



Module 2: Introduction to SPSS

The Applied Research Center

Module 2 Overview

- ▶ Steps for Analyzing Data
- ▶ Using SPSS for Windows
 - ▶ Entering Data
 - ▶ Managing Data

Steps for Analyzing Data

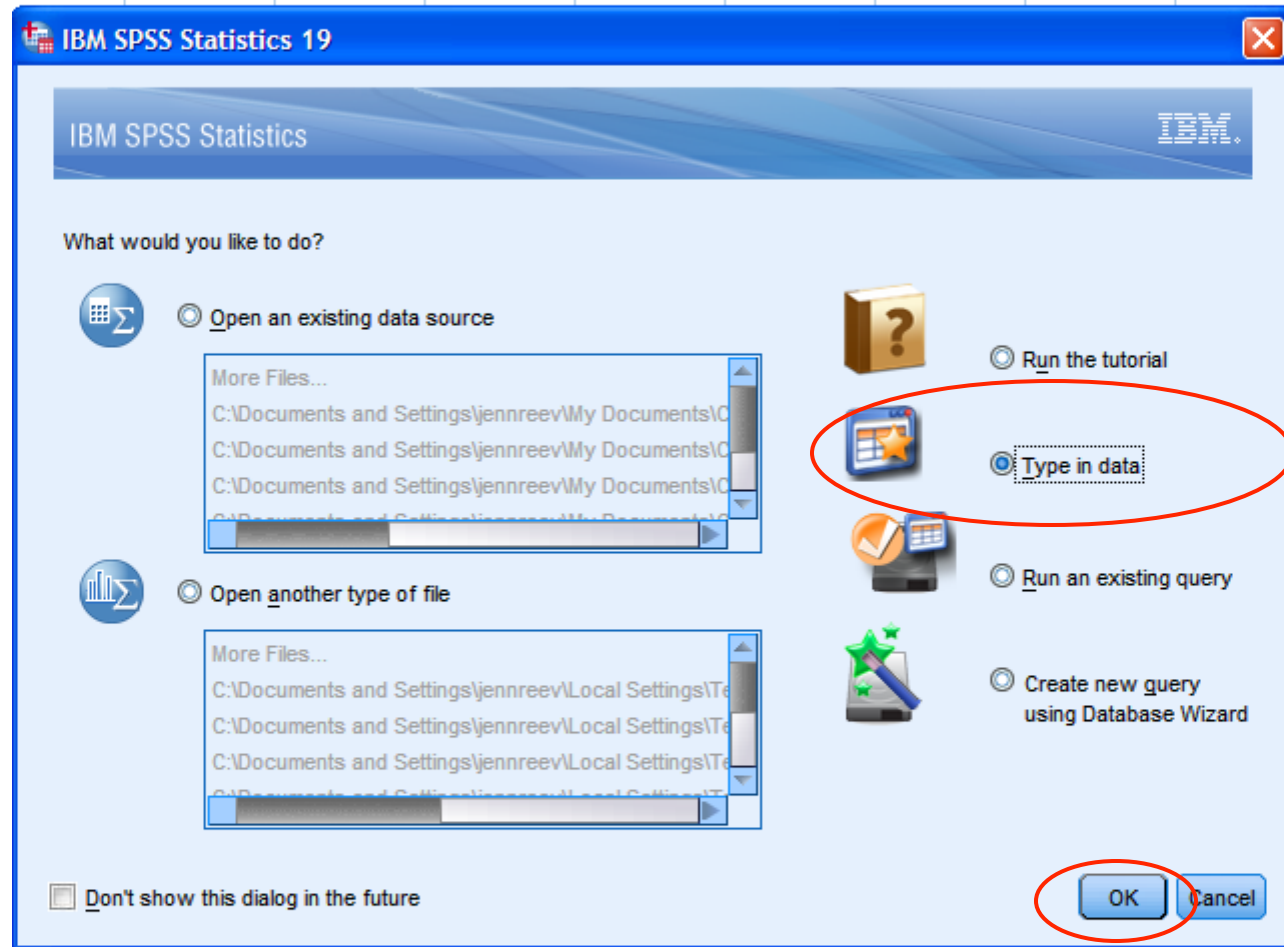
- ▶ Enter the data
- ▶ Select the procedure and options
- ▶ Select the variables
- ▶ Run the procedure
- ▶ Examine the output

Using SPSS© for Windows - Data Procedures

- ▶ **Entering Data**
 - ▶ Ways to Enter Data
 - ▶ Entering Data Directly
 - ▶ Defining Variable Properties
- ▶ **Managing Data**
 - ▶ Viewing Data
 - ▶ Computing New Variables
 - ▶ Selecting Cases

