

CHAPTER 2 RESEARCH STRATEGIES

CHAPTER-AT-A-GLANCE

Chapter Outline	Instruction Ideas	Supplements
From Theory to Hypothesis pp. 41–42	Learning Objective 2.1	Test Bank Items 1–4 Please contact your Pearson publisher's representative for a wide range of video offerings available to adopters.
Common Research Methods pp. 42–53 Systematic Observation • Self-Reports: Interviews and Questionnaires • Neurobiological Methods • The Clinical, or Case Study, Method • Methods for Studying Culture	Learning Objective 2.2 Lecture Enhancement 2.1 Learning Activities 2.1–2.2, 2.4–2.5 Ask Yourself p. 52	Test Bank Items 5–53, 125–127
Reliability and Validity: Keys to Scientifically Sound Research pp. 54–55 Reliability • Validity	Learning Objective 2.3 Learning Activity 2.5 Ask Yourself p. 55	Test Bank Items 54–63, 128
General Research Designs pp. 55–60 Correlational Design • Experimental Design • Modified Experimental Designs	Learning Objective 2.4 Lecture Enhancements 2.2–2.3 Learning Activities 2.3, 2.5 Ask Yourself p. 60	Test Bank Items 64–88
Designs for Studying Development pp. 60–66 The Longitudinal Design • The Cross-Sectional Design • Improving Developmental Designs	Learning Objective 2.5 Lecture Enhancement 2.4 Learning Activities 2.4–2.6 Ask Yourself p. 66	Test Bank Items 89–113, 129–130
Ethics in Research on Children pp. 66–69	Learning Objective 2.6 Learning Activities 2.4, 2.7 Ask Yourself p. 69	Test Bank Items 114–124, 131

BRIEF CHAPTER SUMMARY

Researchers face many challenges as they plan and implement studies of children. First, they must develop a researchable idea, either a hypothesis—a prediction drawn from a theory—or a research question. Next, they must develop a research strategy. Knowing the strengths and limitations of various research strategies is important in separating dependable information from misleading results.

Researchers must choose the research methods they will use in their investigation. Common methods include naturalistic and structured observations, self-reports, neurobiological measures, clinical, or case studies, and ethnography. Investigators must ensure that their procedures are both reliable and valid—two keys to scientifically sound research.

Next, the researcher must choose a research design. Two main types of designs, correlational and experimental, are used in all studies of human behavior. Scientists who study child development extend these approaches to special developmental research strategies—longitudinal and cross-sectional designs—that include measurements at different ages. Modified developmental designs, such as the sequential design, build on the strengths of both approaches. The microgenetic design allows researchers to track change as it occurs to gain insights into processes of development.

The ethical issues that arise in all research into human behavior are especially significant with children, who are particularly vulnerable to harm and often cannot evaluate the risks and benefits of research. To ensure that children's rights are protected, child development researchers follow special ethical guidelines and may seek advice from institutional review boards established to weigh the potential benefits of proposed studies against the costs to participants.

LEARNING OBJECTIVES

After reading this chapter, you should be able to answer the following:

- 2.1 Describe the role of theories, hypotheses, and research questions in the research process. (pp. 41–42)
- 2.2 Describe research methods commonly used to study children, noting strengths and limitations of each. (pp. 42–53)
- 2.3 Explain how reliability and validity apply to research methods and to the overall accuracy of research findings and conclusions. (pp. 54–55)
- 2.4 Distinguish correlational and experimental research designs, noting strengths and limitations of each. (pp. 55–60)
- 2.5 Describe designs for studying development, noting strengths and limitations of each. (pp. 60–66)
- 2.6 What special ethical issues arise in doing research on children? (pp. 66–69)

LECTURE OUTLINE

I. FROM THEORY TO HYPOTHESIS (pp. 41–42)

- A. Research usually begins with a prediction drawn from a theory, called a **hypothesis**.
 1. Research may pit a hypothesis taken from one theory against a hypothesis taken from another, or it may test predictions drawn from a single theory.
 2. If little or no theory exists on a topic of interest, the investigator may start with a *research question*.
 3. Hypotheses and research questions help investigators choose research methods and designs.
- B. Understanding the research process enables individuals who work directly with children to link research and practice by conducting studies, either on their own or in partnership with experienced investigators.

II. COMMON RESEARCH METHODS (pp. 42–53)

- A. Choosing a research strategy involves two main tasks.
 1. The researcher must choose from a variety of *research methods*—participants' specific activities, such as taking tests or responding to interviews.
 2. The researcher must then choose a *research design*—an overall plan for the study that will permit the best test of the research idea.
- B. Systematic Observation (pp. 42–46)
 1. Observations of the behavior of children, and of adults who are important in their lives, can be made in different ways.
 2. **Naturalistic observation:** The researcher goes into the field, or natural environment, and records the behavior of interest.
 - a. The great strength of naturalistic observation is that investigators can see directly the everyday behaviors they hope to explain.
 - b. A major limitation is that not all children have the same opportunity to display a particular behavior in everyday life.
 3. **Structured observations:** The investigator sets up a laboratory situation that evokes the behavior of interest so that every participant has an equal opportunity to display the response.
 - a. Strengths of structured observation
 - (1) It permits greater control over the research situation than does naturalistic observation.
 - (2) It is useful for studying behaviors that researchers rarely have an opportunity to see in everyday life.
 - b. The great disadvantage of this approach is that we cannot be certain that participants behave in the laboratory as they do in their natural environments.
 4. Collecting Systematic Observations
 - a. Investigators describe everything the participant says and does over a certain time period, or they may use **event sampling**, recording all instances of a particular behavior during a specified time period.
 - b. Another approach is **time sampling**, recording whether certain behaviors occur during a sample of short intervals.

