended** (yes or no) and **open-ended** questions to elicit a range of responses about a health phenomenon.

### B. Quantitative Studies

1. **Correlational studies** allow researchers to examine whether or not there is a relationship between two or more variables, and how strong the relationship may be. For example, the correlation between height and weight in a population of children can tell us how healthy these children are.
  - a. An important limitation of correlational research is that it does not imply causation (e.g., changes in height do not *cause* changes in weight).
2. **Experimental studies** allow researchers to determine whether or not there is a cause and effect relationship between variables. There are several key components to experimental studies.
  - a. **Independent variables** are the variables that the researcher manipulates, and **dependent variables** are the outcome variables. For example, in a study of the effects of exercise on stress, exercise would be the independent variable and stress would be the dependent variable.
  - b. Experimental studies include at least two groups of participants: **the experimental group** (the test group) and the **control group**.
  - c. Experimental studies use **random sampling** to select a group of participants that is representative of the population. These studies also use **random assignment** to the experimental versus the control group (each participant has an equal chance of being assigned to either group).
  - d. Experimental studies may be **longitudinal** (following the same group of participants over time) or **cross-sectional** (measuring several different groups of

participants at the same time). Longitudinal studies yield important data, but they are time-consuming, costly, and have problems with attrition.

- i. A famous example of a longitudinal study is the **Framingham Heart Study**, which was the first to identify risk factors for heart disease. This study, which began in 1949, examined a **cohort** of 5,127 men and women over many years, linking key risk factors with the later development of heart disease. This study still continues today, and is now examining a third generation of offspring from the original group to explore genetic, environmental, and individual contributions to heart disease.

3. **Intervention Studies** test the extent to which a particular program or treatment improves health outcomes. Participants are given a **pre-test** to obtain baseline measures of their knowledge, performance, or physical and mental status. Following the intervention, a **post-test** is given to determine the outcome. These studies may be experimental or quasi-experimental, depending on whether or not a control group is used.

- a. A good example of an intervention study is the **Stanford Three Community Study**. This study examined the effects of mass media campaigns and intensive individual instruction on risk reduction for heart disease. Three communities in California were studied, with one serving as a control condition. The study found that mass media intervention was more effective than individualized instruction or no intervention at all in reducing cardiac risk.

4. **Ethical considerations in Experimental Design**

- a. **Randomized clinical trials** are an important type of experimental design used in health research to determine the effects of a new medication, therapeutic approach, or treatment apparatus. Because of the possible risk to participants, the US Food and Drug Administration requires new drugs to undergo several stages of testing, beginning with laboratory trials with animals. The process can take years. Ethical concerns arise when clinical trials require control groups, and the participants in the control groups have delayed access to the potential benefits of new drugs (e.g., potentially life-saving HIV/AIDS drugs). There is a need to balance ensuring that new drugs are effective and safe against the time needed to complete testing and provide access to the drugs.

- i. One way to address this problem is to use a **pre-post-post-test** design where as soon as the control group finishes the post-test, the participants are given a trial of the new drug, thus minimizing delay.

5. **Quasi-experimental Intervention Studies** allow researchers to examine independent variables that cannot be controlled or manipulated (e.g., gender, age, ethnicity). Quasi-experimental intervention studies also do not have control groups. The price to pay for the lack of these controls is that cause-effect relationships cannot be established.

The following table from the textbook lists the pros and cons of the above research methods.