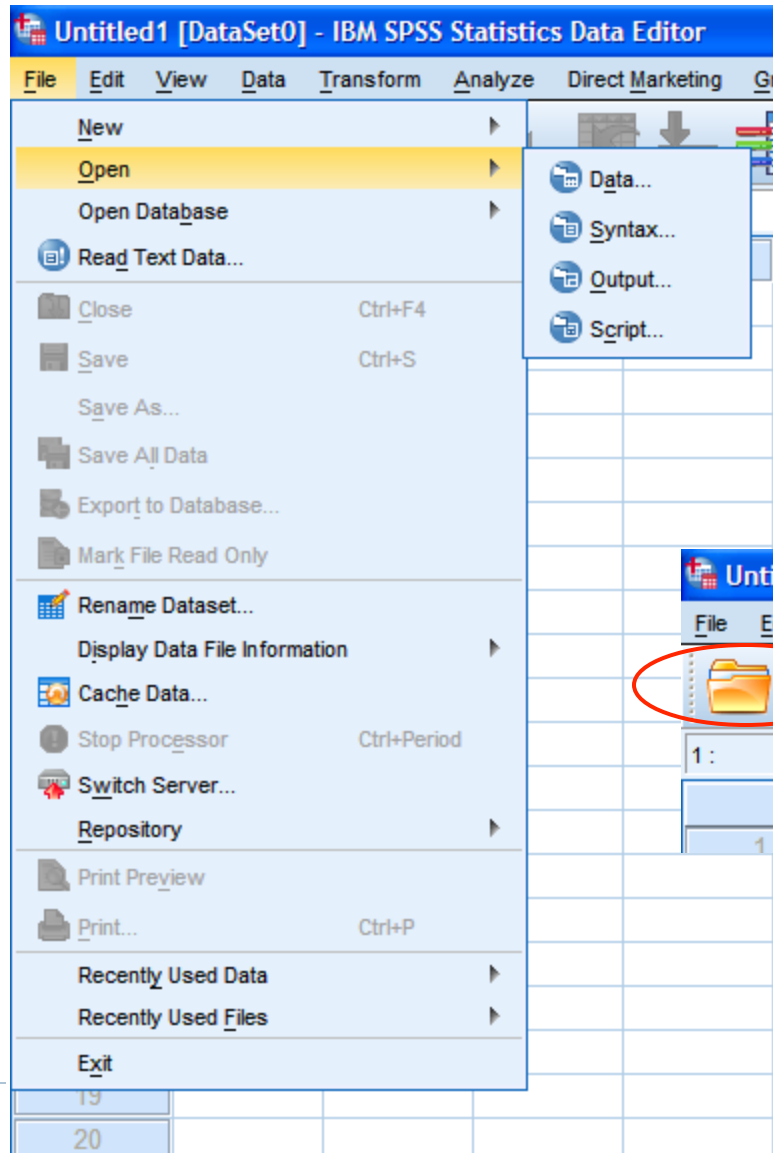
Ways to Enter the Data

- ▶ Create a new data file
- ▶ Opening an existing data file
- ▶ Import data
 - ▶ Database file
 - ▶ Spreadsheet file (.xls)
 - ▶ ASCII text file

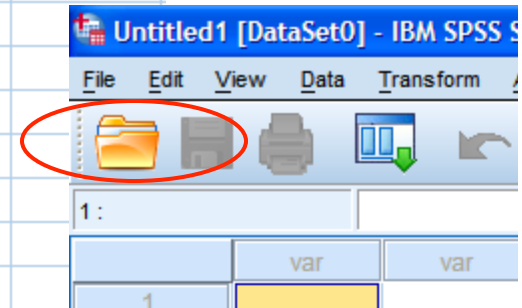


Ways to Enter the Data

- ▶ Create a new data file
- ▶ Opening an existing data file
- ▶ Import data
 - ▶ Database file
 - ▶ Spreadsheet file (.xls)
 - ▶ ASCII text file

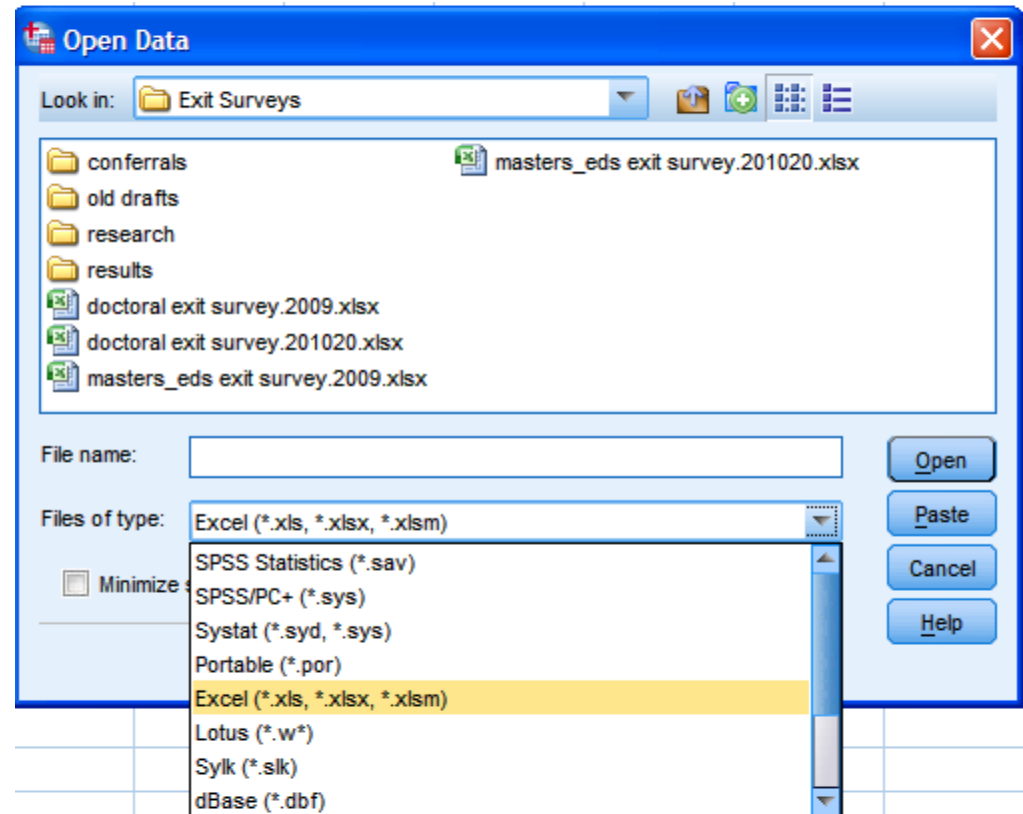
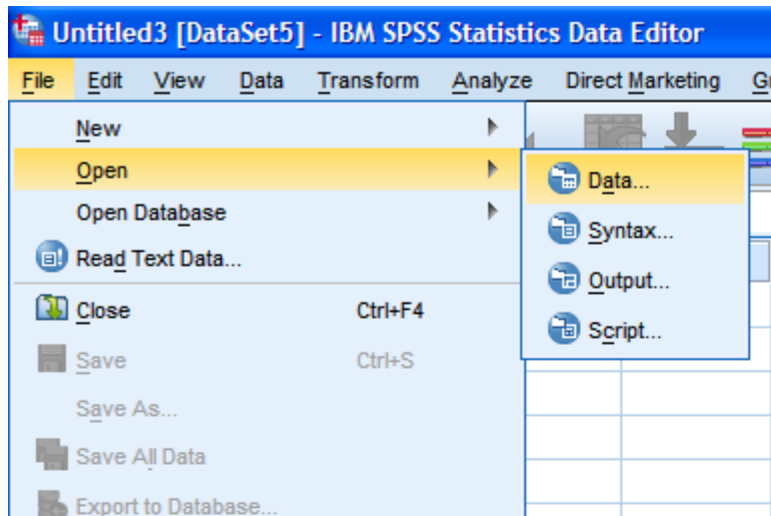


