APPENDIX D Check Your Progress Answers

Chapter 1

Check Your Progress page 13

1. The steps involved in the research process include the following:

Finding a Problem. You detect a gap in the knowledge base.

Literature Review. You consult previous reports to determine what has been found in the research area of interest.

Theoretical Considerations. The literature review highlights theories that point to relevant research projects.

Hypothesis. The literature review also highlights hypotheses (statements of the relationship between variables in more restricted domains of the research area). Such hypotheses will assist in the development of the experimental hypothesis—the predicted outcome of your research project.

Research Design. You develop the general plan for conducting the research project.

Conducting the Research. You conduct the research project according to the experimental design.

Analysis of Research Findings. Based on the results of your data analysis, you will decide the importance (*significance*) of your research findings.

Decisions in Terms of Past Research and Theory. The analysis of research findings guides your decisions concerning the relationship of your present research project to past research and theoretical considerations.

Preparation of the Research Report. You prepare a research report describing the rationale, conduct, and results of the experiment according to accepted American Psychological Association (APA) format.

Sharing Your Results: Presentation and Publication. You share your research report with colleagues at a professional society meeting and/or by publication in a professional journal.

Finding a New Problem. Your research results unearth another gap in our knowledge base and the research process begins again.

2. d

3. d

4. d

5. b

6. d

7. The reasons for taking a research methods or experimental psychology course include that it will
    a. assist you in other psychology courses
    b. enable you to conduct a research project after graduation
    c. assist you in getting into graduate school
    d. help you to become a knowledgeable consumer of psychological research

Chapter 2

CHECK YOUR PROGRESS PAGE 28

1. 1-C; 2-A; 3-D; 4-B; 5-E
2. testable; likelihood of success
3. Nonsystematic sources of research ideas include those instances or occurrences that make us believe that the research idea was unplanned. These types of research ideas are shown through "inspiration," "serendipity," and "everyday occurrences." Systematic sources of research ideas are carefully organized and logically thought out. This source of research ideas may be found in "past research," "theory," and "classroom lectures."
4. c
5. d
6. a
7. c

CHECK YOUR PROGRESS PAGE 47

1. During World War II, atrocities took place in which prisoners of war were unwillingly subjected to experiments using drugs, viruses, and toxic agents. The Tuskegee syphilis study examined the course of untreated syphilis in a group of men who did not realize they were being studied. Doctors in the Willowbrook experiment purposely infected patients with hepatitis and did not give them treatment, in order to study the development of the disease. Milgram's research on obedience studied the reaction to demands from an authority, in participants who were being deceived.
2. The Nuremberg Code stressed the need to
    a. obtain participants' consent to participate in research
    b. inform participants about the nature of the research project
    c. avoid risks where possible
    d. protect participants against risks
    e. conduct research using qualified personnel
3. Deception may be needed if the results of a research project would be biased or contaminated by the participants knowing the nature of the experiment. A more general statement on the informed consent document in conjunction with a clear indication

that the participants may terminate the project at any time might be used. Complete debriefing should follow the experiment.

4. a

5. d

6. The guidelines for the ethical use of animals in research involve attention to each of the following:

I. *Justification of Research.* The research should have a clear scientific purpose.

II. *Personnel.* Only trained personnel who are familiar with the animal care guidelines should be involved with the research. All procedures must conform to appropriate federal guidelines.

III. *Care and Housing of Animals*. Animal housing areas must comply with current regulations.

IV. *Acquisition of Animals.* If animals are not bred in the laboratory, they must be acquired in a lawful, humane manner.

V. *Experimental Procedures.* "Humane consideration for the well-being of the animal should be incorporated into the design and conduct of all procedures involving animals, while keeping in mind the primary goal of experimental procedures—the acquisition of sound, replicable data."

VI. *Field Research.* Field research must be approved by the appropriate review board. Investigators should take special precautions to disturb their research population(s) and the environment as little as possible.

VII. *Educational Use of Animals.* The educational use of animals must be approved by the appropriate review board. Instruction in the ethics of animal research is encouraged.