5. Limitations of Systematic Observation
 - a. A major problem is **observer influence**—the effects of the observer on the behavior studied.
 - b. Another serious danger is **observer bias**: When observers are aware of the purposes of a study, they may see and record what they expect to see rather than what participants actually do.
- C. Self-Reports: Interviews and Questionnaires (pp. 46–47)
 1. Self-reports ask research participants to provide information on their perceptions, thoughts, abilities, feelings, attitudes, beliefs, and past experiences.
 2. Clinical Interviews
 - a. In a **clinical interview**, researchers use a flexible, conversational style to probe for the participant's point of view.
 - b. Strengths of clinical interviews
 - (1) They permit people to display their thoughts in terms that are close to the way they think in everyday life.
 - (2) They can provide a large amount of information in a fairly brief period.
 3. Limitations of Clinical Interviews
 - a. Participants do not necessarily report their thoughts, feelings, and experiences accurately.
 - b. Because clinical interviews depend on verbal ability, they may underestimate the capacities of individuals who have difficulty putting their thoughts into words.
 - c. Interviews on certain topics are particularly vulnerable to distortion.
 - d. The clinical interview's flexibility means that when questions are phrased differently for each participant, variations in responses may reflect the manner of interviewing rather than real differences in thinking.
 4. Structured Interviews, Tests, and Questionnaires
 - a. In a **structured interview**, each individual is asked the same set of questions in the same way.
 - b. Strengths of structured interviews
 - (1) They eliminate the chance that the interviewer might prompt some participants more than others.
 - (2) They are more efficient than clinical interviews.
 - c. Limitations of structured interviews
 - (1) They can still be affected by inaccurate reporting.
 - (2) They do not yield the same depth of information as clinical interviews.
- D. Neurobiological Methods (pp. 47–50)
 1. Researchers seeking to uncover the biological bases of perceptual, cognitive, and motor responses use **neurobiological methods**, which measure the relationship between nervous system processes and behavior.
 - a. Involuntary activities of the autonomic nervous system—such as heart rate, respiration, pupil dilation, and stress hormone levels—are highly sensitive to psychological state.
 - b. Distinct patterns of autonomic activity—indicated by heart rate, levels of the hormone cortisol, and other physiological measures—are related to aspects of temperament, such as shyness and sociability.
 2. Autonomic indicators have been enriched by measures of brain functioning, especially those that detect changes in *electrical activity* in the cerebral cortex.
 - a. In an *electroencephalogram (EEG)*, researchers examine brain-wave patterns for stability and organization, signs of mature functioning of the cortex. Today, researchers use an advanced tool, a geodesic sensor net (GSN) that yields improved brain-wave detection.
 - b. *Event-related potentials (ERPs)* detect the general location of brain-wave activity as a child processes a particular stimulus.
 - c. *Neuroimaging techniques* include *positron emission tomography (PET)* and *functional magnetic resonance imaging (fMRI)*.
 - (1) Both techniques yield detailed, three-dimensional computerized pictures of the entire brain and its active areas and provide the most precise information about which brain regions are specialized for certain capacities and about abnormalities in brain functioning.
 - (2) Unlike PET, which depends on X-ray photography, fMRI magnetically detects changes in blood flow and oxygen metabolism throughout the brain when a child is exposed to a stimulus.
 - (3) PET and fMRI are not suitable for infants and young children because they require the child to remain motionless for a long period of time.

- d. A neuroimaging technique that works well in infancy and early childhood is *near-infrared spectroscopy (NIRS)*, which uses infrared light to measure blood flow and oxygen metabolism while the child attends to a stimulus. NIRS examines only the functioning of the cerebral cortex.
- e. Strengths of neurobiological methods
 - (1) They can be used to infer the perceptions, thoughts, and emotions of infants and young children, who cannot report their psychological experiences clearly.
 - (2) They are powerful tools for uncovering relationships between the brain and psychological development.
- f. Limitations of neurobiological methods
 - (1) Researchers cannot be sure that a consistent pattern of autonomic or brain activity in response to a stimulus means that an individual has processed it in a certain way.
 - (2) Extraneous factors, such as hunger, boredom, or fatigue, may influence physiological responses.
- E. The Clinical, or Case Study, Method (pp. 50–51)
 - 1. The **clinical, or case study, method** brings together a wide range of information about one child, including interviews, observations, test scores, and sometimes neurobiological measures.
 - 2. Strengths of the clinical method
 - a. It yields detailed case narratives that offer valuable insights into the many factors that affect development.
 - b. It is well suited to studying the development of types of individuals who are few in number but vary widely in characteristics, such as *prodigies*.
 - 3. Limitations of the clinical method
 - a. Because information often is collected unsystematically and subjectively, researchers' theoretical preferences may bias their interpretations.
 - b. Investigators cannot assume that their conclusions apply to anyone other than the child studied.
- F. Methods for Studying Culture (pp. 51–53)
 - 1. To study the impact of culture, researchers adjust the methods just considered or tap procedures specially devised for cross-cultural and multicultural research.
 - 2. To study characteristics that are believed to be universal but that vary in degree from one culture to the next, researchers adapt observational and self-report procedures so they can be understood in each cultural context.
 - 3. To uncover the *cultural meanings* of children's and adults' behaviors, researchers use a method called **ethnography**, borrowed from the field of anthropology.
 - a. Like the clinical method, ethnographic research is a descriptive, qualitative technique.
 - b. Instead of aiming to understand a single individual, ethnography is directed at understanding a culture or a distinct social group through *participant observation*, whereby the researcher spends months or years in the cultural community, participating in its daily life.
 - c. A strength of ethnographic research is that by entering into close contact with a social group, researchers can understand its members' beliefs and behaviors in a way that is not possible with an observational visit, interview, or questionnaire.
 - d. Limitations of ethnographic research
 - (1) Investigators' own cultural values and theoretical commitments may lead them to observe selectively or misinterpret what they see.
 - (2) Findings cannot be assumed to generalize beyond the people and settings in which the research was conducted.

III. RELIABILITY AND VALIDITY: KEYS TO SCIENTIFICALLY SOUND RESEARCH (pp. 54–55)

- A. To be acceptable to the scientific community, research procedures must be both *reliable* and *valid*.
- B. Reliability (p. 54)
 - 1. **Reliability** refers to the consistency, or repeatability, of measures of behavior.
 - 2. In observational research, reliability is determined by obtaining *inter-rater reliability*—agreement between different observers evaluating the same behaviors.
 - 3. *Test–retest reliability* measures the reliability of self-report and neurobiological data by comparing responses to the same measures on separate occasions or, for self-reports, answers on different forms of the same test or questionnaire.
 - 4. The reliability of qualitative methods, such as clinical and ethnographic studies, must be determined by other methods—for example, having a judge examine the qualitative records to see whether the judge agrees with the researcher's conclusions.

C. Validity (pp. 54–55)

1. To have high **validity**, research methods must accurately measure the characteristics that the researcher set out to measure.
2. Reliability is essential but not sufficient for valid research; methods that are implemented carelessly, unevenly, and inconsistently cannot possibly represent what an investigator intended to study.
3. In setting up an investigation, researchers must consider two types of validity:
 - a. **Internal validity** is the degree to which *conditions internal to the design of the study* permit an accurate test of the researcher's hypothesis or question.
 - b. **External validity** is the degree to which researchers' *findings generalize to settings and participants outside the original study*.

IV. GENERAL RESEARCH DESIGNS (pp. 55–60)

A. Correlational Design (pp. 55–56, 57)

1. In a **correlational design**, researchers gather information on individuals, generally in natural life circumstances, without altering their experiences. Then they look at relationships between participants' characteristics and their behavior or development.
2. Correlational studies have one major limitation: They do not allow researchers to infer cause and effect. Because one variable is related to another does not mean that one *causes* the other.
3. Investigators often examine relationships using a **correlation coefficient**, a number ranging in value from +1.00 to –1.00 that describes how two measures, or variables, are associated with each other.
 - a. The *magnitude, or size, of the number* shows the *strength of the relationship*.
 - b. The *sign of the number* (+ or –) refers to the *direction of the relationship*.
 - (1) A positive sign (+) means that as one variable *increases*, the other also *increases*.
 - (2) A negative sign (–) means that as one variable *increases*, the other *decreases*.

