


	DESCRIPTIVE STATISTICS	INFERENTIAL STATISTICS
3. Include the mean	_____	_____
4. Give measure of statistical significance	_____	_____
5. Tell you whether to call your mother about your results	_____	_____
B. If a researcher studies the same group over many years, the study is said to be _____.		
 C. On the Internet, you read a posting about a "Fantastic Breakthrough: Five-minute Cure for Shyness!!!" Why should you be cautious about this announcement?		

ANSWERS:

A. 1. descriptive 2. inferential 3. descriptive 4. inferential 5. inferential B. longitudinal C. Scientific progress, in psychology or any field, usually proceeds gradually, not all at once. (And besides, anyone can post anything on the Internet, so you will want to ask, "What's the source of this information?")

KEEPING THE ENTERPRISE ETHICAL

Rigorous research methods are the very heart of science, so it is not surprising that psychologists spend considerable time discussing and debating their procedures for collecting and evaluating data. They are also concerned about the ethics of their activities. In most colleges and universities, an ethics committee must approve all studies and be sure they conform to federal regulations. In addition, the American Psychological Association (APA) has a code of ethics that all members must follow.

The Ethics of Studying Human Beings

The APA code calls on psychological scientists to respect the dignity and welfare of human subjects. People must participate voluntarily and must know enough about the study to make an intelligent decision about participating, a doctrine known as *informed consent*. Researchers must also protect participants from physical and mental harm, and if any risk exists, they must warn the subjects in advance and give them an opportunity to withdraw at any time. (In the case of the nicotine study used as an example in this chapter, we would have to use only people who were already smokers. Exposing non-smokers to the risks associated with smoking, a risk they would ordinarily not choose to run, would be unethical.)

However, the policy of informed consent sometimes clashes with an experimenter's need to deceive subjects about the true purpose of the study. In such cases, if the purpose

were revealed in advance, the results would be ruined because the participants would not behave naturally. In social psychology, especially, a study's design sometimes calls for an elaborate deception. For example, a confederate (a research assistant masquerading as a subject) might pretend to have a seizure. The researcher can then find out whether the uninformed subjects will come to the apparent victim's aid. If they knew that the confederate was only acting, obviously they would not bother to intervene or call for assistance.

Sometimes people have been misled about procedures intentionally designed to make them uncomfortable, angry, guilty, ashamed, or anxious so that researchers can learn what people do when they feel this way. In anxiety studies, for instance, participants have been led to believe, falsely, that they failed a test or were going to get a painful shock. In studies of embarrassment and anger, people have been made to look clumsy in front of others, or have been called names, or been told they were incompetent. In studies of dishonesty, participants have been entrapped into cheating, and then confronted with evidence of their guilt.

Debate about the morality of deception escalated during the 1970s (Korn, 1998). Today, the APA's ethical guidelines require researchers to show that any deceptive procedures are justified by a study's potential value, to consider alternative procedures, and to thoroughly debrief participants about the true purpose and methods of the study afterward. But the issues raised by deception are still with us, and the APA is constantly revising its ethical code to deal with them.

The Ethics of Studying Nonhuman Animals

Another ethical issue concerns the use and treatment of nonhuman animals in research. Animals have always been used in only a small percentage of psychological studies, and in recent years, the number has declined even further (Dewsbury, 1996; Plous, 1996). Nonetheless, in certain areas of psychological research, animals still play a crucial role. Usually they are not harmed (as in research on mating in hamsters, which is fun for the hamsters), but sometimes they are (as in research on vision in kittens, when part of the animals' visual systems must be surgically removed). Some studies require the animal's death, as when rats brought up in deprived or enriched environments are sacrificed so that their brains can be examined for any effects.

Psychologists study animals for many reasons:

- ◆ **TO CONDUCT BASIC RESEARCH ON A PARTICULAR SPECIES**—for example, to learn about the unusually lusty and cooperative lives of bonobo chimps.
- ◆ **TO DISCOVER PRACTICAL APPLICATIONS**—for example, to help farmers use behavioral principles to reduce crop destruction by birds and deer without resorting to their traditional method, shooting the animals.
- ◆ **TO STUDY ISSUES THAT CANNOT BE STUDIED EXPERIMENTALLY WITH HUMAN BEINGS BECAUSE OF PRACTICAL OR ETHICAL CONSIDERATIONS**—for example, to discover the effects of maternal deprivation on emotional development.