7. The IRB is the Institutional Review Board. The typical IRB at a college or university is composed of faculty members from a variety of disciplines, members from the community, and a veterinarian if animal proposals are considered. The IRB examines proposed procedures, questionnaires, the informed consent document, debriefing plans, the use of pain in animals, and proposed procedures for animal disposal.

8. The experimenter is responsible for the ethical conduct of the research project and the ethical presentation of the research results.

9. Plagiarism refers to the use of someone else's work without giving credit to the original author. Fabrication of data involves the creation of fictitious research data. Pressures for job security (tenure), salary increases, and ego involvement in the research are factors that might lead to such unethical behaviors.

Chapter 3

CHECK YOUR PROGRESS PAGE 57

1. Qualitative research seeks to understand social or human issues and problems; seeks to develop a holistic pictures of these problems; creates its report with words, not statistics; uses the views of informants as the basis for its report; and, is conducted in a natural setting.

2. b
3. b
4. d
5. d
6. a
7. a
8. d

Chapter 4

CHECK YOUR PROGRESS PAGE 69

1. The reactance or reactivity effect refers to the biasing or influencing of the participants' scores or responses because they know they are being observed. Archival research avoids the reactance effect because the researcher does not observe the participants and the data of interest are recorded before they are used in the research project.
2. d
3. a
4. b
5. Situation sampling and time sampling are used to provide greater generality for the research project.
6. The extent to which two observers agree is called interobserver reliability. It is calculated by dividing the number of times the observers agree by the number of opportunities for agreement and multiplying by 100. These calculations result in the percent agreement.
7. c

CHECK YOUR PROGRESS PAGE 84

1. 1-D; 2-F; 3-G; 4-C; 5-A; 6-E; 7-B
2. The steps involved in developing a good survey include (a) determining how the information you seek is to be obtained and what type of instrument will you use, (b) determining the nature of the questions that will be used, (c) writing the items for your survey, (d) pilot testing your survey or questionnaire, (e) considering what demographic data are desired, and (f) specifying the procedures that will be followed in administering the survey or questionnaire.
3. d
4. The low return rate of mail surveys can be increased by (a) including a letter that clearly summarizes the nature and importance with the initial mailing (a self-addressed, prepaid return envelope should be included with the initial mailing) and (b) sending additional mailings at two- to three-week intervals.
5. The use of personal interviews is declining because (a) the expense involved in conducting them has increased greatly, (b) the fact that an individual administers the surveys

increases the possibility for bias, and (c) the appeal of going from door to door is decreasing because of unavailability of respondents and high crime rates in large metropolitan areas.

6. Achievement tests are used to assess an individual's level of mastery or competence. Aptitude tests are used to assess an individual's skills or abilities.
7. d
8. population; sample
9. b
10. Random sampling occurs when every member of the population has an equal chance of being selected. Random sampling with replacement occurs when the chosen items are returned to the population and can be selected on future occasions. When random sampling without replacement is used, the chosen item is not returned to the population.
11. Stratified random sampling involves randomly selecting participants from a single layer or strata in the population (e.g., a limited age range). When stratified random sampling is used, group homogeneity is increased. The more homogeneous the sample, the fewer chances there are for nuisance variables to operate. The fewer chances there are for nuisance variables to operate, the smaller the within-group variability.
12. The single-strata research approach attempts to secure research data from a single, specified segment of the population of interest. The cross-sectional research approach involves the comparison of two or more groups of participants during the same rather limited time span. The longitudinal research approach involves gathering information from a group of participants over an extended period of time.

