**Chapter 9: Related Samples *t* Test**

1. The best statistical procedure to use when comparing two means obtained by collecting data from the same people before and after a treatment is \_\_\_\_\_\_\_\_\_\_\_\_.

A. the single-sample *t* test

\*B. the related samples *t* test

C. power

D. a confidence interval of the population mean

Learning Objective: 9-1: Identify when a related samples *t* test should be used.

Cognitive Domain: Knowledge

Answer Location: Repeated/Related Samples *t* Test

2. One benefit of the related samples *t* test is that one sample can be used to produce two sample means.

\*True

False

Learning Objective: 9-2: Explain the advantages of using a related samples design over an independent samples design.

Cognitive Domain: Knowledge

Answer Location: Repeated/Related Samples *t* Test

3. In a related samples *t* test, the numerator compares the mean difference between two sample means and the denominator measures the typical amount of sampling error.

\*True

False

Learning Objective: 9-3: Explain the logic of the related samples *t* test

Cognitive Domain: Knowledge

Answer Location: Logic of the Single-Sample and Repeated/Related Samples *t* Tests.

4. A researcher reports the following results for a related samples *t* test: *t*(49) = 2.64, *p* = .011 (two-tailed), *d* = 0.37. Should she reject the null hypothesis with alpha set at α = .05 in two-tails?

A. No, because the *p* value is less than .05.

\*B. Yes, because the *p* value is less than .05.

C. No, because *d* is greater than .05.

D. There is not enough information to answer this question.

Learning Objective: 9-7: Determine whether you should reject the null hypothesis.

Cognitive Domain: Comprehension

Answer Location: Related Samples *t* (Two-Tailed) Example

5. What is the null hypothesis for this study in question #4?

A. µD = 0

B. µD ≤ 0

C. µD > 0

\*D. µD ≥ 0

Learning Objective: 9-4: Write null and research hypotheses using symbols and words for both one- and two-tailed tests.

Cognitive Domain: Application

Answer Location: Related Samples *t* Test (One-Tailed) Example