TESTBANK: CHAPTER 2
RESEARCH METHODS IN I/0 PSYCHOLOGY

MULTIPLE CHOICE QUESTIONS

1. The foundation of both the science and practice sides of I-O psychology is
a. Generalizability
b. Research
c. Training
d. Statistics
Answer: b

2. Which of the following is NOT one of the four major aspects of a research study?
a. How to obtain funding for research
b. Types of research designs
c. Principles of measurement
d. Use of statistics to draw conclusions from data
Answer: a

RESEARCH QUESTIONS

3. A hypothesis is
a. the researcher's best guess about what the results of a study will be.
b. the theory upon which a study is based.
c. the topic being studied.
d. the type of analysis that is planned.
Answer: a

4. The statement "What causes people to like or dislike their jobs?" is an example of a
a. Hypothesis
b. Theory
c. Research design
d. Research question
Answer: d

5. Where do most hypotheses come from?
a. Brainstorming ideas.
b. Intuition of the investigator.
c. Prior research and theory.
d. Artificial intelligence.
Answer: c

IMPORTANT RESEARCH DESIGN CONCEPTS

6. An attribute or characteristic of people or things that can take on different values is called:
a. A variable

b. A hypothesis
c. A statistic
d. An experiment
Answer: a

7. Assume you study effects of pay (high vs. low) on performance of engineers. Which of the following is an **independent** variable?
a. Pay.
b. Engineers.
c. Performance.
d. Both pay and performance are independent variables.
Answer: d

8. Assume you study effects of pay (high vs. low) on performance of engineers. Which of the following is a **dependent** variable?
a. Pay.
b. Engineers.
c. Performance.
d. Both pay and performance are independent variables.
Answer: c

9. Assume you study effects of pay (high vs. low) on the job performance of men and women. Which of the following is a **dependent** variable?
a. Pay.
b. Subject gender (men vs. women).
c. Performance.
d. Both pay and subject gender are dependent variables.
Answer: c

10. In experimental studies the _____ variable is assumed to be the cause of the the _____variable.
a. dependent; independent
b. confounding; independent
c. independent; dependent
d. independent; confounding
Answer: c

11. Which of the following research projects is performed in a field setting?
a. You go into a classroom and give students a questionnaire to study the effects of management style on employee motivation.
b. You go into a fast food restaurant and give employees a questionnaire to study the effects of pay on job performance.
c. You design a special room to simulate the work conditions in a factory and manipulate lighting conditions to study the effect of light on performance.
d. Both “a” and “c” are examples of research in field settings.
Answer: b

12. Which of the following research projects is performed in a laboratory setting?

a. You go into a factory and give employees a questionnaire to study the effects of management style on employee motivation.
b. You go into a fast food restaurant and give employees a questionnaire to study the effects of pay on job performance.
c. You design a special room to simulate the work conditions in a factory and manipulate lighting conditions to study the effect of light on performance.
d. Both “a” and “c” are examples of research in lab settings.

Answer: c

13. Approximately what percentage of I-O studies published in major journals was performed in laboratory settings?

a. 10%
b. 29%
c. 57%
d. 70%

Answer: b

14. When I-O psychologists conduct research in organizational settings they are said to be conducting _____ research.

a. experimental
b. laboratory
c. field
d. cross-sectional

Answer: c

15. Generalizability of results refers to the concept that the conclusions of a study can be extended to other

a. Groups of people.
b. Organizations.
c. Settings.
d. All of the above are correct

Answer: d

16. Which of the following is true?

a. Generalizability is a concern with both laboratory and field research.
b. Generalizability is a concern with laboratory research but not with field research.
c. Generalizability is a concern with field research but not with laboratory research.
d. Generalizability is not a concern with either laboratory or field research.

Answer: a

17. Procedures that allow researchers to rule out certain explanations for results other than the hypotheses they wish to test are referred to as _____ procedures.

a. generalization
b. control
c. confounding
d. exclusion

Answer: b

18. To study the effects of pay on performance you pay some people $10/hour and others $20/hour. You select only people who have high ability. Which of the following is a control variable?

a. Pay
b. Performance
c. Ability
d. Ability and Performance

Answer: c

19. Which of the following is NOT one of the ways that control is achieved in research studies?

a. Control groups.
b. Holding certain variables constant.
c. Systematically varying selected variables.
d. Quasi-experimental design

Answer: d

20. As a research psychologist you conduct a study that examines the effect of offering a benefits package on job satisfaction. In this study a group of new employees is offered a benefits package; another group is not. Two months later you measure everyone's job satisfaction. Which is the control group?

a. There is no control group.
b. The group receiving the benefits package is the control group.
c. The group not receiving the benefits package is the control group.
d. The group having their job satisfaction measured is the control group.