**TABLE 2.2**  
**SAMPLE RESEARCH METHODS**  
**FOR HEALTH PSYCHOLOGY RESEARCH**

DESIGN	PURPOSE	STATISTIC	PROS (P) AND CONS (C)
<b>Non-experimental</b>			
<i>Qualitative</i>	Explore phenomenon in context	Minimal or no statistical data Analyze content of responses	(P) In-depth analysis of response (C) Cannot examine cause-effect relationships
<i>Case</i>	In-depth exploration of person, place, situation	Minimal or no statistical data Analyze content of responses	(P) In-depth exploration of rare/unique events (C) Cannot examine cause-effect relationships
<i>Focus Groups</i>	Gather information Generate Insight Explore decision making Encourage interactions	Minimal use of descriptive data Analyze content of responses	(P) Generate new information, insights (P) Interactive approach (C) Cannot examine cause-effect relationships
<i>Correlational Studies</i>	Describe relationship between two variables	<u>Pearson Correlation Coefficient (<i>r</i>)</u>  <i>Range = -1.00 to +1.00</i>	(P) Identifies relationship between two variables (C) Cannot determine casual relationship
<b>Experimental</b>			
<i>Experimental Studies</i>	Detect cause-and-effect relationship between variables.	<i>Central tendency (mean, median, mode)</i> <i>Student's T,</i> <i>Analysis of Variance (ANOVA)</i> <i>Multiple Analysis of Variance (MANOVA)</i> <i>Linear, multiple or logistic regression (<math>R^2</math>)</i>	(P) Causal explanation of effects of one or more variables on outcomes (P) Direct control of causal variables  (C) Not suitable for all studies (C) No in-depth analysis
<i>Intervention Studies</i>	<i>Measure effect of intervention usually with pre-post-test format</i>	<i>Central tendency (mean, median, mode)</i> <i>Student's T,</i> <i>Analysis of Variance (ANOVA)</i> <i>Multiple Analysis of Variance (MANOVA)</i> <i>Linear, multiple or logistic regression (<math>R^2</math>)</i>	(P) Direct measure of effectiveness of intervention (P) Causal explanation of effects  (C) Not suitable for all studies (C) No in-depth analysis
<b>Quasi-experimental</b>			
<i>Quasi-experimental</i>	Detect cause-effect relationship between two variables with limitations	<i>Central tendency (mean, medial, mode)</i> <i>Student's T,</i> <i>Analysis of Variance (ANOVA)</i> <i>Multiple Analysis of Variance (MANOVA)</i> <i>Linear, multiple or logistic regression (<math>R^2</math>)</i>	(P) Limited cause-effect relationship (P) Control of some causal variables  (C) Pre-existing conditions not be controlled
<i>Intervention Studies</i>	<i>Measure effect of intervention usually with pre-post-test format</i>	<i>Central tendency (mean, median, mode)</i> <i>Student's T,</i> <i>Analysis of Variance (ANOVA)</i>	(P) Measure intervention effect on single group (P) Limited subject variance  (C) Limited inference of causality without

### III. Research Ethics and Policy

#### A. Reactions to the Word “Research”

1. What do you think of when you hear the word “research”? Some people associate this word with positive thoughts about new scientific discoveries. Others think of “human guinea pigs” and mistreatment of subjects. Unfortunately, both views hold some truth.
2. Mistreatment of subjects in several famous studies has led to important regulations over health research.

#### B. Tuskegee Syphilis Study

1. This infamous longitudinal study was conducted in the US from 1932-1972. Researchers from the US Public Health Service (USPHS) sought to observe the effects of **latent** (non-contagious) syphilis on different races, based on clinical findings suggesting differences. They studied approximately 400 men who tested positive for syphilis, compared with a 200 member control group. However, instead of telling the former group that they had tested positive for syphilis, they simply told them they had “bad blood”, a southern term for general ailments. This was a serious deception because the men did not know that untreated, their illnesses would result in death. When penicillin became available as an effective treatment for syphilis, the men were not given this drug. In 1966 Peter Buxton, an investigator with the USPHS, raised moral and ethical concerns about the study, and the CDC convened a panel to review the issues. Incredibly, the decision was to continue the study without treating the men. Only after Buxton reported the study to the Associated Press was the study ended in 1972.
2. In addition to the deception and deliberate withholding of life-saving treatment of these men, the Tuskegee study had serious consequences for their spouses and unborn children, some of whom were infected with the disease.
3. Other alarming health studies in the mid to late 1800’s were done on African American slaves.
4. The Tuskegee study demonstrates the critical need to regulate and monitor research involving human subjects.

