CHAPTER 2

METHODS IN THE STUDY OF PERSONALITY

CHAPTER OUTLINE

Gathering Information
- Sources: Observe Yourself and Observe Others
- Seeking Depth: Case Studies
- Depth from Experience Sampling
- Seeking Generality: Studies of Many People

Establishing Relationships among Variables
- Correlation between Variables
- Two Kinds of Significance
- Causality and a Limitation on Inference
- Search for Causality: Experimental Research
- Recognizing Types of Study
- What Kind of Research Is Best?
- Multifactor Studies
- Reading Figures from Multifactor Research

Summary

CHAPTER SUMMARY

Research in personality relies on observations of both the self and others. The desire to understand a person as an integrated whole led to *case studies*, in-depth examinations of specific persons. The desire for *generalizability*—conclusions that would apply to many rather than to a few people—led to studies involving systematic examination of many people.

Gathering information is only the first step toward examining relationships between and among variables. Relationships among variables are examined in two ways, corresponding to two kinds of relationships. *Correlational research* determines the degree to which two variables tend to go together in a predictable way when measured at different levels along the dimensions. This technique determines two aspects of the relationship: its direction and its strength. The special relationship of cause and effect cannot be determined by this kind of study, however.

A second technique, called the *experimental method*, allows testing for cause and effect. In an experiment, an independent variable is manipulated, other variables are controlled (made constant), and anything that cannot be controlled is treated by random assignment. An effect caused by the manipulation is measured in the dependent variable. Experimental and correlational techniques are often combined in multifactor studies. When the study contains a personality variable and an experimental manipulation it is termed *experimental personality research*. Multifactor studies permit the emergence of interactions.

KEY TERMS

Case study: An in-depth study of one individual.

Causality (causal relationship): A relationship such that variation in one dimension produces variation in another.

Clinically significant: An association large enough to have some practical importance.

Correlation: A relationship in which two variables or dimensions covary when measured repeatedly.

Correlation coefficient: A numeric index of the degree of correlation between two variables.

Dependent variable: The variable measured as the outcome of an experiment; the effect in a cause–effect relation.

Descriptive statistics: Statistics used to describe or characterize some group.

Experience sampling: Method in which people report repeatedly on their current experiences.

Experimental control: The holding constant of variables that are not being manipulated.

Experimental method: The method in which one variable is manipulated to test for causal influence on another variable.

Experimental personality research: A study involving a personality factor and an experimental factor.

Generality (generalizability): The degree to which a conclusion applies to many people.

Idiographic: Relating to an approach that focuses on a particular person across situations.

Independent variable: The variable manipulated in an experiment, tested as the cause in a cause–effect relation.

Inferential statistics: Statistics used to judge whether a relationship exists between variables.

Interaction: A finding in which the effect of one predictor variable differs depending on the level of another predictor variable.

Main effect: A finding in which the effect of one predictor variable is independent of other variables.

Multifactor study: A study with two (or more) predictor variables.

Personology: The study of the whole person, as opposed to studying only one aspect of the person.

Practical significance: An association large enough to have practical importance.

Random assignment: The process of putting people randomly into groups of an experiment so their characteristics balance out across groups.

Statistical significance: The likelihood of an obtained effect occurring when there is no true effect.

Third-variable problem: The possibility that an unmeasured variable caused variations in both of two correlated variables.

Variable: A dimension along which two or more variations exist.

TEST ITEMS

Multiple Choice

(c/14) 1. Looking inward to your own experience is called:

a. inspection.
b. self-monitoring.
c. introspection.
d. personal case study.

(b/14) 2. Henry Murray used the term _____ to describe efforts to understand the whole person.

a. biographical research
b. personology
c. introspection
d. macro-assessment

(c/14) 3. Which view most directly promotes the use of case studies?

a. introspection
b. cognitive
c. personology
d. correlational

(d/14) 4. Which of the following is NOT true of the case study method?

a. Case studies are rich in detail.
b. Case studies are often clinical studies.
c. Case studies can be used to generate theories.
d. Case studies are conducted in settings carefully created and controlled by the researcher.

(a/15) 5. Experience sampling studies are similar to case studies in that they both:

a. typically involve repeated measurements.
b. typically use external observers.
c. typically require people to think back far in time.
d. all of the above

(b/15) 6. What prevents the results of a single case study from being applied to many people?

a. lack of test-retest reliability
b. lack of generality
c. general scoring error
d. singular inconsistency

(d/16) 7. Most personality research has been done:

a. in the United States or western Europe.
b. on college students.
c. on white, middle- to upper-middle-class people.
d. all of the above

(d/16) 8. A _____ is a dimension, along which variations exist. There are always at least two _____ along each dimension.

a. level, constructs
b. value, variables
c. variable, observations
d. variable, values

(c/17) 9. Psychologists describe correlations by referring to their:

a. direction and duration.
b. duration and strength.
c. direction and strength.
d. none of the above

(a/18) 10. Which of the following is one way to organize information about a correlation?

a. a scatterplot
b. a horizontal plot
c. a pie chart
d. none of the above

(a/19) 11. A scatterplot with many points in the lower right quadrant of the plot, many points in the upper left quadrant, and very few points in the other quadrants would indicate a(n):

a. positive correlation.
b. negative correlation.
c. inverse correlation.
d. none of the above

(b/19) 12. When low values on one dimension are associated with high values on another dimension, the correlation between the two variables is termed:

a. inadequate.
b. inverse.
c. qualified.
d. substantive.

