



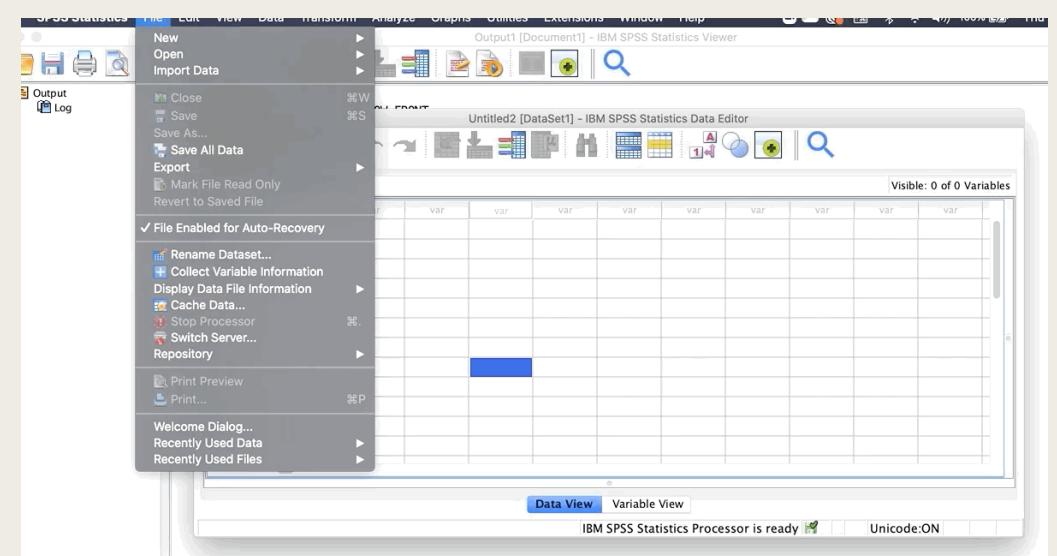
# INTRO TO SPSS & DESCRIPTIVE STATISTICS

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# INTRODUCTION

- What is SPSS?
  - Statistical software for analysis commonly used by Social Scientists
- Why SPSS?
  - One of the easier statistical tools to maneuver through
    - Programming languages don't have drag & drop or a navigation bar!
  - Valuable technical skill for institutions / companies
- Key Takeaways on SPSS:
  - Importing data
  - Prep data
  - Running basic statistics



# Importing data from Qualtrics into SPSS

Go to your project on Qualtrics

- Data & Analysis
- Export Data

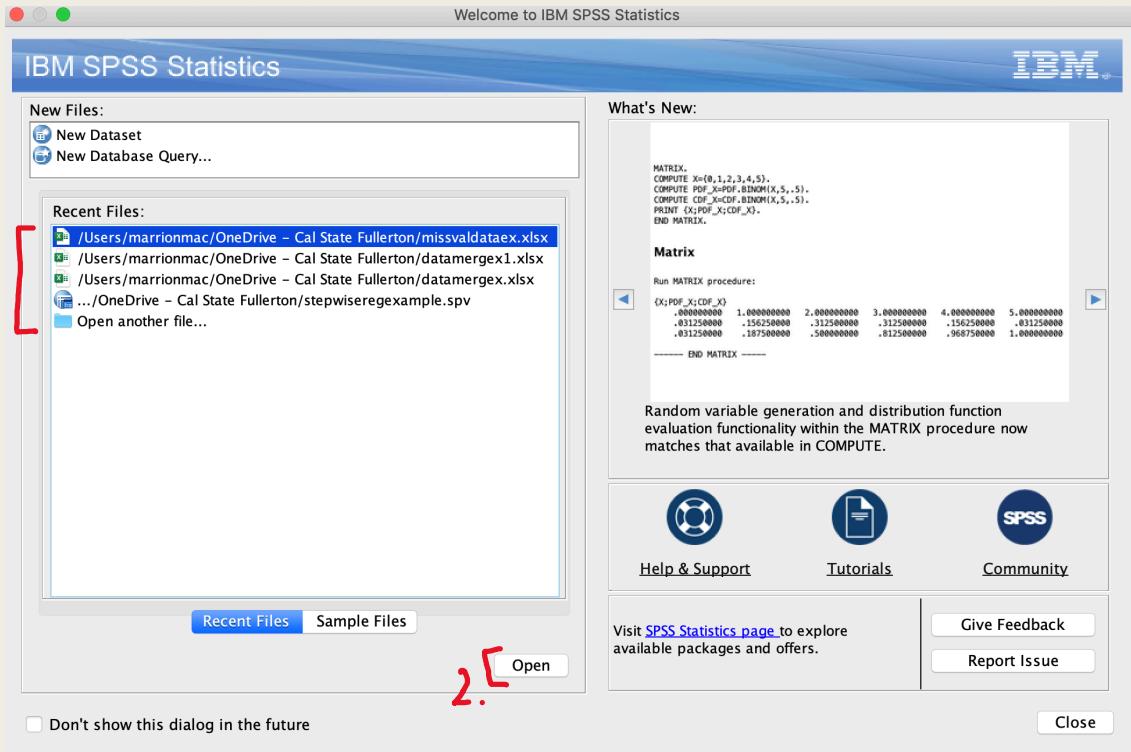
The screenshot shows the Qualtrics interface with the 'Data & Analysis' tab selected. A yellow circle labeled '1' highlights the 'Data' button in the top navigation bar. Another yellow circle labeled '2' highlights the 'Export & Import' dropdown menu, which is open, showing options like 'Export Data...', 'Import Data...', and 'Manage Previous Downloads...'. The main area displays survey questions and their corresponding response data.

Downloading the data

- Common to use CSV, but we will opt for SPSS since that's the software we'll be using
- SPSS > Download

The screenshot shows a modal dialog box titled 'Download a data table' with the 'Data & Analysis' tab selected at the top. The 'SPSS' option is highlighted in blue. The dialog includes a description of the SPSS format, a checked checkbox for 'Download all fields', and a 'Download' button at the bottom right. The background of the dialog shows a blurred view of the survey data table.

# Opening Datasets in SPSS



1. Choose file under  
“Recent Files” or “Open  
another file...”

2. Open

# Qualtrics Data into SPSS

Data View

|    | Q33 | Q152 | Q35_1 | Q35_2 | Q35_3 | Q35_4 | Q35_5 | Q35_6 | Q35_7 | Q35_8 | Q35_9 |
|----|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1  | 4   | 1    | .     | .     | .     | .     | .     | .     | .     | .     | .     |
| 2  | 4   | 2    | .     | 1     | 1     | .     | .     | .     | .     | .     | .     |
| 3  | 4   | 1    | 1     | .     | 1     | .     | .     | .     | .     | .     | .     |
| 4  | 5   | 1    | .     | 1     | .     | .     | .     | .     | .     | .     | .     |
| 5  | 4   | 1    | .     | 1     | 1     | .     | .     | .     | .     | .     | .     |
| 6  | 4   | 1    | 1     | .     | 1     | .     | .     | .     | .     | .     | 1     |
| 7  | 4   | 1    | .     | 1     | .     | .     | .     | .     | .     | .     | .     |
| 8  | 4   | 1    | .     | 1     | 1     | .     | .     | .     | .     | .     | .     |
| 9  | 4   | 2    | .     | .     | .     | .     | .     | .     | .     | .     | .     |
| 10 | 4   | 2    | .     | 1     | .     | .     | .     | .     | .     | .     | .     |
| 11 | 4   | 1    | 1     | .     | .     | 1     | .     | .     | .     | .     | 1     |
| 12 | 4   | 1    | 1     | .     | 1     | .     | .     | .     | .     | .     | .     |

