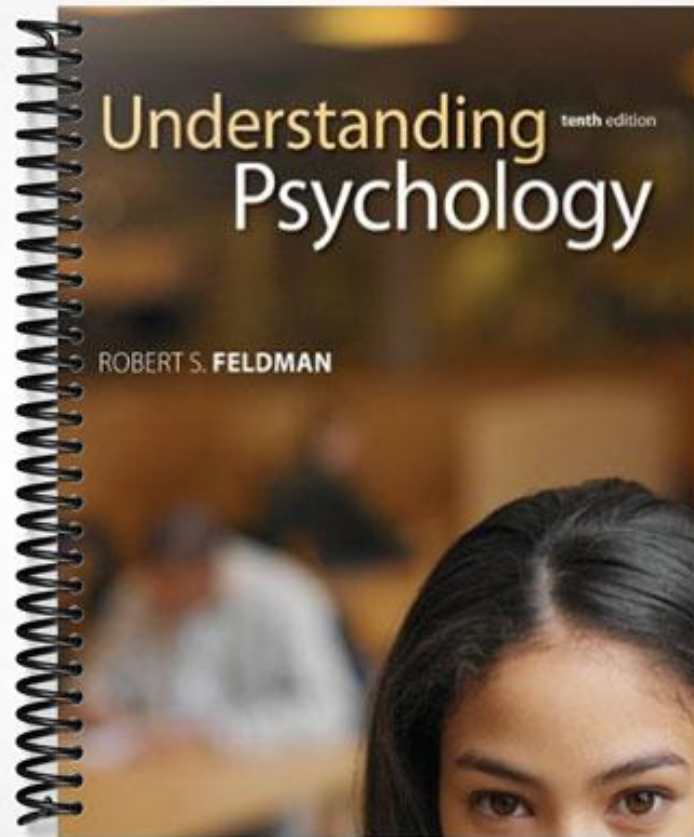


**SOLUTIONS MANUAL**



# Chapter 2

## Psychological Research



### LECTURE OPENER SUGGESTIONS

#### OPENING QUOTES:

Science must begin with myths, and with the criticism of myths.” Sir Karl Popper, 1902–1994

“I have not failed. I have just found 10,000 things that do not work.” Thomas Edison, 1847–1931

#### OPENING ARTWORKS:

Rene Magritte (1898–1967), *The False Mirror*, 1935

Georges Seurat (1851–1891), *Sunday Afternoon on the Island of la Grande Jette*, 1886

### OPENING THEMES

The scientific method is central to understanding the field today. Although it may seem as though these topics are not really about “psychology,” without a scientific approach, psychology would be no different than the pseudo-sciences that are propagated in the media.

### OUTLINE

PROLOGUE: WHY DID NO ONE HELP?

### MODULE 4: THE SCIENTIFIC METHOD

THEORIES: SPECIFYING BROAD EXPLANATIONS

HYPOTHESES: CRAFTING TESTABLE PREDICTIONS

### KEY CONCEPTS

---

Key Concept 4–1: What is the scientific method?

Key Concept 4–2: What role do theories and hypotheses play in psychological research?

## LEARNING OBJECTIVES

---

4–1 Describe the scientific method.

4–2 Distinguish between theory and hypothesis and describe the role of each in scientific inquiry.

## STUDENT ASSIGNMENTS

### PSYCH 2.0 ACTIVITY 2.1 THE SCIENTIFIC METHOD

In this activity, students complete the three stages of the scientific method—observing a group of circles moving against a colored background, generating a hypothesis regarding the movement of the balls, and creating a control group and experiment to test this hypothesis.

### ONLINE LEARNING CENTER ACTIVITY: ESP

[http://highered.mcgraw-hill.com/sites/0073382736/student\\_view0/perspectives\\_in\\_psychology/esp.html](http://highered.mcgraw-hill.com/sites/0073382736/student_view0/perspectives_in_psychology/esp.html)

A great activity for showing what science is “not.” This exercise does not really illustrate the scientific method, but it might provide an interesting diversion for students interested in the topic. There is a high probability that they also will learn that they do NOT have ESP!

