WORKSHOP 1: INTRODUCTION TO SPSS I

SPSS Basics:

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- Systematic Review Search Methodology
- Citation Management
- Thesis Formatting
- Nvivo Software Support
- SPSS Software Support
- R Group
- Multi-Disciplinary Graduate Student Writing Group
SPSS SERVICES BY RESEARCH COMMONS

• Workshops

• One-on-one Consultation

Request form to book SPSS consultation:
Expectation from this workshop

- Have you used SPSS before?
- Have you worked with other data analysis software?
- Have you conducted any quantitative data analysis before?
Software for statistical data analysis

• Many software are out there:
  - SPSS, Stata, R, SAS, Matlab, Minitab, Mplus, HLM7, Python etc.

• Which software should I use?
  1) Different convention of software programs in disciplines
  2) Different limitation depending on purposes of analysis
      - Simple data analysis → SPSS
      - Complex and advanced models → Stata, R, Mplus etc.
      - Analysis specific to certain areas (e.g., economics)
      - Big data → Python, R

• No need to stick to ONLY one software
OUTLINE

Part 1: Data Preparation in SPSS

• Data import/entry
• Descriptive statistics
• Data visualization

• Part 2: Data Analysis in SPSS

• Introduction to inferential statistical analysis
• What is a model/analysis?
• Independent T-test
• Independent one-way ANOVA
DATA PREPARATION

Importing data from computer

SPSS (.sav)

Spreadsheet (.xlsx, .csv)

And many others (Text, SAS, Stata, dBase etc.)
DATA PREPARATION (CONT.)

Let’s import a file …

> Open SPSS

Entering data
- Add cases or variables in the imported data set
DATA PREPARATION (CONT.)

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<th>Employment_b</th>
<th>Distress</th>
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</table>
DATA PREPARATION (CONT.)

Interface: data view and variable view

Variable view:

- **Type**
- **Width**
- **Decimals**
- **Labels**
- **Values**
- **Missing**

![SPSS Example dataset (Dataset1) - IBM SPSS Statistics Data Editor](image)
DATA PREPARATION (CONT.)

Understanding data in SPSS
Scale, Ordinal, and Nominal

https://stats.idre.ucla.edu/other/mult-pkg/whatstat/what-is-the-difference-between-categorical-ordinal-interval-variables/

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DATA PREPARATION (CONT.)

Data preparation using SPSS

Enter values for “Gender”

0 = “male”
1 = “female”
DATA PREPARATION (CONT.)

Data preparation using SPSS

Defining “Missing”
DATA PREPARATION (CONT.)

Descriptive stats

Why descriptive analysis?
- Check valid data
- Explore data
- Sample description
DATA PREPARATION (CONT.)

Examining data using stats and plots

Frequencies…
and bar plot

Analyze > Descriptive statistics > Frequencies…
DATA PREPARATION (CONT.)

Examining data using stats and plots

Frequencies… and bar plot

- To understand distribution of nominal and ordinal variable
- To visually compare nominal and ordinal variable
TASK

Frequency table and bar plot for “Marital status”
DATA PREPARATION (CONT.)
Examining data using stats and plots

Descriptives… and histogram

Analyze > Descriptive statistics > Descriptives…
DATA PREPARATION (CONT.)

Examining data using stats and plots

Descriptives… and histogram

- To understand distribution of a scale variable
- To visualize central tendency of a scale variable
TASK

Descriptive stats and histogram of “QOL”
DATA PREPARATION (CONT.)
Examining data using stats and plots

Explore...

Analyze > Descriptive statistics > Explore...

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DATA PREPARATION (CONT.)

Explore

Exploring data on two or more levels
DATA PREPARATION (CONT.)

More visualization

Chart Builder

Scatter plot

Graphs > Chart Builder…

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DATA PREPARATION (CONT.)

Visualizing data

Chart Builder

Scatter plot

Graphs > Chart Builder…
DATA PREPARATION (CONT.)

Visualizing data

Chart builder

Pie chart

Graphs > Chart Builder…
DATA PREPARATION (CONT.)

Visualizing data

Chart builder
Pie chart

Graphs > Chart Builder…
DATA PREPARATION (CONT.)

Summary stats by groups

Split file…

Data > Split File…

Organize output by groups “Gender”
DATA PREPARATION (CONT.)
Summary stats by groups

Select cases…

Data > Select cases…

Select Gender =1
DATA PREPARATION (CONT.)

Summary stats by groups

Select cases…

Data > Select cases…

Select gender =1
AND age <30
TASK

Create a histogram of “QOL” for individual “Age” < 40 years and grouped by “Marital status”

“Age” < 40 years and -> use select cases… grouped by “Marital status” -> use split cases…
BREAK