

FALL 2015

EXPERIMENTAL PSYCHOLOGY—PSYC 204: 911-915

Research Methods Concepts

[08/25/15]

- 1. hypothesis vs. theory
- 2. independent and dependent variables
- 3. conceptual vs. operational definitions
- 4. confounded variables
- 5. quantitative vs. qualitative variables
  
- 6. continuous vs. discrete (categorical) variables
- 7. levels of measurement (labels, nominal, ordinal, interval, ratio)
- 8. reliability of test scores (internal consistency, split-half, test-retest, equivalent/alternate form, interrater, intrarater)
- 9. validity (of inferences from test scores; construct-related, content-related, criterion-related)
- 10. discriminant and convergent validity
  
- 11. face validity
- 12. systematic vs. random error
- 13. role demands
- 14. experimenter bias
- 15. research validity
  
- 16. threats to internal validity → history, maturation, testing, regression to the mean, selection, attrition/mortality
- 17. threats to external validity → other participants (population validity), other times (temporal validity), other settings (ecological validity)
- 18. threats to construct validity → loose connection between theory and method; changes resulting from participation in study (e.g., good subject response, evaluation apprehension, etc.)
- 19. threats to statistical conclusion validity → low power, violations of statistical assumptions, low reliability
- 20. double- and single-blind procedures
  
- 21. random sampling
- 22. random assignment
- 23. within- and between-subjects designs
- 24. pretest and posttest
- 25. pilot study
  
- 26. control group
- 27. statistical vs. practical significance
- 28. effect sizes
- 29. research setting
- 30. lab vs. field studies
  
- 31. probability vs. nonprobability sampling
- 32. deception
- 33. debriefing

- 34. replication
- 35. extraneous variables
  
- 36. multi-treatment interference
- 37. power analysis
- 38. methods of acquiring knowledge
- 39. assumptions of science
- 40. characteristics of the scientific approach
  
- 41. correlations
- 42. regressions
- 43. *t*-tests
- 44. analysis of variance (ANOVA)
- 45. chi-square
  
- 46. experimenter expectancies
- 47. experimenter effects
- 48. clinical significance
- 49. baseline
- 50. convenient samples/samples of convenience
  
- 51.  $r_{xx}$
- 52.  $r_{xy}$
- 53. median split
- 54. instrumentation of response
- 55. statistical control
  
- 56. nuisance variables
- 57. observational research
- 58. nonexperimental research
- 59. Solomon four group design
- 60. experimental group
  
- 61. dependability of treatment effects → order and sequencing [carry over] effects
- 62. irreversibility of treatment effects
- 63. counterbalancing, reverse counterbalancing, block randomization
- 64. ceiling and floor effects
- 65. single-participant experiments
  
- 66. changing-criterion designs
- 67. repeated treatment designs (ABAB)
- 68. withdrawal of treatment designs (ABA)
- 69. conditions for causality → temporal precedence, contiguity, and constant conjunction
- 70. archival research
  
- 71. case study
- 72. survey research and designs
- 73. response rates
- 74. response styles vs. sets
- 75. sampling → uncontrolled, haphazard, purposive, convenience, probability, systematic, simple, stratified, cluster, multi-stage sampling, oversampling

- 76. quasi-experimental design
- 77. delayed control group design
- 78. interrupted time-series design
- 79. multiple time-series design
- 80. non-equivalent control group design
  
- 81. cross-sectional vs. longitudinal
- 82. meta-analysis
- 83. animal rights vs. animal welfare
- 84. informed consent
- 85. ethics in research → truth in reporting; treatment of research participants; internal vs. external controls and checks
  
- 86. experimental control
- 87. control experiment
- 88. manipulation
- 89. manipulation check
- 90. factorial designs
  
- 91. main effects and interactions
- 92. correlational designs
- 93. moderators
- 94. mediators
- 95. mixed factorial designs
  
- 96. extreme groups analysis
- 97. IRB
- 98. test and measurement validity
- 99. predictive, concurrent, and postdictive designs
- 100. primary and secondary research designs
  
- 101. condition – experimental and control
- 102. observational designs
- 103. levels of observation
- 104. margin of error
- 105. simple factorial designs
  
- 106.  $n \times n$  factorial
- 107.  $n$  of conditions
- 108. balanced vs. unbalanced designs
- 109.  $n$ -way interactions
- 110. highest order interaction term
  
- 111. lowest order interaction term
- 112.
- 113.
- 114.