### LIBRARY RESEARCH ON ESP

Send your students to your library’s online database in psychology. If your library does not have this facility, have students complete this assignment via a search engine such as Google. Give them this assignment: For a topic that interests you, find an article that you feel does a good job of addressing the topic. Find one that does a poor job of addressing the topic. What makes the difference between a good (i.e., scientific) and a poor (i.e., nonscientific) study on this topic?

### SCIENTIFIC METHOD

Ask students the following questions about the scientific method in psychology:

Why is it necessary for psychological researchers to use the scientific method?

Think about a psychological issue of interest to you. How would you approach it from a scientific perspective?

Is it more or less difficult for psychologists to study phenomena of interest than is true for scientists in other disciplines?

#### OPERATIONALIZATION: DIFFUSION OF RESPONSIBILITY

The textbook describes the research conducted by Latane and Darley on diffusion of responsibility in which the hypothesis was tested that the more the number of people in the room, the less likely an individual bystander would help. The hypothesis was operationalized by varying the number of people in the room when a confederate appeared to be having an epileptic seizure. Describe two other methods that could be used to operationalize this hypothesis.

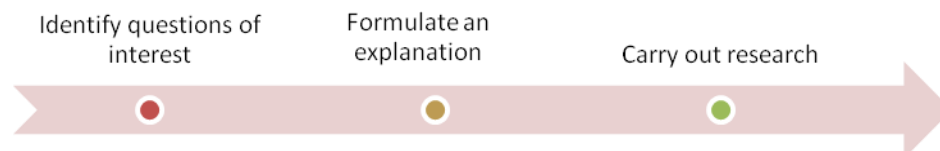
#### ONLINE LEARNING CENTER: FACT VS. OPINION

[http://highered.mcgraw-hill.com/sites/0072422971/student\\_view0/chapter2/power\\_-\\_tryit\\_s.html#](http://highered.mcgraw-hill.com/sites/0072422971/student_view0/chapter2/power_-_tryit_s.html#)

This interactive quiz shows the difference between fact and opinion. Alternatively, you can ask these questions in lecture (see below).

#### LECTURE IDEAS

#### OVERHEAD: STEPS IN THE SCIENTIFIC METHOD



#### FACTS VS. OPINIONS IN PSYCHOLOGY

Ask students this series of questions (from the Online Learning Center):

College students should get at least 7 hours of sleep every night. (O)

The average college student sleeps less than 7 hours of sleep a night (F)

Nikes offer better styling and comfort than any other brand of shoe. (O)

Two out of five sports figures preferred Nikes over Converse shoes. (F)

The U.S. government spends too much money on guns and missiles and not enough money on education. (O)

Government figures show spending is much higher for guns and missiles than for education. (F)

In general, U.S. high school students receive less classroom instruction in foreign languages than their counterparts in Europe and Asia. (F)

No student in the United States should graduate without having studied a language other than English for at least 4 years. (O)

Michael Jordan is the most outstanding, most exciting, and certainly most successful basketball player who ever stepped onto a basketball court. (O)

### “PSYCHIC EXPERIMENTS”

To show the importance of the scientific method, particularly ruling out alternative, competing hypotheses, here are three demonstrations that are very simple to do. It just takes a bit of show “person”ship.

#### **Experiment 1:**

This idea is loosely based on the “magic” tricks of Daryl Bem, Cornell psychologist.

The idea is to lure students into thinking that you can read their minds by guessing which object in the classroom they will have chosen. You will use a trick called “Black Magic.” After amazing them with your psychic powers, you then ask students to suggest alternative hypotheses to the possibility that you actually read their minds. The setup for this demonstration is reference to the Ganzfeld procedure in which a “receiver” attempts to read the mind of a “sender.” The procedure involves the receiver trying to guess which of four objects he or she had chosen. The chance rate is 25% correct, but Bem’s meta-analysis demonstrated a hit rate of 33%–35%. Say that Bem was therefore able to prove the existence of psychic phenomena (also called the “Psi” effect). If the class cooperates by concentrating their thoughts on an object in the room, you may be able to demonstrate the effect today.

