Chapter 2  Writing Simple Research Hypotheses

PART A

General note: Some students have difficulty identifying variables. You may wish to first define the term (a trait or characteristic on which participants vary or differ) and point out that some variables are nominal (such as gender, with the categories of male and female) while other variables are quantitative (such as scores on a test). Also point out that any trait that is the same for all participants is not a variable for the purposes of this exercise. For instance, in Question 1 in this exercise, all participants in the study will be elderly. Therefore, being elderly is a constant and not a way in which the participants might vary. However, they will vary (or differ) in their ability to read and also in terms of their frequency of voting.

1. The variables are: (a) ability to read and (b) frequency of voting.
2. The variables are: (a) authoritarianism and (b) anxiety. (Note: All are college graduates; hence, graduating from college is not a variable.)
3. The variables are: (a) being homeless or being housed and (b) amount of spousal physical abuse. (Note: All are women; hence, being a woman is not a variable.)
4. The variables are: (a) mass body index and (b) coronary risk. (Note: All are women over 50 years of age; hence, being a woman and being over 50 are not variables.)
5. The variables are: (a) level of hand-eye coordination and (b) achievement in volleyball. (Note: All are first graders; hence, being a first grader is not a variable.)
6. The variables are: (a) interest in recreational reading and (b) amount of time spent watching television. (Note: All are adolescents; hence, being an adolescent is not a variable.)

PART B

9. Independent variable: receiving versus not receiving telephone counseling to encourage engaging in physical exercise. Dependent variable: number of miles walked per day.

PART C

General note: Students may vary in their identification of guidelines that were not followed. Only some of the most important ones are listed below. Also, their revisions of the hypotheses may vary greatly. Sample revisions are shown in parentheses.

10. Guideline 2.13   Avoid using the word prove in a hypothesis. (Sample revision: First-born boys are more athletically competitive than second-born boys.)
11. Guideline 2.1   A simple research hypothesis should name two variables and indicate the type of relationship expected between them. (Sample revision: Older children have greater ability to focus on instructional presentations than younger children.)
12. Guideline 2.11   A hypothesis usually should name variables in the order in which they occur or will be measured. (Note: The parents develop verbal fluency before their children do.)
Sample revision: The verbal fluency of parents is directly related to the rate of development of speech in young children.

13. Guideline 2.5 Even a simple hypothesis should be as specific as possible within a single sentence. (Note: “High achievers” is vague; a specific group of high achievers needs to be stated.) Also, Guideline 2.6: If a comparison is to be made, the elements to be compared should be stated. (Note: The comparison beginning with the word higher is not completed. Sample revision: Adolescent boys who are high achievers will exhibit a higher level of sibling rivalry than will average achievers.)

14. Guideline 2.7 Because most hypotheses deal with the behavior of groups, plural forms should usually be used. (Sample revision: Individuals who experience marital dissatisfaction will be more depressed than individuals who experience marital satisfaction.)

15. Guideline 2.5 Even a simple hypothesis should be as specific as possible within a single sentence. (Note: The type of reward is not specified. Also, the type of performance is not specified.) Also, Guideline 2.6: If a comparison is to be made, the elements to be compared should be stated. (Note: The comparison starting with the word more is not complete. Sample revision: Individuals who receive much verbal praise for their performance in basketball competitions will score more points than those who receive little verbal praise.)

16. Guideline 2.10 A hypothesis should indicate what will actually be studied—not the possible implications of a study or value judgments of the author. (Sample revision: A higher proportion of Democrats than Republicans will agree that the social agenda of the present administration is weak.)

17. Guideline 2.7 Because most hypotheses deal with the behavior of groups, plural forms should usually be used. Also, Guideline 2.8: Avoid sex-role stereotypes in the statement of a hypothesis. (Sample revision: There is a direct relationship between mechanical engineers’ ability to visualize objects rotating in space and their success on the job.)

18. Guideline 2.15 Avoid making precise statistical predictions in a hypothesis. (Sample revision: Employees with poor attendance records are more likely to have alcohol-related syndromes than employees with good attendance records.)

19. Guideline 2.6 If a comparison is to be made, the elements to be compared should be stated. (Note: The comparison beginning with the word less is not complete. Sample revision: College applicants who take test preparation courses will exhibit less test-taking anxiety than those who do not take test preparation courses.)

20. Guideline 2.6 If a comparison is to be made, the elements to be compared should be stated. (Note: The comparison beginning with the word greater is not complete. Sample revision: First graders whose parents read to them on a regular basis will have greater reading achievement than first graders whose parents seldom read to them.)

21. Guideline 2.14 Avoid using two different terms to refer to the same variable in a hypothesis. (Note: The terms Psychology 101 and Introduction to Psychology probably both refer to the same course. Sample revision: Students who take Psychology 101 will report less self-insight on a questionnaire given at the beginning of the course than on a posttest given at the end of the Psychology 101 course.)

22. Guideline 2.10 A hypothesis should indicate what will actually be studied—not the possible implications of a study or value judgments of the author. (Sample revision: Individuals who
provide false information to welfare officers will score lower on a measure of honesty in interpersonal relations than will individuals who provide correct information.)

23. Guideline 2.15  Avoid making precise statistical predictions in a hypothesis. (Sample revision: There will be a reduction in the incidence of smoking after high school students complete a unit on the harmful effects of tobacco.)

24. Guideline 2.2  When there is an independent variable, name a specific dependent variable. (Note: “More effective” is not a specific dependent variable. Examples of a more specific dependent variable are “earn higher test scores” or “will result in higher student evaluations.”)

PART D
Answers may vary.

PART E
Answers may vary.