- ◆ **TO CLARIFY THEORETICAL QUESTIONS**—for example, to determine whether life style factors or physiological factors common to all mammals are responsible for the longer life spans of women.
- ◆ **TO IMPROVE HUMAN WELFARE**—for example, to help researchers develop ways to reduce chronic pain, rehabilitate patients with neurological disorders, teach people to control high blood pressure, and understand the mechanisms underlying memory loss and senility—to name only a few benefits (Feeney, 1987; Greenough, 1991; N. Miller, 1985).

Animal research, however, has provoked angry disputes. Many animal-rights activists want to eliminate all research using animals (Plous, 1991). Some extremists have vandalized laboratories or threatened and harassed researchers and their families. On the other side, some defenders of animal research have refused to acknowledge that confinement in laboratories can be psychologically and physically harmful for some species, or have branded all animal-welfare activists as terrorists. This conflict has motivated psychologists to find ways to improve the treatment of animals needed in research. The APA's ethical code covering the humane treatment of animals has been made more comprehensive, and federal laws governing the housing and care of research animals have been strengthened. The difficult task is to balance the many benefits of animal research with an acknowledgment of past abuses and a compassionate attitude toward species other than our own.

THE MEANING OF KNOWLEDGE

The continuing arguments over the use of deception and of animals in research show that psychology's methods can arouse as much disagreement as its findings do. Conflict exists not only about how to do studies, but even about what research can and cannot reveal. In psychology, as in many other fields, heated exchanges are taking place about the very meaning of knowledge itself.

To most psychological scientists, the purpose of their work is to map reality in as objective, value-free, and detached a manner as possible. A clear line is assumed to exist between the scientist, on one hand, and the phenomenon under study, on the other. In recent years, however, many scholars have questioned this concept of science. They have been influenced by a school of thought called **postmodernism**, which holds that detached objectivity, in any field of study, is impossible. In the postmodern view, the observer's values, judgments, and status in society inevitably affect how events are studied and how they are explained. Because scholars and researchers do their work at a particular time and in a particular culture, they bring with them shared assumptions and worldviews that influence what they count as an important fact, what parts

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APA Ethical Guidelines for Human Research

Research involving humans must meet the following standards:

1. *Informed Consent*-participants must know that they are involved in research and give their consent or permission
2. *Deception*-if the participants are deceived in any way about the nature of the study, the deception must not be so extreme as to invalidate the informed consent. Also, researchers must be very careful about the trauma deception may cause.
3. *Coercion*-participants cannot be coerced in any way to give consent to be in the study.
4. *Anonymity*-the identities and actions of participants must not be revealed in any way by the researcher.
5. *Risk*-participants cannot be placed at significant mental or physical risk. This clause requires interpretation by the review board.
6. *Debriefing Procedures*-participants must be told of the purpose of the study and provided with ways to contact the researchers about the results.

Animal Research

APA Ethical Guidelines for Researchers Experimenting With Animals

1. **(purpose)** They must have a clear scientific purpose. The research must answer a specific, important scientific question. Animals are chosen because they are best-suited to answer the question at hand.
2. **(care)** They must care for and house animals in a humane way.
3. **(acquiring animals)** They must acquire animal subjects legally. Animals must be purchased from accredited companies. If wild animals must be used, they need to be trapped in a humane way.
4. **(suffering)** They must design experimental procedures that employ the least amount of suffering feasible.
5. **(supervision)** A trained psychologist must supervise all research with animals

HANDOUT METHODS 6

Demonstration METHODS 6: Research Ethics

...the Ethics of Research

Student cheating

Without informing his students, a professor uses one of his classes for a research study of cheating behavior. True-false exams are given at various points in the semester. After each test the exams are collected, copied, and then returned to the students, who are told they will score their own tests. A comparison of student graded exams with ungraded copies will reveal instances where students cheated by changing test answers. At the end of the semester, the professor tells his class about the research project in which they had participated unknowingly.

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Racial attitude change

The purpose of the experiment is to compare the effects of different methods of reducing racial prejudice. Students with strong racial prejudice are recruited for the experiment but are not told the true purpose of the study. Instead, they are led to believe that the experiment focuses on a topic unrelated to prejudice. After the experiment is completed, participants are informed of the true purpose of the experiment and of its effect on their personal beliefs. Details of the study are discussed.

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Effects of combat stress

Inexperienced soldiers, unaware that they are actually involved in a research study of the effects of combat stress, are disoriented, isolated, given false instructions, and led to believe that they have caused artillery to fire on their own troops during final training maneuvers. Since actual ammunition is used in these maneuvers, the soldiers are led to think that real casualties have occurred and that they are responsible. When the soldiers return to their base of operations, they are told that the incident was staged as part of a research study of combat stress. The importance of the study and the details of the research are explained to the men.

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