*Follow these steps:*

Before the class, arrange to have a volunteer to assist you. This volunteer will appear to have been randomly chosen, but actually you will have preselected this person. You can honestly ask this person in front of the class whether you arranged ahead of time regarding which object was selected, and the honest answer will be no, because you will not have arranged ahead of time which object was actually selected. You will arrange ahead of time which object the assistant will point to before whatever object the class selects. This will be a black object. Any object that the volunteer points to after the black one will be the object chosen by the class. As you can see, nothing is really left to chance at all, nor have you been dishonest.

Tell the class that you will step out of the room and they will have up until the time you count to 30 to choose the object. The assistant will be in the room during this time.

Return to the room and now tell the class that in order to replicate the Ganzfeld procedure, you will need to have the volunteer point to several objects in the room. You will use your psychic powers (along with the class's cooperation) to determine which object they have chosen. During this time, the volunteer will point to three or four objects, then to an object that is black. The object after the black one should be what the class selected.

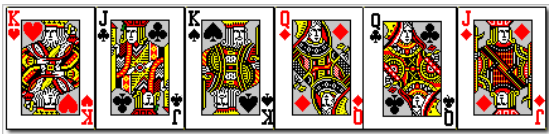
Feel free to ham this up. For each object, carefully inspect it, put your hands on it, look as though you are concentrating, and then announce in a loud voice, "No, this is definitely not the object." For one or two of the objects, you can start to say "yes," but then shake your head and say no. Chide the class and tell them to concentrate harder because you are getting confusing signals. For the object after the black one, first start to say no, then say very loudly, "YES! THIS IS THE OBJECT." Look at the class and take a well-deserved bow.

Now ask the class if they now believe in ESP. With luck, no one will have seen this trick performed before. Encourage them to think of alternative hypotheses and if necessary, lead them to think of the trick as involving not the object itself but the object AFTER the black object.

### Experiment 2:

Another or a second presentation along similar lines involves a very simple card trick. This can be performed using an overhead or with a set of cards (although this will take some sleight of hand). The overhead trick is definitely easier. Reproduce these images:

Slide 1:



Slide 2:



As you can see, Slide 2 and Slide 1 have completely different sets of cards. You will ask for a volunteer and say that the volunteer is to think of one of the cards from Slide 1. You will have magically guessed which card that is, as will be shown when you reveal Slide 2. If you can do this with actual cards, you would have the advantage of being able to pretend to deal out the cards minus the one that the volunteer chose. The problem is that you would then have to switch hands behind your back. With the overheads, tell the class that you have figured out ahead of time which card your volunteer will select. After the volunteer thinks of the card, show Slide 2. Unless the volunteer guesses the deception right away (try not to pick a math major!), then you can ask the class to suggest hypotheses regarding how you “knew” which card would be selected.

Feel free to adapt either of these tricks to your own personal style or to choose an alternate trick that you are comfortable with. The main point is that you encourage the students to think of competing hypotheses. This demonstration also helps to teach students the importance of careful observation. Both tricks can be solved if students pay attention to exactly what you do and say.

### **Experiment 3:**

This comes from your very own textbook author, Robert Feldman and is even simpler than the previous ones and just as effective.

Prepare three piles of cards:

Pile 1: has three cards

Pile 2: has four 3's (from all four suits)

Pile 3: the third pile

Put them together at the top of a deck to create the illusion that you are going to be randomly taking them off the top but they will have been prearranged.

Now ask for a volunteer and state that you will predict which pile the volunteer will pick because your psychic powers are so strong. In fact, you will write down your prediction ahead of time! Without allowing the volunteer to see what you are doing, write down the number 3 on a large sheet of paper, fold it up, and then turn to the task at hand. Instruct the volunteer to think of a number and really concentrate. Close your eyes and pretend to be “sensing” what the volunteer is thinking. Then instruct the volunteer to point at the pile she or he has chosen. After pointing to any of the piles, say, “Yes, that is what I predicted! I have written down the number 3!!” Of course you will be right because in Pile #1, there are 3 cards, Pile #2 has all 3's, and the third pile is “Pile #3.” After the applause dies down, ask the audience if you have proven you are truly psychic. Of course they won't think you are, but now you can ask them to generate hypotheses about the secret of the trick. Through this process, you will be demonstrating the value of considering alternative hypotheses and being ready to critique a result even if it seems to be dramatically proving a point.