Variable View

|    | Name   | Type    | Width | Decimals | Label               | Values           | Missing | Columns | Align | Measure |
|----|--------|---------|-------|----------|---------------------|------------------|---------|---------|-------|---------|
| 1  | Q33    | Numeric | 40    | 0        | Who can I talk t... | {4, agree}...    | None    | 6       | Right | Scale   |
| 2  | Q152   | Numeric | 40    | 0        | What class of D...  | {1, T/TH me...   | None    | 8       | Right | Scale   |
| 3  | Q35_1  | Numeric | 40    | 0        | Which of the fol... | {1, First gen... | None    | 8       | Right | Scale   |
| 4  | Q35_2  | Numeric | 40    | 0        | Which of the fol... | {1, Second g...  | None    | 7       | Right | Scale   |
| 5  | Q35_3  | Numeric | 40    | 0        | Which of the fol... | {1, Communiti... | None    | 7       | Right | Scale   |
| 6  | Q35_4  | Numeric | 40    | 0        | Which of the fol... | {1, Communiti... | None    | 7       | Right | Scale   |
| 7  | Q35_5  | Numeric | 40    | 0        | Which of the fol... | {1, Communiti... | None    | 7       | Right | Scale   |
| 8  | Q35_6  | Numeric | 40    | 0        | Which of the fol... | {1, Communiti... | None    | 7       | Right | Scale   |
| 9  | Q35_7  | Numeric | 40    | 0        | Which of the fol... | {1, Recruitre... | None    | 7       | Right | Scale   |
| 10 | Q35_8  | Numeric | 40    | 0        | Which of the fol... | {1, Internati... | None    | 7       | Right | Scale   |
| 11 | Q35_9  | Numeric | 40    | 0        | Which of the fol... | {1, Receivin...  | None    | 9       | Right | Scale   |
| 12 | Q35_10 | Numeric | 40    | 0        | Which of the fol... | {1, Coming ...   | None    | 8       | Right | Scale   |
| 13 | Q35_11 | Numeric | 40    | 0        | Which of the fol... | {1, Transfer ... | None    | 8       | Right | Scale   |
| 14 | Q35_12 | Numeric | 40    | 0        | Which of the fol... | {1, Transfer ... | None    | 5       | Right | Scale   |

Wow so easy....

# Prepping data in SPSS

- Recode missing values
- Specifying “Measure”
- Merging data

# Prepping data in SPSS: Missing Values for Binary Questions

Need to account for missing values so our analysis is accurate

The screenshot shows a survey form on top and a dataset in the Data View below.

**Survey Form (Top):**

3. If you checked "yes", please state what other language(s) you can speak: (Mark all that applies.)

Q3\_1  Spanish  
Q3\_2  Vietnamese 1 = marked  
Q3\_3  Chinese  
Q3\_4  Korean  
Q3\_5  Other:  
Q3\_5\_TEXT string

**Data View (Bottom):**

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

|    | Q1  | Q2   | Q3_1 | Q3_2 | Q3_3 | Q3_4 | Q3_5_TEXT | Q4   | Q5_1_TEXT | Q5_1 | Q6   | Valid | Missing | Mean   | Std. Deviation |
|----|-----|------|------|------|------|------|-----------|------|-----------|------|------|-------|---------|--------|----------------|
| 1  | 007 | 1.00 | 1.00 | .    | .    | .    | .         | 4.00 | 3.61      | .    | 1.00 | 3     | 2       | 1.0000 | .00000         |
| 2  | 008 | 1.00 | .    | 1.00 | .    | .    | .         | 5.00 | 3.21      | .    | 1.00 | 1     | 4       | 5      | 0              |
| 3  | 009 | .00  | .    | .    | .    | .    | .         | 4.00 | 2.78      | .    | 1.00 | 0     | 5       | 5      | 0              |
| 4  | 010 | 1.00 | 1.00 | .    | .    | .    | .         | 5.00 | 3.40      | .    | 1.00 | 0     | 5       | 5      | 0              |
| 5  | 011 | 1.00 | 1.00 | .    | .    | .    | .         | 4.00 | 3.10      | .    | 1.00 | 0     | 5       | 5      | 0              |
| 6  |     |      |      |      |      |      |           |      |           |      |      |       |         |        |                |
| 7  |     |      |      |      |      |      |           |      |           |      |      |       |         |        |                |
| 8  |     |      |      |      |      |      |           |      |           |      |      |       |         |        |                |
| 9  |     |      |      |      |      |      |           |      |           |      |      |       |         |        |                |
| 10 |     |      |      |      |      |      |           |      |           |      |      |       |         |        |                |
| 11 |     |      |      |      |      |      |           |      |           |      |      |       |         |        |                |
| 12 |     |      |      |      |      |      |           |      |           |      |      |       |         |        |                |

**Annotations:**

- A purple arrow points from the survey form down to the Q3\_5\_TEXT column in the Data View.
- The text "Missing data for Q3" is overlaid on the Data View table.

SPSS assumes that the participant did not answer the question (hence, missing):

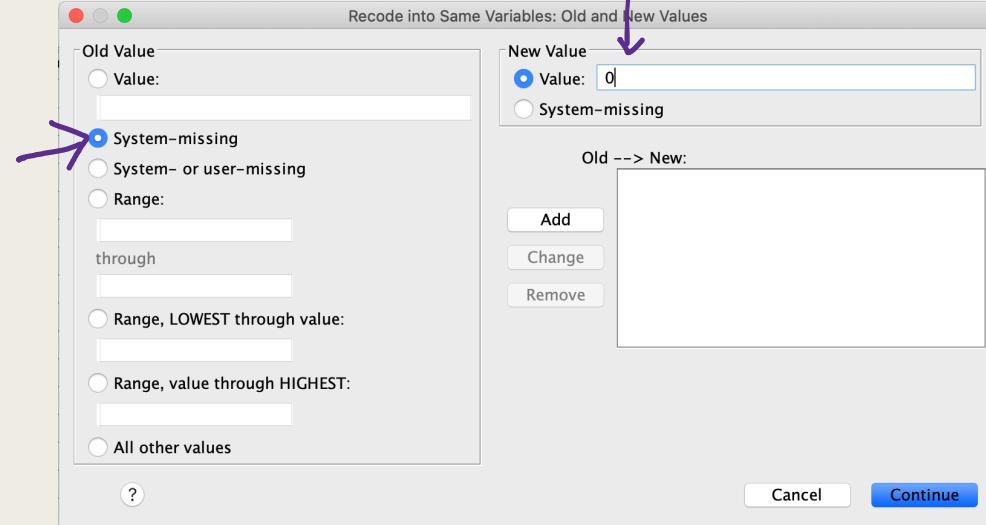
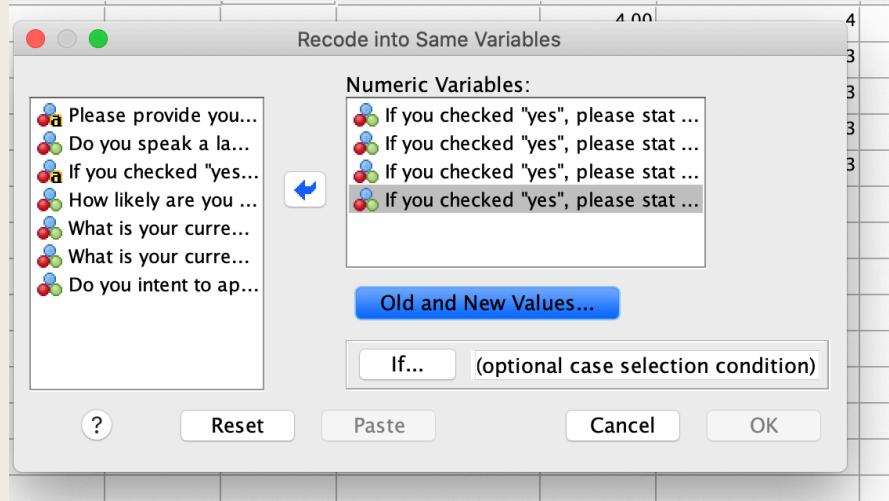
| Statistics  |   |
|---|---|
| If you checked "yes", please stat what other language(s) you can speak:(Mark all that applies.): Spanish      | If you checked "yes", please stat what other language(s) you can speak:(Mark all that applies.): Vietnamese |
| If you checked "yes", please stat what other language(s) you can speak:(Mark all that applies.): Chinese      | If you checked "yes", please stat what other language(s) you can speak:(Mark all that applies.): Korean     |
| If you checked "yes", please stat what other language(s) you can speak:(Mark all that applies.): Other – Text |   |

| N              | Valid   | 3      | 1      | 0 | 0 | 5 |
|----------------|---------|--------|--------|---|---|---|
|                | Missing | 2      | 4      | 5 | 5 | 0 |
| Mean           |         | 1.0000 | 1.0000 |   |   |   |
| Std. Deviation |         | .00000 |        |   |   |   |