Chapter 5

CHECK YOUR PROGRESS PAGE 98

1. The components of the scientific method are **objectivity** (unbiased collection of data), **confirmation of findings** (the ability to repeat or replicate research projects), **self-correction** (replication of research removes erroneous findings), and **control** (accounting for the effects of unwanted factors and direct manipulation of the independent variable).
2. Self-correction means that the replication of scientific research results in the elimination of errors and erroneous findings.
3. b
4. The experimenter attempts to determine the relation between the independent variable (cause) and subsequent changes in the dependent variable (effect).
5. b
6. d
7. Synthetic statements are used in the experimental hypothesis because they can be either true or false.
8. General implication form presents the experimental hypothesis as an "if . . . then" statement where the "if" portion of the statement refers to the IV manipulation and the "then" portion of the statement refers to the predicted changes in the DV.

9. d
10. inductive, deductive
11. b

Chapter 6

CHECK YOUR PROGRESS PAGE 112

1. variable
2. 1-E; 2-C; 3-A; 4-F; 5-B; 6-D
3. c
4. c
5. You should record more than one DV if the additional DV(s) add meaningful information.
6. c

CHECK YOUR PROGRESS PAGE 124

1. 1-C; 2-A; 3-B; 4-E; 5-D
2. a
3. a
4. When within-subject counterbalancing is used, each participant experiences more than one sequence of IV presentations. When within-group counterbalancing is used, each participant experiences a different sequence of IV presentations.
5. *n*! refers to factoring or breaking a number into its component parts and then multiplying these component parts. *n*! can be used to determine the number of sequences required for complete counterbalancing: $4! = 4 \times 3 \times 2 \times 1 = 24$.
6. b
7. The incomplete counterbalancing procedure refers to the use of some, but not all, of the possible sequences of treatment administration.

Chapter 7

CHECK YOUR PROGRESS PAGE 132

1. Once a precedent or established pattern for using a particular type of research participant is begun, it is likely that that type of participant will be used in experiments in the research area in question.
2. White rats and college students are the favorite participants in psychological research because of precedent and availability. An established pattern of research with these two populations has been established, and they are easy to obtain.
3. b

4. c
5. a
6. The experimenter must be careful not to become a slave to elaborate pieces of equipment. If this situation occurs, then it is likely that the equipment may begin dictating the type of research that is conducted and/or the type of DV that is recorded.

CHECK YOUR PROGRESS PAGE 140

1. The experimenter's physiological characteristics, psychological characteristics, and personal expectancies for the outcome of the experiment can operate as extraneous variables and influence the responses of the participants.
2. 1-C; 2-A; 3-B; 4-E; 5-D
3. a
4. Automated equipment and instruments to present instructions and record data are frequently used to control for experimenter expectancies because they help minimize experimenter contact with the participants. By minimizing contact with the participants, the experimenter is less likely to influence the outcome of the experiment.
5. b
6. c

CHECK YOUR PROGRESS PAGE 146

1. a
2. c
3. The goal of cross-cultural psychology is incompatible with ethnocentrism because ethnocentrism views other cultures as an extension of that culture. Hence, according to an ethnocentric view, there is no need for cross-cultural research.
4. Culture can influence the choice of the research problem, the nature of the experimental hypothesis, selection of the IV(s), selection of the DV(s), selection of participants, sampling procedures, and the type of questionnaire that is used.
5. b

Chapter 8

CHECK YOUR PROGRESS PAGE 156

1. a
2. b
3. It is important to evaluate your experiment for internal validity because you cannot place any confidence in your results if your experiment does not have internal validity. Cause-and-effect statements cannot be made without internal validity.
4. 1-B; 2-C; 3-D; 4-A
5. 1-D; 2-A; 3-B; 4-C

6. In this experiment the internal validity threat of selection is likely. Because the selected participants are senior citizens, it is possible that they will have less formal education than college students of today. Obtaining a college education was not as common for today's senior citizens when they were young as it is for today's youth.
7. b