## THEORIES, HYPOTHESES, AND OPERATIONALIZATION

Theories are needed in psychology to provide a way to organize our understanding of the world and to generate ideas for finding new insights into behavior. Latane and Darley developed their theory, which in turn led to hypotheses based on the theory. Choose another theory and associated hypotheses based on your own interests in the field.

Move on to operationalization. Returning to the Latane and Darley study, the investigators operationalized their hypothesis by having a confederate fake having an epileptic seizure and measuring the response time of participants depending on how many people were in the room at the time. Show how the hypothesis in the example you are providing was operationalized. Point out that operationalization depends on the resources available to the investigator (e.g., having an eye tracking machine allows for research on eye movements), the ingenuity of the researcher (the researcher's ability to come up with imaginative methods to test the hypothesis), and logic. The researcher should design the test of the hypothesis in such a way that alternative hypotheses can be ruled out.

### **Note regarding Latane and Darley's study:**

An article published in 2007 in the *American Psychologist* challenged some of the conclusions reached about the Kitty Genovese case:

Manning, R., Levine, M. & Collins, A. (2007). The Kitty Genovese murder and the social psychology of helping: The parable of the 38 witnesses. *American Psychologist*, 62, 555-562.

## ONLINE LEARNING CENTER: AROUND THE GLOBE

### **Teacher Ratings of Problem Behavior in Thai and U.S. Schools**

Psychologists often ask the people who know a child best to report on that child's behavior: parents and teachers. When researchers tried to study primary-school pupils in Thailand and the United States, though, they found out more about the teachers' values than the students' behavior (Weisz et al., 1995). In several studies, researchers found that Thai teachers reported that their students had a very high number of conduct problems, such as fidgeting and not paying attention, far more than teachers in the United States usually report. Yet Weisz and his colleagues observed that, to their eyes, the Thai children seemed more attentive and more "orderly" than U.S. children. Weisz et al. trained observers in both Thailand and the United States to use a checklist for problem behavior, and sent them to classes. The Thai teachers reported twice as many problem behaviors as the Americans; the observers saw the opposite pattern, spotting twice as many problems in the U.S. classes as the Thai classes! Undoubtedly, the teachers know their students far better than any trained observer sitting in on just a few classes. However, the Thai and U.S. teachers' different standards for conduct make it impossible for a researcher to use teacher reports as the only measure of student behavior.



## MEDIA PRESENTATION IDEAS:

### CURRENT RESEARCH EXAMPLES

Interesting research examples can be taped from news documentary programs and cable networks such as the History Channel (somewhat a misnomer as it now incorporates many scientific programs) and shown for educational purposes on a one-time basis without violating copyright laws. The purpose of showing one of these examples in connection with this module (compared to the others on research) would be to highlight the importance of using the scientific method to arrive at conclusions about human behavior. One excellent example comes from the Discovery Channel program “Myth Busters” in which the team debunks the notion of mind control (<http://shopping.discovery.com/product-60391.html>). There is also a History Channel documentary called “Mind Control” that is very well done (<http://shop.history.com/detail.php?a=73738>).

### MCGRAW-HILL MEDIA RESOURCES

The Lecture Prep tool on the Instructor’s Side of the Online Learning Center allows you to download videos from an extensive video data base. However, if you would prefer to work with the DVD (which will give you better image quality), you can request having a DVD of these videos sent to you (allow a few weeks for this). In this Instructor’s Manual, I will be referring to the DVD title names. As another option, many of these are also loaded onto the Psych 2.0 Activities.

Several classic research studies in psychology are in these resources that can be used as examples of applying the scientific method (these can also be used for any of the sections within Modules 4–6). Choose one to show at the beginning of lecture and then refer to it in lecture to exemplify each of the components of the scientific method and research discussed in the remainder of the lecture.

### OPERATIONALIZATION

The most interesting (and difficult) concept to present from this module is that of operationalization. The approach to use here is, again, to present an example of research either from the Media Resources disk or from a research documentary. The best example would be a study using an innovative method or one that relies on sophisticated technology (e.g., eye tracker, fMRI). The example also should be one that is of inherent interest to students, and it should pertain to a contemporary issue. You can also ask students to work through an example. Start with a concept that might be of interest to students (such as studying deception) and work them through the steps to conduct research on the topic.