# Prepping data in SPSS: Missing Values for Binary Questions

Transform > Recode into Same Variables



The New Value will be 0

Data set with recoded missing variables:

Either 0 or 1, they either speak the language (1) or they don't (0)

The data editor shows a dataset named 'exampledata.sav' with 7 rows and 7 columns. The columns are labeled Q1, Q2, Q3\_1, Q3\_2, Q3\_3, and Q3\_4. The data values are as follows:

|   | Q1  | Q2   | Q3_1 | Q3_2 | Q3_3 | Q3_4 |
|---|-----|------|------|------|------|------|
| 1 | 007 | 1.00 | 1.00 | .00  | .00  | .00  |
| 2 | 008 | 1.00 | .00  | 1.00 | .00  | .00  |
| 3 | 009 | .00  | .00  | .00  | .00  | .00  |
| 4 | 010 | 1.00 | 1.00 | .00  | .00  | .00  |
| 5 | 011 | 1.00 | 1.00 | .00  | .00  | .00  |
| 6 |     |      |      |      |      |      |
| 7 |     |      |      |      |      |      |

# Prepping data in SPSS: Missing Values for Text Responses

Example: Q3\_5\_TEXT

|   | Name      | Type   | Width | Decimals | Label  | Values | Missing | Other |
|---|-----------|--------|-------|----------|--|--------|---------|-------|
| 7 | Q3_5_TEXT | String | 8     | 0        | If you checked "yes", please state what other language(s) you can speak:(Mark all that applies.): Other - Text | None   | None    | ...   |

**Missing Values**

No missing values

Discrete missing values

-9           

Range plus one optional discrete missing value

Low:       High:

Discrete value:

?      Cancel      OK

A purple arrow points from the text "Click the ‘...’ in under the Missing column" to the ellipsis button (...).

Click the “...” in under the Missing column

For missing text responses, we traditionally use -9 at C-REAL

# Prepping data: Adjusting our “Measure” column

The 3 options are Scale, Ordinal, and Nominal:

**Scale:** values represent ordered categories with a meaningful metric, so that distance comparisons between values are appropriate

Example: score of a student in SAT exam

**Ordinal:** values represent categories with ranking

Example: 1=Highly satisfied, 2=satisfied, 3= neutral, 4=dissatisfied, 5= highly dissatisfied

**Nominal:** values represent categories with no ranking

Example: zip code or gender

The screenshot shows a survey form with various questions and their corresponding data types:

- Q1:** Please provide your student I.D.:  → **Nominal**
- Q2:** Do you speak a language other than English?  
□ Yes 1  
□ No 0 → **Nominal**
- Q3:** If you checked “yes”, please state what other language(s) you can speak: (Mark all that applies.)  
Q3\_1 □ Spanish  
Q3\_2 □ Vietnamese 1 = marked  
Q3\_3 □ Chinese  
Q3\_4 □ Korean  
Q3\_5 □ Other:  
Q3\_5\_TEXT  → **Nominal**
- Q4:** How likely are you to go to college? (Mark one.)  
□ Extremely unlikely 1  
□ Unlikely 2  
□ Neutral 3  
□ Likely 4  
□ Extremely likely 5 → **Ordinal**
- Q5:** What is your current GPA for this semester?  
Q5\_1\_NUMERIC  ← **Scale**  
Q5\_1 □ I do not know 0
- Q6:** Do you intend to apply to college?  
□ Yes 1  
□ No 0 → **Nominal**

Below the form is a table showing the mapping of columns to measures:

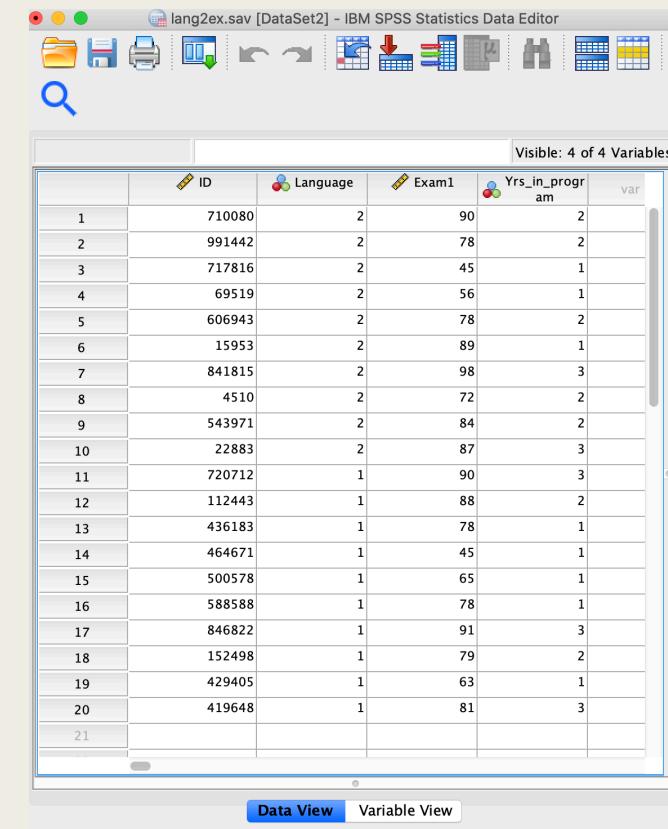
| Align | Measure | Role  |
|-------|---------|-------|
| Left  | Nominal | Input |
| Right | Scale   | Input |
| Left  | Ordinal | Input |
| Right | Nominal | Input |

# Prepping data: Merging

- Combining pre/post test data

|    | ID      | Attendance | Score_posttest | Score_pretest | var |
|----|---------|------------|----------------|---------------|-----|
| 1  | 9975309 | 0          | 53             | 48            |     |
| 2  | 9948278 | 1          | 80             | 75            |     |
| 3  | 9169427 | 4          | 95             | 90            |     |
| 4  | 8643086 | 3          | 95             | 90            |     |
| 5  | 7988957 | 1          | 79             | 72            |     |
| 6  | 7509550 | 1          | 67             | 61            |     |
| 7  | 6133087 | 2          | 91             | 86            |     |
| 8  | 6115282 | 2          | 89             | 84            |     |
| 9  | 5396215 | 2          | 86             | 81            |     |
| 10 | 4365151 | 3          | 88             | 83            |     |
| 11 | 4303020 | 1          | 83             | 78            |     |
| 12 | 3670778 | 1          | 63             | 56            |     |
| 13 | 3316521 | 0          | 57             | 54            |     |
| 14 | 3168177 | 0          | 67             | 66            |     |
| 15 | 2331702 | 1          | 61             | 56            |     |
| 16 | 1767276 | 0          | 51             | 46            |     |
| 17 | 1328727 | 1          | 71             | 65            |     |
| 18 | 1323956 | 3          | 93             | 88            |     |
| 19 | 926172  | 0          | 50             | 48            |     |
| 20 | 661007  | 2          | 85             | 79            |     |