CHECK YOUR PROGRESS PAGE 170

1. External validity is the ability to take your experimental findings and apply them beyond the experimental participants to the larger population. It is important to psychology so that we can develop general findings that apply to large groups of organisms.
2. b
3. Population generalization involves applying results from participants to the larger group. Environmental generalization involves applying results to different settings from those in the original experiment. Temporal generalization involves applying experimental results to different times from those in the original experiment.
4. Using different types of participants helps increase the external validity of our findings.
5. Cross-cultural psychology involves testing psychological principles in different cultures to determine the generality of those principles. It is relevant to this chapter because it deals with external validity.
6. 1-C; 2-B; 3-D; 4-A
7. Mook thinks that external validity is necessary only when we are attempting to predict behavior in the real world. Much research in psychology is not aimed at such prediction, and Mook believes that external validity is not necessary in such situations.
8. It is almost impossible to achieve external validity in a single experiment because of the large number of threats to external validity. Usually an experiment can answer only one such threat at a time.

Chapter 9

CHECK YOUR PROGRESS PAGE 187

1. 1-G; 2-E; 3-A; 4-C; 5-B; 6-F; 7-D
2. c
3. Because the three measures of central tendency (mean, median, and mode) are identical in a normal distribution, any one of them would serve as a representative measure of central tendency.
4. d
5. The ordinate is the vertical axis; it should be approximately two-thirds the size of the abscissa (horizontal axis). The DV is plotted on the ordinate, whereas the IV is plotted on the abscissa.
6. Because it takes into account only the highest and lowest scores and disregards the distribution of scores in between, the range does not convey much information.
7. a

8. Because the percentage of scores occurring between the mean and any standard deviation (e.g., 11, 12, −1, −2) away from the mean is constant, standard deviation scores from one distribution can be compared with standard deviation scores from other distributions.

CHECK YOUR PROGRESS PAGE 201

1. 1-F; 2-H; 3-I; 4-B; 5-D; 6-C; 7-G; 8-E; 9-A
2. A positive correlation indicates that as one variable increases, the other variable under consideration also increases, whereas a perfect positive correlation indicates that for every unit of increase in one variable there is a corresponding increase of one unit in the other variable.
3. A zero correlation indicates that changes in one variable are not systematically related to changes in the other variable.
4. When two independent groups are being compared, the *t* test compares the difference between the means of the two groups to the amount of variability (error) that exists within the two groups. Because the groups are assumed to be equivalent at the start of the experiment, larger *t* values indicate greater influence of the IV.
5. "Level of significance" refers to the point at which the experimenter feels that a result occurs rarely by chance. If an experimental result occurs rarely by chance, we conclude that it is significant. Although the experimenter arbitrarily sets the level of significance, tradition has established the .05 level as an accepted level of significance.
6. Because researchers don't always know how a research project is going to turn out, it is safer to state a nondirectional hypothesis and use a two-tail test. If a directional hypothesis is stated and the results turn out differently, then the researcher is forced to reject the experimental hypothesis even though differences may exist between the groups.
7. a
8. a
9. c

Chapter 10

CHECK YOUR PROGRESS PAGE 214

1. We cannot conduct a valid experiment with only one group because we have to have a second group for comparison purposes. We cannot tell whether our IV has any effect if we cannot compare the experimental group to a control group.
2. levels
3. Independent groups consist of participants who are totally unrelated to each other. Correlated groups are composed of pairs of participants who have some relationship to each other because they (a) have some natural relationship (natural pairs), (b) are matched with each other (matched pairs), or (c) are the same participants (repeated measures). This difference is important to experimental designs because it is one of the three questions we ask to choose an appropriate design for an experiment.
4. 1-D; 2-A; 3-B; 4-C
5. We must be cautious about the use of random assignment when we have small numbers of participants because the groups may end up being unequal before the experiment.