B. Experimental Design (pp. 56–58)

1. An **experimental design** permits inferences about cause and effect because researchers use an evenhanded procedure to assign people to two or more treatment conditions.
2. In an experiment, the events and behaviors of interest are divided into two types:
 - a. The **independent variable** is the one the investigator expects to cause changes in another variable.
 - b. The **dependent variable** is the one the investigator expects to be influenced by the independent variable.
3. To detect cause-and-effect relationships, the researcher directly *controls* or *manipulates* changes in the independent variable by exposing participants to treatment conditions, and then compares their performance on measures of the dependent variable.
4. A **laboratory experiment** explores cause-and-effect relationships by dividing participants into different treatment conditions.
5. Researchers must take special precautions to control for participants' characteristics that could reduce the internal validity of their findings—for example, the problem of **confounding variables**, which are so closely associated that their effects on an outcome cannot be distinguished.
 - a. To address this, researchers engage in **random assignment** of participants to treatment conditions to ensure that participants' characteristics will be equally distributed across treatment groups.
 - b. Random assignment can be combined with **matching**, in which participants are measured ahead of time on the factor in question. Then children high and low on that factor are assigned in equal numbers to each treatment condition. Thus, the experimental groups are made equivalent on characteristics likely to distort the results.

C. Modified Experimental Designs (pp. 58–60, 61)

1. Most experiments are conducted in laboratories, where researchers can achieve the maximum control over treatment conditions. However, their findings may not apply to everyday situations.
2. In **field experiments**, researchers capitalize on opportunities to randomly assign participants to treatment conditions in natural settings.
3. **Natural**, or **quasi-**, **experiments** compare treatments that already exist, such as different family environments or preschool programs.
 - a. These studies differ from correlational research only in that groups are carefully chosen to ensure that their characteristics are as much alike as possible.

- b. They permit researchers to examine the impact of conditions that cannot be experimentally manipulated for ethical reasons, such as the influence of premature birth.

V. DESIGNS FOR STUDYING DEVELOPMENT (pp. 60–66)

- A. To answer questions about child development, researchers must learn how research participants change over time.
- B. To do this, they use special *developmental research* strategies in which age comparisons form the basis of the research plan.
- C. The Longitudinal Design (pp. 60–62)
 - 1. In a **longitudinal design**, participants are studied repeatedly at different ages, and changes are noted as they get older.
 - 2. Advantages of the Longitudinal Design
 - a. It allows researchers to identify common patterns as well as individual differences in development.
 - b. It permits investigators to examine relationships between early and later events and behaviors.
 - 3. Problems in Conducting Longitudinal Research
 - a. A common difficulty is **biased sampling**—the failure to enlist participants who represent the population of interest.
 - b. **Selective attrition** occurs when some participants move away or drop out for other reasons, and those who continue are likely to differ in important ways from those who drop out.
 - c. If participants become “test-wise” with repeated testing, their performance may improve as a result of **practice effects**—better test-taking skills and increased familiarity with the test—and not because of factors associated with development.
 - d. Another threat to the validity of longitudinal findings is cultural–historical change, commonly called **cohort effects**.
 - (1) Longitudinal studies examine the development of *cohorts*—children developing in the same period who are influenced by particular cultural and historical conditions. Results based on one cohort may not apply to children developing in other times.
 - (2) Cohort effects also occur when specific experiences influence some children but not others in the same generation.
 - e. Changes within the field of child development may create problems for longitudinal research, if the theories and methods that inspired the study become outdated.
- D. The Cross-Sectional Design (pp. 62–63)
 - 1. A more convenient strategy for studying development is the **cross-sectional design**, in which groups of people differing in age are studied at the same point in time.
 - 2. Advantages of the Cross-Sectional Design
 - a. It is an efficient strategy for describing age-related trends.
 - b. Because participants are measured only once, difficulties such as practice effects are not a factor.
 - 3. Problems in Conducting Cross-Sectional Research
 - a. It yields only age-group averages but does not provide evidence about development at the individual level.
 - b. Because of cohort effects, comparisons of groups born and reared in different years may not really represent age-related changes but, rather, may reflect unique experiences associated with the period in which the age groups were growing up.
- E. Improving Developmental Designs (pp. 63–65)
 - 1. Researchers have devised ways to build on the strengths and minimize the weaknesses of the longitudinal and cross-sectional approaches.
 - 2. Sequential Designs
 - a. In the **sequential design**, researchers conduct several similar cross-sectional or longitudinal studies, called *sequences*. The sequences might study participants over the same ages but in different years, or they might study participants over different ages but during the same years.
 - b. Some sequential designs combine longitudinal and cross-sectional strategies, which is efficient and yields these other advantages.
 - (1) Researchers can discover whether cohort effects are operating by comparing participants of the same age who were born in different years.
 - (2) Researchers can make both longitudinal and cross-sectional comparisons and, if outcomes are similar, can be confident about their findings.

3. Examining Microcosms of Development
 - a. The **microgenetic design**, an adaptation of the longitudinal approach, presents children with a novel task and follows their mastery over a series of closely spaced sessions.
 - b. Within this “microcosm” of development, researchers observe how change occurs—an approach that is especially useful for studying cognitive development.
 - c. Limitations of microgenetic studies
 - (1) They are difficult to carry out because researchers must analyze each participant’s behavior many times.
 - (2) The time required for children to change depends on a careful match between the child’s capabilities and the demands of the task.
 - (3) Practice effects can distort microgenetic findings.
4. Combining Experimental and Developmental Designs
 - a. Causal information, which is not provided by longitudinal or cross-sectional studies, is desirable both for testing theories and for finding ways to improve children’s lives.
 - b. If a developmental design indicates that children’s experiences and behavior are related, researchers may be able to explore the causal link by experimentally manipulating the experiences.

VI. ETHICS IN RESEARCH ON CHILDREN (pp. 66–69)

- A. Research into human behavior creates ethical issues because of the potential for exploitation—a concern that is especially complex when children take part in research.
 1. Children are more vulnerable than adults to physical and psychological harm.
 2. Children lack the maturity to evaluate for themselves the risks of participation in research.
- B. Ethical guidelines for research on children have been developed by the federal government, by funding agencies, and by research-oriented professional associations.
 1. Special committees known as *institutional review boards (IRBs)* assess proposed studies on the basis of a **risks-versus-benefits ratio**, which involves weighing the costs to participants in terms of inconvenience and possible psychological or physical injury against the study’s value for advancing knowledge and improving conditions of life.
 2. Basic rights of research participants include the following:
 - a. **Protection from harm:** If there are any risks to the safety and welfare of participants that the research does not justify, preference is always given to the research participants.
 - b. **Informed consent** means that people have a right to an explanation of all aspects of a study that might affect their willingness to participate. Parental consent is meant to protect the safety of children whose ability to decide is not yet fully mature.
 - c. Researchers must take special precautions in the use of deception and concealment when children are research subjects.
 - d. **Debriefing**, in which the researcher provides a full account and justification of the research activities after the research session is over, should be done with children as well as with adults.

LECTURE ENHANCEMENTS

LECTURE ENHANCEMENT 2.1

An Illustration of Cross-Cultural Research: Findings on Autobiographical Memory in Young Children (pp. 51–52)

Time: 10–15 minutes

Objective: To examine cross-cultural differences in maternal reminiscing style and autobiographical memories in young children.

