Chapter 1 Introduction

No questions for this chapter (please see the Preface)

Chapter 2 Drawing Valid Inferences I: Internal and External Validity

A. Multiple-Choice Questions

2.1 Internal validity is best defined as:

a) The extent to which rival hypotheses can explain the findings of an experiment
b) The extent to which an experiment rules out alternative explanations of the findings
c) The extent to which the findings are thought to be true of the current experiment
d) The extent to which the findings can be applied to similar groups of people

Answer: b Page: 24 Level: M

2.2 Which of the following is NOT a threat to the internal validity of an experiment?

a) History
b) Maturation
c) Attrition
d) Sample characteristics

Answer: d Page: 24-32 Level: M

2.3 What is a typical approach used by researchers to control for the possible influences of history and maturation a longitudinal experiment?

a) Include a placebo group in the design
b) Include an additional experimental condition in the design
c) Include a no-treatment group in the design
d) Control for differences in the history of participants

Answer: c Page: 25-26 Level: M

2.4 An example of the instrumentation threat to internal validity is:

a) Questions in the survey are periodically reworded
b) Standardized tests are used
c) The experimenter leaves the room during the test
d) None of the above

Answer: a Page: 27 Level: C

2.5 Statistical regression, as a threat to internal validity, refers to:

a) The shift of statistical significance as the number of participants increase
b) The tendency of modal responses to move away from the center of the distribution
c) The inability of certain designs to detect statistically significant difference, should they exist
d) The tendency of extreme scores to move toward the mean of the distribution when a measure is readministered

Answer: d Page: 28 Level: C

2.6 What is typically done to reduce the possibility of selection biases?

a) Choose the sample from a population that is believed to be very similar
b) Control for the similarity of experimental participants
c) Use random assignment to place participants into different experimental conditions
d) Add a control group to the experiment

Answer: c Page: 29 Level: M

2.7 External validity is mostly concerned with:

a) The accuracy of experimental hypotheses
b) The importance of applying the findings of experiments to different samples
c) The generalizability of the findings beyond the setting and sample of the experiment
d) The validity and appropriateness of using lab research in natural settings

Answer: c Page: 36 Level: M

2.8 Generalizing research findings from animals to human beings is considered to be a potential threat to:

a) Internal validity
b) Statistical conclusion validity
c) External validity
d) Construct validity

Answer: c Page: 37 Level: E

2.9 Why is it important to use a number of different stimulus items in an experiment?

a) So that the relationship among items can be determined
b) In order to determine how each individual item impacts performance
c) To ensure that you have enough items in order to find a significant effect
d) Too few items may limit the generality of the findings

Answer: d Page: 42 Level: C

2.10 Reactivity may pose a threat to the external validity of an experiment because:

a) Participants may act differently since they are aware they are being observed
b) Participants may not want to complete the experimental protocol
c) Participants may be responding to internal scripts that are dictating their behavior
d) Participants may attempt to discover the purpose of the experiment and act accordingly

Answer: a Page: 42 Level: M

2.11 The primary problem with using a pretest in an experiment is:

a) The pretest may actually encourage participants to be dishonest during the experiment
b) The pretest may sensitize participants and encourage them to act in a specific manner
c) The pretest may bias the experimenter to expect a certain experimental outcome
d) The pretest may lessen the impact of the experimental manipulation and delude the findings

Answer: b Page: 46 Level: E

2.12 The timing of measurement (e.g., pretest, posttest, after treatment) is an important consideration in experimental design because:

a) Various times may produce larger effects than others
b) Various times may produce smaller effects than others
c) Measures given before the experimental manipulation or treatment (i.e., pretest) may be the best estimate of the participant
d) Results may be determined by the timing of the measurement in that different times may produce different results

Answer: d Page: 47 Level: C

2.13 What is the best way to reduce threats to internal and external validity?

a) Maintain strict experimental controls
b) Random sampling and assignment
c) Replication of research findings
d) Sufficient number of research participants

Answer: c Page: 49 Level: C

2.14 Failing to generalize results to other populations or settings:

a) Is typically due to experimenter error and could have been avoided
b) Can suggest possible mechanisms or varied mechanisms involved in the phenomenon of interest
c) Is not helpful to research since it suggests that the initial experiment was serious flawed
d) All of the above

Answer: b Page: 52 Level: C

2.15 Reducing possible threats to internal validity will most likely lead to:

a) Increasing the statistical significance of the findings
b) Increasing the external validity of the findings
c) Decreasing the generality of the findings
d) Decreasing the validity of the conclusions

Answer: c Page: 52 Level: M

B. Definitions

2.1 Threats to validity
Page: 24 Level: E

2.2 Internal validity
Page: 24 Level: M

2.3 Statistical regression
Page: 28 Level: C

2.4 Diffusion of treatment
Page: 32 Level: M

2.5 Multiple-treatment interference
Page: 43 Level: C

2.6 Reactivity of experimental arrangements
Page: 42 Level: M

C. Essay Questions

Note to the Instructor: The essay questions are integrative and usually draw on multiple pages within the chapter. The skills focus on understanding the concepts, discussing the relations among concepts, and applying the key points to evaluate or design hypothetical studies. I believe all of the questions are fairly challenging. Because of these features, page numbers, skill required, and level of the question are not listed after each question.

2.1 What is the notion of plausible rival hypotheses? How is this notion related to research design?

2.2 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.

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

2.4 What is external validity? Define. Also, define and give an example of each of two external validity threats.

2.5 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.