#### C. The Nuremberg Code of 1947

1. At the end of World War II, when survivors of the concentration camps were released, it was discovered that people in the camps were subjected to medical experiments in the name of science. These included procedures to change eye color by injecting chemicals into eye sockets, forced sterilization, and the effects of starvation on the liver. A US military tribunal convened an international court known as the Nuremberg trial. In addition to prosecuting the people responsible for these experiments, an outcome of the trials was the **Nuremberg Code** of 1947, a list of 10 conditions that comprised the first formal document regulating the use of human subjects in research.
2. The Nuremberg Code was later incorporated into the Declaration of Human Rights, approved by the United Nations. This document was broadened by the World Medical Society in 1964 to comprise **The Declaration of Helsinki: Recommendations Guiding Medical Doctors in Biomedical Research Involving Human Subjects**. This document has been revised several times, most recently in 2000.

3. In 1953, the US National Institutes of Health (NIH) established an Institutional Review Board (IRB), a system of national and local research review boards responsible for protecting human subjects.
  4. The American Psychological Association (APA) has a set of ethical standards for psychologists, which includes protections for human subjects in research studies.
- D. *Study of Interpersonal Dynamics (Stanford Prison Experiment)***
1. 1971, Philip Zimbardo designed an experiment to examine the impact of an institutional environment on human behavior. He randomly assigned 24 male Stanford University student volunteers to one of two roles: prison warden or prisoner. Arrangements were made for them to live in a mock prison for two full weeks, with the wardens working eight-hour shifts “guarding” the prisoners. However, the study was terminated after the sixth day because the prisoners showed extreme psychological trauma due to the increasingly hostile and abusive behavior of the wardens. The study clearly demonstrated that a “bad situation” can lead otherwise “good” people to behave in uncharacteristically disturbing ways. It also shed light on situations such as the atrocities performed in concentration camps during World War II.
  2. The results of this study were shocking. At the time the study was planned, the potential for harm to the research participants was unforeseen. Fortunately, Zimbardo acted ethically by discontinuing the experiment. Today, this type of research would not be allowed, and IRB’S would take steps to predict and safeguard against potential risk to participants.
- E. *Research Without Informed Consent***
1. Research can be performed on people without their consent only if they have **diminished mental capacity** (e.g., the person is unconscious due to cardiac arrest).
  2. This type of research is typically done in emergency situations, and regulations state that conditions must be met: 1) the patient is experiencing a life-threatening condition for which existing treatments are deemed unsatisfactory or unproven, 2) further evidence is needed to determine an experimental treatment’s safety or efficacy, 3) the participant is incapable of consent due to his/her medical condition, 4) intervention is necessary before an authorized representative can be consulted, and 5) researchers have observed a number of special protections including “community consultation” (a rather vaguely defined and hotly contested condition).
- F. In conclusion,** partly due to serious past abuses, important steps have been taken by various agencies to protect human subjects in health research. The vast majority of studies today pose little physical or psychological risk to the participants. The first responsibility for ethical conduct begins with the researcher.

## LECTURE LAUNCHERS

### Medical Detectives

We learned in this chapter that epidemiologists can be thought of as medical detectives who determine the origins of disease by examining the earliest known human who was infected and the agent causing the infection. Consider the case of Gaetan Dugas, “Patient Zero” who was identified as a key figure initiating the spread of the HIV virus in the gay community in the US. In 1982, the CDC tracked down Dugas, who



was a French-Canadian flight attendant. His travel patterns and multiple partners allowed him to spread the virus to a large number of people very quickly. By the time he learned he was contagious, he had been carrying the HIV virus for two years. After interviewing Dugas and obtaining the names of his sexual partners, CDC researchers were able track the spread of a large number of cases of HIV in the San Francisco and New York City gay communities. Dugas died in 1984, after having AIDS for 4 years. He did not stop having sex, even after knowing he was contagious with a deadly disease.

(Source: Shiltz, R. (1987) And the band played on: Politics, people, and the AIDS epidemic. NY: St. Martin's Press.)

Present this case of Patient Zero to your class, and discuss the ethical issues associated with this case. Once an individual is identified as carrying an infectious disease that seems to be rapidly spreading and life-threatening, how does one balance individual freedom with protection of the community? Compare this example to other recent outbreaks, such as the H1N1 virus ("swine flu") and the case of Andrew Speaker who had drug resistant tuberculosis and traveled internationally by plane in 2007 before being detained (See Chapter 3). Consider also how during the 19<sup>th</sup> and 20<sup>th</sup> centuries, outbreaks of tuberculosis led to many states and communities in the US requiring people to be quarantined in sanatoriums. (See Chapter 3). When it is unclear how dangerous an illness may be, how quickly should health officials step in with preventive measures (e.g., mandatory vaccines, quarantines)?