6. If your experiment could use either independent or correlated groups, you would most likely base your decision on the number of participants available to you. We often use correlated groups when we have a small number of participants so that we can be more confident about the equality of our groups. If you have many potential participants, independent groups (through random assignment) will typically be equal.
7. b

CHECK YOUR PROGRESS PAGE 220

1. It is important for our groups to be equal before the experiment so that any difference we detect in our DV can be attributed to the IV.
2. between-groups variability; error variability
3. b
4. Correlated groups have the advantages of ensuring equality of the participants before the experiment and of reducing error variability. Independent groups are advantageous in that they are simpler than correlated groups and can be used in experimental situations that preclude correlated groups.
5. Many different answers are possible to the question about comparing differing amounts of an IV. Some representative examples include amount of study time or amount of reinforcement in a learning experiment, amount of pay or bonus on job performance, and length of therapy to treat a particular problem. As long as you chose a single IV and varied its amount (rather than presence vs. absence), your answer should be correct.
6. Again, many different answers are possible. Some possible answers include different types of life experiences, different majors, different musical preferences, and different hometowns. As long as you chose two levels of an IV that cannot be manipulated, your answer is correct.

CHECK YOUR PROGRESS PAGE 230

1. To compare the stereotyping of a group of female executives to the stereotyping of a group of male executives, you would use a *t* test for independent samples because men and women represent independent groups.
2. To compare the stereotyping of a group of male executives before and after the ERA, you would use a *t* test for correlated samples because this represents repeated measures.
3. a
4. We usually look for descriptive statistics first on a computer printout because this information helps us understand how the groups performed on the DV.
5. homogeneity of variance; heterogeneity of variance
6. words; numbers (statistical information)
7. Group A, with a mean of 75, scored significantly higher than Group B, which had a mean of 70.
8. Research is a cyclical, ongoing process because each experiment typically raises new questions. A multitude of examples of cyclical research could be given. For example, you might test a new antihyperactivity drug against a control group. If the drug were helpful, then you would need additional research to determine the most effective dosage. In the future you would want to test this drug against new drugs that arrive on the market.

Chapter 11

CHECK YOUR PROGRESS PAGE 243

1. The two-group design is the building block for the multiple-group design because the multiple-group design essentially takes a two-group design and adds more groups to it. Thus, the multiple-group design is similar to changing a two-group design into a three-group design (or larger).
2. one; three
3. A multiple-group design allows you to ask and answer more questions than does a two-group design. You may be able to run only one experiment instead of two or three. Therefore, the multiple-group design is more efficient than the two-group design—you can save time, effort, participants, and so on.
4. There are many correct answers to this question. If you chose an IV that has more than two levels, your answer should be correct. For example, if you wished to test attendance in college students as a function of classification, you would use a multiple-group design with four groups (freshmen, sophomores, juniors, seniors).
5. Matched sets, repeated measures, and natural sets are all considered correlated groups because participants in such groups are related in some way.
6. There is no real limit on the number of groups in a multiple-group design. Practically speaking, it is rare to see more than four or five groups for a particular IV.
7. How many groups are required to adequately test your experimental hypothesis? Will you learn something important if you include more levels of your IV?
8. provide more control than independent-groups designs
9. Practical considerations are more demanding in multiple-correlated-groups designs because there are simply more "equated" participants with which to deal. In repeated measures, participants must take part in more experimental sessions. Matched sets must include three (or more) matched participants. Natural sets require larger sets of participants.
10. To compare personality traits of firstborn, lastborn, and only children, we would use a multiple-independent-groups design (unless we matched participants on some variable). Repeated measures and natural sets are impossible (can you figure out why?). This would represent an ex post facto study because we cannot manipulate an individual's birth order.

CHECK YOUR PROGRESS PAGE 257

1.

CLASSIFICATION

Freshman	Sophomore	Junior	Senior

This experiment would require a multiple-independent-groups design with four groups. The necessary statistical test would be a one-way ANOVA for independent groups (students could not be in more than one classification simultaneously).

2.

ACT/SAT ATTEMPTS		
1st Attempt	2nd Attempt	3rd Attempt

This question requires a multiple-correlated-groups design with three groups. The proper statistical test would be a one-way ANOVA for correlated groups because each student takes the test three times (repeated measures).

3. Because you have more than two groups, it is necessary to compute post hoc tests to tell which groups are significantly different from the others.

4. between groups; within groups

5. Given the statistical information shown, you can conclude that students perform differently on their three attempts at taking the ACT or SAT (i.e., there is a statistically significant difference).