To examine cross-cultural differences in maternal reminiscing style and autobiographical memories in young children, Wang (2008) recruited 189 3-year-olds and their mothers. The sample included three distinct populations—native Chinese in China, Chinese immigrants in the United States, and European Americans. Two female researchers visited each participant’s home and conducted interviews in the language with which each family was most comfortable. At the beginning of the home visit, one researcher played with the child to establish rapport, while the other explained the procedure to the mother. Next, mothers were instructed to talk to their child about two specific, one-time events that both had experienced and that had occurred within the

past two months (so children were likely to recall them), such as a trip to a museum or an amusement park. Mothers were asked to talk about one event that was emotionally positive for the child, and one was that emotionally negative. At the end of the home visit, a researcher conducted a short interview with each child to assess various aspects of self-concept (personal qualities, attributes, and beliefs). The purpose of the interview was to determine whether maternal reminiscing style also predicted self-concept in young children.

Following the mother–child conversation, the researcher again played with the child, telling him or her, “Your mom just told me that . . . (for example, you went to the museum last weekend). I’ve never been there before. Tell me what you did.” To elicit details, the researcher used prompts like, “What else happened?” “Can you tell me more about it?” To assess various aspects of self-concept, the researcher conducted a short self-description interview with each child. She explained to the child, “I would like to write a story about you. What’s the first thing I should put in the story?” She then used prompts as needed, such as “What else should I write about you?” Finally, mothers completed questionnaires about their child’s self-concept and language development.

Home visits were video recorded for later coding. Mothers’ utterances during the mother–child conversation were coded as elaborations or evaluations. Elaborations included introducing a topic for discussion or adding information. Evaluations included confirming, negating, questioning, or emphasizing any part of the child’s previous statement. Children’s utterances were coded as shared memory reports whenever they requested more information or provided new information about the event. When recounting past events to the researcher, children’s utterances were coded as independent memory reports whenever they provided new information that was not discussed in the mother–child conversation.

Results indicated that European-American mothers used more elaborations and evaluations with their children than Chinese and Chinese-immigrant mothers. European-American children, in turn, demonstrated greater recall when sharing memories with their mothers and with the researcher than Chinese and Chinese-immigrant children. Regardless of cultural background, children whose mothers were more elaborative and evaluative recalled more information than children whose mothers were less elaborative and evaluative. European-American children also provided more specific information about themselves in their personal narratives—that is, included more personal qualities, attributes, and beliefs—than either group of Chinese children. Although there were no cultural differences in proportion of favorable attributes or beliefs children included in their self-concepts, once again European-American children (who were more likely to have elaborative-style mothers) provided more details about themselves compared with their Chinese counterparts.

Have students review the text discussion on individualistic and collectivist societies (Chapter 1, p. 35). How might these cultural orientations explain differences in mother–child conversations?

Wang, Q. (2008). Relations of maternal style and child self-concept to autobiographical memories in Chinese, Chinese Immigrant, and European American 3-year-olds. *Child Development*, 77, 1749–1809.

LECTURE ENHANCEMENT 2.2

Demonstrating the Correlational Design: Parents’ Management of Their Teenagers’ Romantic Relationships (pp. 55–56)

Time: 10–15 minutes

Objective: To illustrate the correlational design using a study of parents’ management of their teenagers’ romantic relationships.

To extend existing research on dating in late adolescence, Madsen (2008) recruited 104 adolescents between the ages of 17 and 19 (29 boys, 75 girls) and at least one of their parents. The majority of the participants were from middle-SES families. The researchers collected the following information:

- (1) Parents completed the Parents of Adolescents Separation Anxiety Scale (PASAC). The PASAC assesses adults’ comfort with their parenting role. For example, on a scale of 1 to 5 (1 = strongly disagree; 5 = strongly agree), “I like knowing that my teenager will come to me when he/she feels upset.”
- (2) Participants reported on their parents’ use of psychological control. For example, on a scale of 1 to 3 (1 = not like him/her; 3 = a lot like him/her), “My mother [father] is a person who is always trying to change how I feel or think about things.”
- (3) Participants completed the Network of Relationship Inventory (NRI), which measures various aspects of romantic relationships—satisfaction, intimacy, affection, admiration, conflict, and antagonism. Sample questions include: On a scale of 1 to 5 (1 = little or none; 5 = the most),

- Satisfaction: “How satisfied are you with your relationship?”
 - Intimacy: “How much do you tell this person about everything?”
 - Affection: “How much does this person really care about you?”
 - Admiration: “How much does this person like or approve of the things you do?”
 - Conflict: “How much do you and this person get upset or mad at each other?”
 - Antagonism: “How much do you and this person get on each other’s nerves?”
- (4) Parents who were currently involved in a romantic relationship reported on their satisfaction and insecurity. For example, on a scale of 1 to 7 (1 = low; 7 = high), “How satisfied are you with your relationship?” On a scale of 1 to 7 (1 = strongly disagree; 7 = strongly agree), “I worry that my partner doesn’t care as much for me as I do my partner.”
- (5) Parents indicated whether the family had any rules about dating. If so, they were asked to indicate who set these rules—*mostly me; me; mostly my spouse; my spouse and I set the rules together; my spouse; my child; or my child and I set the rules together*. There were three types of rules included in this study:
- Supervision: Rules that require the adolescent to provide information regarding his or her dating activities
 - Restriction: Rules that place some limitation or constraint on the adolescent’s dating activity, such as no dates on school nights or only double dates
 - Prescription: Rules that specify expectations regarding how the adolescent should behave with a date or in a dating relationship, such as use good judgment, leave an uncomfortable situation

Findings indicated that most parents (64%) had dating rules for their teenager. Overall, parents were more likely to impose dating rules on daughters than sons. In addition, mothers were more involved in setting dating rules than fathers. Of the three types of rules, supervision was most common and predicted healthy parent–child relationships. That is, parents who engaged in moderate levels of supervision were more secure in their parenting role and their children tended to report healthy levels of psychological control. In contrast, adolescents who experienced high levels of restriction also reported high rates of parental psychological control. Interestingly, parents who were dissatisfied with their own romantic relationships used more prescription rules than supervision or restriction rules. According to Madsen, while supervision and restriction rules tend to focus on monitoring and safety, prescription rules provide expectations associated with more satisfying relationships. Thus, dissatisfied parents may be more likely to impose their own expectations or wishes onto their teenagers.

Finally, parents’ use of dating rules had no impact on the quality of adolescents’ romantic relationships. That is, relationship satisfaction, intimacy, affection, admiration, conflict, and antagonism were unrelated to the number and types of rules. Instead, dating rules were a reflection of the parent–child relationship, as well as parental satisfaction with their own romantic relationships.

Madsen, S. D. (2008). Parents’ management of adolescents’ romantic relationships through dating rules: Gender variations and correlates of relationship qualities. *Journal of Youth and Adolescence*, 37, 1044–1058.

LECTURE ENHANCEMENT 2.3

Illustrating Research Designs for Studying the Child: Marital Conflict, Conflict Resolution, and Children’s Adjustment (pp. 56–58)

Time: 10–15 minutes

Objective: To examine the effects of marital conflict and conflict resolution on children’s adjustment.