Answer: c

21. You want to study the effects of training on performance. Because you must get permission to train people, you ask for volunteers. You train the volunteers, and then measure the performance of both volunteers (trained) and non-volunteers (non-trained). You have used

a. both random assignment and random selection.
b. random assignment but not random selection.
c. random selection but not random assignment.
d. neither random assignment nor random selection.

Answer: d

22. You want to study the effects of training on performance. Because you must get permission to train people, you ask for volunteers. You train half the volunteers, and then measure the performance of both trained and untrained volunteers. You have used

a. both random assignment and random selection.
b. random assignment but not random selection.
c. random selection but not random assignment.
d. neither random assignment nor random selection.

Answer: b

23. The term _____ refers to the placement of people in different treatment conditions in a nonsystematic way.

a. random sampling

b. random selection
c. random assignment
d. random placement
Answer: c

24. As an I-O research psychologist you chose the subjects of your investigation through a nonsystematic method; you have used which of the following methods?
a. generalization
b. random assignment
c. nonsystematic sampling
d. random selection
Answer: d

25. When two or more variables are intertwined in such a way that conclusions cannot be drawn about either one a researcher would say that _____ has occurred.
a. confounding
b. covariation
c. control
d. random assignment
Answer: a

26. In a study that examines the effect of job tenure on job satisfaction, the added variable of the age of the research subject is intertwined with the variable of job tenure. When variables are intertwined in this way such that clear conclusions cannot be drawn, researchers say that a _____ has occurred.
a. covariation
b. confounding
c. cross-sectional design
d. correlation
Answer: b

27. Procedures that allow researchers to rule out certain explanations for results other than the hypotheses they wish to test are referred to as _____ procedures.
a. generalization
b. control
c. confounding
d. exclusion
Answer: b

RESEARCH DESIGNS

28. To draw causal conclusions that one variable led to another, one should use:
a. an experimental research design.
b. a survey research designs.
c. an observational research design.
d. a multi-level research design.
Answer: a

29. The major advantage of the experiment is the ability to
a. draw causal conclusions.
b. measure multiple variables.
c. use laboratory settings.
d. control variables.
Answer: a

30. To study the effectiveness of employee training you train 20 volunteers and compare their post-training performance to that of 20 non-volunteers. What type of research design have you used?
a. observational
b. quasi-experimental
c. experiment
d. survey
Answer: b

31. You are interested in learning about work factors that cause employee stress, so you watch employees in their organizational setting perform their jobs for a few days. The employees are not aware that they are being studied. What type of research design have you used?
a. laboratory design
b. experimental design
c. cross-sectional design
d. unobtrusive observational design
Answer: d

32. You want to know if part-time employees become more or less happy with their employment over time. Thus, you give a questionnaire to 100 new hires and four months later give the same questionnaire to the same employees. What type of research design have you used?
a. longitudinal design
b. quasi-experimental design
c. cross-sectional design
d. obtrusive methods observational design
Answer: a

33. In which of the following research designs would it be MOST difficult to draw causal conclusions?
a. laboratory experiment
b. field experiment (true experiment, not quasi-experiment)
c. longitudinal survey design
d. cross-sectional survey design
Answer: d

34. An advantage of an employee survey designs is:
a. they allow causal conclusions to be drawn about the relationships between variables.
b. employees are always good (unbiased) sources of information about variables of interest.
c. the results are more generalizable than those from experiments.

d. they are expensive and time consuming to run.
Answer: c

35. When conducting survey research psychologists use the term _____ to refer to the percentage of those surveyed who agree to participate.
a. answer rate
b. cut rate
c. response rate
d. reverse-refusal rate
Answer: c

36. When I-O psychologists perform job analyses they often take notes on the employees' actions by observing employees without the subjects being aware of the researchers. This is an example of a(n)
a. obtrusive observational design .
b. unobtrusive observational design.
c. unobtrusive survey design.
d. obtrusive survey design.
Answer: b

37. You have been hired by an organization to conduct an analysis of productivity and the number of coffee breaks the employees take. You collect your data by surveying employees and asking them about their breaks. This type of design is called a(n)
a. unobtrusive survey design.
b. obtrusive survey design.
c. cross-sectional design.
d. longitudinal design.
Answer: c

38. The following is an advantage of the survey design:
a. Quick and relatively inexpensive
b. Allows causal conclusions
c. Is free from subject bias
d. Does not require following ethical principles
Answer: a

39. Which of the following is a qualitative method?
a. Case study
b. Cross-sectional survey
c. Laboratory experiment
d. Experience sampling study
Answer: a

40. What is a main advantage of using a qualitative approach to research?
a. It is easier to conduct a qualitative study.
b. It is easier to analyzed qualitative data.
c. Qualitative studies do not generally involve computers.

d. Qualitative studies avoid constraints of the researcher's a priori decisions about the variables to assess.

