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**I**F THE UNIVERSITY or college you are attending conducts psychological research, as a psychology major, you have probably participated in at least one research investigation. If you have participated, you likely remember signing the consent form that the researcher handed you prior to beginning the experiment. The consent form most

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likely told you something about the nature and purpose of the study, what would occur during the experimental session, whether any risk was involved, and assured you that all data collected from you would be coded to protect your identity and privacy. In addition, it probably informed you that you were entitled to a summary of the outcome of the experiment. Was the researcher simply being considerate and helpful by keeping you informed? No, because **informed consent** to participate is one of the major hallmarks of modern ethical research.

As a research participant, you may have wondered about how these experiments get posted on the sign-up board, a familiar fixture in most research laboratories or psychology departments. If your institution does not conduct research, or if you are not yet acquainted with the sign-up procedure, the sign-up board is where all the available experiments are listed along with a brief description. Students who are required to participate in experiments read over the various studies posted and then select the one that seems most interesting. How do these experiments end up on the sign-up board? Is it up to the particular professor whose research it is to simply post it? Does it require prior approval from the departmental chair? Is there a committee that decides whether a project is ethical and worthwhile to be posted? At the majority of colleges and universities, there is an institutionwide committee that makes the decision. Provided that your institution receives government funding, which is the case for the majority of colleges and universities, your institution must have an **institutional review board (IRB)** that must approve a study before it can be conducted using human participants.

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### A BRIEF HISTORY OF ETHICAL CONCERNS

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Between 1932 and 1972, 400 Black males, who were known to be infected with syphilis, participated in a study that withheld treatment for the disease. The study was first known as “The Tuskegee Study of Untreated Syphilis in the Negro Male” (Smith, 1996) and was conducted in Macon County, Alabama. The purpose of the study was to determine the damage caused by syphilis if left untreated.

During World War II, at infamous concentration camps such as Auschwitz, SS doctors carried out the most heinous “medical” experiments on captive men, women, and children. The experiments included deliberate breaking of bones until no healing was possible, sterilization of women without anesthesia, and use of twin children, one of whom served as “control” while the other was subjected to various atrocities.

As these examples so starkly remind us, ethical guidelines and principles for conducting research with human participants (and nonhuman ones as well) are clearly needed. Both the American Psychological Association (APA) and the U. S. Department of Health and Human Services (HHS) have established guidelines that all researchers in the United States and its auspices must follow.

The key principles of ethical guidelines regarding the use of human participants can be traced back to the Nuremberg trials that tried the Nazi war criminals following World War II. When the war ended and the Nazi atrocities fully came to light, those responsible were tried at Nuremberg, Germany, for crimes against humanity. An outgrowth of the Nuremberg trials was the **Nuremberg Code**, which became the foundation for future ethical guidelines regarding the use of human participants. Although ethical concerns had been under discussion by the APA since the 1930s, it was not until 1953 that the APA's first ethical code was accepted and published. In this guideline, the APA adopted several of the Nuremberg Code's major principles. Since then, there have been several revisions, the most recent one in 1992. In addition, in 1982 the HHS issued its own guidelines, which apply to all institutions receiving government funds.

## ETHICAL PRINCIPLES

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For a full version of the APA guideline, read "Ethical Principles of Psychologist and Code of Conduct" published in the *American Psychologist*, 47 (1992). The following summarizes some of the key principles put forth by the APA. Included in the summary are issues raised by the HHS regarding the IRB requirements in their "Guidelines for Use of Humans as Research Participants" (1982).

### Planning Research

In planning and conducting research, as well as in reporting research findings, experimenters have to fulfill several obligations in order to meet the ethical standards set forth by the APA. First, the research project must be planned so that the chance for misleading results is minimized. Second, the project must be planned so that it meets ethical acceptability. Any doubts the researcher may have regarding questionable ethical procedures or methods must be resolved through peer review or through consultation with appropriate parties such as the IRB. Third, steps must be taken to protect and ensure the dignity and welfare of all participants, as well as those who may be affected by the results of the research project.

### Responsibility

Psychologists, as well as their assistants, are responsible for maintaining the dignity and welfare of all participants. This obligation also entails protecting them from harm, unnecessary risks, or mental and physical discomfort that may be inherent in the research procedure. Research that poses potential harm, risk, or danger to the participant is not allowed, unless the benefit of the research outweighs the risks and full informed consent is given. Psychologists and their assistants are also responsible for conducting themselves ethically and for treating the participants in an ethical manner at all times. In addition, psychologists and their assistants may only perform those activities or tasks for which they are appropriately trained. If special populations are needed, for example, children, the elderly, or clinical populations, it is the researcher's responsibility to consult with those who have expertise with those populations.