OR



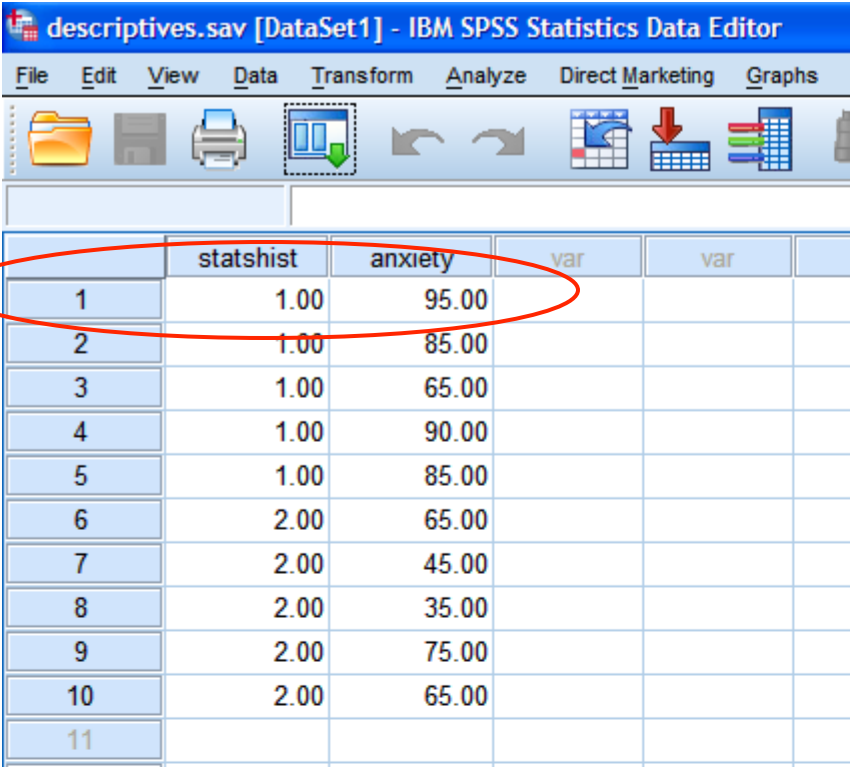
Ways to Enter the Data (cont' d)

► Import data



Entering Data Directly

- ▶ Each row is a case (e.g., a participant).
- ▶ Enter the value for each variable.
- ▶ Press <Tab> key or right arrow key to move to next variable.
- ▶ Leave blank if no value/data
- ▶ Press Enter key to move to the next case.

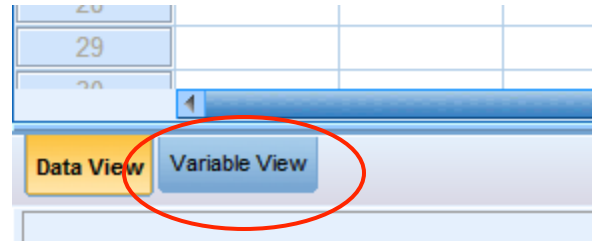


The screenshot shows the IBM SPSS Statistics Data Editor interface. The title bar reads "descriptives.sav [DataSet1] - IBM SPSS Statistics Data Editor". The menu bar includes File, Edit, View, Data, Transform, Analyze, Direct Marketing, and Graphs. The toolbar contains icons for file operations, printing, and data manipulation. The data table below has the following structure:

| | statshist | anxiety | var | var |
|----|-----------|---------|-----|-----|
| 1 | 1.00 | 95.00 | | |
| 2 | 1.00 | 85.00 | | |
| 3 | 1.00 | 65.00 | | |
| 4 | 1.00 | 90.00 | | |
| 5 | 1.00 | 85.00 | | |
| 6 | 2.00 | 65.00 | | |
| 7 | 2.00 | 45.00 | | |
| 8 | 2.00 | 35.00 | | |
| 9 | 2.00 | 75.00 | | |
| 10 | 2.00 | 65.00 | | |
| 11 | | | | |

Define the Variable Properties

- ▶ Name
- ▶ Type
- ▶ Label
- ▶ Values



descriptives.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Add-ons Window Help

| | Name | Type | Width | Decimals | Label | Values | Missing | Columns | Align | Measure |
|---|-----------|---------|-------|----------|-------|---------------|---------|---------|---------|---------|
| 1 | statshist | Numeric | 8 | 2 | | {1.00, no}... | None | 8 | ≡ Right | ▣ Scale |
| 2 | anxiety | Numeric | 8 | 2 | | None | None | 8 | ≡ Right | ▣ Scale |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |

Labeling Variables

The screenshot shows the IBM SPSS Statistics Data Editor interface. The main window displays a data editor with columns for Name, Type, Width, Decimals, Label, Values, and M. The 'Values' column for the variable 'statshist' is highlighted with a red circle, showing the value label '{1.00, no}...'. The 'Value Labels' dialog box is open, showing the 'Value' field set to '2' and the 'Label' field set to 'yes'. The 'Add' button is circled in red. The 'OK' button is also circled in red. The dialog box contains a list of value labels, with '1.00 = "no"' visible.

| | Name | Type | Width | Decimals | Label | Values | M |
|----|-----------|---------|-------|----------|-------|---------------|------|
| 1 | statshist | Numeric | 8 | 2 | | {1.00, no}... | None |
| 2 | anxiety | Numeric | 8 | 2 | | None | None |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |

Value Labels

Value Labels

Value: 2

Label: yes

1.00 = "no"