(b/20) 13. The strength of a correlation refers to its:

a. directionality.
b. degree of accuracy in prediction.
c. positivity as opposed to negativity.
d. level of statistical significance.

(a/20) 14. A perfect positive correlation is indicated by an *r* value of:

a. 0.0
b. 1.0
c. 10.0
d. 100.0

(b/20) 15. Which of the following is the strongest plausible correlation coefficient?

a. 1.68
b. -.63
c. .42
d. .56

(b/20) 16. A correlation of _____ means two variables are not related at all.

a. .5
b. .0
c. -.5
d. -1.0

(b/22 Box 2.1) 17. Psychologists use two kinds of statistics called:

a. descriptive and rigorous.
b. descriptive and inferential.
c. inferential and significant.
d. rigorous and significant.

(c/22) 18. To test whether research findings can be attributed to chance, researchers use:

a. random numbers tables.
b. descriptive statistics.
c. inferential statistics.
d. all of the above

(a/22) 19. If a research finding is statistically significant, it:

a. is unlikely to have occurred by chance.
b. will have wide-ranging effects.
c. is important to humanity.
d. all of the above

(c/22) 20. In addition to statistical significance, psychologists often talk about the _____ significance of research results.

a. scientific
b. humanitarian
c. practical
d. therapeutic

(b/23) 21. Correlational research cannot tell us:

a. how strongly two variables go together.
b. why two variables go together.
c. whether two variables go together.
d. in what direction two variables go together.

(d/23) 22. Why can't correlational research tell us why two variables go together?

a. because it is conducted in laboratories instead of the real world
b. because it is not scientifically rigorous
c. because it is too experimental
d. because of the third-variable problem

(b/24) 23. What type of study design allows for statements about causality?

a. case study
b. experimental
c. correlational
d. all of the above

(c/24) 24. The independent variable is the one that is:

a. free to vary.
b. measured.
c. manipulated.
d. the outcome variable.

(a/24) 25. The variable manipulated by the experimenter is called the:

a. independent variable.
b. control variable.
c. dependent variable.
d. correlation coefficient.

(b/24) 26. Ensuring that all variables are constant in an experiment, except for the independent variable, is called:

a. random sampling.
b. experimental control.
c. random assignment.
d. experimental manipulation.

(d/25) 27. Which of the following is NOT a reason someone would use random assignment?

a. to assure that each participant has an equal chance of being in either experimental condition
b. to balance out differences between experimental groups
c. to rule out the third variable problem
d. to assure that people within each group are similar to one another

(d/25) 28. If a researcher randomly assigns subjects to two groups at the beginning of an experiment, we can assume that at that point:

a. the groups will have similar numbers of males and females.
b. the two groups will be similar with respect to IQ.
c. the two groups will be approximately equal in size.
d. all of the above

(c/25) 29. If you find that two groups differ from each other on the dependent measure at the end of an experiment, you are able to conclude that:

a. only one thing could have caused the difference: manipulation of the dependent variable.
b. the groups differed on the dependent measure before the study started.
c. only one thing could have caused the difference: manipulation of the independent variable.
d. none of the above

(a/27) 30. If a study categorizes subjects on the basis of some naturally-occurring difference, it is most likely a(n):

a. correlational study.
b. experimental study.
c. cross-lagged study.
d. case study.

(c/27) 31. One reason that a personality psychologist might not use the experimental method is that:

a. experiments tend to be long in duration.
b. experiments cannot be used in personality research.
c. for ethical reasons certain variables can't be manipulated.
d. all of the above

(c/28) 32. The factors in any given multifactor study:

a. are always personality variables.
b. are always experimental manipulations.
c. can be any combination of personality variables and experimental manipulations.
d. cannot all be experimental variables.

(b/28) 33. Experimental personality research:

a. focuses on only one variable at a time.
b. combines experimental and individual differences.
c. tells us nothing about cause and effect.
d. none of the above

(c/29) 34. In multifactor research, possible results fall into which two categories?

a. good and bad
b. interactive and singular
c. main effects and interactions
d. correlational and causal

(d/29) 35. Interaction effects are possible to find only in:

a. interaction studies.
b. correlational studies.
c. main effect studies.
d. multifactor studies.

True and False

(T/14) 1. Looking inward to one's own experiences is known as *introspection*.

(T/14) 2. One reason that introspection is problematic is that people tend to feel certain that their memory is correct.

(F/14) 3. Unlike introspection, observation of another person is unbiased.

(T/14) 4. Henry Murray coined the term *personology*.

(F/14) 5. *Personology* is the study one small aspect of a person.

(F/14) 6. Case studies are lacking in detail relative to other types of studies.

(T/15) 7. One advantage of experience-sampling studies is that they do not tend to require people to remember events from the distant past.

