Practice Problem Solutions

1. This is a one-tailed prediction.

2. The independent variable is the type of weight therapy with three levels, olfactory, dance, and control.

The dependent variable is the difference in weight loss between pre and post therapy weight.

3. Time spent in sessions, attractiveness of therapy facilitator, and the amount of personal attention

patients' received in therapy sessions. There are many correct responses. These are just a few.

4. This is a between-subjects design.

5. Type II error.

6. This is a one-tailed prediction.

7. The independent variable is the type of pillow with two levels. The dependent variable is snoring time.

8. There were true differences, but this study failed to detect them.

9. Experimenter bias and demand characteristics. Because the experimenter knew the hypothesis and

the pillow condition, she may have acted differently to those in the pillow condition than those in the control group. Also, the hypothesis is transparent. Participants knew the pillow was being tested to see if snoring improved. It's possible they altered their behavior in some way or that a placebo effect took place.

10. No, marital status is a subject variable and can not be stated as a causal factor. It might be the cause, but we cannot determine this in experimental design because it cannot be manipulated in an experiment.

11. H1: There will be a main effect of gender on the perceived capability of the job applicant.

H2: There will be a main effect of weight condition on the perceived capability of the job applicant.

H3: There will be an interaction of gender and weight. The female applicant described as heavy will be perceived as the least capable compared to the other conditions.

12. There are two independent variables: 1) gender with two levels –male and female and 2) weight condition – thin and heavy.

13. The dependent variable is perceived capability.

14. This is a between-subjects design.

15. Type II.

16. Because of small sample size, it's possible the statistical power is too low to detect an effect if there is one. Sample size plays a big part of power.