**Chapter 2**

**Drawing Valid Inferences I: Internal and External Validity**

1. **Multiple Choice Questions**
2. Internal validity is best defined as
3. The extent to which rival hypotheses can explain the findings of an experiment
4. The extent to which an experiment rules out alternative explanations of the findings
5. The extent to which the data demonstrates a relationship
6. The extent to which the findings can be applied to similar groups of people

Correct Answer: b  
LO 2.1: Report four types of experimental validity used to evaluate the methodology of a study

Topic/Concept: Types of Validity  
Difficulty Level: Easy  
Skill Level: Understand

1. Which of the following is NOT a threat to the internal validity of an experiment?
2. History
3. Maturation
4. Attrition
5. Sample characteristics

Correct Answer: d

LO 2.2: Define internal validity

Topic/Concept: Internal Validity

Difficulty Level: Easy

Skill Level: Understand

1. What is a common approach used by researchers to control for the possible influences of history and maturation in a longitudinal experiment?
   1. Include a placebo group in the design.
   2. Include an additional experimental condition in the design.
   3. Include a no-treatment group in the design.
   4. Control for differences in the history of participants.

Correct Answer: c

LO 2.3: Classify some of the different threats to internal validity

Topic/Concept: Threats to Internal Validity

Difficulty Level: Easy

Skill Level: Understand

1. An example of the instrumentation threat to internal validity is
   1. Questions in the survey are periodically reworded.
   2. Standardized tests are used.
   3. The experimenter leaves the room during the test.
   4. Assessments use both multiple choice and true/false questions.

Correct Answer: c

LO 2.4: Report how instrumentation serves as a threat to internal validity

Topic/Concept: Instrumentation as a Threat to Internal Validity

Difficulty Level: Easy

Skill Level: Understand

1. Statistical regression, as a threat to internal validity, refers to
2. The shift of statistical significance as the number of participants increases
3. The tendency of modal responses to move away from the center of the distribution
4. The inability of certain designs to detect statistically significant difference, should they exist
5. The tendency of extreme scores to move toward the mean of the distribution when a measure is readministered

Correct Answer: c

LO 2.5: Summarize each of the additional threats to internal validity

Topic/Concept: Additional Threats to Internal Validity

Difficulty Level: Easy

Skill Level: Understand

1. What is typically done to reduce the possibility of selection biases?
2. Choose the sample from a population that is believed to be very similar.
3. Control for the similarity of experimental participants.
4. Use random assignment to place participants into different experimental conditions.
5. Add a control group to the experiment.

Correct Answer: c

LO 2.5: Summarize each of the additional threats to internal validity

Topic/Concept: Additional Threats to Internal Validity

Difficulty Level: Easy

Skill Level: Understand

1. External validity is mostly concerned with
   1. The accuracy of experimental hypotheses
   2. The importance of applying the findings of experiments to different samples
   3. The generalizability of the findings beyond the setting and sample of the experiment
   4. The validity and appropriateness of using lab research in natural settings

Correct Answer: c

LO 2.8: Define external validity

Topic/Concept: External Validity

Difficulty Level: Easy

Skill Level: Understand

1. Generalizing research findings from animals to human beings is considered to be a potential threat to
2. Internal validity
3. Statistical conclusion validity
4. External validity
5. Construct validity

Correct Answer: c

LO 2.8: Define external validity

Topic/Concept: External Validity

Difficulty Level: Easy

Skill Level: Understand

1. Dr. Lujan presents the same vignette that is shown on a website to each of her experiment participants. This situation is an example of which threat to external validity?
2. Narrow stimulus sampling
3. Underrepresented groups
4. Samples of convenience
5. Sample characteristics

Correct Answer: a

LO 2.9: Summarize different threats to external validity

Topic/Concept: Additional Threats to External Validity

Difficulty Level: Moderate

Skill Level: Apply

1. Reactivity may pose a threat to the external validity of an experiment because
2. Participants may act differently since they are aware they are being observed
3. Participants may not want to complete the experimental protocol
4. Participants may be responding to internal scripts that are dictating their behavior
5. Participants may attempt to discover the purpose of the experiment and act accordingly

Correct Answer: a

LO 2.10: Classify each of the additional threats to external validity

Topic/Concept: Additional Threats to External Validity

Difficulty Level: Easy

Skill Level: Understand

1. The primary problem with using a pretest in an experiment is
2. The pretest may actually encourage participants to be dishonest during the experiment.
3. The pretest may sensitize participants and encourage them to act in a specific manner.
4. The pretest may bias the experimenter to expect a certain experimental outcome.
5. The pretest may lessen the impact of the experimental manipulation and dilute the findings.