**48** CHAPTER 4 ETHICAL CONSIDERATIONS IN RESEARCH**State and Federal Laws**

All research conducted by psychologists and their assistants must comply with state and federal laws and regulations. For example, if the state in which the research is conducted prohibits the consumption of alcohol by anyone under the age of 21, the research project cannot involve giving alcohol to participants under the legal age.

**Inducement to Participate**

If the researcher offers financial or other inducement to participants in order to obtain participants for the project, the same full disclosure policy regarding the purpose and nature of the study, including the use of deception, applies as when no inducement is made. For example, just because the participant receives \$5.00 for taking part in a research project, the experimenter must still inform the participant about the nature of the study, including any risks or harm that the study may create. In addition, inappropriate or excessive inducement is unethical. For example, if I am desperately in need of participants for a research project (which has happened on occasion), I cannot “bribe” the students in my psychology classes by saying that anyone who participates will receive an automatic “A” in the class.

**Reporting Results and Plagiarism**

Ethical researchers do not *fabricate* or *falsify data* in their publications. If the experimenter discovers that the data published are erroneous, it is the experimenter’s responsibility to correct the error through retraction, an addendum, or other appropriate means. In addition, ethical researchers do not present the work of others as their own, or do not fail to give appropriate credit for the work of others through citations.

**Institutional Approval**

In the United States, all institutions that conduct research and receive federal funding must have an institutional review board (HHS, 1982). At universities and colleges, the IRB is made up of individuals from a wide variety of departments so that the board will not have a vested interest in any particular research project. For example, an IRB cannot be made up of members of the Psychology Department only. If it were, then it would be more difficult for it to remain neutral when evaluating a particular research proposal by a psychology department faculty member.

Prior to conducting the study, the researcher prepares a proposal, which is then submitted to the IRB for approval. The proposal includes a description of the purpose and nature of the study, how the participants will be acquired and treated, and what they will be told to expect in the study. In addition, a sample consent form is also required at most institutions. A sample IRB proposal can be seen in Figure 4.1, although proposal forms do vary from institution to institution.

Once the IRB receives the proposal, it is reviewed for ethical considerations. For example, does the project have scientific, educational, and/or societal value? If it involves some risk, is the risk to the participant justified by the benefit of the knowledge gained? Is the proposed study ethical in terms of respecting the participants’ welfare and dignity and their right to privacy and confidentiality? Is deception used, and if the answer is yes, is the

<b>HUMAN SUBJECT RESEARCH PROPOSAL</b>	
<b>I. IDENTIFYING DATA:</b>	
Name(s) of Researcher(s): _____	
Title of Project: _____	
<b>II. DESCRIPTION OF HUMAN SUBJECTS SAFEGUARDS AND RIGHTS:</b>	
A. Possible psychological or physical risk or discomfort involved in research? _____ Yes _____ No (If no, skip to Item B)	
If yes, answer the following:	
1. Why necessary:	
2. Possible consequences:	
B. Answer the following questions on collection of data:	
1. When will it take place?	
2. Length of time needed (minutes/hours):	
3. Period of time needed (days/weeks/months):	
4. Specific place(s) within institution:	
5. Population required, including number of subjects:	
6. Name of instrument to be used for data collection:	
7. Methodology to be used:	
C. Explain procedure for obtaining subjects' voluntary informed consent to be participants in research study:	
D. What will be told to subjects about the research project both before and after participation? Be specific about oral and/or written conditions.	
E. Indicate how subjects can, if they wish, withdraw from the study:	
F. Specify how subjects' anonymity will be achieved, if applicable, and/or how confidentiality will be maintained:	
G. Will subjects be given research results if they so request? _____ Yes _____ No	
H. Describe how data will be used:	
<b>III. PLEASE SUBMIT SIX COPIES OF</b>	
A. Proposal abstract	
B. Consent form	
C. Proposal form	
<b>SIGNATURE(S) OF RESEARCHER (S):</b> _____	
<b>DATE:</b> _____	

**FIGURE 4.1** Sample IRB proposal form.

deception justified? When and how will the participants be informed about the deception? After all the questions have been satisfactorily answered and the IRB has approved the study, the experimenter is typically free to begin his or her research. However, the IRB sometimes rejects a study, in which case the experimenter should either revise the project to meet ethical standards or abandon it altogether.

It is important to remember that the IRB is not infallible. Studies conducted by the General Accounting Office (an agency of the U.S. Congress) and the Office of Inspector

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General of the HHS show that the IRB frequently operates without appropriate resources (Greenberg, 1999). As a result, some institutional review boards are forced to rush through the process of evaluating research projects, which leads to “rubber stamping” approval rather than careful evaluation. In addition, the studies found that rejection by the IRB is rare, as are requests for modifications of projects, and in some cases, the scientists applying for approval are members of the IRB.