### **What is the Best Measure of the Health of a Population?**

Epidemiologists and other health researchers commonly use infant mortality rates as a measure of the global health of a population. Ask students why they think this is a good measure and what it reflects about the given population or country. Refer to Appendix II, which lists Infant Mortality Rates for Selected Countries (2007). Note that the US has a higher infant mortality rate than Canada, and many European countries. Ask students why they think this is (e.g., higher rates of premature births; less access to prenatal care). Note also that this chart from the US Census Bureau shows life expectancy rates for

each country. Ask students which measure of health is a better measure and why. What do their opinions reflect about the values a society places on women, children, and aging? How are infant mortality rates and life expectancy rates intertwined? Students may be alarmed to see the low life expectancies in countries such as Angola, Zimbabwe, and Mozambique. How can these life expectancies be so low, given the health care technology available in the 21<sup>st</sup> century?

### **Correlation Verses Causation: The Hot Dog Question**

Psychology instructors agree that one of the key concepts we hope our students will grasp in any psychology course is the distinction between correlation and causation. Although at first glance it appears easy to understand, it often takes repeated exposure to a variety of examples for a full understanding to sink in. Especially, since the media continually reports health and other psychology research in a way that misleadingly implies causation.

A few years ago, reports appeared in the media linking the consumption of hot dogs with various forms of childhood cancer. Several newspaper articles declared that parents should stop feeding their children hot dogs. You will find that if you have non-traditional students who are parents, when you tell them about these reports they will gasp and say that they feed their children hot dogs all the time (especially because they are on a limited budget!)

This is a great opportunity to point out the distinction between correlation and causation, along with several other common flaws of correlational research. Just because the parents of the children who had cancer reported having fed them more hot dogs, this does not mean the hot dogs caused their cancer. There are third variable explanations (e.g., less than optimal general nutrition, poverty, even the mustard or yellow dye in the mustard). Also, there may be recall bias (parents whose children are tragically afflicted with cancer may be searching for a culprit to explain what caused the cancer.)

Ask students to give other examples of health research that they have read or heard about in the media that misleadingly suggest causation instead of correlation. Encourage students to bring in examples from the newspapers and online news sources.

## **CLASSROOM ACTIVITIES**

### **How to Design a Health Research Study**

This activity is designed to help students apply material regarding the various health research methods. Divide students into groups and ask them to consider how to design a research study investigating condom use among teenagers. Give them the handout in Appendix 2.2 to record their answers to the questions. Following their group discussion, ask them to share their answers with the class as a whole. This will spark an interesting discussion of research flaws and the pros and cons of various methods.

### **Identifying Types of Research Studies**

If you are in a wired classroom or if students have access to the internet on their phones or laptops, ask them to find examples of health research in several different categories: longitudinal, experimental, correlational, qualitative. If you want to save time, divide them into groups and ask each group to find a different category of research and report on it. Alternatively, bring copies of health psychology journals and ask the students to look through them and find examples. Then have them briefly summarize the methodology, results, and limitations of the studies.

### **Debates**

Randomly assign students to teams debating the pros and cons of the following topics. Note that students who are assigned a stance that is in opposition to their actual opinion will find this to be a particularly enlightening learning opportunity, as it will allow them to consider the relative merits of their opponents' points of view.

Be clear with students that mere opinions will not be sufficient to form their arguments. Require them to cite specific research studies supporting their claims, and to submit copies of the journal articles they use. This will also help students to become familiar with the research process and with current studies in health psychology. See the Preface to this Instructor's Manual for an example of specific instructions to give to students.

Possible Topics:

- Health-related research on animals is unethical and should be outlawed.
- The use of herbal remedies and other alternative health treatments should be outlawed unless these treatments have been proven to be effective through randomized clinical research trials.