## MODULE 5: CONDUCTING SCIENTIFIC RESEARCH

### ARCHIVAL RESEARCH

NATURALISTIC OBSERVATION

SURVEY RESEARCH

THE CASE STUDY

CORRELATIONAL RESEARCH

EXPERIMENTAL RESEARCH

---

EXPERIMENTAL GROUPS AND CONTROL GROUPS

INDEPENDENT AND DEPENDENT VARIABLES

RANDOM ASSIGNMENT OF PARTICIPANTS

WERE LATANE AND DARLEY RIGHT?

MOVING BEYOND THE STUDY

APPLYING PSYCHOLOGY IN THE 21ST CENTURY: TESTING THE VALUE OF SELF-AFFIRMATIONS:  
AM I LOVABLE BECAUSE I TELL MYSELF I'M LOVABLE?

---

KEY CONCEPTS

---

Key Concept 5-1: What research methods do psychologists use?

Key Concept 5-2: How do psychologists establish cause-and-effect relationships in research studies?

LEARNING OBJECTIVES

---

- 5-1 Define research and distinguish between archival, naturalistic observation, survey, and case study research methods.
- 5-2 Describe how correlational research determines the relationship between two sets of variables.
- 5-3 Understand how experimental research can establish cause-and-effect relationships.

**STUDENT ASSIGNMENTS**

PSYCH 2.0 ACTIVITY 2.2 NATURALISTIC OBSERVATION

Students gain firsthand experience with the techniques of naturalistic observation. In this interactivity, students develop their own observational criteria and then practice using them while watching a video to quantify naturalistic behavior.

#### PSYCH 2.0 ACTIVITY 2.3 SELF-REPORT BIAS IN SURVEYS

This interactivity shows students the problems of self-report bias in survey methods by asking them to rate how strongly they feel that various social issues should be addressed compared to how they think others would rate those same social issues.

#### PSYCH 2.0 ACTIVITY 2.4 CORRELATION

Through this interactivity, students learn about the nature of correlation and how it applies to situations in their daily lives. Animations and a rating exercise allow them to gain an understanding of the fact that although two factors are correlated, this does not mean that one causes the other.

#### PSYCH 2.0 ACTIVITY 2.5 DESIGNING AN EXPERIMENT: INDEPENDENT AND DEPENDENT VARIABLES

In this activity, students explore independent and dependent variables using a memory experiment testing their ability to memorize a list of words under different conditions of distraction.

#### PSYCHINTERACTIVE: NAME THAT VARIABLE

[http://highered.mcgraw-hill.com/sites/0073382736/student\\_view0/research\\_methods/name\\_that\\_variable.html](http://highered.mcgraw-hill.com/sites/0073382736/student_view0/research_methods/name_that_variable.html)

Provides a brief but helpful way for students to test their knowledge of independent and dependent variables.

#### PSYCHINTERACTIVE: WHAT DO YOU REALLY MEAN BY THAT?

[http://highered.mcgraw-hill.com/sites/0073382736/student\\_view0/research\\_methods/what\\_do\\_you\\_really\\_mean\\_by\\_that.html](http://highered.mcgraw-hill.com/sites/0073382736/student_view0/research_methods/what_do_you_really_mean_by_that.html)

Students learn about operational definitions through a fast-moving reaction time experiment.

#### PSYCHINTERACTIVE: SAMPLES AND POPULATIONS

[http://highered.mcgraw-hill.com/sites/0073382736/student\\_view0/research\\_methods/samples\\_and\\_populations.html](http://highered.mcgraw-hill.com/sites/0073382736/student_view0/research_methods/samples_and_populations.html)

Teaches students about sampling size through a simulated survey demonstrated the relationship to population.

#### PSYCHINTERACTIVE: INDEPENDENT AND DEPENDENT VARIABLES

[http://highered.mcgraw-hill.com/sites/0073382736/student\\_view0/research\\_methods/independent\\_and\\_dependent\\_variables.html](http://highered.mcgraw-hill.com/sites/0073382736/student_view0/research_methods/independent_and_dependent_variables.html)

Independent and dependent variables are taught through a race in which students play coach and give different advice to a set of four athletes.