Answer: d

41. The systematic use of scientific data about people to make informed decisions is called

a. Statistics
b. Decision science
c. Psychometrics
d. People analytics

Answer: d

42. HR Analytics is used to determine which of the following?

a. Who is the best candidate to hire.
b. Whether redesigning jobs might increase customer satisfaction.
c. Whether training supervisors would increase employee compliance with safety standards.
d. All of the above.

Answer: d

MEASUREMENT

43. In your study of motivation and performance you record each respondent's gender, and you assign the number "1" to males and "2" to females. This type of measurement is referred to as

a. sex typing.
b. categorical measurement.
c. ordinal measurement.
d. classical measurement.

Answer: b

44. In your study of job satisfaction, you survey employees and have them fill out a multi-item instrument. The scores from this instrument would be which type of measurement?

a. Categorical
b. Discrete
c. Continuous
d. Numerical

Answer: c

45. In your study of motivation and performance you count the number of computer chips assembled by each worker. This type of measurement would be

a. discrete measurement.
b. categorical measurement.
c. continuous measurement.
d. classical measurement.

Answer: c **2** **33**

46. According to classical measurement theory, every observation of a variable can be divided into two components. They are

a. true score and error .

b. categorical and continuous measurement.
c. observed score and error.
d. qualitative and quantitative measurement.
Answer: a

47. When a researcher is interested in measuring the consistency of measurement across repeated observations of a variable on the same subject s/he is said to be measuring the _____ of the measurements.
a. validity
b. reliability
c. repeatedness
d. observational consistency
Answer: b

48. At Qzork each applicant is interviewed by two different managers who then rate each job candidate on a series of competencies. If you compare how well these two managers agree on their ratings of each applicant you are measuring
a. inter-rater reliability.
b. test-retest reliability.
c. internal consistency reliability.
d. validity.
Answer: a

49. Internal consistency reliability indicates
a. If a measure will give the same score if a person takes it twice.
b. If a measure relates to other measures.
c. If a measure measures what it appears to measure.
d. If the items of a measure are related to one another.
Answer: d

50. The consistency of measurement over time is assessed by
a. internal consistency reliability.
b. inter-rater reliability.
c. test-retest reliability.
d. the temporal stability index.
Answer: c

51. _____ refers to the inferences that are made about what an observed score measures or represents.
a. Reliability
b. Generalizability
c. Central tendency
d. Validity
Answer: d

52. If in your English class you were given a test that contained 85% mathematics questions and only 15% vocabulary questions, you would say the test lacked
a. internal consistency reliability.

b. content validity.
c. criterion-related validity.
d. test-retest reliability.
Answer: b

53. While evaluating tests for selecting sales staff, Pat finds that a measure of extraversion is related to sales performance. This test has:
a. face validity.
b. content validity.
c. criterion-related validity.
d. performance validity.
Answer: c

54. Your boss tells a friend that he is sure all of his employees love their jobs because every time he sees them they are smiling and they always tell him how much they like their jobs. As an I-O psychologist you would say that your boss' measures of employee satisfaction have high
a. criterion related validity.
b. content reliability.
c. face reliability.
d. face validity.
Answer: d

55. Experience sampling differs from longitudinal designs because experience sampling…
a. does not require ethical consideration
b. relies on a person's experiences rather than their opinions
c. does not collect data over time
d. takes repeated measurements over short time intervals
Answer: d

STATISTICS

56. Which of the following is NOT a descriptive statistic?
a. Mean
b. Standard deviation
c. T-test
d. Mode
Answer: c

57. What is the mean of the following set of numbers: 1, 2, 5, 8?
a. 1.0
b. 2.5
c. 3.5
d. 4.0
Answer: d

58. Which of the following statistics is a measure of central tendency?
a. Standard deviation

b. Mean
c. Variance
d. Correlation
Answer: b

59. The variance statistic is a measure of _____.
a. dispersion
b. central tendency
c. correlation
d. validity
Answer: a

60. Which statistic would best illustrate the relationship between college GPAs and starting salary in the first job after college graduation?
a. Mean
b. T-test
c. Correlation
d. Variance
Answer: c

