For each of the scenarios 1-5 given below, discuss in groups and try to reach agreement on answers to each of the following 4 items (*bear in mind that these descriptions are intended to promote discussion; they may not be completely clear and unambiguous – try to state the grounds for your conclusions whenever you reach them, or indeed when you fail to agree*):

a. What type of study (descriptive, relational, causal) was this and why?
b. What was the independent variable?
c. What was the dependent variable?
d. State a null and alternative hypothesis for the study.

1. A researcher was interested in the role of caffeine in sports performance. In cooperation with her university baseball team, she randomly assigned players to one of three conditions: i. no caffeine placebo; ii. Low dose; iii. High dose. She then used performance on a batting machine as a test.

2. A professor was interested in student opinions about an upcoming election. He created a survey that asked about the favorability of various candidates and positions on issues. The survey also included some personal items so he could look at whether those characteristics were related to opinions.

3. A graduate student was interested in whether use of instant messaging by students was related to academic performance, attention span, and perceptions of social support. She interviewed classmates about their use of instant messaging, their grades, and their sense of support from friends. She also had them perform a brief task to estimate attention span.

4. A graduate student in music therapy wondered whether music therapy might be effective in reducing work stress. She identified a company that was willing to participate and then set up a voluntary session that was billed as a relaxation exercise. The participants completed a measure of work-related stress and mood before and after the music session.

5. A researcher was interested in the quality of life of women with a certain disorder. She located an online support group and, with the permission of the group organizers, conducted an online discussion about the issues the women faced and how these problems have affected their quality of life.
Answers to Chapter 1 Items

1. a. A causal study. The researcher was attempting to determine the direct influence of caffeine on batting performance.
   b. Caffeine dosage.
   d. Null: There is no effect of caffeine on the batting performance of baseball players. Alternative: Caffeine causes a significant difference in batting performance of baseball players.
   e. Informed consent, voluntary participation, risk of harm.

2. a. This study was both descriptive and relational. When the researcher examines the percentage of the sample favoring various positions on issues, the analysis is descriptive because individual variables are observed independent of other data. If the researcher then breaks the percentages down by demographic or other variables, the analysis becomes relational because the relationship of two or more variables is studied.
   b. The independent variables would be the “personal items.”
   c. The dependent variable would be the ratings on candidates and issues.
   d. Null: There is no relationship between personal characteristics and positions held on candidates or issues. Alternative: There is a significant relationship between personal characteristics and the position one holds on candidates or issues.
   e. Informed consent, voluntary participation, anonymity.

3. a. Relational. The researcher was examining the relationship of instant messaging to academic, cognitive and social variables. It appears that she was interested in bivariate relationships.
   b. Use of instant messaging.
   c. Academic performance (grades), social support (interview report of friends), and attention span (“brief task” performance).
   d. Null: There is no relationship between the use of instant messaging and academic performance, attention span or social support.
      Alternative: There is a significant relationship between academic performance, attention span and social support. (Note: If you were really conducting research like this and had three dependent variables that you wanted to analyze separately, it would be better to list the hypotheses separately.)
   e. Informed consent (including consideration of the age of participants who might be less than 18 years of age thus requiring you to obtain parental consent), voluntary participation.

4. a. The design of this study appears to be relational because the relationship between music therapy and work stress is examined. It could be a causal study if the design were such that participants were
randomly assigned to a treatment and control groups and change on the measures compared between groups.

b. Music therapy.

c. Work stress.

d. Null: There is no relationship between experiencing a music therapy intervention and work stress. Alternative: There is a significant relationship between experiencing a music therapy intervention and work stress.

e. Informed consent, voluntary participation, risks and benefits, confidentiality, right to service.

5. a. Primarily descriptive, but could be relational depending on the way the data was analyzed. The researcher was using a strategy that was open-ended and allowed for the relatively free expression of comments by participants in describing their experiences and quality of life. The study could become more relational if the researcher was able to code the responses in some way that would allow her to observe patterns in the association of comments about problems with degree of impact on quality of life.

b. The presence of the “certain disorder.”

c. Problems resulting from the disorder and quality of life.

d. Null: There is no relationship between the experience of “certain disorder” and quality of life. Alternative: “Certain disorder” is associated with significant issues in quality of life for women with the disorder.

e. Informed consent, voluntary participation, risk of harm associated with confronting psychologically threatening aspects of an illness, right to service (for those who are in need and whose needs become evident as a result of participation in the study).