#### PSYCINFO

For a brief assignment, have students use PsycInfo (or Google Scholar) to find a current example of each type of research method (e.g., archival, case study). Briefly describe the method used in each study that students identify.

#### METHODS OF RESEARCH

Have students complete Handout 2–1.

#### CORRELATIONAL RESEARCH

Have students complete Handout 2–2.

#### EXPERIMENTAL DESIGN

Have students complete Handout 2–3.

#### LECTURE IDEAS

##### ARCHIVAL RESEARCH:

**Provide students with these examples of archival research:**

Searching high school records of people who later became criminals to see if there were early signs of misbehavior.

Looking up marriage licenses to find out the average age difference between spouses.

Finding out whether there are racial biases in jury decisions by examining court records.

Studying speeches made in Congress by men and women to see if there are differences in their use of particular words or phrases.

Examining Census records to determine whether there are relationships between education and death rates.

Examining the use of online help manuals by people who buy printers to see if those with more knowledge of computers are less likely to use manuals.

Using cellphone signals to identify the behavioral patterns of people as they carry out their everyday activities.

#### NATURALISTIC RESEARCH:

##### **Provide students with these examples of naturalistic research:**

Watching the patients in a psychiatric ward during meals to see if they speak to each other.

Having people of different races drop their books while walking on a campus sidewalk and counting the number of people who stop to help to see if people are more likely to help those of the same race as themselves.

Determining whether people are more or less likely to ride an elevator than to walk in the morning versus the afternoon.

Watching people in a computer lab and counting the number of times that they interrupt their studies to answer e-mails.

Counting the length of time it takes people in a grocery store to decide on a cereal brand.

Watching men and women in conversation to examine their nonverbal behavior.

Counting the number of times that students versus nonstudents make calls on their cell phones during basketball games.

Watching children in a playgroup and recording the number of times they smile at other children.

Recording the number of times that a teacher in a classroom calls on boys and girls to see if boys are more likely to be called on to answer questions.

Observing whether people are more likely to cross against the light in a suburban street or a street in the center of a city.

Counting the number of times clients with various disorders cancel their psychotherapy appointments.

## SURVEY RESEARCH:

### **Provide students with these examples of survey research:**

Asking a random sample of people to complete an online questionnaire about political attitudes.

Asking people to list their favorite foods to determine if there are geographic differences in food preferences.

Interviewing people to ask them about their health practices.

Asking people to rate their preferences for different yogurt flavors.

Asking people to rate their attitudes toward new television technologies.

Giving people a chance to rate their preferences for catalog shopping by phone or online.

Having people describe whether or not they have experienced particular psychological symptoms throughout their lifetimes.

Asking about people's experiences in elementary school with male versus female teachers.

Asking a sample of 50 people to participate in an opinion poll.

Finding out from airline passengers whether they would prefer to buy their meals on the airplane or in the airport terminal.

## VARIABLES TO STUDY IN CORRELATIONAL RESEARCH:

### **Provide students with these examples of variables to study in correlational studies:**

Depression and chocolate consumption.

Self-esteem and height.

Exercise and cancer risk.

Depression and length of Internet use.

Time spent playing video games and grades.

Attractiveness and popularity.

Height and intelligence.

Noise level of music and heart rate.

Body image and weight.

Achievement test scores and scholarship funding.

Stress hormones and perceived stress level.

Number of action movies seen in past 12 months and sensation-seeking as a personality variable

Intelligence and enjoyment of pop music.

Marijuana smoking and high school grades.

Time spent reading novels and depression scores.

Alcohol consumption and problem-solving ability

Sex role attitudes and political conservatism.

Weight gain and risk of poor self-rated health.

Anxiety and lack of concern over test performance.

Behavior problems and popularity in schoolchildren.

## CASE STUDY

### **Provide students with these examples of case studies:**

Giving a troubled adolescent a set of length questionnaires and interviews.

Examining a group of substance-addicted adults with tests of biological functioning.

Asking a mother to talk in depth about her experiences of raising a child with autism.

Asking a human resources manager to describe how she makes decisions about recommending applicants for employment.

Studying intensively the work habits of a small group of successful CEOs.

Intensive neurological and neuropsychological testing of a group of children with a rare brain disorder.