61. Which of the following shows the strongest correlation between variables X and Y?
a. - 0.90
b. -0.65
c. + 0.43
d. + 0.55
Answer: a

62. If pay and performance were graphed, and employees who have low pay have high performance and employees who have high pay have low performance, this would represent a
a. zero correlation.
b. positive correlation.
c. negative correlation.
d. spurious correlation.
Answer: c

63. You are interested in determining whether or not you can predict the amount of your expected pay increase from your job performance rating. What type of analysis provides you with a mathematical formula that allows the prediction of one variable from another?
a. Meta-analysis
b. T-test
c. Pearson product-moment correlation
d. Regression analysis
Answer: d

64. You use applicant scores on two tests (intelligence and mechanical aptitude) to predict their performance, and then hire the applicants with the highest predicted performance. You have used the _____ technique.
a. multiple regression
b. inferential
c. meta-analytic
d. correlational
Answer: a

65. Which branch of statistics allows us to draw conclusions that generalize from the subjects we have studied to all the people of interest by allowing us to draw conclusions based on probabilities?
a. Descriptive statistics
b. Inferential statistics
c. Meta-analytic statistics
d. Multivariate statistics
Answer: b

66. You want to know whether the trained and untrained employees at your organization differ in their job performance. The variability in performance observed among the trained employees is called
a. incremental variance.
b. squared variance.
c. inferential variance.
d. error variance.
Answer: d

67. When the outcome of a t-test comparing two treatment conditions is said to have *statistical significance* we would conclude that the observed results are most likely due to
a. error.
b. chance.
c. the treatment.
d. probability.
Answer: c

68. When the probability is less then 1 in 20 that the result of a research study is due to chance, the results of the study are said to be
a. significant.
b. nonsignificant
c. realistic.
d. Practical.
Answer: b

69. You conduct a study to determine if employee attitudes differ as a function of gender (male vs. female) and company size (small vs. large). What statistical technique should you use to analyze these data?
a. Independent group t-test

b. Meta-analysis
c. Factorial ANOVA
d. T-test for correlation
Answer: c

70. You want to know whether group size influences the success of employee training. Rather than do a new study you find 20 previous studies on this question and statistically combine their results. What is this analysis called?
a. Analysis of variance
b. Multiple regression
c. Factorial analysis
d. Meta-analysis
Answer: d

71. A quantitative method of combining the results of several research studies is called
a. Multiple regression.
b. Meta analysis.
c. Analysis of variance.
d. Factorial analysis.
Answer: b

72. When a variable explains the relationship between two other variables it is referred to as a
a. moderator variable.
b. mediator variable.
c. control variable.
d. extraneous variable.
Answer: b

73. A variable that affects the relationship between two other variables is called a
a. moderator variable.
b. mediator variable.
c. control variable.
d. extraneous variable.
Answer: a

74. Bob conducts a study to see if there are gender differences in the relationship between job satisfaction and job performance. He thinks that the relationship will be larger for men than for women. In this study, what kind of variable is gender?
a. Dependent variable.
b. Independent variable.
c. Mediator variable.
d. Moderator variable.
Answer: d

75. Kathy conducts a study to see if rewards explain the relationship between job performance and job satisfaction. She thinks that performance leads to rewards which leads to satisfaction. What kind of variable is rewards.

a. Dependent variable.
b. Independent variable.
c. Mediator variable.
d. Moderator variable.
Answer: c

RESEARCH ETHICS AND INTEGRITY

76. When I-O psychologists conduct research they are obligated to abide by ethical principles. In which of the following is the researcher NOT acting ethically?
a. The researcher obtains informed consent from all subjects in the study.
b. The researcher reveals the identity of those subjects who responded to the survey to the manager of the company as part of the outcome report.
c. The researcher discloses the purpose and goals of the research to the subjects prior to testing them.
d. The researcher conducts an anonymous survey of the employees and reports the overall results to management.
Answer: b

77. An informed consent form does which of the following.
a. Tells subjects the hypotheses of the study.
b. Tells subjects the purpose and risks involved in participating in the study.
c. Tells subjects the anticipated results from the study.
d. Tells subjects the name of the journal to which results will be published.
Answer: b

78. An ethical principle dictates that subjects of studies should be told about the nature and purpose of a study before they participate. This can be accomplished through the use of:
a. face validity
b. debriefing
c. observational designs
d. informed consent forms
Answer: d