Add

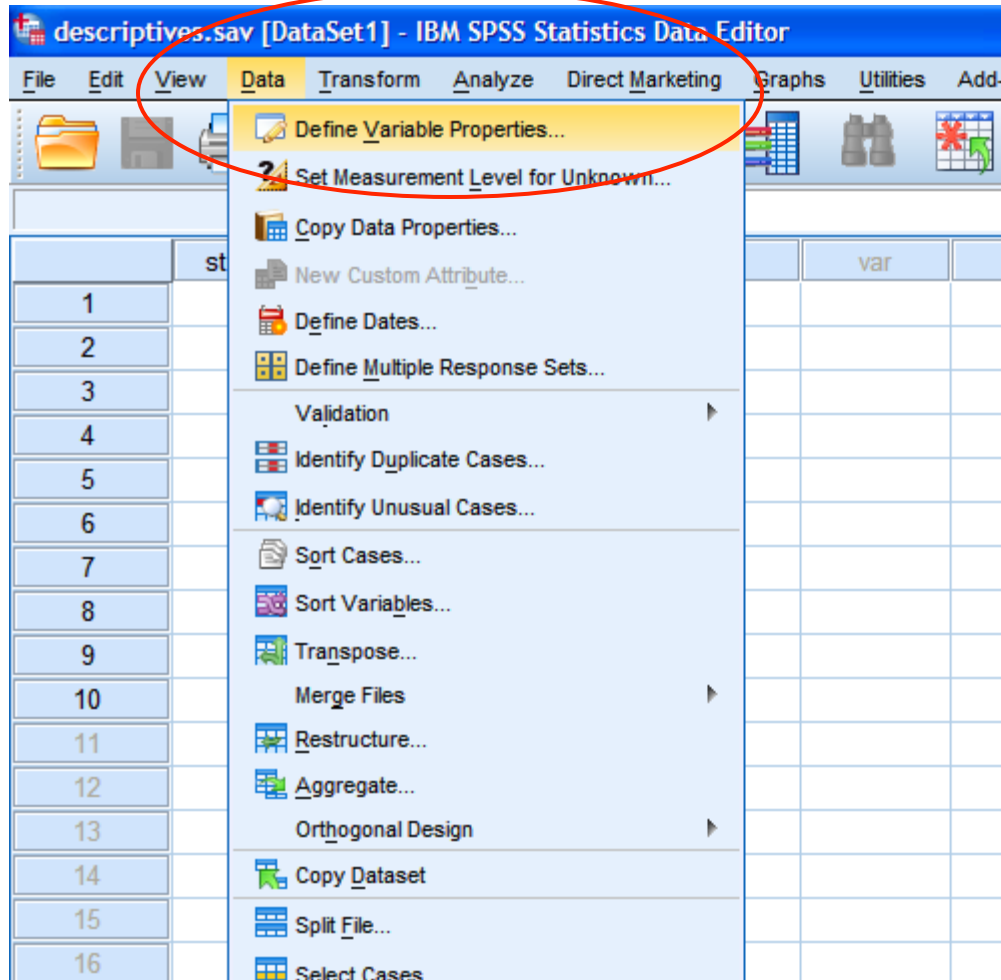
Change

Remove

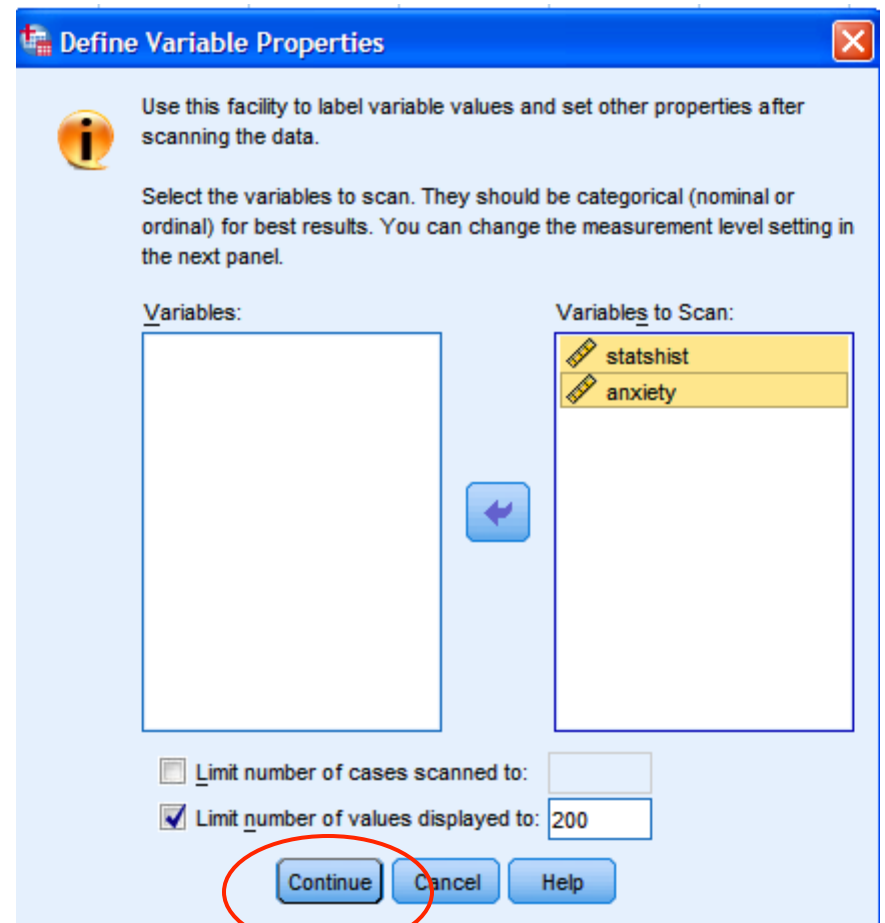
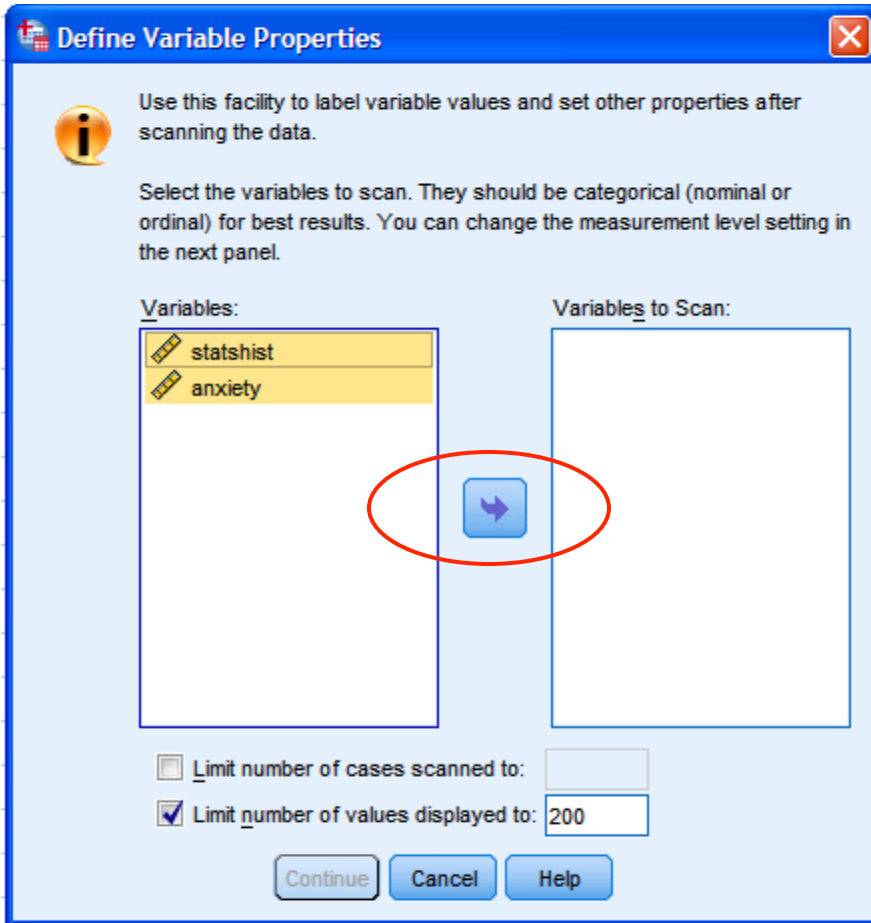
Spelling...

OK Cancel Help

Define Variable Properties Menu



Select Variables to Define



Labeling Variables

- ▶ → Type labels in boxes under Label column

Define Variable Properties

Scanned Variable List

| Un... | Me... | Role | Variable |
|-------------------------------------|-------|------|-----------|
| <input type="checkbox"/> | | | statshist |
| <input checked="" type="checkbox"/> | | | anxiety |

Current Variable: statshist Label:

Measurement Level: Scale Suggest Type: Numeric

Role: Input Width: 8 Decimals: 2

Unlabeled values: 0 Attributes...