6. To draw a full and complete conclusion from Question 5, you would need the results from post hoc tests comparing the three means. With this information you could conclude whether students improve over time in taking the entrance exam.

7. It was important to have the information from Chapter 10's continuing research problem so that you could begin a follow-up experiment with the knowledge that customers' clothing affects clerks' response times. The follow-up experiment, then, compared clerks' response times to three different clothing styles.

8. It depends. Do you want to measure the same people's moods across the four seasons (multiple-correlated-groups design) or four different groups of people in the four seasons (multiple independent groups)? Either approach is possible. Can you justify your answer? If you chose multiple correlated groups, your rationale should revolve around control issues. You should measure a large number of participants if you chose multiple independent groups.

9. It depends. Do you want the same people to eat at all four restaurants (multiple correlated groups) or to survey different people at each restaurant (multiple independent groups)? You could run the experiment either way. The rationale for your choice should be similar to that summarized in the answer to Question 8.

Chapter 12

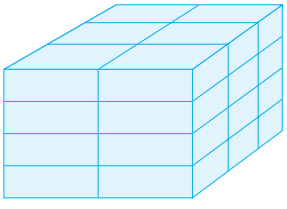
CHECK YOUR PROGRESS PAGE 273

1. The two-group design is related to the factorial design because it forms the underlying basis of a factorial design. For example, a 2 × 2 factorial design is simply two two-group designs combined (see the shaded section below).

2. There is a practical limit to the number of IVs you can use in an experiment so that you will be able to interpret the results easily. Interactions involving many variables can be quite difficult to understand.
3. d
4. 1-C; 2-A; 3-B
5. two; four
6. Numerous correct answers are possible. Your answer should consist of an experiment with two IVs. One IV should be a between-subjects variable (no relationship between participants); one should be a within-subjects variable (repeated measures, matching, or natural groups). For example, you might assign students to either a group that takes an ACT or SAT preparation course or does not take such a course (between subjects). Each group would take the ACT or SAT twice (repeated measures).

CHECK YOUR PROGRESS PAGE 282

1. Factorial designs are combinations of the designs in Chapters 10 and 11 because a factorial design results from adding two (or more) simple designs (one IV each) together into a single design with two (or more) IVs (e.g., see Figure 12-10, page 274).
2. A $2 \times 4 \times 3$ experimental design consists of three IVs; one has two levels, one has four levels, and one has three levels:

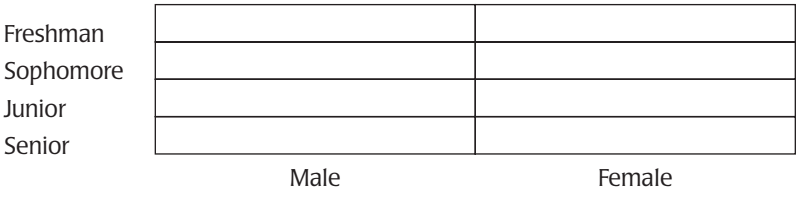


3. Totally between-groups designs use independent groups of participants for each IV. Totally within-groups designs use correlated groups of participants for all IVs. Mixed-groups designs have at least one IV that uses independent groups of participants and one that uses correlated groups. These designs are similar in that they are all factorial designs. They differ, of course, in the way that the experimenter assigns participants to groups.
4. Your experimental questions should be your first consideration in choosing a factorial design because the number of questions you ask will determine how many IVs your experiment will have.
5. measured
6. Your friend has listed six IVs that she wishes to include in her experiment. This is too ambitious for a beginning project, and the results could be incredibly difficult to interpret because of the many potential interactions.
7. a