### Informed Consent

According to the APA ethical guidelines, certain research projects do not require the informed consent of participants. Such projects may entail the use of anonymous questionnaires or simple naturalistic observations where the participants cannot be personally identified or harmed in any way. In addition, archival research, which relies on published, publicly available data, does not require informed consent. All other research projects mandate the informed consent of participants, which is typically achieved by having them sign a consent form.

The consent form embodies several key principles of the APA guidelines. The participants are told about the general nature of the study as well as about any potential harm or risk that the study may cause. They are assured of confidentiality, and they are also told that they are free to decline participation. In addition, they are offered the opportunity to receive a report about the results and conclusions of the research project.

Consent forms vary from institution to institution, as do IRB proposal forms. A sample form can be seen in Figure 4.2. Notice how the consent form briefly describes the study by stating that the participants will take part in an experiment on human memory. Note also that it assures the participants that there are no risks involved and that the study was approved by the IRB. It also tells the participants what they can expect to occur and what is expected of them as participants. The statement regarding the coding of the data to protect the participants' identity is intended to alleviate concerns about privacy and confidentiality. In addition, the participants are told that they may withdraw from the study at any time without penalty and that the results of the experiment will be made available to them should they wish to receive them.

### Consent and Cyberspace

An interesting recent development is the ability to conduct research on the World Wide Web (WWW). Since the participants log on to an experimental site either from home or from their college campus, they cannot of course be handed a consent form to sign prior to participation. However, as E. Miller (1999) points out, this issue has been successfully resolved through electronic consent forms, which the participants read online prior to agreeing to participate in the study. The electronic consent form can be signed or initialized electronically, or it can be accepted by default. Therefore, whether the participation takes place online or in the laboratory, the participants are still informed about the nature of the project and must give their consent prior to data collection. In addition, at the end of the experimental session, the participants are given the option to electronically transmit their data or not to transmit.

<b>CONSENT FORM</b>	
<p>The study you are about to participate in is part of a series of studies on human memory. It is a test of memory processes only and is not a test of your intelligence or personality. The study employs standard laboratory tasks that have no potential harm to participants, and has been approved by the Institutional Review Board for ethical standards.</p> <p>Should you agree to being in the study, you will be asked to participate in a variety of verbal tasks such as: deciding if a word is pleasant or not, and stating the first word that comes to mind upon seeing another word.</p> <p>All data collected from you will be coded in order to protect your identity. Following the study there will be no way to connect your name with your data.</p> <p>Any additional information about the study results will be provided to you at its conclusion, upon your request.</p> <p>You are free to withdraw from the study at any time. Should you agree to participate, please sign your name below, indicating that you have read and understood the nature of the study, and that all your inquiries concerning the activities have been answered to your satisfaction.</p> <p><b>Complete the following if you wish to receive a copy of the results of this study.</b></p>	
<p>_____</p> <p>Signature of participant and date</p>	<p>_____</p> <p>Signature of researcher and date</p>
<p>Name: _____</p>	
<p>Address: _____ (Street)</p> <p>_____ (City, State, and Zip)</p>	

**FIGURE 4.2** Sample consent form.

## THE USE OF DECEPTION IN RESEARCH

One concern that arises with consent forms is that, on the one hand, the participants need to be informed about the nature of the study, but on the other hand, it is important not to give away the hypothesis. Therefore, the consent form must be so worded that while the participant is given a brief, general discussion, the hypothesis, or the true purpose of the study, is not revealed. But what about studies that use **deception** in order to avoid revealing the true nature of the study? If the participants are given false information regarding the nature of the experiment in the consent form, are they truly giving their informed consent to participate?

Two famous experiments have used deception; one of them, the Darley and Latane (1968) experiment on the bystander effect, has already been mentioned. In their experiment, the true purpose of the study was to see whether group size had an effect on helping a victim. However, the participants in the experiment were told that they were taking part in a group discussion on personal problems that students may experience as part of college life. Clearly, this was deception, but suppose that Darley and Latane had informed the par-

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ticipants that they were studying helping behavior. Most likely, this would have biased the participants' behavior, and there is a good chance that everyone would have responded in a helpful manner. Were Darley and Latane, therefore, justified in using deception?