- Want to combine datasets



The screenshot shows the IBM SPSS Statistics Data Editor window with two datasets displayed in Data View. The left dataset has columns: ID, Attendance, Score\_posttest, Score\_pretest, and var. The right dataset has columns: ID, Language, Exam1, Yrs\_in\_program, and var. Both datasets have 21 rows of data.

|    | ID      | Attendance | Score_posttest | Score_pretest | var |
|----|---------|------------|----------------|---------------|-----|
| 1  | 9975309 | 0          | 53             | 48            |     |
| 2  | 9948278 | 1          | 80             | 75            |     |
| 3  | 9169427 | 4          | 95             | 90            |     |
| 4  | 8643086 | 3          | 95             | 90            |     |
| 5  | 7988957 | 1          | 79             | 72            |     |
| 6  | 7509550 | 1          | 67             | 61            |     |
| 7  | 6133087 | 2          | 91             | 86            |     |
| 8  | 6115282 | 2          | 89             | 84            |     |
| 9  | 5396215 | 2          | 86             | 81            |     |
| 10 | 4365151 | 3          | 88             | 83            |     |
| 11 | 4303020 | 1          | 83             | 78            |     |
| 12 | 3670778 | 1          | 63             | 56            |     |
| 13 | 3316521 | 0          | 57             | 54            |     |
| 14 | 3168177 | 0          | 67             | 66            |     |
| 15 | 2331702 | 1          | 61             | 56            |     |
| 16 | 1767276 | 0          | 51             | 46            |     |
| 17 | 1328727 | 1          | 71             | 65            |     |
| 18 | 1323956 | 3          | 93             | 88            |     |
| 19 | 926172  | 0          | 50             | 48            |     |
| 20 | 661007  | 2          | 85             | 79            |     |

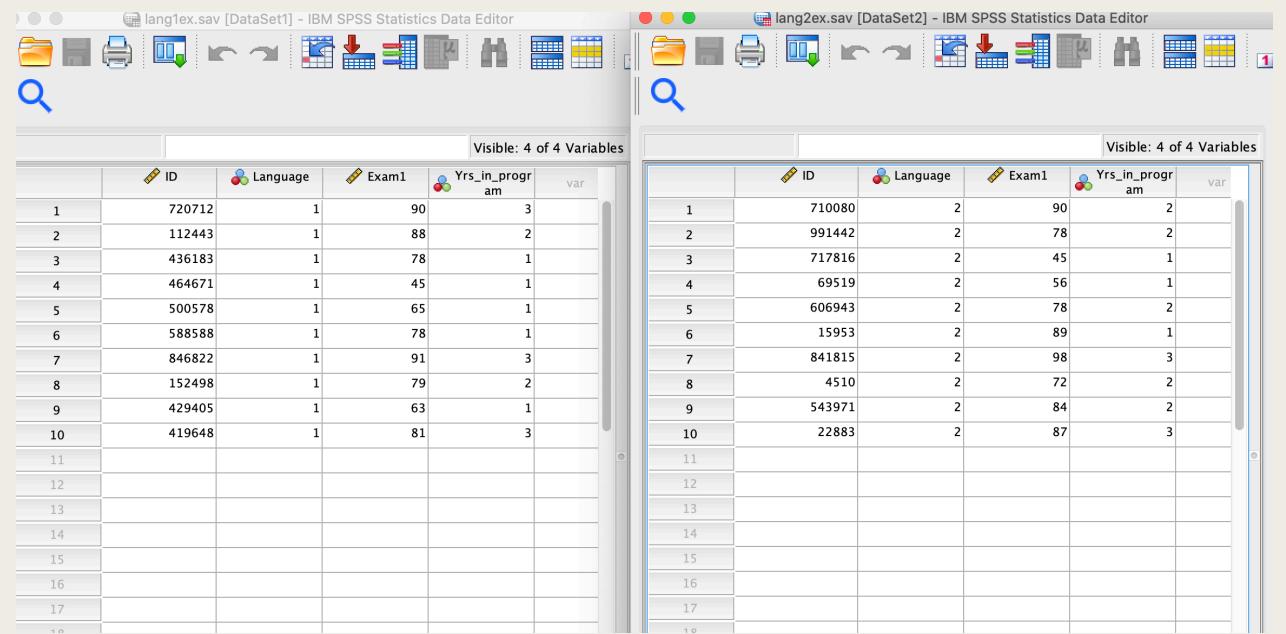
  

|    | ID     | Language | Exam1 | Yrs_in_program | var |
|----|--------|----------|-------|----------------|-----|
| 1  | 710080 | 2        | 90    | 2              |     |
| 2  | 991442 | 2        | 78    | 2              |     |
| 3  | 717816 | 2        | 45    | 1              |     |
| 4  | 69519  | 2        | 56    | 1              |     |
| 5  | 606943 | 2        | 78    | 2              |     |
| 6  | 15953  | 2        | 89    | 1              |     |
| 7  | 841815 | 2        | 98    | 3              |     |
| 8  | 4510   | 2        | 72    | 2              |     |
| 9  | 543971 | 2        | 84    | 2              |     |
| 10 | 22883  | 2        | 87    | 3              |     |
| 11 | 720712 | 1        | 90    | 3              |     |
| 12 | 112443 | 1        | 88    | 2              |     |
| 13 | 436183 | 1        | 78    | 1              |     |
| 14 | 464671 | 1        | 45    | 1              |     |
| 15 | 500578 | 1        | 65    | 1              |     |
| 16 | 588588 | 1        | 78    | 1              |     |
| 17 | 846822 | 1        | 91    | 3              |     |
| 18 | 152498 | 1        | 79    | 2              |     |
| 19 | 429405 | 1        | 63    | 1              |     |
| 20 | 419648 | 1        | 81    | 3              |     |
| 21 |        |          |       |                |     |

# Prepping data: Merging different datasets

1. Have both datasets open
2. Make sure matching variables have the same settings under “Variable View”

|   | Name           | Type    | Width | Decimals | Label |
|---|----------------|---------|-------|----------|-------|
| 1 | ID             | Numeric | 18    | 0        |       |
| 2 | Language       | Numeric | 1     | 0        |       |
| 3 | Exam1          | Numeric | 2     | 0        |       |
| 4 | Yrs_in_prog... | Numeric | 1     | 0        |       |
|   | 5              |         |       |          |       |



The image shows two windows of the IBM SPSS Statistics Data Editor side-by-side. Both windows display the same four variables: ID, Language, Exam1, and Yrs\_in\_program. The left window, titled 'lang1ex.sav [DataSet1]', contains 17 rows of data. The right window, titled 'lang2ex.sav [DataSet2]', also contains 17 rows of data. The data in both datasets is identical.