79. Which of the following is consistent with recommendations for research integrity?
a. it is not considered plagiarism to copy from previous research as long as the research was done by a colleague
b. if a student does work on your research, it is not ethical to give them authorship
c. if you are unable to support a theory that you know is right, it is acceptable to use false data
d. it is not considered ethical to use p hacking to analyze data until something becomes significant
Answer: d

80. P-hacking is a problem in research because it can
a. Produce erroneous results.
b. Underestimate the real size of effects.

c. Be expensive.
d. Take too much time.
Answer: a

81. What are the two foundational values of research integrity?
a. Reliability and Validity
b. Faith and Science
c. Truthfulness and Trust
d. Effectiveness and Efficiency
Answer: c

Essay Questions

1. What is the first step of every research study and why is it important?

2. Give examples of a general and a specific research question and explain why specific questions are more useful than general questions.

3. Define what a variable is.

4. Differentiate between independent and dependent variables.

5. List and explain two strengths and two weaknesses of laboratory research in comparison to field research.

6. What is generalizability and why is it important to I-O psychologists?

7. Define the difference between random assignment and random selection.

8. Explain how people analytics can be used to make better decisions in organizations.

9. Assume you are interested in studying the effectiveness of a management training program given to 100 new Google employees. You are very concerned with whether your results will apply to the other Google employees. Which of the following would be most applicable to your concern: generalization, random assignment or random selection? Explain why.

10. You want to study the effects of leadership style on group performance, but you are afraid your results might be affected by leader gender (male vs. female). Explain how you could control for the effects of leader gender in this research.

11. What are the two distinguishing features of an experiment?

12. Explain how quasi-experiments differ from true experiments. How does the use of quasi-experiments impact the type of conclusions that can be drawn from the research?

13. What are the major advantages and disadvantages of using survey research designs?

14. State the difference between a cross-sectional and longitudinal design.

15. How do obtrusive and unobtrusive observation methods differ? What are some advantages and disadvantages to the use of each?

16. According to classical measurement theory, what are the two components of an observation?

17. Define measurement and explain the difference between categorical and continuous measurement.

18. Explain how the use of multiple items to measure a concept tends to give a more accurate measurement than does the use of a single item.

19. Explain the differences between internal consistency reliability, inter-rater reliability, and test-retest reliability.

20. You measure the performance of employees each month during the first year of their employment. Should you use internal consistency reliability or test-retest reliability to assess the quality of your performance measure? Why?

21. The Acme Widget Company selects employees on the basis of their WAT scores. If they want to maximize performance, which type of validity is of greatest concern? Explain your answer.

22. Explain the difference between descriptive and inferential statistics.

23. How do measures of central tendency and measures of dispersion differ?

24. You collect data on motivation and satisfaction by surveying employees and find that these two variables are correlated + 0.70. Can you conclude that motivation causes performance? Why or why not?

25. Which branch of statistics allows us to draw conclusions that generalize beyond the data at hand?

26. Describe the purpose of a meta-analysis.

27. What is the difference between a moderator variable and a mediator variable?

28. Describe the overriding ethical consideration of researchers and how informed consent contributes to research ethics.

29. What is the purpose of an informed consent form in research?

30. What are the fundamental values underlying research integrity and how are they incorporated into a research study?

KEY TERMS

- Hypothesis
- Variable
- Independent variable
- Dependent variable
- Field setting
- Laboratory setting
- Generalizability
- Control
- Control group
- Random assignment
- Random selection
- Confounding
- Research design
- Experiment
- Field experiment
- Quasi-experimental design
- Survey design
- Questionnaire
- Cross-sectional design
- Longitudinal design
- Response rate
- Experience sampling
- Observational design
- Obtrusive methods
- Unobtrusive methods
- Qualitative methods
- Measurement
- Categorical measurement
- Continuous measurement
- Classical measurement theory
- Error
- Reliability
- People analytics
- Internal consistency reliability
- Inter-rater reliability
- Test-retest reliability
- Validity
- Construct validity
- Face validity
- Content validity
- Criterion-related validity
- Descriptive statistics
- Arithmetic mean
- Median
- Variance
- Standard deviation
- Correlation
- Pearson product-moment correlation coefficient
- Regression equation
- Predictor
- Criterion
- Multiple regression
- Inferential statistics
- Error variance
- Statistical significance
- t-test
- Analysis of variance (ANOVA)
- Factorial design
- Factorial ANOVA
- Meta-analysis
- Mediator
- Moderator
- Informed consent form
- p hacking