The other famous experiment that used deception was Milgram's study of obedience to authority in 1963. Milgram was interested in seeing how far ordinary participants would go in administering painful shocks to another, if told by an authority figure that they must do so. Though certainly an interesting topic worthy of investigation, the problem was that the participants were deceived about the nature of the experiment. When they arrived at the laboratory, Milgram told the participants that they were taking part in an experiment on learning and that they, the participants, would be the "teacher." Their role as "teachers" was to administer electric shocks to the "learners" every time the "learners" made a mistake. Unbeknownst to the "teachers," the "learners" were confederates, who only pretended to be shocked and in pain. (Recall from Chapter 1 that a confederate is someone who is "in on the experiment" but pretends to be a participant.) The intensity of the shocks (which were actually fake) varied from mild to severe, and Milgram was interested in seeing what percentage of the participants would be willing to administer the highest level of intensity if urged on by the authority figure, the experimenter. Milgram found that 65 percent of the participants were willing to go to the highest level of shock, despite the fake cries of pain from the "learners." Again, the important question is whether Milgram was justified in using deception, considering that full disclosure of the true nature of the study would have biased the participants' behavior?

### When Is Deception Used?

Before we go any further, it is important to point out that the majority of research studies do not make use of deception. For example, experiments on learning, memory, and cognition, or sensation and perception, rarely require outright deception. Frequently, studies that do rely on deception tend to be in the area of social and personality psychology, where behaviors such as altruism, honesty, prejudice, helpfulness, and obedience are investigated. If you think about it for a moment, if the researchers were to inform the participants that they were interested in studying such behaviors, they would most likely find that no one was prejudiced, everyone was honest, altruistic, and helpful, and obedience would only go as far as the participants' conscience would allow. In addition, at times the knowledge or information sought cannot be obtained in a straightforward manner. For example, look at the following classic study by Rosenhan (1973).

Rosenhan was investigating the accuracy of diagnoses in psychiatric settings and published his findings in an article called "On Being Sane in Insane Places." In his study, eight pseudopatients (not mentally ill, only pretending to be) were admitted into different hospitals complaining of hearing voices, which is a typical symptom of schizophrenia. Indeed, with one exception, all pseudopatients were diagnosed with schizophrenia. Once admitted, the pseudopatients ceased faking any symptoms and behaved in a perfectly "normal" and ordinary manner. Nevertheless, the "patients" were held for an average of 19 days, and each was discharged from the hospital with the psychiatric label "schizophrenia in remission." The study demonstrated that once labeled, no matter how "sanely" one acts, the label sticks. In other words, the hospital staff could not differentiate the mentally healthy from the mentally ill. Was the deception justified by the knowledge gained?



## Deception and the APA

The following summarizes the APA's "Ethical Principles and Code of Conduct" regarding the use of deception:

- Deception is not allowed unless it is justified by the study's scientific, educational, or applied value, and when alternative means that do not employ deception are not feasible.
- Deception is never allowed if full disclosure of the nature of the study (potential harm, risk, discomfort, or unpleasant emotional experience) would alter the participants' willingness to take part in the study.
- Deception and its purpose must be fully explained to the participants following the conclusion of the experimental session or, at the latest, at the conclusion of the research project.

The first statement refers to whether the knowledge gained from the study justifies deceiving the participants. This is a difficult ethical question and one that scientists themselves may disagree on. In addition, it requires that alternative procedures be considered first and be ruled out as infeasible. The ultimate decision rests with the institutional review board, which carefully reviews the proposal, the purpose and nature of the study, and the rationale for deception, and then makes its decision on the basis of the inherent scientific value of the study. Think back, for a moment, to the Milgram, Darley and Latane, and Rosenhan studies, and ask yourself the following two questions. Did the knowledge gained justify the use of deception? Can you think of alternative ways of getting the information that would not require deception?

The second statement ensures that participants are not deceived into participating when full knowledge of the experimental procedures would have resulted in their declining to participate. For example, if the participants know in advance that they are going to be subjected to electric shocks, they may decline participation out of fear of pain or discomfort. The experimenter is not allowed to lie to the participants or to omit information about the shocks simply because he or she fears that they would then decline to participate. In other words, if the use of deception, either by outright lying or by omitting information regarding risk, harm, or discomfort alters a person's willingness to participate, it goes against the APA principles.

The last statement refers to an experimental procedure known as **debriefing**. Debriefing is mandatory in research studies that employ deceptive techniques. During debriefing the true nature of the study is revealed, and the purpose of the deception is explained. For example, at the conclusion of the Darley and Latane study, the participants were told that the true purpose of the study was to examine the effect of group size on helping behavior and that the "victim" of the epileptic seizure was actually a confederate.

Aside from informing the participants about the nature and purpose of the deception, the debriefing process seeks to remove any negative or unpleasant impact of the experimental manipulation. For example, in the Milgram study, debriefing was necessary not only to explain the deception itself, but also to restore the participants' sense of self-esteem and self-worth, which may have suffered a bit from the knowledge that they were willing to inflict pain on a fellow human being.