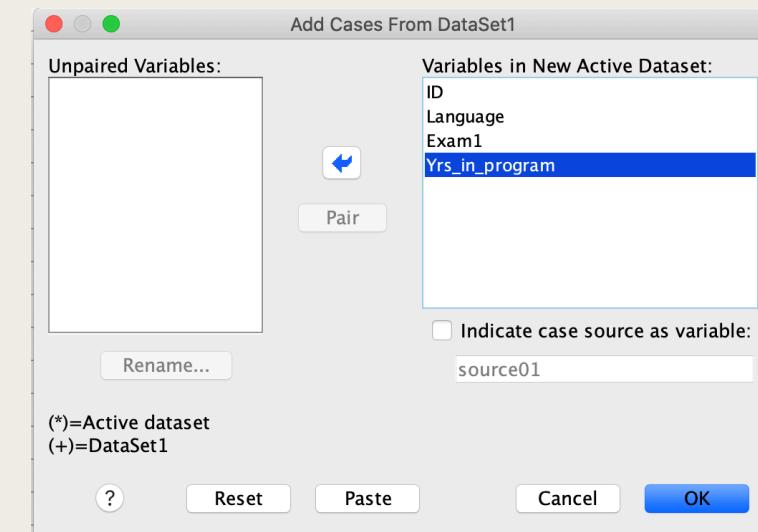
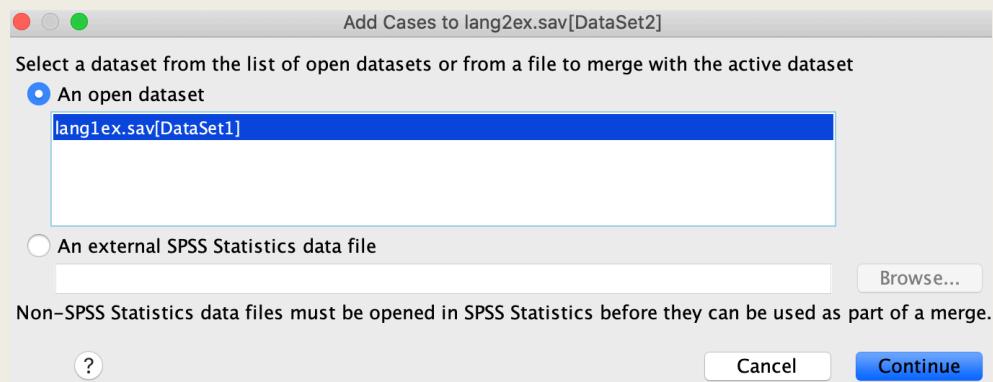
|    | ID     | Language | Exam1 | Yrs_in_program | var |
|----|--------|----------|-------|----------------|-----|
| 1  | 720712 | 1        | 90    | 3              |     |
| 2  | 112443 | 1        | 88    | 2              |     |
| 3  | 436183 | 1        | 78    | 1              |     |
| 4  | 464671 | 1        | 45    | 1              |     |
| 5  | 500578 | 1        | 65    | 1              |     |
| 6  | 588588 | 1        | 78    | 1              |     |
| 7  | 846822 | 1        | 91    | 3              |     |
| 8  | 152498 | 1        | 79    | 2              |     |
| 9  | 429405 | 1        | 63    | 1              |     |
| 10 | 419648 | 1        | 81    | 3              |     |
| 11 |        |          |       |                |     |
| 12 |        |          |       |                |     |
| 13 |        |          |       |                |     |
| 14 |        |          |       |                |     |
| 15 |        |          |       |                |     |
| 16 |        |          |       |                |     |
| 17 |        |          |       |                |     |

|    | ID     | Language | Exam1 | Yrs_in_program | var |
|----|--------|----------|-------|----------------|-----|
| 1  | 710080 | 2        | 90    | 2              |     |
| 2  | 991442 | 2        | 78    | 2              |     |
| 3  | 717816 | 2        | 45    | 1              |     |
| 4  | 69519  | 2        | 56    | 1              |     |
| 5  | 606943 | 2        | 78    | 2              |     |
| 6  | 15953  | 2        | 89    | 1              |     |
| 7  | 841815 | 2        | 98    | 3              |     |
| 8  | 4510   | 2        | 72    | 2              |     |
| 9  | 543971 | 2        | 84    | 2              |     |
| 10 | 22883  | 2        | 87    | 3              |     |
| 11 |        |          |       |                |     |
| 12 |        |          |       |                |     |
| 13 |        |          |       |                |     |
| 14 |        |          |       |                |     |
| 15 |        |          |       |                |     |
| 16 |        |          |       |                |     |
| 17 |        |          |       |                |     |

# Prepping data: Merging different datasets

Data > Merge > Add Cases



# Prepping data: Merging different datasets

Before:

The image shows two separate SPSS Data Editors side-by-side. Both windows have the title bar 'lang1ex.sav [DataSet1] - IBM SPSS Statistics Data Editor' and 'lang2ex.sav [DataSet2] - IBM SPSS Statistics Data Editor'. Each window displays a table with four variables: ID, Language, Exam1, and Yrs\_in\_program. The first window has 17 rows of data, and the second window has 21 rows of data. The columns are labeled 'Visible: 4 of 4 Variables'.

|    | ID     | Language | Exam1 | Yrs_in_program | var |
|----|--------|----------|-------|----------------|-----|
| 1  | 720712 | 1        | 90    | 3              |     |
| 2  | 112443 | 1        | 88    | 2              |     |
| 3  | 436183 | 1        | 78    | 1              |     |
| 4  | 464671 | 1        | 45    | 1              |     |
| 5  | 500578 | 1        | 65    | 1              |     |
| 6  | 588588 | 1        | 78    | 1              |     |
| 7  | 846822 | 1        | 91    | 3              |     |
| 8  | 152498 | 1        | 79    | 2              |     |
| 9  | 429405 | 1        | 63    | 1              |     |
| 10 | 419648 | 1        | 81    | 3              |     |
| 11 |        |          |       |                |     |
| 12 |        |          |       |                |     |
| 13 |        |          |       |                |     |
| 14 |        |          |       |                |     |
| 15 |        |          |       |                |     |
| 16 |        |          |       |                |     |
| 17 |        |          |       |                |     |

|    | ID     | Language | Exam1 | Yrs_in_program | var |
|----|--------|----------|-------|----------------|-----|
| 1  | 710080 | 2        | 90    | 2              |     |
| 2  | 991442 | 2        | 78    | 2              |     |
| 3  | 717816 | 2        | 45    | 1              |     |
| 4  | 69519  | 2        | 56    | 1              |     |
| 5  | 606943 | 2        | 78    | 2              |     |
| 6  | 15953  | 2        | 89    | 1              |     |
| 7  | 841815 | 2        | 98    | 3              |     |
| 8  | 4510   | 2        | 72    | 2              |     |
| 9  | 543971 | 2        | 84    | 2              |     |
| 10 | 22883  | 2        | 87    | 3              |     |
| 11 | 720712 | 1        | 90    | 3              |     |
| 12 | 112443 | 1        | 88    | 2              |     |
| 13 | 436183 | 1        | 78    | 1              |     |
| 14 | 464671 | 1        | 45    | 1              |     |
| 15 | 500578 | 1        | 65    | 1              |     |
| 16 | 588588 | 1        | 78    | 1              |     |
| 17 | 846822 | 1        | 91    | 3              |     |
| 18 | 152498 | 1        | 79    | 2              |     |
| 19 | 429405 | 1        | 63    | 1              |     |
| 20 | 419648 | 1        | 81    | 3              |     |
| 21 |        |          |       |                |     |

After:

The image shows a single SPSS Data Editor window titled 'lang2ex.sav [DataSet2] - IBM SPSS Statistics Data Editor'. The window displays a merged dataset with 21 rows of data. The columns are labeled 'Visible: 4 of 4 Variables' and include ID, Language, Exam1, and Yrs\_in\_program. The Data View tab is selected at the bottom.

|    | ID     | Language | Exam1 | Yrs_in_program | var |
|----|--------|----------|-------|----------------|-----|
| 1  | 710080 | 2        | 90    | 2              |     |
| 2  | 991442 | 2        | 78    | 2              |     |
| 3  | 717816 | 2        | 45    | 1              |     |
| 4  | 69519  | 2        | 56    | 1              |     |
| 5  | 606943 | 2        | 78    | 2              |     |
| 6  | 15953  | 2        | 89    | 1              |     |
| 7  | 841815 | 2        | 98    | 3              |     |
| 8  | 4510   | 2        | 72    | 2              |     |
| 9  | 543971 | 2        | 84    | 2              |     |
| 10 | 22883  | 2        | 87    | 3              |     |
| 11 | 720712 | 1        | 90    | 3              |     |
| 12 | 112443 | 1        | 88    | 2              |     |
| 13 | 436183 | 1        | 78    | 1              |     |
| 14 | 464671 | 1        | 45    | 1              |     |
| 15 | 500578 | 1        | 65    | 1              |     |
| 16 | 588588 | 1        | 78    | 1              |     |
| 17 | 846822 | 1        | 91    | 3              |     |
| 18 | 152498 | 1        | 79    | 2              |     |
| 19 | 429405 | 1        | 63    | 1              |     |
| 20 | 419648 | 1        | 81    | 3              |     |
| 21 |        |          |       |                |     |