(F/15) 8. The idiographic method focuses on groups of individuals.

(T/15) 9. It is very difficult for a single case study to be generalizable to everyone.

(T/16) 10. Most of the research on personality has been done in the United States and Europe.

(F/16) 11. A variable must have at least three values or levels.

(T/16) 12. In order to study age-related changes in personality, you would need to study at least two age groups.

(T/17) 13. In order to understand the relationship between two variables, psychologists consider the strength and direction of that relationship.

(F/19) 14. If lower values on one variable are associated with lower values on another, the two variables are negatively correlated.

(F/20) 15. A correlation of $r = .27$ is stronger than a correlation of $r = -.57$.

(T/22 Box 2.1) 16. Personality psychologists use two types of statistics, inferential and descriptive.

(F/22 Box 2.1) 17. Descriptive statistics are used to indicate whether an effect was due to chance.

(F/22) 18. A statistically significant correlation is always an important one.

(F/23) 19. Correlational research provides information about causality among two or more variables.

(T/24) 20. In order for a study to be considered experimental, the researcher must manipulate a variable.

(T/24) 21. In experimental research the researcher actively creates a difference between the treatment given to one group and the treatment given to others.

(F/24) 22. Experimental control is not a necessary component of experimental research.

(T/24) 23. In experimental research variables that can't be controlled, such as individual differences, are treated by random assignment.

(T/25) 24. Because it is sometimes difficult to know what it was about a manipulation that produced an effect, we must be cautious even about how we view the results of experiments.

(F/26) 25. Results of correlational studies are always reported as correlations.

(T/27) 26. Personality psychologists have criticized experiments on the grounds that they don't deal directly with personality.

(F/27) 27. All variables can be manipulated in an ethical fashion.

(F/28) 28. It is not possible to combine correlational and experimental techniques in the same study.

(F/28) 29. It is impossible to do research in which one variable is an experimental manipulation and two are personality variables.

(T/28) 30. All experimental personality research studies are multifactor studies.

(F/26) 31. The more factors involved in a study, the easier it is to clearly interpret results.

(T/30) 32. Interactions can only be detected in multifactor studies.

(F/30) 33. It is possible to observe an interaction if a study includes one variable.

(T/30) 34. An interaction between variables can take a variety of forms.

Short Essay

(14) 1. How are experience sampling studies similar to case studies? How are they different?

Experience sampling studies are similar to case studies in that they provide depth and are conducted across periods of time. They are different in that they rely on self-reports from the person under study rather than external observers.

(15) 2. If only college students are used as research participants, what impact does this have on how results may be interpreted?

Results may lack generality because college students differ from older adults in several ways, e.g., having a less fully formulated sense of self.

(16-17) 3. Why is it so important to examine at least two levels of a personality variable before drawing conclusions?

You cannot be sure that the different values on the first variable are really associated with different values on the second variable unless you examine at least two levels. For example, we cannot see the effects of having low self-esteem by looking only at people with low self-esteem. You must also determine if the particular effect is absent (or present) among those with high self-esteem.

(17-20) 4. Identify and describe the two aspects of a correlation that need to be considered in order to understand its meaning.

DIRECTION: Positive--low values on one variable tend to go with low values on the other, and high values on one tend to go with high values on the other. Negative (inverse)--high values on one variable tend to go with low values on the other, and vice versa.
STRENGTH: Accuracy with which you can predict values on one dimension from values on the other dimension; ranges from r = -1.0 to r = +1.0.

(20-23) 5. Explain what is meant by *statistical significance*. How does statistical significance relate to the issue of importance?

Significant does not mean *important* in the usual sense. Rather, computations indicate the effect was unlikely to have been a product of chance factors. For example, if probability is 5% or less, the correlation is believable and, therefore, statistically significant. But it might only account for a small fraction of the behavior and may therefore be relatively unimportant in a practical sense.

(23-24) 6. Doug observes that people who exercise tend to have higher levels of self-esteem. What are three ways Doug might interpret this correlational finding?

First, it could be that people who are high in self-esteem also tend to exercise. Second, it could be that exercise leads people to have higher levels of self-esteem. Finally, it might be that some unmeasured third factor may be causing both high levels of self-esteem and exercise.

(24-25) 7. The use of random assignment is based on a specific assumption. Identify/explain that assumption.

If you study enough people, any important differences between them (and from other sources) will balance out between groups. Each group will therefore be likely to have as many depressed people, confident people, or people with any other trait that might be important.

(27) 8. Discuss the relative advantages and disadvantages of the correlational method versus the experimental method.

CORRELATIONAL:
Advantages--(1) May examine events that take place over longer time periods and are very elaborate; (2) May gain information about events in which experimental manipulation would be unethical.
Disadvantage--Can say nothing about causal relationship between variables.

EXPERIMENTAL:
Advantage--Ability to demonstrate cause-and-effect relationship between variables.
Disadvantages--(1) Some uncertainty about what it was in the manipulation that was important; (2) Experiments on humans are usually limited to phenomena of relatively short duration, under carefully controlled conditions; (3) Experimental relationships often have little to do with central issues of personality.

PRIMARY SOURCES

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