

3. 5.85

$$4. \quad t = \frac{47 - 33}{5.85}$$
$$t = 2.39$$

5. 10

6.  $\pm 2.228$

7. Less than 5% because the  $t$  statistic of 2.39 exceeds the critical value of  $\pm 2.228$ .

8. Given the answer to question 7, we reject the null hypothesis.

9. Men scored higher on social dominance orientation than did women.

10.  $d = 1.38$ ; this is a strong effect size. That is, a person's sex was strongly predictive of his or her social dominance orientation score.

11. The 95% confidence interval is  $-0.97$  to  $-27.03$ , meaning that if we could draw an unlimited number of samples from this population, 95% of those samples would contain a mean difference between  $-0.97$  and  $-27.03$ . That this interval does not contain 0 means we can be confident there is a difference between women and men on social dominance orientation in the population.

12. Here is the proper APA style write-up:

An independent samples  $t$  test suggested that men tended to score higher in social dominance orientation ( $M = 47.00$ ,  $SD = 8.90$ ) than did women ( $M = 33.00$ ,  $SD = 11.22$ ),  $t(10) = 2.39$ ,  $p < .05$ ,  $d = 1.38$ , 95% CI  $[-0.97, -27.03]$ .

This example brings up a methodological point about the independent samples  $t$  test. In this example, participants were classified as either female or male. So indeed, participants were in only one of the two groups being compared. However, unlike in Kasser and Sheldon's (2000) research, *participants in Christopher and Wojda's (2008) research were not randomly assigned to groups*. It's not possible to randomly assign someone to be a woman or a man. Although there is no random assignment to groups as there would be in a true experiment, you can still use the independent samples  $t$  test whenever you want to compare two mutually exclusive groups.

## Problem #2

A forensic psychologist wants to know whether men convicted of robbery receive different sentences if they have an ethnic-sounding first name (e.g., Declan) or a more traditional-sounding first name (e.g., David). After sampling 30 male convicts, 15 with an ethnic-sounding first name and 15 with a more traditional-sounding first name, here is what this researcher found:

- a) Mean sentence for men with ethnic-sounding first names = 5.5 years with a standard deviation of 2.5 years
- b) Mean sentence for men with more traditional-sounding first names = 4.0 years with a standard deviation of 1.75 years
  - 1. What is the population being studied?
  - 2. Why couldn't this researcher use random assignment?

(Continued)