# Prepping data: Merging pre/post test data

1. Have both datasets open
2. Make sure there's an identification variable; variable we will use to match the two datasets together
  - In this example, we have ID as the matching variable

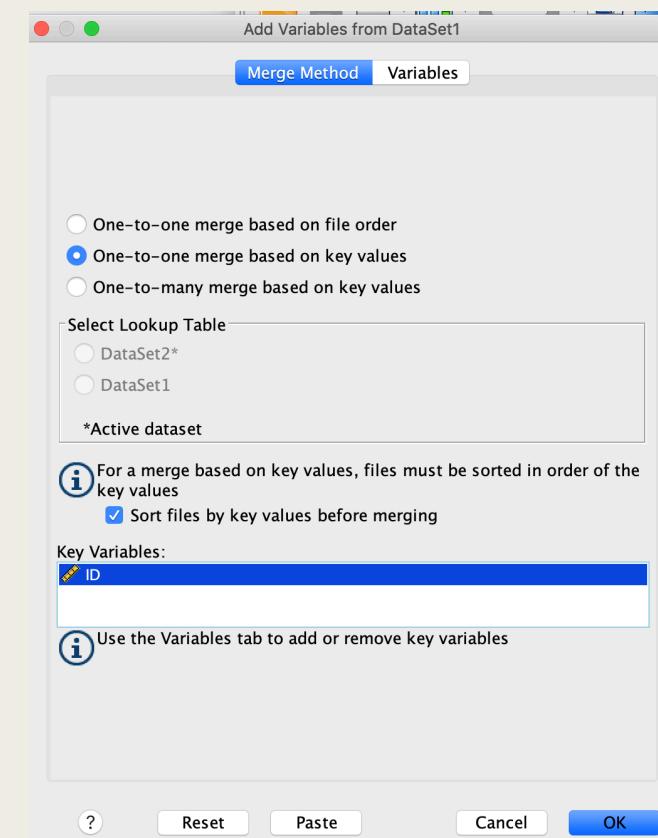
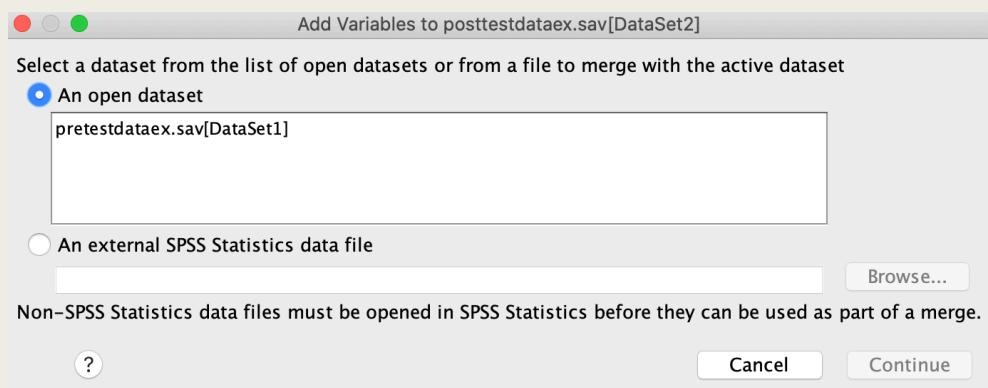
|    | ID      | Attendance | Score_prestest |
|----|---------|------------|----------------|
| 1  | 9975309 | 0          | 48             |
| 2  | 9948278 | 1          | 75             |
| 3  | 9169427 | 4          | 90             |
| 4  | 8643086 | 3          | 90             |
| 5  | 7988957 | 1          | 72             |
| 6  | 7509550 | 1          | 61             |
| 7  | 6133087 | 2          | 86             |
| 8  | 6115282 | 2          | 84             |
| 9  | 5396215 | 2          | 81             |
| 10 | 4365151 | 3          | 83             |
| 11 | 4303020 | 1          | 78             |
| 12 | 3670778 | 1          | 56             |
| 13 | 3316521 | 0          | 54             |
| 14 | 3168177 | 0          | 66             |
| 15 | 2331702 | 1          | 56             |
| 16 | 1767276 | 0          | 46             |
| 17 | 1328727 | 1          | 65             |
| 18 | 1323956 | 3          | 88             |
| 19 | 926172  | 0          | 48             |
| 20 | 661007  | 2          | 79             |
| 21 |         |            |                |
| 22 |         |            |                |

|    | ID      | Score_posttest |
|----|---------|----------------|
| 1  | 9975309 | 53             |
| 2  | 9948278 | 80             |
| 3  | 9169427 | 95             |
| 4  | 8643086 | 95             |
| 5  | 7988957 | 79             |
| 6  | 7509550 | 67             |
| 7  | 6133087 | 91             |
| 8  | 6115282 | 89             |
| 9  | 5396215 | 86             |
| 10 | 4365151 | 88             |
| 11 | 4303020 | 83             |
| 12 | 3670778 | 63             |
| 13 | 3316521 | 57             |
| 14 | 3168177 | 67             |
| 15 | 2331702 | 61             |
| 16 | 1767276 | 51             |
| 17 | 1328727 | 71             |
| 18 | 1323956 | 93             |
| 19 | 926172  | 50             |
| 20 | 661007  | 85             |
| 21 |         |                |
| 22 |         |                |

# Prepping data: Merging pre/post test data

Data > Merge Files > Add Variables



# Prepping data: Merging pre/post test data

Before:

|    | ID      | Attendance | Score_pretest |
|----|---------|------------|---------------|
| 1  | 9975309 | 0          | 48            |
| 2  | 9948278 | 1          | 75            |
| 3  | 9169427 | 4          | 90            |
| 4  | 8643086 | 3          | 90            |
| 5  | 7988957 | 1          | 72            |
| 6  | 7509550 | 1          | 61            |
| 7  | 6133087 | 2          | 86            |
| 8  | 6115282 | 2          | 84            |
| 9  | 5396215 | 2          | 81            |
| 10 | 4365151 | 3          | 83            |
| 11 | 4303020 | 1          | 78            |
| 12 | 3670778 | 1          | 56            |
| 13 | 3316521 | 0          | 54            |
| 14 | 3168177 | 0          | 66            |
| 15 | 2331702 | 1          | 56            |
| 16 | 1767276 | 0          | 46            |
| 17 | 1328727 | 1          | 65            |
| 18 | 1323956 | 3          | 88            |
| 19 | 926172  | 0          | 48            |
| 20 | 661007  | 2          | 79            |
| 21 |         |            |               |
| 22 |         |            |               |

|    | ID      | Score_posttest |
|----|---------|----------------|
| 1  | 9975309 | 53             |
| 2  | 9948278 | 80             |
| 3  | 9169427 | 95             |
| 4  | 8643086 | 95             |
| 5  | 7988957 | 79             |
| 6  | 7509550 | 67             |
| 7  | 6133087 | 91             |
| 8  | 6115282 | 89             |
| 9  | 5396215 | 86             |
| 10 | 4365151 | 88             |
| 11 | 4303020 | 83             |
| 12 | 3670778 | 63             |
| 13 | 3316521 | 57             |
| 14 | 3168177 | 67             |
| 15 | 2331702 | 61             |
| 16 | 1767276 | 51             |
| 17 | 1328727 | 71             |
| 18 | 1323956 | 93             |
| 19 | 926172  | 50             |
| 20 | 661007  | 85             |
| 21 |         |                |
| 22 |         |                |