To examine the effects of marital conflict, including resolution of the conflict, on children’s emotional adjustment, Goeke-Morey, Cummings, and Papp (2008) recruited 163 children between the ages of 8 and 16 years and their parents. The researchers collected the following information:

- (1) For 15 consecutive days, mothers and fathers were instructed to complete separate diaries of naturally occurring marital conflict. The researchers defined marital conflict as “any major or minor interparental interaction that involved a difference of opinion, whether it was mostly negative or even mostly positive.” For each entry, parents recorded how the conflict ended—for example, compromise, giving in, a spouse apologizing, agreeing to disagree, or withdrawal. Parents also recorded the degree of their own and their spouse’s emotional reaction to each conflict—anger, sadness, fear, and positive emotional expression. If a target child was present during the conflict, parents recorded his or her emotional reaction as well. Because the entries for spouses were highly similar, the researchers only used the mothers’ entries in the final data analyses.

- (2) Target children participated in an analogue laboratory procedure. A researcher presented each child with one of two common conflict scenarios. Children were asked to visualize interparental conflict over a messy house or an expensive purchase. Specifically, they were told to imagine that their own parents had “a big fight” over the mess or purchase. Next, children were shown a video depicting two adults (who represented their own parents) ending the conflict through compromise, giving in, an apology, agreeing to disagree, or withdrawal. In some instances, the “mother” ended the conflict; in others, the “father” ended the conflict. Finally, the researcher asked each child a series of questions about the conflict scenario. For example, children were asked to answer the following questions by using a 10-point scale (1 = not at all; 10 = a whole lot): “How much do you think the problem has been worked out?” “How did that make you feel—happy, mad, scared, sad, or OK?” Children were also asked an open-ended question: “What would you do if you were in the same room with them?” The researchers were interested in children’s attempts to mediate or avoid the conflict.
- (3) Parents completed the Child Behavior Checklist, which rates a broad range of internalizing (anxiety, somatic complaints, depression) and externalizing (aggression, impulsivity, hyperactivity) problems.

Results indicated that parental conflict resolution is a particularly important predictor of children’s psychological adjustment, perhaps more so than exposure to the initial conflict. According to the diary entries, of all possible outcomes, compromise was the most frequent end to conflict and had the greatest impact on children’s reactions. Specifically, children who experienced parental compromise had fewer negative reactions like sadness and fear and rated the laboratory scenarios more positively. In contrast, withdrawing from marital conflict was associated with increased child distress. Children who frequently observed parental withdrawal were less positive and rated the laboratory scenarios more negatively. According to Goeke-Morey, Cummings, and Papp, this finding suggests that marital conflict is not a uniformly negative experience for children. In fact, marital conflicts can actually end in ways that are positive and constructive to the child. Such conflicts may also serve as a model for children’s own conflict resolution strategies.

Ask students to consider the various research designs for studying development. What design was utilized in this study? What are the strengths and limitations of this design? Can students think of any special ethical considerations that might arise with this type of study? Explain.

Goeke-Morey, M. C., Cummings, E. M., & Papp, L. M. (2008). Children and marital conflict resolution: Implications for emotional security and adjustment. *Journal of Family Psychology*, 21, 744–753.

LECTURE ENHANCEMENT 2.4

An Example of the Longitudinal Research Design: The Effects of Trauma on Children (pp. 60–62)

Time: 5–10 minutes

Objective: To examine the long-term effects of trauma on children.

To examine the long-term effects of trauma on children, Mullett-Hume and colleagues (2008) recruited 204 adolescents between the ages of 12 and 16 years. The participants attended schools near “Ground Zero”—that is, within 10 blocks—of the World Trade Center attack on September 11, 2001. The participants completed the following surveys:

- (1) *The New York University Child and Adolescent Stressors Checklist–Revised (NYU–CASC)*. The NYU–CASC focuses on various types of trauma and life adversities. Participants were asked about exposure to domestic violence, community and school violence, significant illnesses or death of close family members, accidents or injuries to self, natural disasters, and war. The researchers were interested in the types of trauma that participants had experienced, as well as cumulative trauma.
- (2) *The Child PTSD Symptom Scale (CPSS)*. The CPSS assesses reactions to trauma. For example, participants were asked to answer the following questions by using a 4-point scale (0 = not at all; 3 = 5 or more times a week/almost always): “How often do you feel upset, scared, or angry when you think about or hear about the event?” “How often do you avoid activities, people, or places that remind you of the event?”

Results indicated that history of trauma exposure—rather than direct exposure to the 9/11 terrorist attack—predicted severity of stress reactions. Specifically, children who were exposed to the terrorist attack but had little or no history of other life traumas continued to experience stress symptoms 2.5 years after exposure. However, stress reactions associated with 9/11 were significantly greater for children who had experienced other traumatic events prior to the terrorist attack. According to Mullett-Hume and colleagues, these findings suggest that a history of multiple traumas may be a more potent risk factor for long-term adjustment difficulties than exposure to a single, severe traumatic event.

Have students review research on cohort effects. How might cohort effects explain why specific experiences, such as exposure to 9/11, influence some children but not others in the same generation?

Mullett-Hume, E., Anshel, D., Guevara, V., & Cloitre, M. (2008). Cumulative trauma and posttraumatic stress disorder among children exposed to the 9/11 World Trade Center attack. *American Journal of Orthopsychiatry*, 78, 103–108.

LEARNING ACTIVITIES

LEARNING ACTIVITY 2.1

Matching: Common Methods Used to Study Children (pp. 42–52)

Present the following exercise as an in-class activity or quiz.

Directions: Match each term with its description.

Terms:

- _____ 1. Naturalistic observation
- _____ 2. Structured observation
- _____ 3. Clinical interview
- _____ 4. Structured interview, questionnaires, and tests
- _____ 5. Neurobiological methods
- _____ 6. Clinical, or case study, method
- _____ 7. Ethnography

Descriptions:

- A. To fully understand one child's psychological functioning, this method combines interviews, observations, test scores, and sometimes neurobiological assessments.
- B. Using this method, the researcher tries to capture a culture's unique values and social processes.
- C. A strength of this method is that it grants each participant an equal opportunity to display the behavior of interest.
- D. A limitation of this method is that it cannot reveal with certainty the meaning of autonomic or brain activity.
- E. Using this research method, each participant is asked the same question in the exact same way.
- F. This method comes as close as possible to the way participants think in everyday life.
- G. Using this method, researchers observe behavior in natural contexts.

Answers:

- 1. G
- 2. C
- 3. F
- 4. E
- 5. D
- 6. A
- 7. B

LEARNING ACTIVITY 2.2**Making Systematic Observations of Young Children (pp. 44–45)**

Ask students to find a child to observe by, for example, visiting a nearby park or the home of a family they know. The procedures used to collect systematic observations vary, depending on the research problem posed. One common approach is *event sampling*, in which the observer records all instances of a particular behavior of interest during a specified time period. Another option is *time sampling*. Using this procedure, the researcher records whether certain behaviors occur during a sample of short intervals. The chart below is an example of a simple time sampling instrument:

Target Behavior: Aggression

Minute 1				Minute 2				Minute 3				Minute 4				Minute 5			
15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60

Students should choose target behaviors that are easy to identify, such as aggressive behavior (for example, hitting), prosocial behavior (for example, comforting other children, sharing toys), crying, or instances of adult–child interaction. Once students have completed their observations, ask them to share their findings with the class, including any challenges they encountered.

