■ EXERCISE 31 Questions t-test for dependent groups

1. What are the two groups whose results are reflected by the t ratios in Tables 2 and 3?

2. Which t ratio in Table 2 represents the greatest relative or standardized difference between the pretest and 3 months outcomes?

Is this t ratio statistically significant?

Provide a rationale for your answer.

3. Which t ratio listed in Table 3 represents the smallest relative difference between the pretest and 3 months?

Is this t ratio statistically significant?

What does this result mean?

4. What are the assumptions for conducting a t-test for dependent groups in a study?

Which of these assumptions do you think were met by this study?

5. Compare the 3 months and 6 months t ratios for the variable Exercise from Table 3. What is your conclusion about the long-term effect of the health-promotion intervention on Exercise in this study?

6. What is the smallest, significant t ratio listed in Table 2? Provide a rationale for your answer.

7. Why are the larger t ratios more likely to be statistically significant?

8. Did the health-promotion program have a statistically significant effect on Systolic blood pressure (BP) in this study? Provide a rationale for your answer.

9. Examine the means and standard deviations for Systolic BP at pretest, 3 months (completion of the treatment), and 6 months. What do these results indicate? Are these results clinically important? Provide a rationale for your answer.

10. Is this study design strong or weak? Provide a rationale for your answer.