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An interesting recent development regarding deception and informed consent is a proposal by the APA's Ethics Code Task Force, a group of individuals responsible for reviewing the existing 1992 revision of the APA Ethical Principles and Code of Conduct and proposing certain changes and/or additions. The Task Force proposed that the next revision of the ethical guidelines include a provision allowing participants to withdraw "informed consent retroactively upon debriefing in deception research" (Martin, 1999, p. 44).

Many experimenters use debriefing procedures for all types of research studies, even for those without deceptive techniques. For example, Figure 4.3 shows a sample debriefing form that I used in a verbal learning study. Note how the study is now fully explained rather than in the general terms stated in the consent form. In addition, the participant is asked not to discuss the study with anyone because prior knowledge may affect the future response of other participants. Although Figure 4.3 shows a printed debriefing form handed out to all participants at the conclusion of the experimental session, other researchers may conduct extensive debriefing sessions, depending on the nature of the project.

Even if the study follows the APA principles regarding deception and extensive debriefing is used, it does not mean that all experimental psychologists condone deception in research. Some researchers do not approve of deception and do not see it as justified (Krupat & Garonzik, 1994; Oliansky, 1991; Ortmann & Hertwig, 1997). Others, such as Kelman (1967), caution that the widespread use of deception may ultimately harm the research process by making participants suspicious and distrustful of psychology and psychologists. This suspicion and mistrust can lead to unwanted sources of variance, such as demand characteristics and subject expectancies.

Interestingly, the use of deception in research has declined in recent years (Epley & Huff, 1998). For example, Epley and Huff reviewed articles published in the 1996 volume

<b>DEBRIEFING FORM</b>
<p>The study you have just participated in was conducted in order to examine the effects of priming on a variety of tasks. Priming is when a previously seen word influences the way you perform later tasks, such as completing a word, or a word association. In particular, we were interested in whether making relatedness decisions in the first part of the study would influence how you performed on later tasks such as word associations and stem completions.</p> <p>Research shows that when we see a word it activates our mental concept for that word. This activation then improves our performance on later tasks that are similar in concept to the original one. By making relatedness decisions, it was assumed that the underlying concepts for those words were activated. Later, when doing word associations, it was expected that you would use those words that were related to the association words. For example, you saw the words "VIRUS-DISEASE" and said "YES" to their being related. Later on the word association you were asked to come up with the first word that comes to mind when seeing the word "CANCER." It was expected that you would now say "DISEASE" since you were primed for it by the original relatedness decision.</p> <p>Studies like this are important to science as they help us gain understanding of human memory. Thank you for participating. Should you wish to receive a copy of the final results, I will be happy to provide you with one.</p>

**FIGURE 4.3** Sample debriefing form.

of *Journal of Personality and Social Psychology* and found that 42 percent of the studies entailed deception, down from 58 percent in 1971. Whether the modest decrease is due to greater ethical awareness in general, to stricter institutional review boards in particular, or simply to changes in the variables of interest under investigation, for example, from social and personality factors to cognitive ones, is yet to be determined.

(Note that the review by Epley and Huff only focused on articles published in the area of social and personality psychology, and not research articles in general. In other words, one should not get the idea that 42 percent of ALL research used deception.)

### The Effects of Deception

If you have participated in a research study at your college or university, it is possible that the study involved deception. The experimenter may have simply kept some information from you in order to protect the validity of the experiment and to keep you from knowing the hypothesis, or you may have been given a cover story, or may even have been lied to outright. If this happened to you, how did you feel after you were debriefed? Were you resentful? Did you feel duped or taken advantage of? Did the experience make you suspicious of psychological research in general? Do you anticipate being deceived again? If in the future an experimenter tells you that the study you are about to participate in does not entail deception, will you believe her?

Some studies on the effects of deception indicate that, in general, participants in deceptive research tend to accept and understand the reason behind it, and experience little, if any, negative effects from being deceived (Christensen, 1988; Epley & Huff, 1998; Smith & Richardson, 1983). Interestingly, even in the controversial Milgram experiments only 1.3 percent of the participants reported negative feelings about their participation (Berscheid, Baron, Dermer, & Libman, 1973).

A study by Sharpe, Adair, and Roesse (1992) found that when participants were asked to rate the trustworthiness of psychologists and the educational value of participation, there was no significant difference between participants who had been deceived and those who had not been deceived. In addition, both the deceived and the not deceived participants were equally positive about their role in psychological research, and in general they endorsed the idea that deception may be necessary. In terms of ethical considerations, the participants in the Sharpe et al. study considered deception ethical if the benefit outweighed the cost, and they rejected the notion that deception is an ethical violation of the participants' freedom.