Value Label grid: Enter or edit labels in the grid. You can enter additional values at the bottom.

| | Changed | Missing | Count | Value | Label |
|---|--------------------------|--------------------------|-------|-------|-------|
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | 5 | 1.00 | no |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | 5 | 2.00 | yes |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> | | | |

Change the View - Value Labels

- ▶ Data entered as numeric codes can be displayed as value labels by clicking the “Value Labels” icon.

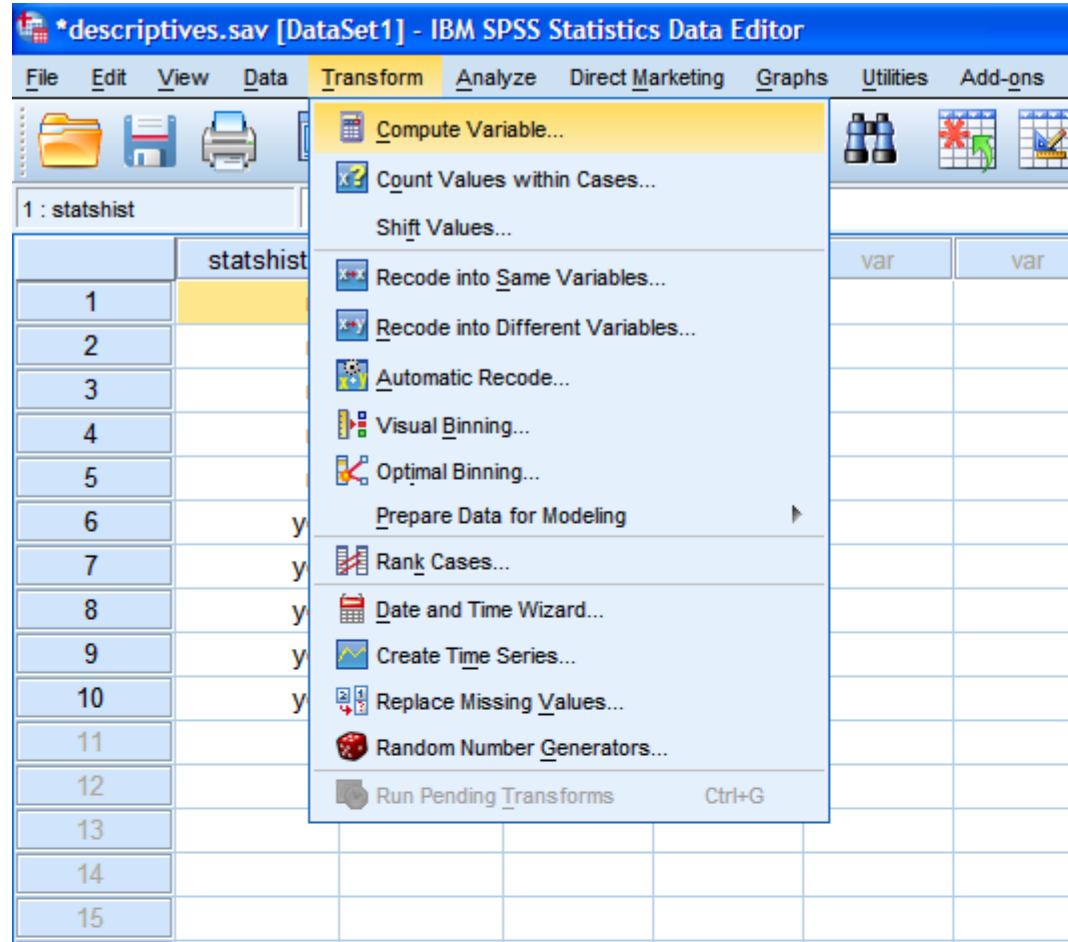
The screenshot shows the IBM SPSS Statistics Data Editor interface. The toolbar at the top contains various icons, with the 'Value Labels' icon (a square with 'A' and '1') circled in red. Below the toolbar, two data tables are displayed. The left table shows the original data with 'statshist' values 'no' and 'yes' and 'anxiety' values. The right table shows the same data with 'statshist' values converted to numeric codes (1.00, 2.00) and 'anxiety' values. Both tables have a red oval around the 'statshist' column.

| | statshist | anxiety | var |
|----|-----------|---------|-----|
| 1 | no | 95.00 | |
| 2 | no | 85.00 | |
| 3 | no | 65.00 | |
| 4 | no | 90.00 | |
| 5 | no | 85.00 | |
| 6 | yes | 65.00 | |
| 7 | yes | 45.00 | |
| 8 | yes | 35.00 | |
| 9 | yes | 75.00 | |
| 10 | ves | 65.00 | |

| | statshist | anxiety | var |
|----|-----------|---------|-----|
| 1 | 1.00 | 95.00 | |
| 2 | 1.00 | 85.00 | |
| 3 | 1.00 | 65.00 | |
| 4 | 1.00 | 90.00 | |
| 5 | 1.00 | 85.00 | |
| 6 | 2.00 | 65.00 | |
| 7 | 2.00 | 45.00 | |
| 8 | 2.00 | 35.00 | |
| 9 | 2.00 | 75.00 | |
| 10 | 2.00 | 65.00 | |