LEARNING ACTIVITY 2.3**True or False: General Research Designs (pp. 55–60)**

Present the following activity to students as an in-class assignment or quiz.

Directions: Read each of the following statements and determine if it is *True* (T) or *False* (F).

Statements:

- _____ 1. In a correlational design, researchers can infer cause and effect.
- _____ 2. A researcher who finds a $+ .78$ correlation between parent self-reports of harsh discipline and child behavior problems has found a moderate correlation.
- _____ 3. The independent variable is the one the investigator expects to cause changes in the other variable.
- _____ 4. In experimental research, investigators directly control or manipulate the dependent variable.
- _____ 5. To protect against the effects of confounding variables, researchers engage in random assignment of participants to treatment conditions.
- _____ 6. One strength of laboratory experiments is that findings often apply to everyday situations.
- _____ 7. Natural, or quasi-, experiments differ from correlational research only in that groups of people are carefully chosen to ensure that their characteristics are as much alike as possible.

Answers:

- | | |
|------|------|
| 1. F | 5. T |
| 2. F | 6. F |
| 3. T | 7. T |
| 4. F | |

LEARNING ACTIVITY 2.4**Thinking About Research Methods and Designs (pp. 42–52, 60–64, 66–69)**

Pose the following questions to students for an in-class discussion:

- (1) An investigator is interested in determining whether infant child care leads to an insecure attachment bond between children and their mothers during the first year of life as well as into the preschool years. What research method and design would you use for this study, and why? Would there be any special ethical considerations with this type of study? If so, what are they?

- (2) An investigator is interested in determining whether sociability in children is related to school achievement and whether this relationship varies for children in preschool, grade school, and middle school. What research method and design would you use for this study, and why? Would there be any special ethical considerations with this type of study? If so, what are they?

LEARNING ACTIVITY 2.5

Critiquing Journal Articles (pp. 42–52, 55–58, 60–65)

Have students select and read two articles about child development published during the past four years. Each article should present an empirical study on a topic related to child development. Some journals to consider for this activity are *American Psychologist*, *Child Development*, *Developmental Psychology*, *Early Childhood Research Quarterly*, *Journal of Adolescence*, *Journal of Applied Developmental Psychology*, and *Developmental Science*.

Next, have students (1) prepare a brief summary of the problem, method, results, discussion, and conclusions of the two articles; (2) indicate the type of research method(s) and design(s) used; and (3) identify any potential problems for achieving accurate results posed by the research design(s). Students can then discuss their findings in small groups or as a class.

LEARNING ACTIVITY 2.6

Cross-Sectional, Longitudinal, and Sequential Research Designs (pp. 60–64)

Present the following exercise as an in-class activity or quiz.

Directions: The following list contains descriptions, challenges, and examples of cross-sectional, longitudinal, and sequential research designs. For each statement, determine which research design (CS = cross-sectional, L = longitudinal, or S = sequential) is being described.

- _____ 1. The researcher studies groups of participants who differ in age at the same point in time.
- _____ 2. The researcher is interested in whether frequent exposure to violent television in early childhood predicts aggressive and antisocial behavior in adulthood.
- _____ 3. May have the same problems as longitudinal and cross-sectional strategies, but the design itself helps identify difficulties.
- _____ 4. Age-related changes may be distorted because of biased sampling, participant dropout, practice effects, or cohort effects. Theoretical and methodological changes in the field can make findings obsolete.
- _____ 5. The researcher follows a sequence of samples (two or more age groups), collecting data on them at the same points in time.
- _____ 6. Does not permit the study of individual developmental trends. Age differences may be distorted because of cohort effects.
- _____ 7. The researcher is interested in age-related changes in children's problem-solving skills. The researcher selects three samples—preschool-age children, school-age children, and adolescents—and tracks them for five years.
- _____ 8. The researcher is interested in how children of different ages process traumatic events, such as terrorism or natural disasters. The researcher recruits children in grades 3, 6, 9, and 12 for the study and interviews them about the Japan earthquake and Fukushima nuclear accident, the 2011 tornado outbreaks across the U.S., and the Norway terrorist attacks.
- _____ 9. The researcher studies the same group of participants repeatedly at different ages.

Answers:

- | | |
|-------|-------|
| 1. CS | 6. CS |
| 2. L | 7. S |
| 3. S | 8. CS |
| 4. L | 9. L |
| 5. S | |

LEARNING ACTIVITY 2.7

Exploring Ethical Guidelines for Research with Children (pp. 66–69)

To supplement the text coverage of ethics in child research, have students visit the following website: www.srcd.org. On the homepage, under About SRCD, have students choose “SRCD Ethical Standards” under the “About SRCD” heading. As students review the website, have them compare ethical guidelines for children with those presented in the text. What are some special ethical considerations for research with children? Do the ethical guidelines presented on the website adequately protect child research participants from undue risk? Explain.

ASK YOURSELF . . .

REVIEW: Why might a researcher choose structured observation over naturalistic observation? How about the reverse? What might lead the researcher to opt for clinical interviewing over systematic observation? (pp. 42–44, 46)

In *naturalistic observation*, researchers go into the field, or natural environment, and record the behavior of interest. Researchers choose this approach when it is important for them to see directly the everyday behaviors they hope to explain.

In *structured observation*, the investigator sets up a laboratory situation that evokes the behavior of interest, giving every participant an equal opportunity to display the response. Structured observation permits greater control over the research situation than does naturalistic observation. It is especially useful for studying behaviors, such as parent–child or friendship interactions, that investigators rarely have an opportunity to see in everyday life. However, there is no way to ensure that participants will behave in the laboratory as they do in their natural environments.

Systematic observation provides information about how people behave but says little about the reasoning behind their responses. Therefore, researchers who are interested in exploring participants' perceptions, thoughts, feelings, attitudes, beliefs, or past experiences often use the *clinical interview*—a flexible, conversational style used to probe for the participant's point of view. The clinical interview permits people to express their thoughts in terms that are as close as possible to the way they think in everyday life. This method also provides a large amount of information in a fairly brief period—far more than could be captured by observing for the same amount of time.

CONNECT: What strengths and limitations do the clinical, or case study, method and ethnography have in common? (pp. 50–52)

Both the clinical method and ethnography are descriptive, qualitative research techniques. Whereas the clinical method is a way of obtaining as complete a picture as possible of a single individual, ethnography is directed toward understanding a culture or distinct social group through *participant observation*. A major strength of both methods is that they yield rich, detailed descriptions that offer insights into the many factors affecting development. A limitation of both methods is that investigators' cultural values and theoretical preferences may lead them to observe selectively or misinterpret what they see. Another limitation is that findings cannot be assumed to generalize to other individuals or cultures.