On the other hand, Kelman's (1967) proposition that the increasing use of deception would lead to increased suspiciousness among participants was partially supported by Epley and Huff (1998). In their study, participants who were deceived reported high levels of suspicion even after a three-month followup. In contrast, participants who had not been deceived reported no suspicion about psychological research. The suspicion, however, was not accompanied by negative feelings about the experience.

Some researchers disapprove of deceptive techniques regardless of what effect, if any, the deception has on participants. Authors such as Krupat and Garonzik (1994) base their argument not so much on the consequences of deception, but on concerns for human rights. As such, they believe that it is the researcher's duty not to deceive participants, even when it can be demonstrated to have no negative effects.

**56** CHAPTER 4 ETHICAL CONSIDERATIONS IN RESEARCH**Alternatives to Deception**

What is a researcher to do? As stated before, human behaviors and characteristics such as prejudice, discrimination, altruism, honesty, obedience, bigotry, and tolerance, need to be studied and understood. If the researcher is straightforward about the topic under investigation, the results will most likely be affected by the participants' awareness of the research project. On the other hand, deception, especially lying to a participant outright, does raise important ethical considerations.

Campbell (1969) proposed that, early in the semester, colleges and universities should inform every member of the subject pool that he or she may be asked to participate in a project that entails deception. In this way the participants would be aware of the existence of deceptive experiments, and therefore participation would be with full consent. Although this is an interesting proposal, the early "warning" would very likely make the participants even more suspicious, leading them to expect deception at every turn. Since students can fulfill their experimental participation requirements without encountering any deceptive projects, Campbell's proposal would raise suspicion even in students who would not have had any reason to be suspicious in the first place.

Other proposals have included handing out questionnaires to students and asking them to check off all the various types of research in which they would be willing to participate (Gamson, Fireman, & Rytina, 1982). The questionnaire would list research that entails deception. Thus, the questionnaire would enable the researcher who needs to rely on deception to contact only those students who answered that they would be willing to participate in deceptive projects. Unfortunately, selecting only those who are willing to participate in deceptive research may lead to an unrepresentative sample that can affect the validity of the study.

As you can see, solutions are scant and far from perfect. The best that researchers can do is to think creatively about their studies and to consider ways of conducting the project that would avoid deception. If that is not possible, the omission of details (unless, of course, the details have to do with stress, harm, or risk) is preferable to outright lying. Finally, researchers need to think carefully about the cost-benefit ratio of the deceptive study. If the benefit is minimal or nonexistent, then deception is not justified.

**ETHICAL RESEARCH USING ANIMALS**

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**Why Use Animals in Research?**

A research psychologist may choose to conduct experiments with animal subjects for several reasons. First, some researchers believe that by studying animal behavior, we can gain an understanding of human behavior. In a similar vein, by understanding the impact of various environmental factors such as crowding, cognitive stimulation, enrichment, or deprivation on animal behavior, by extension we may also understand how these environmental factors affect human behavior.

For example, you have most likely studied the work of Harlow and Zimmerman (1959), Harlow and Harlow (1962), and Suomi and Harlow (1970) on attachment formation in infant monkeys. In their experiments, infant monkeys were separated from their natural mothers and raised under two different surrogate conditions; in one condition the

surrogate “mother” was constructed of wire with a wooden head, while in the other condition the wire was covered with terry cloth to provide softness and warmth. The experimenters were interested in seeing whether the primary function of attachment to the mother was simply survival: she provides food. What the studies found was that, regardless of which “mother” provided the food, the baby monkeys spent more time clinging to the terry cloth “mother.” This led the investigators to conclude that attachment is not merely for survival (food) but for contact comfort: something warm and soft to cling to. However, the studies also found that, regardless of which type of surrogate the monkeys had, all developed problems later on. They were either inappropriately aggressive or timid, and the females tended to neglect or abuse their own young.

Can we conclude from this study that attachment between human infants and their mothers also goes beyond the simple need for food and survival? In other words, can we generalize the findings of the Harlow et al. studies to human children and hypothesize that a lack of opportunity for contact comfort, or attachment, will also have an adverse effect on human development? It is difficult to say, but there is some evidence to support that notion.

In a classic paper, Dennis (1960) reported that children raised in an Iranian orphanage were severely delayed in terms of development. Of the 90 children examined, Dennis found that only 42 percent of the children between the ages of 1 and 1.9 could sit up unsupported (as compared to 100 percent of home-reared children) and only 4 percent could stand while holding on. Between the ages of 2 and 2.9, only 8 percent of the children could walk alone, whereas 100 percent of normal, noninstitutionalized children walk by that age. In terms of social development, the children did not smile and would cry when they were picked up. In addition, they showed fear when Dennis or his assistants approached them.