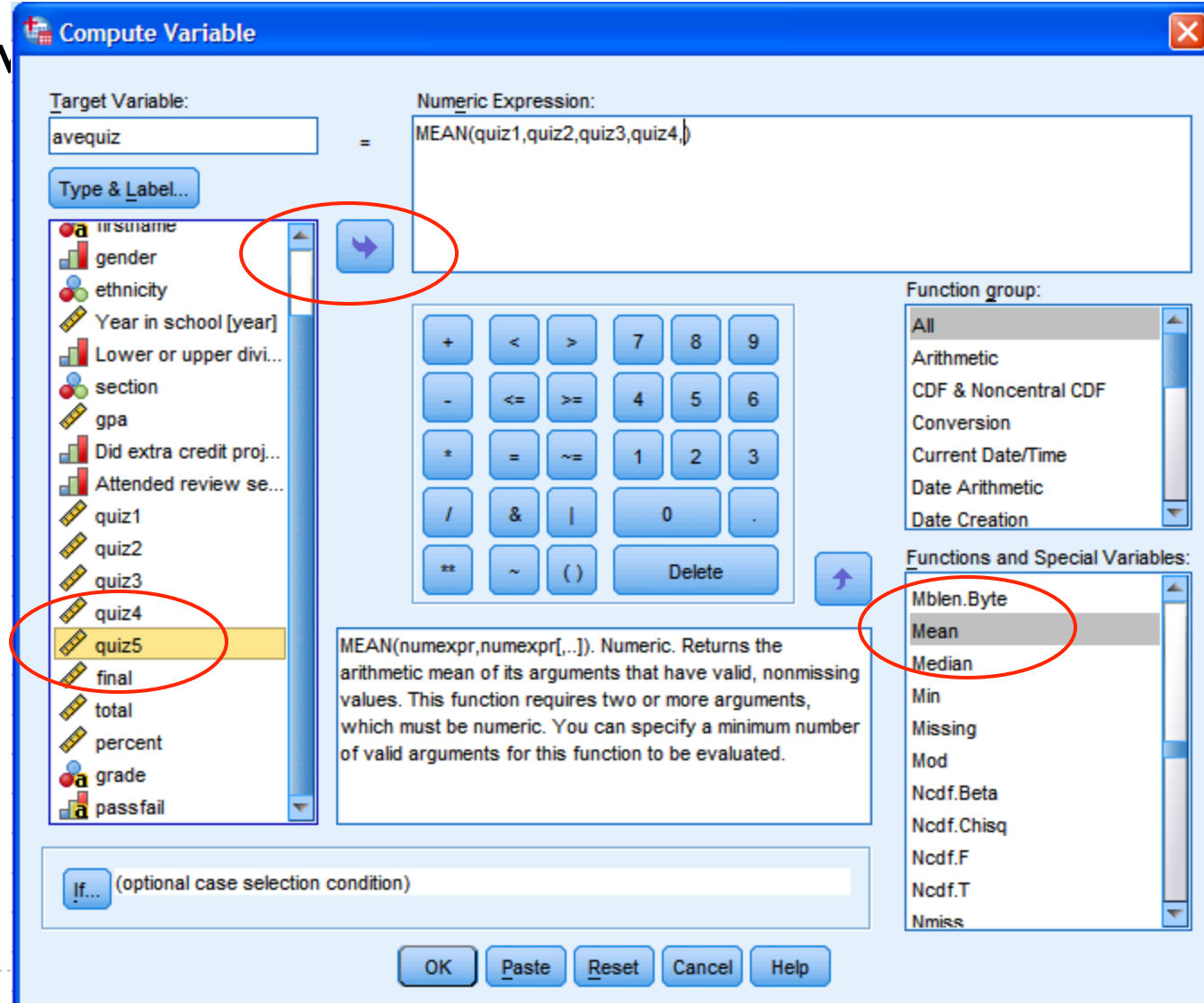
Compute Procedure

- ▶ Compute is used to create a new variable.



Compute Procedure (cont' d)

- ▶ Name the new variable
- ▶ Choose the type of computation
- ▶ Select the appropriate variables to add to the numeric expression



Compute Procedure (cont' d)

IBM SPSS Statistics Data Editor window showing the Compute Procedure for the variable 'avequiz'.

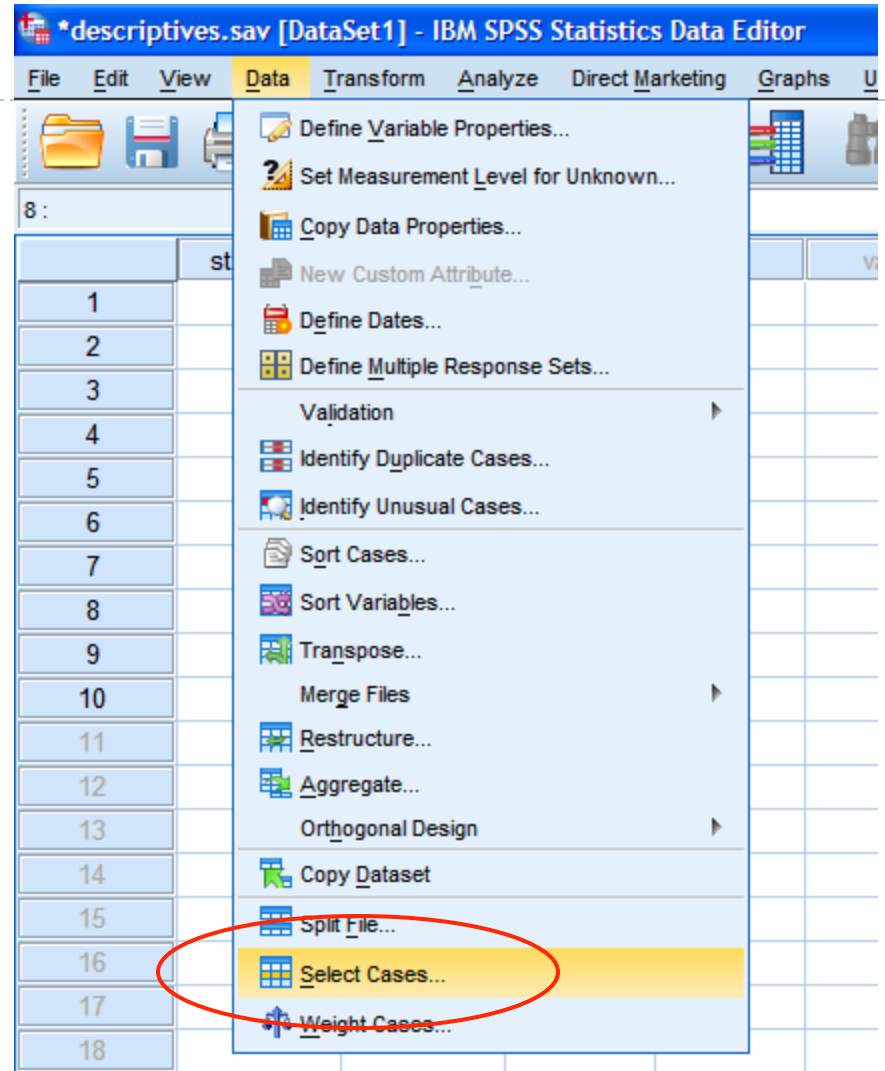
File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Add-ons Window Help

1 : avequiz 5.40

| | quiz1 | quiz2 | quiz3 | quiz4 | quiz5 | avequiz | var |
|----|-------|-------|-------|-------|-------|---------|-----|
| 1 | 6 | 5 | 7 | 6 | 3 | 5.40 | |
| 2 | 10 | 10 | 7 | 6 | 9 | 8.40 | |
| 3 | 10 | 7 | 8 | 9 | 7 | 8.20 | |
| 4 | 7 | 8 | 7 | 7 | 6 | 7.00 | |
| 5 | 7 | 8 | 9 | 8 | 10 | 8.40 | |
| 6 | 10 | 10 | 10 | 9 | 9 | 9.60 | |
| 7 | 10 | 9 | 10 | 10 | 10 | 9.80 | |
| 8 | 10 | 9 | 10 | 10 | 10 | 9.80 | |
| 9 | 10 | 10 | 10 | 10 | 9 | 9.80 | |
| 10 | 10 | 10 | 9 | 10 | 10 | 9.80 | |
| 11 | 7 | 8 | 6 | 7 | 10 | 7.60 | |
| 12 | 8 | 10 | 10 | 10 | 9 | 9.40 | |
| 13 | 8 | 8 | 10 | 10 | 6 | 8.40 | |
| 14 | 3 | 8 | 4 | 6 | 8 | 5.80 | |
| 15 | 5 | 5 | 7 | 6 | 4 | 5.40 | |
| 16 | 5 | 8 | 6 | 4 | 10 | 6.60 | |
| 17 | 5 | 7 | 4 | 7 | 6 | 5.80 | |

