

## CHAPTER 7

### Integration of the Concepts

Create three groups of items and explain why the terms in each group belong together.

Asymmetric Transfer	One-group pretest-posttest	Statistical regression
Attrition	Order effects	Symmetric transfer
History	Replicated interrupted time series	Testing
Instrumentation		
Interrupted time series	Selection	
Nonequivalent control group	Sequence effects	
	Static-group comparison	

### Threats to Internal Validity

Pair the threat to internal validity with its definition. When is each likely to occur?

History	Selection
Instrumentation	Statistical Regression
Maturation	Testing
Mortality (Attrition)	

An event that occurs outside the context of the research may affect one group, causing a difference that seems to be related to the independent variable but actually is not.

Differences across groups may be due to pre-existing differences in the participants.

If the researcher changes the way he or she measures the dependent variable, it may cause a difference in the measurement of the dependent variable.

In the short- and long-term, people may change, so their responses can change from the beginning of the study to the end in ways that are unrelated to the independent variable.

Over the course of a study, some participants may drop out, so the final group may show differences because of changes in the sample rather than because of the independent variable.

Scores on an initial testing may be extreme because of random measurement error. Subsequently, that error diminishes or disappears, leading the appearance that scores changed because of the independent variable.

When people undergo repeated testing, they may change because of the process of testing rather than because of an independent variable.

## Study 1

Francis and Pennebaker (1992) reported on the benefits of writing as a therapeutic process. Earnhardt, Martz, Ballard, and Curtin (2002) used it to see if this writing technique could affect body images of female college students. The students were assessed for negative body image and then randomly assigned to write about their body image (experimental condition) or about their bedroom across four days (control condition). Body image, eating-disordered behavior, and mood were assessed at baseline, after the 4th day of writing, and after 1-month. The researchers wanted to compare the groups to see if the writing program had the expected effect. (*Answers are below*)

## Study 2

Two psychologists investigated the relation between playing action video games and the ability to monitor the visual environment. They recruited a group of male undergraduates who played action video games at least one hour a day, four days a week over the previous six months. A control group of non-video game players also participated in the study.

The researchers discovered that video game players were better at monitoring visual elements unrelated to the video game while they were playing the game. The researchers concluded that playing video games increases one's capacity to pay attention to details in a visual environment. (*Answers are below*)

Green, C. S., & Bavelier, D. (2003). Action video game modifies visual selective attention. *Nature*, 423, 534-537.

## Repeated Measures Designs

Identify the advantages of repeated measures designs. What are its limitations?

Identify the basic approach for the following quasi-experimental designs:

One group pretest-posttest design

Static groups comparison design

Nonequivalent control group design

Interrupted time series design

Replicated interrupted time series design

***Placebo Effects, Testing Threat, and Statistical Regression:*** Despite hypotheses that experimental participants would show more improvement over time, simply having taken part in the research led to improvements in body image, mood, and eating behaviors over time.

Thus, there were possible placebo effects because the students were participating in a study they knew was associated with eating and body images. The participants could also have been sensitized, through testing effects, based on the initial assessment of body image, mood, and eating-disordered behavior. Finally, regression to the mean could have led to changes in the behavior, unrelated to the treatment, if the participants in the experimental condition had started with scores associated with less desirable attitudes and behaviors.

***Selection threat:*** Video game players may be drawn to these games because the players' abilities lead them to perform well even without prior experience. So playing the games may not be a causal factor in developing visual monitoring skills.

NOTE: The researchers recognized this selection threat and actually conducted several studies, including one that involved non-video game players who improved with practice. The investigators' conclusions were based on manipulation of a true independent variable.

## CHAPTER 8

### INTEGRATION OF THE CONCEPTS

Create two groups of items and explain why the terms in each group belong together.

Acquiescence	Key informant	Snowball
Chain-referral	Respondent-driven	Social desirability
Impression management	Self-deception positivity	Targeted

#### Question 1:

When you ask people how often they have engaged in a given activity, what potential problems do you need to consider in how you word your question? (*Answer is below.*)

### ISSUES IN CONSTRUCTING QUESTIONNAIRE ITEMS

#### OPEN VERSUS CLOSED-ENDED

Open-ended questions allow the respondent to provide a richer assortment of information because the responses are not structured ahead of time by the researcher. At the same time, open-ended questions may be harder to score and code.

Closed-ended questions provide response categories for the respondent to select from, such as Agree, Disagree, and Undecided. There is little or no room for the person to tailor responses.

Closed-ended items should have response categories that are exhaustive and mutually exclusive.

#### WORDING OF QUESTIONS

- Items should be clear and unambiguous: The Census Bureau asked about people working "full time," with 35 hours being the cutoff. People answering the question defined it as 40 hours, leading to some confusion about what the results actually meant.
- Questions should not be double-barreled, involving more than one question embedded in a single questionnaire item.
- Avoid questions that include unwarranted assumptions.
- The respondent must be competent to respond. Sometimes specific knowledge or perspective is necessary; an uninformed person may not provide meaningful responses.
- The question must be posed in a way that people will respond to honestly. Avoid the "spiral of silence:" People may not feel like responding truthfully if they think they are in the minority on some opinion; they may respond that they are "undecided."
- Items should be kept short and simple. People are often not willing to spend time and effort trying to understand a question and all its implications.
- Items should not be worded negatively. "Communists should be prohibited from teaching in our schools" is a troublesome question because it involves the word prohibited, a word that people may ignore. Research has revealed that when people agree with this item, in many cases, they are saying that they believe that such people ought to be able to teach.
- Biased and emotional terms are inappropriate. They lead people in particular directions rather than assessing their actual attitudes.

#### Question 2:

Identify and define the four linguistic maxims discussed in class. (They are available on the course website.)

## ANSWER TO QUESTION 1

When you ask people how often they have engaged in a given activity, what potential problems do you need to consider in how you word your question?

Do not ask for details of mundane activities that are beyond a person's ability to remember (e.g., "How many people are usually in the library when you study there?").

If possible when you ask people how frequently they have engaged in a behavior, request the respondent to provide as specific a number as possible.

If you need to ask about specific periods of time, make sure that the respondent can accurately gauge behaviors in the time frame you specify.

Avoid questions that have vague quantifiers (e.g., "rarely" or "sometimes"); instead, use more specific quantifiers (e.g., "twice a week").

Avoid questions that require overspecific quantifiers (e.g., "How many times have you eaten at a restaurant in the past year?"); instead give ranges (e.g., "0-1 times", "2-3 times", etc.).

Do not ask questions using words that might distract the respondent (e.g., offensive or inflammatory words).

## CHAPTER 9

### INTEGRATION OF THE CONCEPTS

Create three groups of items and explain why the terms in each group belong together.

Predictor	Factor analysis	Path analysis
Criterion	Multiple regression	Nonlinear relationship
Latent	Structural equation	Restricted range
Measured	modeling	Heterogeneous subsets

Distinguish between correlational design and correlational analysis.

Using the personality tests from class, describe how we were able to get a sense of the validity of the scales with convergent and divergent validity.

What three factors can affect the size of the Pearson correlation coefficient, making it look as if two variables are not related when, in fact, they may be reliably related.