APPLY: A researcher wants to study the thoughts and feelings of children who have a parent on active duty in the military. Which method should she use? Why? (pp. 46–47)

Because the researcher wants to learn about children's thoughts and feelings, the best method is the *clinical interview*, which permits children to display their thoughts in terms that are as close as possible to the way they think in everyday life. This method also provides a large amount of information in a fairly brief period.

The researcher might also consider using a *structured interview*, in which each participant is asked the same set of questions in the same way. The structured interview eliminates the possibility that variations in children's responses may reflect the manner of interviewing rather than real differences in their thoughts about the question. It is also more efficient: Answers are briefer and can be gathered from an entire group at the same time. However, structured interviews do not yield the same depth of information as a clinical interview.

REVIEW: Explain why, although a research method must be reliable to be valid, reliability *does not guarantee* validity. (p. 54)

Reliability refers to the consistency, or repeatability, of measures of behavior. To be reliable, observations and evaluations of people's actions cannot be unique to a single observer. Instead, observers must agree on what they see. For research methods to have high *validity*, they must accurately measure characteristics that the researcher set out to measure. Therefore, reliability is essential for valid research. But the reliability of a study is not enough to guarantee that the researcher is actually measuring what he or she set out to measure. Even the most carefully designed experiment can be rendered invalid if the research methods do not reflect the investigator's goals.

CONNECT: Why is it better for a researcher to use multiple methods rather than just one method to test a hypothesis or answer a research question? (pp. 54–55)

To be scientifically sound, research methods must be both reliable and valid. Qualitative research methods, such as the clinical, or case study, method and ethnographic studies, do not yield quantitative scores that can be matched with those of another observer. Therefore, the reliability of these methods must be determined by using other procedures as well. Using multiple research methods also helps to ensure validity by allowing investigators to determine whether findings from one study generalize to settings and participants outside the original study.

APPLY: In studying the development of attention in school-age children, a researcher wonders whether to make naturalistic observations or structured observations. Which approach is best for ensuring internal validity? How about external validity? Why? (pp. 42–44, 54–55)

Because structured observations give each participant an equal opportunity to display the behavior of interest, they are the best option for ensuring internal validity. On the other hand, naturalistic observations are the best approach for ensuring external validity, because they reflect participants' everyday behaviors, increasing the likelihood that findings can be generalized to other individuals and settings.

REVIEW: Why are natural experiments less precise than laboratory and field experiments? (pp. 56–58, 60)

In natural, or quasi-, experiments, the researcher compares treatments that already exist, such as different family environments, schools, child-care centers, or schools. These studies differ from correlational research only in that groups of participants are carefully chosen to ensure that their characteristics are as much alike as possible.

Field experiments are more precise than natural experiments because the investigator randomly assigns participants to treatment conditions in natural settings and is therefore able to generalize experimental findings to the real world. In laboratory experiments, in addition to random assignment of participants to treatment conditions, the investigator manipulates an independent variable and looks at its effect on a dependent variable, allowing more confident inferences about cause and effect.

CONNECT: Reread the description of the study of aggressive boys and their friendships on page 44. What type of design did the researchers use, and why? (pp. 44, 56–58)

The researchers used structured observation and a correlational design. Structured observation allowed them to study behaviors—in this case, friendship interactions—that they would rarely have an opportunity to see in everyday life. The correlational design allowed them to measure the strength of the relationship between the boys' aggressiveness and the extent to which their peer interactions were angry and uncooperative. Although they were not able to infer a cause-and-effect relationship between the two variables, they found evidence that aggressive boys' close peer ties, rather than being warm and supportive, provided a context in which the boys practiced hostility and other negative behaviors.

APPLY: A researcher compares children who went to summer leadership camps with children who attended athletic camps. She finds that those who attended leadership camps are friendlier. Should the investigator tell parents that sending children to leadership camps will cause them to be more sociable? Why or why not? (pp. 55–56)

No. This study has a correlational design, in which the researcher looks at relationships between participants' characteristics and their behavior or development. Although a correlational design allows researchers to gather information on individuals in their natural life circumstances, it does not permit them to infer cause and effect. Therefore, the researcher cannot conclude that attending summer leadership camps *causes* children to be more sociable. As an alternative explanation, perhaps children who are more sociable are also more likely to choose leadership camps over athletic camps, or perhaps a third variable that the researcher did not even consider contributed to the research findings.

REFLECT: Design a study to investigate whether time devoted to adult–child picture-book reading in the preschool years contributes to reading readiness at school entry. List steps you will take to protect the internal and external validity of your investigation. (p. 55)

This is an open-ended question with no right or wrong answer.

REVIEW: Explain how cohort effects can distort the findings of both longitudinal and cross-sectional studies. How does the sequential design reveal cohort effects? (pp. 62–64)

Both longitudinal and cross-sectional studies can be influenced by *cohort effects*—the particular set of historical and cultural conditions that affect individuals born in the same time period. Therefore, results based on one cohort may not apply to children developing at other times. For example, a longitudinal study of social development carried out around the time of World War II would probably result in quite different findings than if it were carried out in the first decade of the twenty-first century, during the decade of the 1960s, or during the Great Depression of the 1930s. Similarly, a cross-sectional design comparing 5-year-old cohorts and 15-year-old cohorts—groups born and reared in different years—may not really identify age-related changes. Rather, the results may reflect unique experiences associated with the different historical time period in which each age group grew up.

In a *sequential design*, researchers overcome some of these limitations by conducting several similar longitudinal or cross-sectional studies, or *sequences*, at varying times. Sequential designs permit researchers to find out whether cohort effects are operating by comparing participants of the same age who were born in different years. If the samples do not differ on the measured variables, the researcher can rule out cohort effects.

CONNECT: Review the study on music lessons and intelligence reported in the Social Issues: Education box on page 59. Explain how it combines an experimental with a developmental design. What advantage does this approach offer? (pp. 56, 59, 60–61)

The study on music lessons and intelligence combines an experimental with a longitudinal design (a type of developmental design). The researchers experimentally manipulated participants' experiences by randomly assigning 6-year-old children to one of four experimental conditions—two groups who received music lessons (piano and voice, respectively), one group who received drama lessons, or a no-lessons control group—and then measuring changes in each child's mental-test performance over time. The two music groups consistently gained more in mental-test performance than either the drama or the no-lessons control group.

The advantage of this approach is that it allowed researchers to draw causal inferences from the results—in this case, to infer that sustained musical experiences can lead to small increases in intelligence among 6-year-olds that do not arise from comparable drama lessons.

APPLY: A researcher wants to know whether children enrolled in child-care centers in the first few years of life do as well in school as those who are not in child care. Which developmental design is appropriate for answering this question? Explain. (pp. 60–61)

A longitudinal design would be the most appropriate method for investigating this question because it would allow the researcher to track the performance of children who attend child-care centers in the first few years of life versus those who do not, to identify common patterns and differences in development between the two groups, and to examine any relationships between early child-care experiences and later school performance.

REFLECT: Suppose a researcher asks you to enroll your baby in a 10-year longitudinal study. What factors would lead you to agree and to stay involved? Do your answers shed light on why longitudinal studies often have biased samples? Explain. (pp. 61–62)

This is an open-ended question with no right or wrong answer.