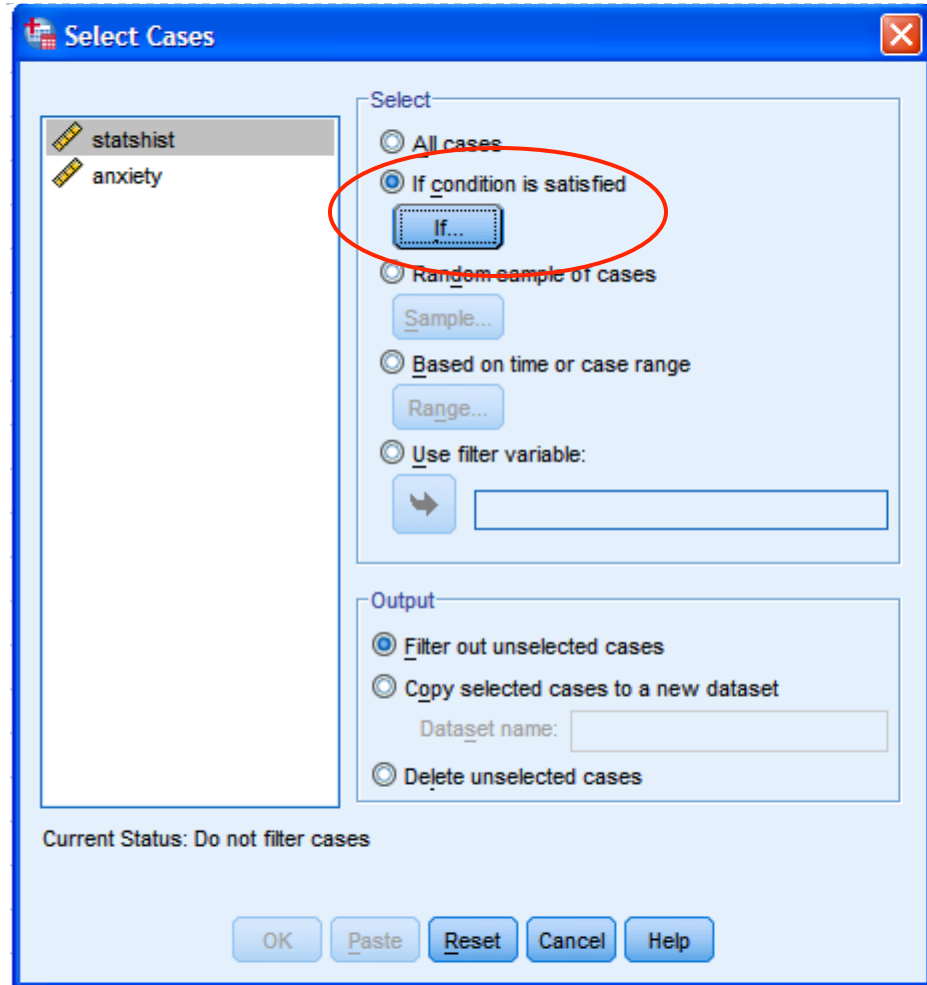
Select Cases

- ▶ For a subset of the data file, use Select Cases



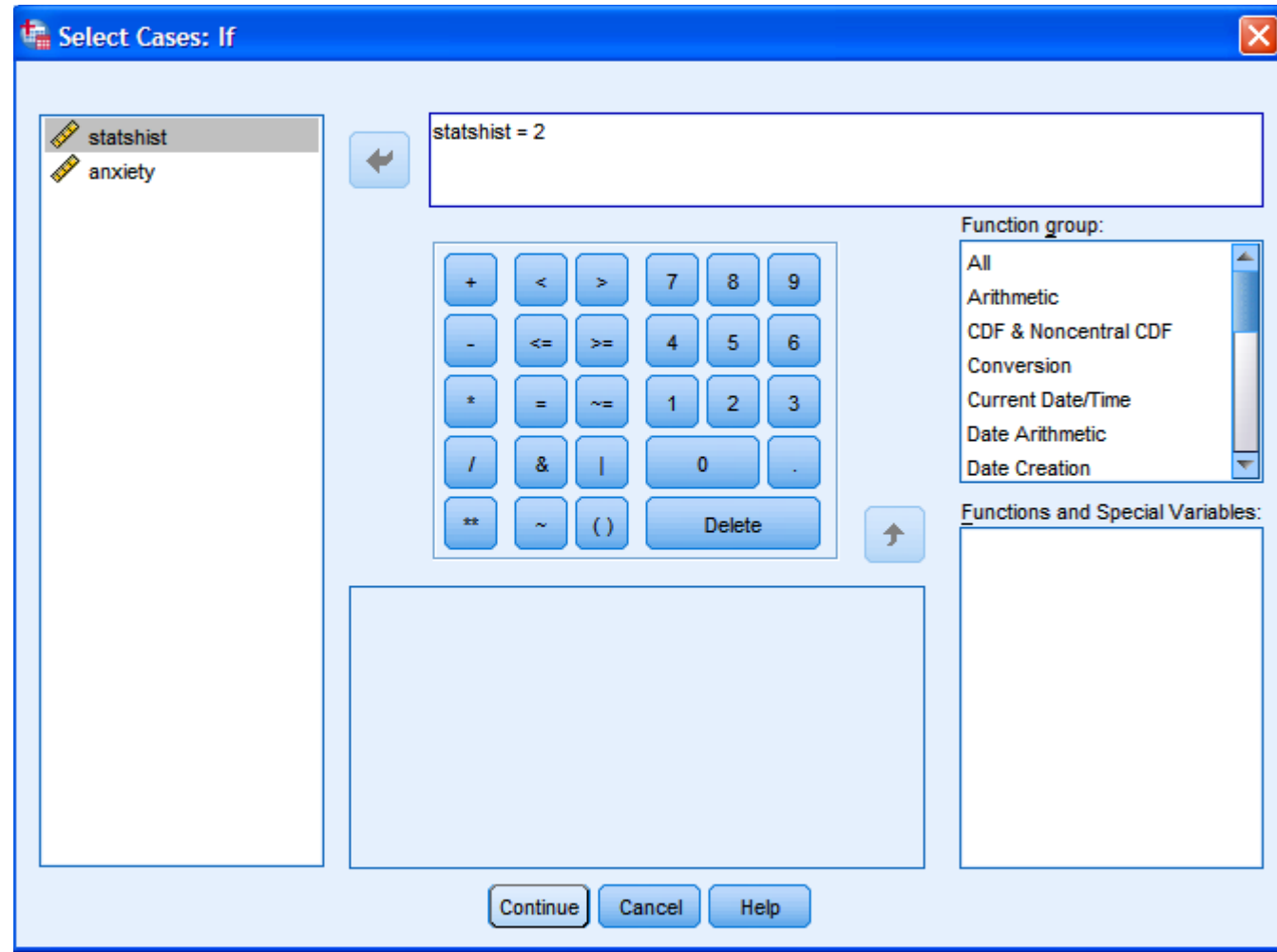
Select Cases

- ▶ To select only those cases which meet certain criteria, choose the If option.



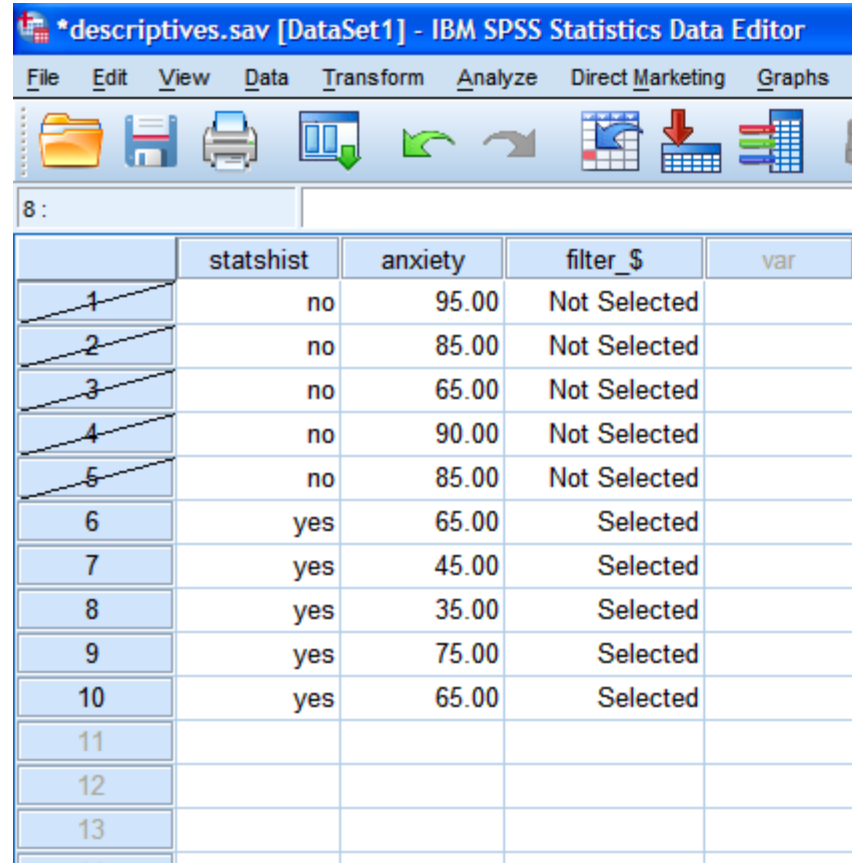
Select Cases (cont' d)

- ▶ Enter the expression that will determine which cases will be selected



Select Cases (cont' d)

- ▶ Only those cases selected will be used in the analysis



The screenshot shows the IBM SPSS Statistics Data Editor window for a file named 'descriptives.sav [DataSet1]'. The menu bar includes File, Edit, View, Data, Transform, Analyze, Direct Marketing, and Graphs. The toolbar contains icons for file operations, printing, and data manipulation. The data table below shows 13 rows. Rows 1 through 5 are crossed out with a diagonal line, indicating they are not selected. Rows 6 through 10 are highlighted in blue, indicating they are selected. The columns are labeled 'statshist', 'anxiety', 'filter_\$', and 'var'.

| | statshist | anxiety | filter_\$ | var |
|--------------|-----------|---------|--------------|-----|
| 1 | no | 95.00 | Not Selected | |
| 2 | no | 85.00 | Not Selected | |
| 3 | no | 65.00 | Not Selected | |
| 4 | no | 90.00 | Not Selected | |
| 5 | no | 85.00 | Not Selected | |
| 6 | yes | 65.00 | Selected | |
| 7 | yes | 45.00 | Selected | |
| 8 | yes | 35.00 | Selected | |
| 9 | yes | 75.00 | Selected | |
| 10 | yes | 65.00 | Selected | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |

Select Cases (cont' d)

- ▶ Select “All cases” to analyze all cases in the data file.

