

Worksheet 1: Elements of Study Design

Brandy M. Ringham, Henrietta L. Logan, Sarah M. Kreidler, Deborah H. Glueck

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Worksheet 1: Specify the Outcome, Predictors, and Hypothesis of Interest

Prompt: You are planning a study to see if a sensory focus intervention can change participants' memory of pain from a root canal procedure over time. You plan to analyze data from the study using a Type I error rate of 0.01. You want to know how many participants to enroll in the study to achieve a desired power of 0.90. Circle the answer to the questions below to create a list of the important design elements you will need to calculate an accurate sample size.

Question 1: What are you going to calculate?

- a. Power
- b. Sample size
- c. Type I error
- d. Size of the national debt

Question 2: What is the desired power?

- a. 0.80
- b. 0.90
- c. 42
- d. 0.01

Question 3: What is the planned Type I error rate?

- a. 0.90
- b. 0.10
- c. 0.05
- d. 0.01

Question 4: What is the outcome of the study?

- a. Coping style
- b. World peace
- c. Memory of pain
- d. Intervention group

Question 5: What is the predictor of the study outcome?

- a. Coping style
- b. Memory of pain
- c. IQ
- d. Intervention group

Question 6: What is the study hypothesis?

- a. Difference in memory of pain between intervention groups over time
- b. Difference in memory of pain between coping styles
- c. Change in global temperature over time
- d. Life, the universe, and everything