The Art of Data Analysis

Presented at TAIR 2014 by

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Why this topic?

❖ Feeling "stuck" with common procedures
  – Standard reports
  – Standard procedures

❖ Knowing more options are out there
  – Past training and experiences
  – Young, J. (1990). Adjusting the cumulative GPA using item response theory. *Journal of Educational Measurement, 27(2)*, 175-186.
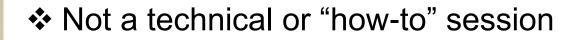
What this is & isn't

❖ Focus on what procedures are available
  – Common vs Not so common (based on my limted experience)

❖ Discussion of "routine" questions that can be answered by the less common techniques.
  – Also, why less common techniques might be better.

❖ Not a technical or "how-to" session

Common Procedures

❖ Descriptive Statistics & Correlations

❖ t-tests and ANOVAs

❖ Chi-Square

❖ Linear Regression

Less Common

❖ Binary Logistic Regression

❖ Multinomial Logistic Regression

❖ Factor Analysis/Principle Components

Not So Common

❖ Path Analysis

❖ Structural Equation Modelling

❖ Item Response Theory

Other Procedures?

❖ Focus here on just a handful of procedures

❖ What other procedures have you found useful in day-to-day operations?