SPRING 2019

EXPERIMENTAL PSYCHOLOGY—PSYC 302: 912-915

Research Methods Concepts
[01/13/19]

☐1.	hypothesis vs. theory
☐2.	independent and dependent variables
☐3.	conceptual vs. operational definitions
☐4.	quantitative vs. qualitative variables
☐5.	continuous vs. discrete (categorical) variables

☐6.	categorical vs categorical-ordered variables
☐7.	binary categorical variables
☐8.	levels of measurement (labels, nominal, ordinal, interval, ratio)
☐9.	measurement error
☐10.	reliability of test scores (internal consistency, split-half, test-retest, equivalent/alternate form, interrater, intrarater)

☐11.	validity (of inferences from test scores; construct-related, content-related, criterion-related)
☐12.	discriminant and convergent validity
☐13.	face validity
☐14.	systematic vs. random error
☐15.	role demands

☐16.	experimenter bias
☐17.	research validity
☐18.	threats to internal validity ➜ history, maturation, testing, regression to the mean, selection, attrition/mortality
☐19.	threats to external validity ➜ other participants (population validity), other times (temporal validity), other settings (ecological validity)
☐20.	threats to construct validity ➜ loose connection between theory and method; changes resulting from participation in study (e.g., good subject response, evaluation apprehension, etc.)

☐21.	threats to statistical conclusion validity ➜ low power, violations of statistical assumptions, low reliability
☐22.	double- and single-blind procedures
☐23.	deception
☐24.	debriefing
☐25.	multi-treatment interference

☐26.	random sampling
☐27.	random assignment
☐28.	probability vs. nonprobability sampling
☐29.	convenient samples/samples of convenience
☐30.	within- and between-subjects designs

☐31.   pretest and posttest
☐32.   baseline
☐33.   pilot study
☐34.   statistical vs. practical significance
☐35.   effect sizes

☐36.   clinical significance
☐37.   research setting
☐38.   lab vs. field studies
☐39.   replication
☐40.   extraneous variables

☐41.   nuisance variables
☐42.   confounded variables
☐43.   methods of acquiring knowledge
☐44.   assumptions of science
☐45.   characteristics of the scientific approach

☐46.   experimenter expectancies
☐47.   experimenter effects
☐48.   power analysis
☐49.   regressions
☐50. t-tests

☐51.   analysis of variance (ANOVA)
☐52.   chi-square
☐53.   correlations
☐54. r_{xx}
☐55. r_{xy}

☐56.   median split
☐57.   instrumentation of response
☐58.   statistical control
☐59.   ANCOVA [ANOVA]
☐60.   partial correlation [correlation]

☐61.   observational research
☐62.   nonexperimental research
☐63.   Solomon four group design
☐64.   experimental group
☐65.   control group

☐66.   dependability of treatment effects ➜ order and sequencing [carry over] effects
☐67.   irreversibility of treatment effects
☐68.   counterbalancing, reverse counterbalancing, block randomization
☐69.   ceiling and floor effects
☐70.   single-participant experiments

☐71.   changing-criterion designs
☐72.   repeated treatment designs (ABAB)
☐73.   withdrawal of treatment designs (ABA)
☐74.   conditions for causality ➜ temporal precedence, contiguity, and constant conjunction
☐75.   archival research

☐76.   case study
☐77.   survey research and designs
☐78.   response rates
☐79.   response styles vs. sets
☐80.   sampling ➜ uncontrolled, haphazard, purposive, convenience, probability, systematic, simple, stratified, cluster, multi-stage sampling, oversampling

☐81.   quasi-experimental design
☐82.   delayed control group design
☐83.   interrupted time-series design
☐84.   multiple time-series design
☐85.   non-equivalent control group design

☐86.   cross-sectional vs. longitudinal
☐87.   meta-analysis
☐88.   animal rights vs. animal welfare
☐89.   informed consent
☐90.   ethics in research ➜ truth in reporting; treatment of research participants; internal vs. external controls and checks

☐91.   experimental control
☐92.   control experiment
☐93.   manipulation
☐94.   manipulation check
☐95.   factorial designs

☐96.   main effects and interactions
☐97.   correlational designs
☐98.   moderators
☐99.   mediators
☐100. mixed factorial designs – experimental

☐101. mixed factorial designs – nonexperimental [q-design]
☐102. extreme groups analysis
☐103. IRB
☐104. test and measurement validity
☐105. predictive, concurrent, and postdictive designs

☐106. primary and secondary research designs
☐107. observational designs
☐108. levels of observation
☐109. margin of error
☐110. simple factorial designs

☐111. condition – experimental and control
☐112. $n \times n$ factorial
☐113. n of conditions
☐114. balanced vs. unbalanced designs
☐115. n-way interactions

☐116. highest order interaction term
☐117. lowest order interaction term
☐118.
☐119.
☐120.