## Appendix 2.1

### Infant Mortality Rates for Selected Countries (2007)

Country	Infant mortal-ity <sup>1</sup>	Life expec-tancy <sup>2</sup>
<a href="#">Albania</a>	20.0	77.6
<a href="#">Angola</a>	184.4	37.6
<a href="#">Australia</a>	4.6	80.6
<a href="#">Austria</a>	4.5	79.2
<a href="#">Bangladesh</a>	59.1	62.8
<a href="#">Brazil</a>	27.6	72.2
<a href="#">Canada</a>	4.6	80.3
<a href="#">Chile</a>	8.4	77.0
<a href="#">China</a>	22.1	72.9
<a href="#">Costa Rica</a>	9.5	77.2
<a href="#">Cyprus</a>	6.9	78.0
<a href="#">Czech Republic</a>	3.9	76.4
<a href="#">Denmark</a>	4.5	78.0
<a href="#">Ecuador</a>	22.1	76.6
<a href="#">Egypt</a>	30.1	71.6
<a href="#">Finland</a>	3.5	78.7
<a href="#">France</a>	4.2	79.9
<a href="#">Germany</a>	4.1	79.0
<a href="#">Greece</a>	5.3	79.4
<a href="#">Guatemala</a>	29.8	69.7
<a href="#">Hungary</a>	8.2	72.9
<a href="#">India</a>	34.6	68.6
<a href="#">Iran</a>	38.1	70.6

Country	Infant mortal-ity <sup>1</sup>	Life expec-tancy <sup>2</sup>
<a href="#">Japan</a>	3.2	81.4
<a href="#">Kenya</a>	57.4	55.3
<a href="#">Korea, South</a>	6.1	77.2
<a href="#">Mexico</a>	19.6	75.6
<a href="#">Mozambique</a>	109.9	40.9
<a href="#">New Zealand</a>	5.7	79.0
<a href="#">Nigeria</a>	95.5	47.4
<a href="#">Norway</a>	3.6	79.7
<a href="#">Pakistan</a>	68.5	63.8
<a href="#">Panama</a>	16.0	75.2
<a href="#">Peru</a>	30.0	70.1
<a href="#">Poland</a>	7.1	75.2
<a href="#">Portugal</a>	4.9	77.9
<a href="#">Russia</a>	11.1	65.9
<a href="#">Slovakia</a>	7.1	75.0
<a href="#">South Africa</a>	59.4	42.5
<a href="#">Spain</a>	4.3	79.8
<a href="#">Sri Lanka</a>	19.5	74.8
<a href="#">Sweden</a>	2.8	80.6
<a href="#">Switzerland</a>	4.3	80.6
<a href="#">Syria</a>	27.7	70.6
<a href="#">United Kingdom</a>	5.0	78.7
<a href="#">United States</a>	6.4	78.0

<a href="#">Ireland</a>	5.2	77.9
<a href="#">Israel</a>	6.8	79.6
<a href="#">Italy</a>	5.7	79.9

<a href="#">Venezuela</a>	20.9	74.8
<a href="#">Zimbabwe</a>	51.1	39.5

1. Infant deaths per 1,000 live births.
2. Life expectancy at birth, in years, both sexes.

Source: U.S. Census Bureau, International Database.

## Appendix 2.2

### Design a Study of Condom Use in Teenagers

1. What might be the advantages of doing a **qualitative study** to investigate this health behavior?
2. Which would be the most effective qualitative research method for this issue: **case studies** or **focus groups**? Why?
3. What kinds of **closed ended questions** would you want to ask? Why? **Open-ended questions**?
4. Why would it be important to get a **random sample** for this study? If the study consists of volunteers, how might this bias the results (i.e. what might be the characteristics of teens who volunteer/do not volunteer)?
5. Could an **experimental study** be done on this question? Why/why not?
6. If you wanted to do a **correlational study**, what might be some of the variables you would hypothesize might correlate with condom use? Why?
7. How would you design a **longitudinal study** on this question? How easy/difficult would this be to do? Why? What kinds of information could you get from a longitudinal study that you could not get from other methods?
8. How would you design an **intervention study** in this area? Would it be appropriate to have a control group? Why or why not?