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Autore	Davey Adam
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Missing Data; Complete Case Methods; List-Wise Deletion; List-Wise Deletion With Weighting; Available Case Methods; Pair-Wise Deletion Expectation Maximization Algorithm Full Information Maximum Likelihood; Imputation Methods; Single Imputation; Multiple Imputation; Estimating Structural Equation Models With Incomplete Data; Conclusions; Further Readings; 4. Estimating Statistical Power With Complete Data; Statistical Power in Structural Equation Modeling; Power for Testing a Single Alternative Hypothesis; Tests of Exact, Close, and Not Close Fit; Tests of Exact, Close, and Not Close Fit Between Two Models; An Alternative Approach to Estimate Statistical Power; Estimating Required Sample Size for Given Power; Conclusions Further Readings Section II: Applications; 5. Effects of Selection on Means, Variances, and Covariances; Defining the Population Model; Defining the Selection Process; An Example of the Effects of Selection; Selecting Data Into More Than Two Groups; Conclusions; Further Readings; 6. Testing Covariances and Mean Differences With Missing Data; Step 1: Specifying the Population Model; Step 2: Specifying the Alternative Model; Step 3: Generate Data Structure Implied by the Population Model; Step 4: Decide on the Incomplete Data Model; Step 5: Apply the Incomplete Data Model to Population Data Step 6: Estimate Population and Alternative Models With Missing Data Step 7: Using the Results to Estimate Power or Required Sample Size; Conclusions; Further Readings; 7. Testing Group Differences in Longitudinal Change; The Application; The Steps; Step 1: Selecting a Population Model; Step 2: Selecting an Alternative Model; Step 3: Generating Data According to the Population Model; Step 4: Selecting a Missing Data Model; Step 5: Applying the Missing Data Model to Population Data; Step 6: Estimating Population and Alternative Models With Incomplete Data Step 7: Using the Results to Calculate Power or Required Sample Size

Sommario/riassunto

Statistical power analysis has revolutionized the ways in which we conduct and evaluate research. Similar developments in the statistical analysis of incomplete (missing) data are gaining more widespread applications. This volume brings statistical power and incomplete data together under a common framework, in a way that is readily accessible to those with only an introductory familiarity with structural equation modeling. It answers many practical questions such as: How missing data affects the statistical power in a study How much power is likely with different