After:

|    | ID      | Score_posttest | Attendance | Score_pretest | var | var |
|----|---------|----------------|------------|---------------|-----|-----|
| 1  | 661007  | 85             | 2          | 79            |     |     |
| 2  | 926172  | 50             | 0          | 48            |     |     |
| 3  | 1323956 | 93             | 3          | 88            |     |     |
| 4  | 1328727 | 71             | 1          | 65            |     |     |
| 5  | 1767276 | 51             | 0          | 46            |     |     |
| 6  | 2331702 | 61             | 1          | 56            |     |     |
| 7  | 3168177 | 67             | 0          | 66            |     |     |
| 8  | 3316521 | 57             | 0          | 54            |     |     |
| 9  | 3670778 | 63             | 1          | 56            |     |     |
| 10 | 4303020 | 83             | 1          | 78            |     |     |
| 11 | 4365151 | 88             | 3          | 83            |     |     |
| 12 | 5396215 | 86             | 2          | 81            |     |     |
| 13 | 6115282 | 89             | 2          | 84            |     |     |
| 14 | 6133087 | 91             | 2          | 86            |     |     |
| 15 | 7509550 | 67             | 1          | 61            |     |     |
| 16 | 7988957 | 79             | 1          | 72            |     |     |
| 17 | 8643086 | 95             | 3          | 90            |     |     |
| 18 | 9169427 | 95             | 4          | 90            |     |     |
| 19 | 9948278 | 80             | 1          | 75            |     |     |
| 20 | 9975309 | 53             | 0          | 48            |     |     |
| 21 |         |                |            |               |     |     |
| 22 |         |                |            |               |     |     |
| 23 |         |                |            |               |     |     |

# IV: Descriptive Statistics

- A descriptive statistic is a summary statistic that quantitatively describes or summarizes features from a collection of information
  - *I.e. Mean (commonly used as average), standard deviation, frequencies, etc..*
- Some questions we can ask:
  - *What is the average GPA of our sample?*
  - *How much of the sample is Extremely likely to go to college?*

# Descriptive Statistics

# Frequencies

- How many participants speak a language other than English?
  - How much of the sample is Extremely likely to go to college?

## Descriptives

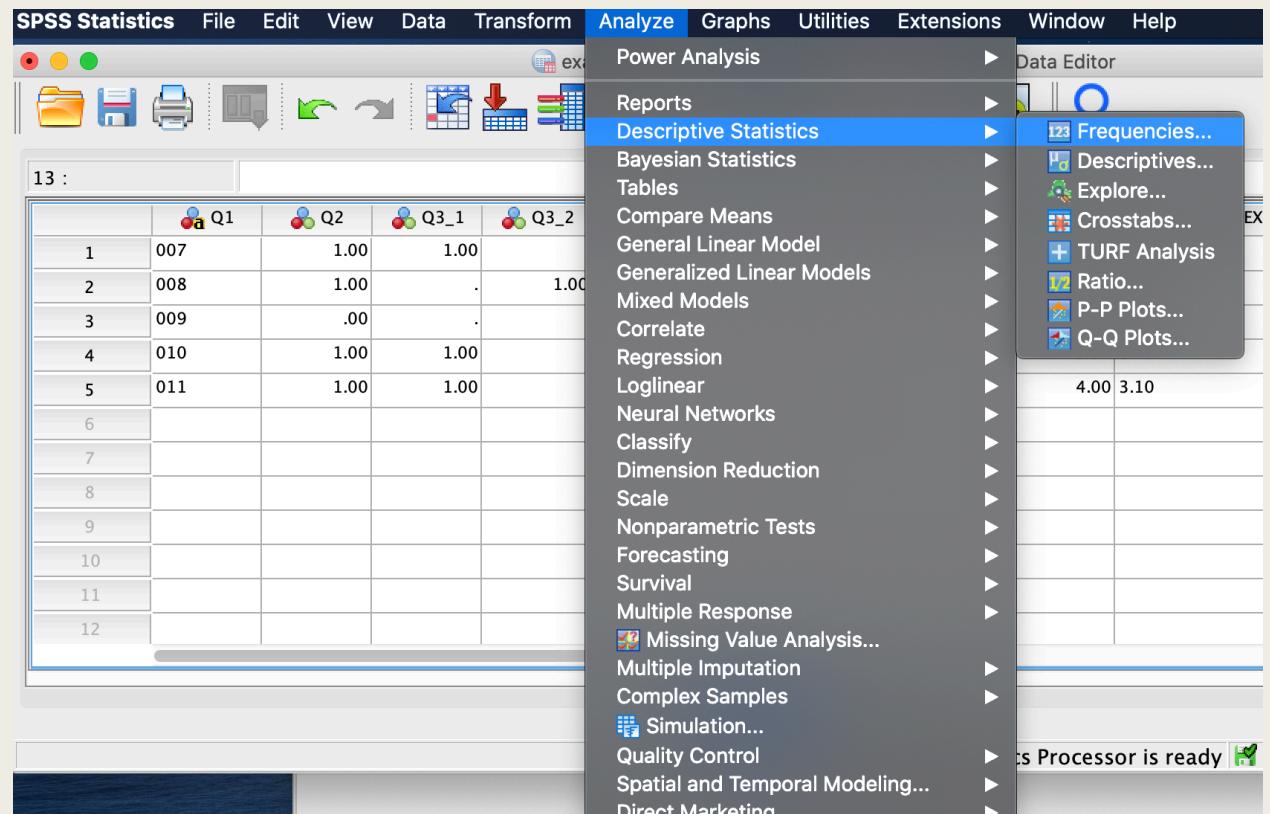
- What is the average GPA of our sample?

## Example dataset:

# Answering our questions: Frequencies

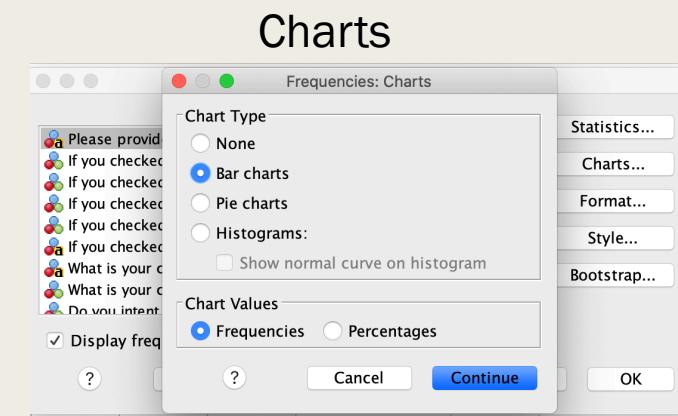
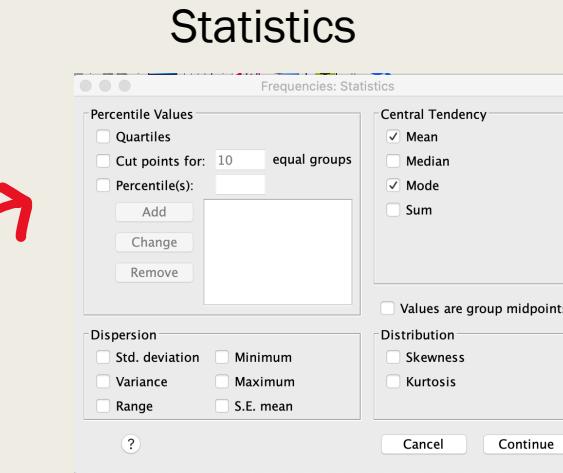
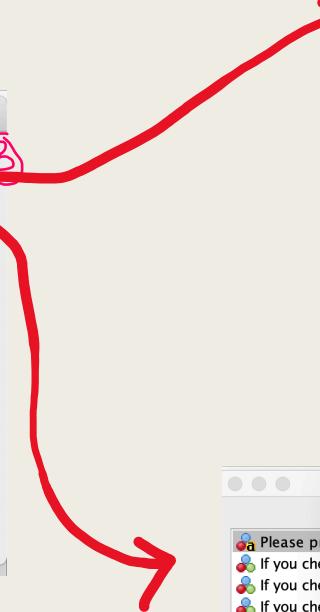
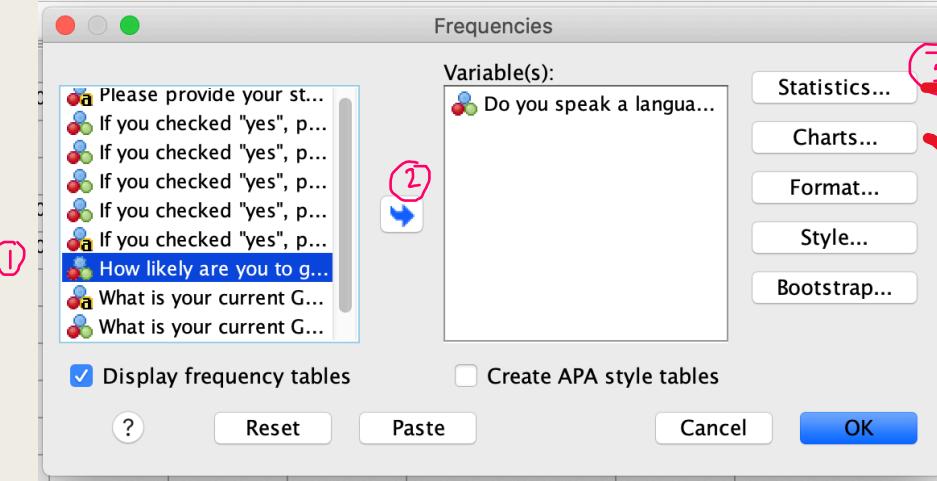
Analyze > Descriptive Statistics >  
Frequencies

