INSTRUMENTATION

8. Operational definitions
   • Conceptual vs. operational definitions
   • Describing the steps by which a variable “comes alive” in a research study: measures, experimental treatments, creation of groups, etc.
   • The limits and requirements of operational definitions: replication
   • Review from Topic 17: operational definitions are imperfect, the same variable might have multiple operational definitions, different methods can lead to different results, and no operational definition is necessarily the “right” one

9. Quantitative vs. qualitative research
   • Quantitative researchers prefer previously-used instruments that yield numbers from objective scoring
   • Qualitative researchers prefer instruments, often newly-created, that yield words and that depend on subjective interpretations

27. Introduction to validity
   • Instruments and instrumentation
   • Validity
   • Validity as a matter of degree
   • Why perfect validity is elusive

27A. Further thoughts on validity
   • Why psychologists are not essentialists
   • Different methods of instrumentation
   • Using previously-used methods vs. creating new methods

28. Judgmental validity
   • Establishing validity of an instrument by judgments
   • Content validity (item-by-item) vs. face validity (superficial inspection)

29. Empirical validity
   • Comparing results produced by an instrument to a criterion
   • Predictive validity
   • Concurrent validity
   • Validity coefficient
   • How valid does an instrument have to be?

31. Reliability and its relationship to validity
   - Reliability means consistency of results
   - Reliability does not guarantee validity
   - Reliability is less important than validity
   - Usefulness equals reliability and validity

32. Measures of reliability
   - Reliability can be assessed in many ways
   - Interobserver
   - Test-retest
   - Parallel-forms

33. Internal consistency and reliability
   - Split-half measure of reliability
   - Cronbach’s alpha

34. Norm- and criterion-referenced tests
   - Measures that compare people to a norm
   - Measures that compare people to a criterion

35. Measures of optimum performance
   - Achievement
   - Aptitude
   - Intelligence

36. Measures of typical performance
   - Personal characteristics: traits, attitudes, motivations, etc.
   - Social desirability and impression management can reduce validity
   - Methods for enhancing validity: anonymity, lie scales, deception, projective techniques