Documenting progress in psychotherapy with a victim of Hurricane Katrina.

## EXPERIMENTAL RESEARCH

### Provide students with these examples of experimental research:

Determining whether negatively worded advertisements cause people to buy more or less of a product.

Examining people to determine whether memory is better for words or pictures.

Having people take a memory test in a laboratory to determine which conditions are best for promoting short-term memory.

Providing therapy to people with severe anxiety disorders and comparing them to a control group that did not receive therapy.

Determining whether people are more likely to lie when they are put in a condition of thinking they need to impress the experimenter compared to a condition in which they do not think they need to impress the experimenter.

Comparing people's anxiety levels when told to imagine a stressful job interview compared to when told to imagine listening to relaxing music.

## OTHER EXAMPLES

In addition to this list, you can collect examples of types of research that might have popular appeal from newspapers, *Scientific American*, Web sites, and magazines.

## SUMMARY OF CORRELATIONAL RESEARCH METHODS

Use this chart to summarize research methods used in correlational studies:

Research Method	Advantages	Disadvantages
Archival	Inexpensive	Data can be in poor form Incomplete information Haphazardly collected Records often don't exist
Naturalistic	Natural habitat	Inability to control factors Need perfect conditions Subjects may alter actions
Surveys	Straightforward Accuracy with small	Memory lapses in respondents Responses tailored to what researcher wants to



	samples	hear Sample may not be representative of population
Case Study	In-depth and focused	Generalizations must be made cautiously

## BASICS OF EXPERIMENTAL DESIGN

Download this image from the Online Learning Center:

[Chapter02\\_0502L.jpg \(101.0K\)](#)

Use this figure to walk students through the steps involved in an experiment. The figure can be adapted if you prefer to use a different example.

## MEDIA PRESENTATION IDEAS

### RESEARCH DOCUMENTARIES

As was true for the above sections, there are many possible documentaries on research that could be shown in this lecture.

## MODULE 6: CRITICAL RESEARCH ISSUES

### THE ETHICS OF RESEARCH

#### EXPLORING DIVERSITY: CHOOSING PARTICIPANTS WHO REPRESENT THE SCOPE OF HUMAN BEHAVIOR

---

#### SHOULD ANIMALS BE USED IN RESEARCH?

#### THREATS TO EXPERIMENTAL VALIDITY: EXPERIMENTER AND PARTICIPANT EXPECTATIONS

#### BECOMING AN INFORMED CONSUMER OF PSYCHOLOGY: THINKING CRITICALLY ABOUT RESEARCH

---

### KEY CONCEPTS

---

Key Concept 6–1: What major issues confront psychologists conducting research?

### LEARNING OBJECTIVES

---

- 6–1 Describe the ethical concerns involving the welfare of human and animal participants in scientific research.
- 6–2 Identify the possible sources of experimental bias and discuss techniques used to safeguard against them.
- 6–3 Apply the knowledge of scientific methods to evaluate how well research supports particular findings.

## STUDENT ASSIGNMENTS

### PSYCH 2.0 ACTIVITY 2.6 ETHICAL DILEMMAS

The student learns the basic ethical standards of the APA, and then plays the role of a member of an ethical review committee for five proposed experiments, deciding whether each is ethical or nonethical according to the APA.

### ETHICAL PRINCIPLES

Go to the APA Web site and look up the Ethical Principles of Psychologists and Code of Conduct

<http://www.apa.org/ethics/code2002.html>

**Choose three of the principles and answer the following questions:**

Why do you think this principle is important?

What difficulties might psychologists encounter when applying this principle?

Describe a real-life situation in which this principle might be used.

### EXPERIMENTAL BIAS

**Have students volunteer to be participants in a psychological experiment.**

After they have completed their participation, ask them to answer these questions:

Did you know what the hypothesis was in this study?

If so, how do you think your performance was affected by this knowledge? If not, how might your performance have been affected by this knowledge?

What could the experimenter have done in this study to reduce experimental bias?

## EVALUATING RESEARCH

**Go to the APA Web site and on the home page find a recent study that interests you** (alternatively, students can be sent to the PsychInfo Web site and instructed to find a specific study that you identify).

**Evaluate the study's findings as described in the Informed Consumer box:**

What was the purpose of the research?