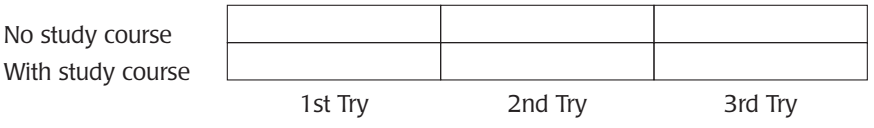
CHECK YOUR PROGRESS PAGE 298

1. Your experimental design has two IVs, classification and sex. Both are between-subject variables because a participant cannot be in more than one group. You would use the

factorial between-group design and test the data with a factorial ANOVA for independent groups. Your block diagram would look like the following:



2. This experimental design has two IVs: test-taking practice and study course. Both are within-subject variables because each participant takes the tests repeatedly and takes the study course. You would use the factorial within-group design and use a factorial ANOVA for correlated groups to analyze the data. Your block diagram would be the following:



3. Again, you still have two IVs: the practice and the course. However, the study course is now a between-subjects variable because some participants take it and some do not. Test-taking practice is a within-subjects variable because each participant takes the test three times (repeated measures). Thus, you have factorial mixed-groups design and would use a factorial ANOVA for mixed groups. Your block diagram would be the same as the one shown for Question 2—only the assignment of participants to groups differs.

4. An interaction effect is the simultaneous effect of two IVs in such a way that the effects of one IV depend on the particular level of the second IV. A significant interaction overrides any main effects because the interaction changes the meaning of the significant main effect.

5. a

6. This experiment has two IVs—the seasons and sex. Sex is always a between-subjects variable, so you must choose between the factorial between-groups design and the factorial mixed-groups design. Your decision rests upon how you wish to treat the participants with regard to the seasons. If you use different participants for each season, both IVs would be between subjects and you would use the factorial between-groups design. If you wish to use the same participants for each season, you would use the factorial mixed-groups design. Your selection of a particular design would probably depend on how many participants you can find—with large numbers, using a between-subjects manipulation is acceptable.

7. This experiment has two IVs—restaurant and age. Age must be between subjects; restaurant could be either between or within subjects based on whether the same or different people eat at each restaurant. Thus, your choices are the same as for Question 6.

Chapter 13

CHECK YOUR PROGRESS PAGE 308

1. random assignment; experimental design
2. It is essential to randomly assign participants to groups to help assure that the groups are equal before the experiment.
3. Random selection refers to choosing participants from a population in a nonsystematic manner. Random assignment refers to allocating those randomly selected participants to different groups in a nonsystematic manner.
4. It is problematic to use the pretest–posttest control group design to help with internal validity because this design cannot control all internal validity threats.
5. d
6. The drawback of using the Solomon four-group design to control for internal validity is that there is no statistical test to analyze all the data from this design.
7. The posttest-only control group design is a good choice for controlling internal validity because it seems to control the internal validity threats covered in Chapter 8. Drawing a general diagram of the posttest-only control group design is not possible because the design can vary depending on the number of treatment groups in the experiment (e.g., see Figures 13-5 and 13-6, p. 306).

CHECK YOUR PROGRESS PAGE 321

1. The use of single-case designs has decreased recently because of statistical innovations—an increase in both statistical tests and computerized analysis programs.
2. A single-case design can be used to disprove a theory because it takes only a single negative instance to invalidate a theory's general applicability.
3. baseline; three
4. a
5. For: Visual inspections of data may lead to incorrect conclusions. Statistical analysis gives increased accuracy.

   Against: Treatments should produce effects that are visually apparent. Clinical significance is more important than statistical significance.
6. 1-C; 2-A; 3-B
7. You might be forced to use an A-B single-case design in the real world because it can be impractical or unethical to reverse a treatment. Many examples are possible. Suppose you work with an individual who suffers from anorexia or bulimia. You institute a treatment and the individual shows marked improvement. However, you fear that removing the treatment could result in a recurrence of the problem.

CHECK YOUR PROGRESS PAGE 331

1. Experimental designs involve manipulation of IVs, control of extraneous variables, and measurement of DVs so that cause-and-effect relationships can be determined. Ex post facto designs involve IVs that have already occurred or that are predetermined, such as

sex. Quasi-experimental designs involve manipulating IVs with groups of participants that are predetermined, such as causing something to vary between men and women.

