much" questions to find the functional relationship between those two variables, (b) asking "how" questions to find the physiological or mental variable mediating that relationship, or (c) asking "when," "where," and "who" questions to find a variable that moderates (alters) that relationship.

15. A research hypothesis must be testable and must be testable in an ethical manner.

16. Even the most impractical and unethical of ideas may be converted into a practical and ethical hypothesis if you carefully screen your participants, use a small-scale model of the phenomenon you wish to study, tone down the intensity of your manipulation, or-as a last resort—do not use manipulations. However, realize that if you do not use a manipulation, you will not be able to test a cause-effect hypothesis.

KEY TERMS

hypothesis (p. 80) double-blind technique (p. 78)

moderator variable (p. 79) null hypothesis (p. 81)

mediating variable (p. 91) functional relationship (p. 100)

EXERCISES

- 1. Generate the following three types of hypotheses:
 - a. A cause-effect hypothesis. You should be able to fit that hypothesis into this format: ____(increases/decreases) Increasing_
 - b. A cause-effect hypothesis that includes a moderator variable. You should be able to fit that hypothesis into this format: Increasing____(increases/ decreases) ______ depending
 - c. A cause-effect hypothesis includes a mediating variable. You should be able to fit that hypothesis into this format: Increasing _____(increases/ decreases) _____ due to _
- 2. Look up a research study that tests a common-sense notion or proverb. (If you are having difficulty finding an article, consult Web Appendix B.) What is the title of the article? What are its main conclusions?
- 3. Writing an essay that expresses opinions that go against your beliefs may cause you to change your beliefs. According to dissonance theory, what factors would moderate the effect of writing such an essay?

- 4. According to dissonance theory, what is an important variable that mediates attitude change?
- 5. Find a research article that tests a hypothesis derived from theory. Give the citation for the article and describe the main findings.
- 6. Describe the relationship between moderator variables and external validity.
- 7. Design a study to improve the construct validity of the study reported in Appendix B.
- 8. Design a study to test the generalizability of the findings of the study reported in Appendix B.
- 9. The study reported in Appendix B finds a relationship between two variables. Design a study that maps out the functional relationship between those two variables. Alternatively, propose a hypothesis that explores a practical implication of the study's findings.
- 10. Taking into account the problems with the null hypothesis, discuss what is wrong with the following statements:
 - a. "There is no difference in outcome among the different psychological therapies."
 - b. "Viewing television violence is not related to aggression."
 - c. "There are no gender differences in emotional responsiveness."