How well was the study conducted?

Are the results presented fairly?

Online Learning Center: Crossword Puzzle Review

Have students complete this crossword puzzle: [http://highered.mcgraw-hill.com/sites/0072422971/student\\_view0/chapter2/crossword\\_puzzle.html](http://highered.mcgraw-hill.com/sites/0072422971/student_view0/chapter2/crossword_puzzle.html)

## LECTURE IDEAS

### ETHICAL CONCERNS

Enhance this part of the lecture by presenting a brief history and synopsis of the Ethical Principles of Psychologists and Code of Conduct (<http://www.apa.org/ethics/code2002.html>).

Be sure to differentiate clearly between the need to protect participants from undue risk, the need to inform participants in advance regarding what will take place when they complete the research, and the need to maintain the scientific integrity of the research. For example, if Latane and Darley had informed participants of exactly what would transpire in the study on diffusion of responsibility, their results would not necessarily have provided them with valid results because participants would have known that they were expected to help (this issue relates also to participant expectations). Another topic of interest to students is that of withholding psychological services in the interests of maintaining the integrity of the experimental design.

### SUMMARY OF ETHICAL PRINCIPLES (FROM PETTIJOHN'S "CONNECTEXT")

Psychologists work to develop a valid and reliable body of scientific knowledge based on research. They may apply that knowledge to human behavior in a variety of contexts. In doing so, they perform many roles, such as researcher, educator, diagnostician, therapist, supervisor, consultant, administrator, social interventionist, and expert witness. Their goal is to broaden knowledge of behavior and, where

appropriate, to apply it pragmatically to improve the condition of both the individual and society. Psychologists respect the central importance of freedom of inquiry and expression in research, teaching, and publication. They also strive to help the public in developing informed judgments and choices concerning human behavior. This Ethics Code provides a common set of values on which psychologists build their professional and scientific work.

This code is intended to provide both the general principles and the decision rules to cover most situations encountered by psychologists. It has as its primary goal the welfare and protection of the individuals and groups with whom psychologists work. It is the individual responsibility of each psychologist to aspire to the highest possible standards of conduct. Psychologists respect and protect human and civil rights, and do not knowingly participate in or condone unfair discriminatory practices.

The development of a dynamic set of ethical standards for a psychologist's work-related conduct requires a personal commitment to a lifelong effort to act ethically; to encourage ethical behavior by students, supervisors, employees, and colleagues, as appropriate; and to consult with others, as needed, concerning ethical problems. Each psychologist supplements, but does not violate, the Ethics Code's values and rules on the basis of guidance drawn from personal values, culture, and experience.

#### EXPERIMENTAL BIAS

Cite specific problems associated with experimental bias in psychological research, distinguishing between bias due to experimenter expectations and bias due to participant expectations. Placebos can be used to minimize the effects of participant expectation, particularly when used in a double-blind procedure. However, placebos can sometimes lead to improvement due to the "placebo effect" (see <http://www.nytimes.com/2010/05/04/opinion/04judson.html>) for an excellent discussion of this issue). Raise the issue of why deception is needed and how best to handle the balance between informed consent (raised above) and the need to minimize bias.

#### EVALUATING HOW WELL RESEARCH SUPPORTS PARTICULAR FINDINGS

Summarize a recent research study in your area of specialty. Using the criteria in the text in the Informed Consumer box, evaluate this study—that is, what was the purpose of the research, how well was the study conducted, and are the results presented fairly?

#### MEDIA PRESENTATION IDEAS

##### POPULAR MOVIE: RESEARCH METHODS

In addition to showing a serious documentary or an example from the Media Resources, several movies portray ethical issues in psychological research. One classic example is the ESP scene from the movie *Ghostbusters*. In this scene, Bill Murray rigs an ESP experiment to impress an undergraduate. This scene

displays experimenter bias as well as unethical behavior by the researcher, which, although humorously portrayed, is engaging in behavior that might be interpreted as sexual harassment.

#### SCIENTIFIC AMERICAN FRONTIERS: THE WONDER PILL

This Scientific American Frontiers episode features the ways in which placebo effects can bias research on treatment effectiveness:

<http://www.pbs.org/saf/1307/video/watchonline.htm>