Correct Answer: b

LO 2.10: Classify each of the additional threats to external validity

Topic/Concept: Additional Threats to External Validity

Difficulty Level: Easy

Skill Level: Understand

1. A team of researchers found that during the 1940s, there was a high level of patriotism among people in their twenties, but that in the 1960s, people in their twenties had much lower levels of patriotism. This situation is an example of a
2. Cohort effect
3. Novelty effect
4. Test sensitization
5. Reaction to assessment

Correct Answer: a

LO 2.10: Classify each of the additional threats to external validity

Topic/Concept: Additional Threats to External Validity

Difficulty Level: Moderate

Skill Level: Apply

1. Why are proof of concept studies so important?
2. They advance theory and understanding.
3. They are high in external validity.
4. They answer common questions.
5. They are generalizable.

Correct Answer: a

LO 2.11: Evaluate the idea of proof of concept

Topic/Concept: When We Do and Do Not Care about External Validity

Difficulty Level: Easy

Skill Level: Understand

1. A critic reviews a study and challenges the findings, pointing out that the subjects had reactivity and were aware of the experiment due to an obvious pretest. Is this challenge appropriate, and why or why not?
2. No, because the findings may still be applicable.
3. No, because the findings are typically generalizable.
4. Yes, because the findings lack external validity.
5. Yes, because the findings have serious internal validity errors.

Correct Answer: a

LO 2.12: Examine the importance of determining the relevance of a threat to external validity before it is managed

Topic/Concept: Managing Threats to External Validity

Difficulty Level: Difficult

Skill Level: Evaluate

1. Reducing possible threats to internal validity will most likely lead to
2. Increasing the statistical significance of the findings
3. Increasing the external validity of the findings
4. Decreasing the generality of the findings
5. Decreasing the validity of the conclusions

Correct Answer: c

LO 2.13: Analyze the similarities and differences between internal validity and external validity

Topic/Concept: Perspectives on Internal and External Validity

Difficulty Level: Easy

Skill Level: Understand

1. **Essay Questions**
2. What is the notion of plausible rival hypotheses? How is this notion related to research design?

LO 2.2: Define internal validity

Topic/Concept: Internal validity  
Difficulty Level: Moderate  
Skill Level: Understand

1. For any three of the following threats to internal validity, define and provide a concrete example in the context of a research investigation: history, maturation, testing, instrumentation, statistical regression, selection biases, attrition, combination of selection and other threats, diffusion or imitation of treatment, and special treatment or reactions of controls.

LO 2.3: Classify some of the different threats to internal validity

Topic/Concept: Threats to Internal Validity

Difficulty Level: Moderate

Skill Level: Apply

1. Three threats to internal validity (testing, instrumentation, regression) pertain to assessment in some way. Explain.

LO 2.4: Report how instrumentation serves as a threat to internal validity

Topic/Concept: Instrumentation as a Threat to Internal Validity

Difficulty Level: Easy

Skill Level: Understand

1. Compare and contrast three different threats to external validity. For each, identify the best way to overcome the threat.

LO 2.9: Summarize different threats to external validity

Topic/Concept: Threats to External Validity

Difficulty Level: Moderate

Skill Level: Analyze

1. Discuss the relation of internal and external validity. Give an example where internal validity would be a higher priority than external and another example where the reverse might be the case.

LO 2.13: Analyze the similarities and differences between internal validity and external validity

Topic/Concept: Perspectives on Internal and External Validity

Difficulty Level: Moderate

Skill Level: Analyze