2. You might choose to use a quasi-experimental design rather than an experimental design in a situation when random assignment is impossible or if you wish to evaluate an ongoing program.
3. 1-B, C, F; 2-A, D,* E

   *Figure 13-15 (p. 327) gives the impression that the interrupted time-series design includes pretesting—in some cases, it may actually be pretesting. In many situations that use this design, however, the observations before the treatment are not true pretests because they were not made with an experiment in mind; rather, they may often simply represent data that were already available (e.g., sales records). This is a fine distinction, and it could easily be argued that both designs actually include pretesting.
4. The key element in Geronimus's research that allowed a more positive conclusion about teen pregnancy was the realization that finding a true control group would be impossible; hence the need for a strong comparison group.
5. We are more certain about our conclusion in the helmet law case because it simulated an A-B-A design, whereas the AFDC study was only an A-B design. If we can return to the baseline condition, we usually get a better reading of our results.
6. d

Chapter 14

CHECK YOUR PROGRESS PAGE 370

1. "APA format" refers to the accepted, standard form for preparing the results of psychological research that has been adopted by the American Psychological Association. APA format was developed in order to bring standardization and uniformity to the publication of research in the field of psychology.
2. 1-C; 2-E; 3-B; 4-D; 5-F; 6-A
3. The abstract is the most widely read section of most research reports because it is published in *Psychological Abstracts* and computerized indices such as PsycINFO.
4. The introduction is similar to a typical term paper because it summarizes a body of knowledge about a relatively narrow topic. It is different from a term paper because it provides a rationale and lead-in to a particular experiment.
5. c
6. The method section is designed to describe (a) the research participants, (b) the equipment or materials used in the research, and (c) the manner in which the experiment was conducted. Although all this information is important, the procedures are probably the most important because they allow other researchers to replicate the study. If different participants or equipment (materials) were used, external validity would simply be increased.
7. inferential; descriptive
8. No, you could not use figures or tables as your sole information in a results section. Figures and tables are meant to supplement descriptive and inferential statistics, not to replace them.

9. Although this answer involves opinion, you can make a strong argument that the discussion section is the most important section because it summarizes the experiment's evidence, ties that evidence into previous findings, and draws an overall conclusion.

10. The reference for a chapter from an edited book is more complex than a journal article or book reference because such a reference must include information about both the chapter and the book.

11. 1-E; 2-B; 3-G; 4-H; 5-A; 6-D; 7-F; 8-C

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1. You should not write your research paper in the style of a famous writer because your primary goal is communication rather than entertainment.

2. Three strategies used to improve writing style are (a) write from an outline; (b) write a draft and put it away for some time before rereading it; and (c) have another person read and evaluate your writing. You will have to answer for yourself what you need to change about your writing in order to incorporate these suggestions.

3. c

4. a. Jones (1995) conducted an experiment.

b. The participants sat in desks around the room.

c. I (or "The experimenter") projected the stimulus items from the rear of the cubicle.

d. I found a significant interaction. *or* The data showed a significant interaction.

5. a. The participants that were older were tested first. (It is important to distinguish the older participants from the younger.)

b. The room, which was a classroom, was used for testing. (The notation that the room is a classroom is probably merely a side comment that is not vital in describing the room.)

6. a. Because you are the oldest, you should go first. "Since" was incorrect because a justification was implied rather than a time reference.

b. "Since" I began that class I have learned much about statistics. Correct because since denotes something has happened after beginning the class.

c. "While" we are watching TV, we can also study. Correct because while denoted that watching TV and studying will occur at the same time.

d. Although you are older than I, I should still go first. "While" was incorrect because a contrast was implied rather than a time reference.

7.

Orientals—Asians	elderly—elderly people (or use specific age range)
mankind—humankind or humans	girls and men—women and men
mothering—parenting	chairman—chair
homosexuals—lesbian, gay	depressives—depressed patients

8.

a + b = c	trial-by-trial
−1	Enter: Your name