REVIEW: Explain why researchers must consider children’s age-related capacities to ensure that they are protected from harm and have freely consented to research. (pp. 66–68)

When children participate in research, the ethical concerns are especially complex. Children are more vulnerable than adults to physical and psychological harm. The ethical principle of *informed consent*—people’s right to have all aspects of a study explained to them that might affect their willingness to participate—requires special interpretation when individuals cannot fully appreciate the research goals and activities. Parental consent is meant to protect the safety of children whose ability to decide is not yet fully mature. As soon as children are old enough to appreciate the purpose of the research, certainly by age 7, their own informed consent should be obtained in addition to parental consent. Around age 7, changes in children’s thinking permit them to better understand basic scientific principles and the needs of others. Researchers should respect and enhance these new capacities by giving school-age children a full explanation of research activities in language they can understand.

CONNECT: In the experiment on music lessons and intelligence reported in the Social Issues box on page 59, why was it ethically important for the researchers to offer music lessons to the no-lessons control group during the year after completion of the study? (p. 66)

One of the research rights established by the American Psychological Association states that when researchers are investigating experimental treatments believed to be beneficial, children in control groups have the right to alternative beneficial treatments if they are available. Once researchers identified a positive relationship between music lessons and children’s mental test performance, it was important to give the no-lessons control group an opportunity similar to the advantage provided to the experimental group.

APPLY: As a researcher was engaged in naturalistic observation of preschoolers’ play, one child said, “Stop watching me!” Referring to the research rights listed in Table 2.5, indicate how the researcher should respond, and why. (p. 66)

Children’s research rights include the right to be protected from physical or psychological harm as well as the right to discontinue participation in research at any time. Because this child has verbally expressed a desire to discontinue the observation, the researcher is ethically obligated to terminate the observation.

REFLECT: Would you approve the study on stereotyping and prejudice, in which summer-school students (without an explanation) were asked to wear colored T-shirts that identified them as members of “majority” and “minority” groups? Explain. What ethical safeguards do you believe are vital in research that requires deception of children to ensure internal validity? (pp. 66–69)

This is an open-ended question with no right or wrong answer.

SUGGESTED READINGS

- Coll, C. G., & Marks, K. (2009). *Immigrant stories: Ethnicity and academics in middle childhood*. New York: Oxford University Press. A longitudinal study of first- and second-generation immigrant youths, this book examines the unique challenges and strengths of these children and their families. Topics include cultural attitudes and identity development, academic achievement, the importance of community resources, and the importance of public policies for immigrant families.
- Freeman, M., & Mathison, S. (2008). *Researching children’s experiences*. New York: Guilford. Presents an extensive overview of research methods commonly used to study children and adolescents. The authors also present information on recruiting minors for research, the roles and responsibilities of researchers, the importance of understanding the child’s developmental level, and ethical considerations and challenges.
- Stark, L. (2011). *Behind closed doors: IRBs and the making of ethical research*. Chicago, IL: University of Chicago Press. Examines the history of Institutional Review Boards (IRBs), including where our rules for the treatment of human subjects originated; the responsibilities of researchers, universities, medical facilities, and laboratories; and current guidelines for making ethical research decisions.

MEDIA MATERIALS

For details on individual video segments that accompany the DVD for *Child Development*, Ninth Edition, please see the DVD Guide for *Explorations in Child Development*. The DVD and DVD Guide are available through your Pearson sales representative.

Additional DVDs that may be useful in your class are listed below. They are not available through your Pearson sales representative, but you can order them directly from the distributors. (See contact information at the end of this manual.)

Experimental Research Methods in Psychology (2004, Films Media Group, 28 min.). Drawing on laboratory and field experiments, this program compares and contrasts experimental research methods through a study of attractiveness involving young adults. Experts also explore some of the issues common to both experimental methods, including ethical concerns and reductionism. A part of the series *Understanding Psychology*.

Exploring Qualitative Methods (2005, Films Media Group, 46 min.). Through experiments about sleep and dreams designed and conducted by students, this program provides insight into the process of collecting and using qualitative data. It covers creating effective questionnaires, preparing participant interviews, assembling case studies, and conducting observational studies. The program also explores the use of content analysis and the correlational method, employed to make qualitative data more meaningful. An instructor's guide is available online.

Nonexperimental Research Methods (2006, Films Media Group, 34 min.). Part of the series *Understanding Psychology*, this program presents nonexperimental research methods—questionnaires, interviews, and naturalistic observation—through three studies on the effects of cell phone use. Section one explains good questionnaire design and considers the advantages and limitations of this method. Section two examines the use of unstructured interviews, and section three spotlights the performance and practical difficulties of naturalistic observation.

Observation I: The Eyes Have It! (2004, Magna Systems, Inc., 27 min.). This module, part of the *Authentic Assessment* series, illustrates why, in the words of education coordinator Theresa Collado, “A good observer is a good teacher.” The module explores authentic assessment techniques used in preschool settings to document children's cognitive growth. Teachers discuss systems they have developed for observing children in their own classrooms and are shown interacting with children in ways that allow them to observe children's physical, cognitive, and social and emotional development.

Observation II: Making the Connection (2004, Magna Systems, Inc., 27 min.). Teachers and education coordinators demonstrate systems they use to collate observational data gathered on young children. These data include work samples, observations, story dictation, and pictures of children engaged in activities. This module, part of the *Authentic Assessment* series, also demonstrates how educators use computers to collate data on children's progress throughout the year.

Parents: Our Most Important Resource (2004, Magna Systems, Inc., 27 min.). This module, part of the *Authentic Assessment* series, highlights a group parent-teacher meeting and presentation focusing on the process of developing the portfolio, the formal checklist, and the parent's reporting form. The program emphasizes the importance of communicating with parents throughout the assessment process. In a later segment, a teacher screens and observes a preschool child in the classroom and then shares her observations with the child's mother during school conferences and a home visit. The teacher and parent are seen discussing the child's progress and collaborating to set goals for him.

Research Ethics (2008, Insight Media, 21 min.). This program examines ethical issues in social science, natural science, and health research, including plagiarism, crediting and citing sources, the use of human and animal subjects, informed consent, debriefing, privacy, confidentiality, and conflicts of interest.

Research Methods in the Social Sciences (2005, Films Media Group; 4-part series, 23 to 46 min. each). Focusing primarily on research in psychology, this series explores qualitative and quantitative research methods used in a wide range of disciplines. Hosted and narrated by students, each program demonstrates how to test hypotheses, prepare experiments, and analyze data. Instructors' guides are available online.

Setting the Stage (2004, Magna Systems, Inc., 24 min.). In this module, the first in the *Authentic Assessment* series, educators discuss current research and theories on the assessment of young children. The validity of authentic assessment techniques to chart children's growth and development is contrasted with the use of standardized tests. The limits of standardized tests are discussed by center directors, education coordinators, and advocates of authentic assessment techniques. This first module of the series helps new teachers see how children can be observed in the context of their play as well as their culture, and how these observations can help teachers understand a child's overall development.