

Data Management and Reporting in SPSS

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Lecture 1
Navigating SPSS



Lecture 2
Data Manipulation



Lecture 3
Summarizing Data



Lecture 4
Comparing Means/Proportions

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Boston Children's Hospital

Where the world comes for answers

Lecture Outline

- Compare Means for numeric data
 - Parametric vs nonparametric data
 - Independent vs paired samples
 - 2 groups vs more than 2 groups
- Compare Proportions for categorical data
 - Small vs large cell counts
 - Independent vs paired samples



Measures to Compare by Data Type

Categorical Variables

- Proportion – ratio in which the numerator is a subset of the denominator

Numeric Variables

- Mean (parametric) – average
- Median (nonparametric) – middle value when data is ranked in order



Demo

- SPSS sample data file dietstudy.sav
- Each case represents a separate subject
- Pre-, interim-, and post-diet weights and triglyceride levels



Compare Means

Parametric Numeric Data

- Independent samples (grouping variable)
 - Independent samples t-test – 2 groups
 - ANOVA – more than 2 groups
- Paired samples (pre/post within individual)
 - Paired samples t-test



Compare Medians

Nonparametric Numeric Data

- Independent samples (grouping variable)
 - Wilcoxon rank sum (Mann-Whitney) test
- Paired samples (pre/post within individual)
 - Wilcoxon signed rank test



Demo

- SPSS sample data file patient_los.sav
- Treatment records of patients admitted to the hospital for suspected MI (“heart attack”)
- Each case represents a separate patient
- Variables related to hospital stay



Compare Proportions

Categorical Data

- Independent samples (grouping variable)
 - Chi-square test of independence
 - Fisher's exact test
- Paired samples (pre/post within individual)
 - McNemar's test



Questions?

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