| | statshist | anxiety |
|----|-----------|---------|
| 1 | no | 95.00 |
| 2 | no | 85.00 |
| 3 | no | 65.00 |
| 4 | no | 90.00 |
| 5 | no | 85.00 |
| 6 | yes | 65.00 |
| 7 | yes | 45.00 |
| 8 | yes | 35.00 |
| 9 | yes | 75.00 |
| 10 | yes | 65.00 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| 21 | | |
| 22 | | |

Select Cases

Select

- All cases
- If condition is satisfied
If... statshist = 2
- Random sample of cases
Sample...
- Based on time or case range
Range...
- Use filter variable:
→

Output

- Filter out unselected cases
- Copy selected cases to a new dataset
Dataset name:
- Delete unselected cases

Current Status: Do not filter cases

OK Paste Reset Cancel Help

Module 2 Summary

- ▶ Steps for Analyzing Data
- ▶ Using SPSS for Windows
 - ▶ Entering Data
 - ▶ Managing Data

Review Activity and Quiz

- ▶ Please complete the Module 2 Review Activity: 5 Steps for Analyzing Data located in Module 2.
- ▶ Upon completion of the Review Activity, please complete the Module 2 Quiz.
- ▶ Please note that all modules in this course build on one another; as a result, completion of the Module 2 Review Activity and Module 2 Quiz are required before moving on to Module 3.
- ▶ You can complete the review activities and quizzes as many times as you like.

Upcoming Modules

- ▶ Module 1: Introduction to Statistics
- ▶ Module 2: Introduction to SPSS
- ▶ **Module 3: Descriptive Statistics**
- ▶ **Module 4: Inferential Statistics**
- ▶ **Module 5: Correlation**
- ▶ **Module 6: *t*-Tests**
- ▶ **Module 7: ANOVAs**
- ▶ **Module 8: Linear Regression**
- ▶ **Module 9: Nonparametric Procedures**