Before you conclude that it was the orphanage experience itself that caused the severe delay in development, it is important to point out that the situation of the children in this particular orphanage was unique. For example, there was very little handling of the children at the orphanage, except for when they were being bathed. There was no rocking, cuddling, or holding. Even during meal times, the bottle was propped on a pillow, rather than the child being held while being fed. The children spent the entire day lying in a crib, with no toys to play with and very little human contact. There was no opportunity to play, to learn, to explore; the children received only the most minimum of care such as bathing and feeding. Whether the developmental delay of the children was due to the lack of opportunity for movement and exploration, to the lack of opportunity for attachment or contact comfort, or to a combination of the two is inconclusive.

Another reason animals may be used in research is a very simple one: animal behavior is interesting in and of itself. Many psychologists are interested in understanding animal behavior without extending their findings to human behavior. As such, they may study the mating habits of Canadian Geese, the maternal behavior of gorillas, or the social hierarchy of herd animals. These studies tend to be largely naturalistic observation, or field studies.

Still another reason for using animals is that human beings cannot be subjected to certain procedures and experimental conditions. The studies conducted by Harlow et al., for example, could not have used human participants for obvious ethical reasons. Similarly, researchers in the area of neuroscience cannot subject human beings to various surgical procedures to determine the effects of brain lesions on learning, motivation, memory, and behavior. In addition, to examine the effects of various environmental factors on neu-

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ral development, at the end of the study the animals may have to be sacrificed so that their brains may be examined.

Of course, some maintain that subjecting animals to procedures and conditions that would not be used on a human being is unethical and should be discontinued (Singer, 1990). However, as Perkins (1990) so eloquently points out, without animal research millions of diabetics and cancer patients would be dead due to no insulin and no chemotherapy. Diseases such as tuberculosis, scarlet fever, and polio, not to mention high blood pressure, would continue to claim millions of lives. In addition, many of the treatments developed through the use of animal research are used to treat animals themselves. According to Perkins, 90 percent of the animals used in research are rats, mice, and fish, and are bred solely for research purposes. Eliminating animal research would not set these animals “free”; they would simply not exist at all.

Misguided attempts to free the animals can also have tragic consequences for the animals themselves. For example, in a recent attack on the animal research laboratory at the University of Minnesota, the animals were “liberated” and set free on a field near the school. Many of the animals were found wandering by the road, hardly a safe environment for animals, and several of the stolen rats were found dead (Azar, 1999).

Regardless of where one may stand on this issue, animal research does continue, and it is governed by ethical guidelines much the same as research involving human participants is regulated. Naturally, there is no informed consent or debriefing, but the psychologist is still under obligation to treat all animals subject ethically and to weigh the cost-benefit ratio carefully while planning the research project. The following presents some of the major principles stated in the APA guidelines regarding the use of animals in research.

### APA Principles

- Psychologists who conduct research with animals are obligated to treat the animals humanely. They are responsible for complying with state, federal, and local laws regulating how the animals are acquired, cared for, used, and disposed of.
- Psychologists must be trained in methods appropriate for animal research and must have experience in taking care of animals. They have the responsibility of supervising the procedures involving the animals, and they must ensure that steps are taken to protect the animals’ comfort, health, and humane treatment.
- The responsibilities of individuals who are assisting in the research project must be commensurate with their competencies and abilities.
- Psychologists must make every effort to minimize the discomfort, pain, or illness of the animals under their care.
- Subjecting animals to pain, discomfort, stress, or deprivation is permitted only if alternative means of obtaining information is unavailable, and if the study is justified by scientific, applied, or educational value.
- All surgical procedures must entail the use of anesthesia, and care must be taken to minimize pain and the risk of infection during and after surgery.
- If the animal’s life is to be terminated, it must be done rapidly, with minimum pain, and must follow accepted procedures.

## Alternative Approaches

Some alternatives to using animals in research have been proposed, such as *in vitro studies* or *computer simulations*. *In vitro*, which literally means “in glass,” refers to a technique that uses tissue samples or cultures rather than living animals. For example, an *in vitro* study may tell us how lead-based paint affects brain tissue or how a certain drug affects cell division. In general, *in vitro* studies are appropriate for biological and/or medical research; however, they have very limited (if any) application in behavioral research. Even within medical research they have their limitations; we may find out what the lead-based paint does to the tissue itself, but we may learn nothing about how it affects behavior in general.

Computer simulations involve programming a computer to predict various events or behaviors, given certain factors or predictors. Although this may be theoretically sound, a computer program is only as good as the information on which it is based. The information, on the other hand, may need to be obtained from prior research on live animals. If little information is available, the program will have limited ability to predict behavior accurately. As Perkins (1990) points out, results from research based on computer models are very likely to be incomplete and may lead to faulty, or even dangerous, conclusions.

