

These readings are collected to give you a taste of some of the complexities as well as the fun of statistical methods in behavioral sciences. They are not intended to be definitive on any particular topic, but to introduce you to the wide range of topics being researched in the general area of "Psychological Methods".

Exploratory Data Analysis

Behrens, J. T. (1997). Principles and procedures of exploratory data analysis. *Psychological Methods*, 2, 131-160.

Hypothesis testing or what?

Steiger, J. H. (2004). Beyond the F test: Effect size confidence intervals and tests of close fit in the analysis of variance and contrast analysis. *Psychological Methods*, 9, 164-182.

Jones, L. V. & Tukey, J. W. (2000). A sensible formulation of the significance test. *Psychological Methods*, 5, 411-414.

Loftus, G. (1995). Data analysis as insight: Comments on Morrison. *Behavior Research Methods, Instruments & Computers*, 27, 57-59.

Masson, M. & Loftus, G. (2003). Using confidence intervals for graphically based data interpretation. *Canadian Journal of Experimental Psychology*, 57, 203-220.

Multiple comparison methods

Seaman, M. A. et al. (1991). New developments in pairwise multiple comparisons. *Psychological Bulletin*, 110, 577-586.

Ramsey, P. H. (2002). Comparison of closed testing procedures for pairwise testing of means. *Psychological Methods*, 7, 504-523.

Keselman, H. J. et al. (1998). Multiple comparison procedures for trimmed means. *Psychological Methods*, 3, 123-141.

Testing hypothesized patterns

Braver, S. L. & Sheets, V. L. (1993). Monotonic hypotheses in multiple group designs: A monte carlo study. *Psychological Bulletin*, 113, 379-395.

Furr, R. M. & Rosenthal, R. (2003). Repeated-measures contrasts for "multiple pattern" hypotheses. *Psychological Methods*, 8, 275-193.

Levin, J. R. & Neumann, E. (1999). Testing for predicted patterns: When interest in the whole is greater than in some of its parts. *Psychological Methods*, 4, 44-57.

Median split and dichotomizing continuous variables

MacCallum, R. C. et al. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, 7, 19-40.

Confidence intervals and standard errors

Blouin, D. C. & Riopelle, A. J. (2005). On confidence intervals for within-subjects designs. *Psychological Methods*, 10, 397-412.

Belia, S. et al. (2005). Researchers misunderstand confidence intervals and standard error bars. *Psychological Methods*, 10, 389-396.

Bakeman, R. & McArthur, D. (1996). Picturing repeated measures: Comments on Loftus, Morrison, and others. *Behavior Research Methods, Instruments & Computers*, 28, 584-589.

Loftus, G. (1994). Using confidence intervals in within-subject designs. *Psychonomic Bulletin & Review*, 1, 476-490.

Effect Sizes

Olejnik, S. & Algina, J. (2003). Generalized eta and omega squared statistics: Measures of effect size for some common research designs. *Psychological Methods*, 8, 434-447.

Rosnow, R. L. (2000). Contrasts and correlations in effect size estimation. *Psychological Science*, 11, 446-453.

Rosenthal, R. & Rosnow, R. L. (2003). *r*-equivalent: A simple effect size indicator. *Psychological Methods*, 8, 492-496.

Interactions

Loftus, G. (1978). On the interpretation of interactions. *Memory & Cognition*, 6, 312-319.

Rosnow, R. L. & Rosenthal, R. (1989). Definition and interpretation of interaction effects. *Psychological Bulletin*, 105, 143-146.

Rosnow, R. L. & Rosenthal, R. (1995). "Some things you learn aren't so": Cohen's paradox, Asch's paradigm, and the interpretation of interaction. *Psychological Science*, 6, 3-9.

Wahlsten, D. (1991). Sample size to detect a planned contrast and a one degree-of-freedom interaction effect. *Psychological Bulletin*, 110, 587-595.

Abelson, R. P & Prentice, D. A. (1997). Contrast tests of interaction hypotheses. *Psychological Methods*, 2, 315-328.

Within-subject issues

Birnbaum, M. H. (1999). How to show that $9 > 221$: Use between-subject design. *Psychological Methods*, 4, 243-249.

Algina, J. & Keselman, H. J. (1997). Detecting repeated measures effects with univariate and multivariate statistics. *Psychological Methods*, 2, 208-218.

Nested Random Factors

Wampold, B. E. & Serlin, R. (2000). The consequences of ignoring a nested factor on measures of effect size in analysis of variance. *Psychological Methods*, 5, 425-433.