The alternatives mentioned here are far from perfect, and until a more viable method is discovered animal research will continue. All research, whether it uses human or animal subjects, must be justifiable on the basis of scientific, educational, or applied value, and must be conducted with the utmost ethical consideration of its participants. As Macy (1990) points out, no one is arguing the benefit of animal research to humanity, but when an animal’s life is spent needlessly on frivolous or unnecessary research, then the practice becomes abhorrent.

Just as there are psychologists who do not condone the use of deception with human participants under any circumstances, there are those who oppose the use of animals, regardless of the benefits from knowledge gained.

## SUMMARY

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- Ethical guidelines regarding the use of human participants are based on the Nuremberg Code, which is an outgrowth of the Nuremberg trials following World War II.
- The Nuremberg Code set forth a series of principles regarding the use of human participants in research. This was in response to the atrocious medical experiments conducted at Nazi concentration camps that came to light during the Nuremberg trials.
- The most recent revision of the APA’s “Ethical Principles and Code of Conduct” (1992) governs all research conducted with human and animal subjects.
- The majority of institutions have an IRB that reviews and approves research projects and ensures that all research procedures meet ethical standards.
- According to the APA, all participation by humans must be voluntary, and participants must give their informed consent prior to participation. In addition, participants must be allowed to withdraw from the study at any time without penalty, and they have the right to obtain the results of the study if they so wish.
- Participants must be treated with dignity, and their rights and welfare must be protected. If the research poses potential harm or risk to the participant, the participants must be informed of these factors prior to giving their consent.

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- There are times when the researcher cannot reveal the full purpose of the study because the internal validity of the experiment would be compromised. Typically, these studies are in the area of social and personality psychology, and prior knowledge of the hypothesis or purpose of the study may alter the way the participants respond. In such cases, researchers may have to rely on misleading or misinforming the participants.
- According to the APA, deceptive research is not allowed unless justified by educational, societal, or scientific value, and unless alternative ways of gaining information are not available. Deception is not permitted if full disclosure of the nature of the study would alter the willingness of the participants to participate.
- Debriefing at the end of the experimental session is mandatory if deception was used. During debriefing, the participants are informed of any deceptive procedures that were used, and the true nature and purpose of the study are explained. Many researchers choose to debrief their participants even if no deception had been used in the study.
- Although some investigators have expressed concern over the use of deception, most studies on the effects of deception show no lasting detrimental effects. However, some investigators consider deception unethical under any circumstances.
- Research using animal subjects is also governed by ethical guidelines that are similar to those governing the use of human participants.
- All animal subjects must be treated humanely, and experimenters must comply with state, federal, and local laws regarding the use, care, and disposal of animals.
- Animal research is typically conducted when it would be unethical to expose human participants to certain treatments or conditions. In addition, some scientists use animals in research because animal behavior is inherently interesting.
- Alternative procedures to animal research such as computer modeling and in vitro studies have been proposed, but these methods are far from perfect.
- Some scientists consider procedures or conditions that are deemed unethical for humans to be unethical also for animals.

**KEY CONCEPTS**


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Debriefing	Institutional Review
Deception	Board
Informed Consent	Nuremberg Code

**QUESTIONS**

Short answers can be found in Appendix A.

1. Explain what role the Nuremberg trials played in the development of ethical guidelines governing research with human participants.
2. Summarize the key principles of the APA regarding ethical research with human participants.
3. Summarize the key principles of the APA regarding ethical research with animals.
4. What is the IRB? Explain its function.
5. Deception in experiments is
  - a. not permitted under any circumstances
  - b. allowed if the truth would alter people's willingness to participate
  - c. allowed only if justified by educational/scientific/applied value
  - d. permitted in most experiments



6. Which of the following is true regarding deception?
  - a. The majority of studies use it.
  - b. It is used mostly in social psychological research.
  - c. It is used mostly in order to get people to participate willingly.
  - d. There is no need to explain deception unless the study causes harm.
7. Which of the following is necessary according to the APA ethical guidelines?
  - a. Participants must give informed consent prior to participation.
  - b. Participants must be told what to expect, including any potential harm or risk.
  - c. Participants must be assured of confidentiality.
  - d. All of the above
8. Identify which of the following practices is unethical according to the APA. Check as many as apply.
  - a. Not revealing the hypothesis of the study
  - b. Offering your students an extra 25 points on an exam if they participate in your study
  - c. Concealing the true nature of the study because if the participants knew the true purpose they would not sign up for the project
  - d. Running out of consent forms but promising the participants that you will put one in their campus mailbox as soon as possible
  - e. Not debriefing the participants after a session that did not involve deception
  - f. Not debriefing the participants after a session that involved deception because you worry that they may tell other prospective participants about the true nature of the study, which would bias the results