- How many participants speak a language other than English?
- How much of the sample is Extremely likely to go to college?



# Answering our questions: Frequencies (cont.)

- How many participants speak a language other than English?
- How much of the sample is Extremely likely to go to college?



# Our results:

## Statistics

### → Frequencies

#### Statistics

| Do you speak a language other than English? |         | How likely are you to go to college? (Mark one.) |        |
|---|---------|--|--------|
| N   | Valid   | 5  | 5      |
|   | Missing | 0  | 0      |
| Mean  |         | .8000  | 4.4000 |
| Mode  |         | 1.00   | 4.00   |

#### Frequency Table

##### Do you speak a language other than English?

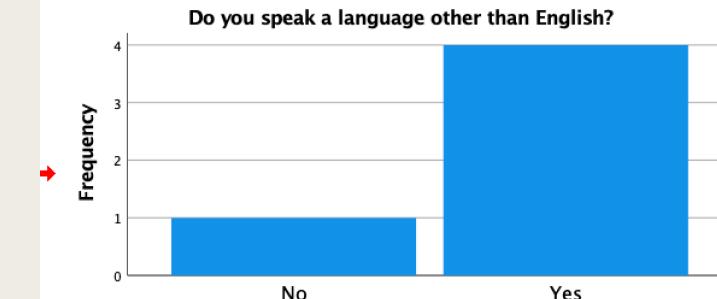
|       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | No        | 1       | 20.0          | 20.0               |
|       | Yes       | 4       | 80.0          | 80.0               |
| Total |           | 5       | 100.0         | 100.0              |

##### How likely are you to go to college? (Mark one.)

|       | Frequency        | Percent | Valid Percent | Cumulative Percent |
|-------|------------------|---------|---------------|--------------------|
| Valid | Likely           | 3       | 60.0          | 60.0               |
|       | Extremely likely | 2       | 40.0          | 100.0              |
| Total |                  | 5       | 100.0         | 100.0              |

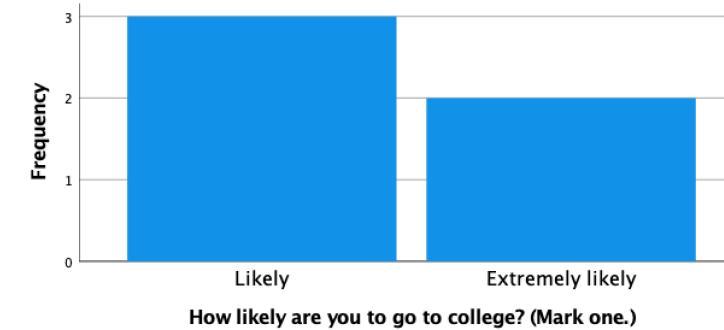
## Charts

### Bar Chart



### Do you speak a language other than English?

### How likely are you to go to college? (Mark one.)



### How likely are you to go to college? (Mark one.)

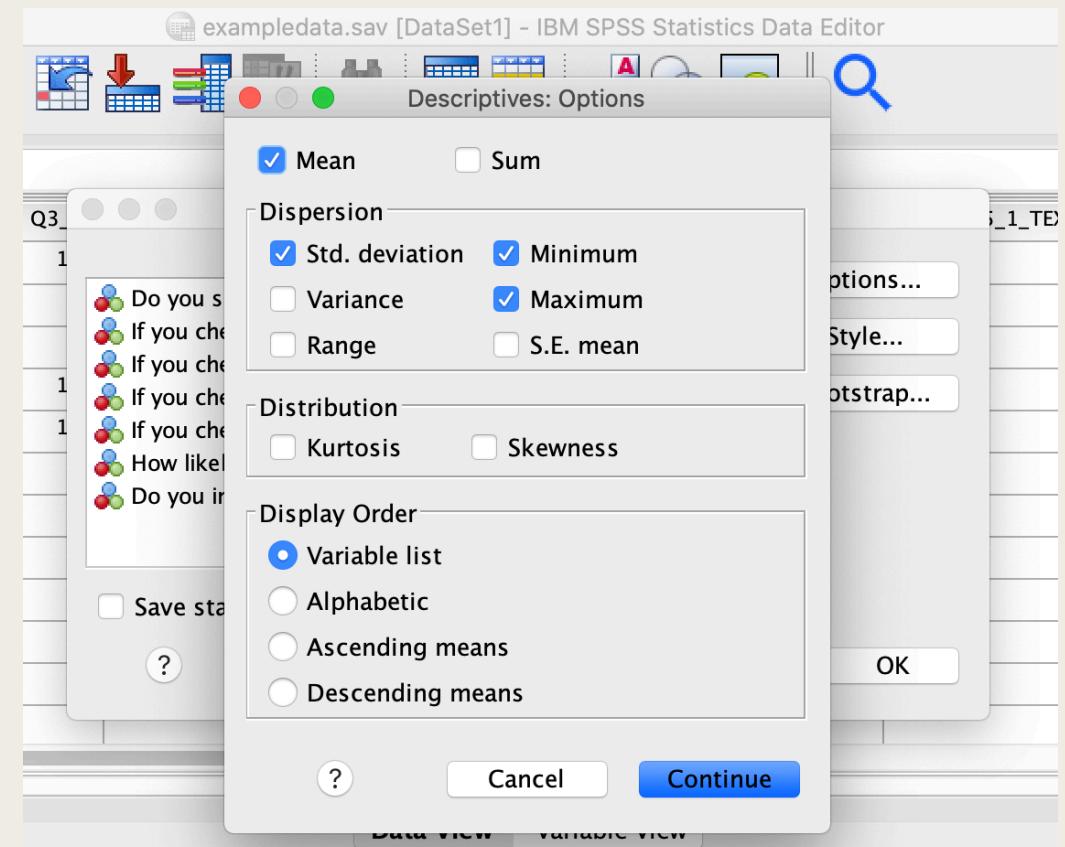
- How many participants speak a language other than English?
  - 80% of the participants in our sample speak a language other than English (N=5)
- How much of the sample is Extremely likely to go to college?
  - 40% of the participants in our sample are Extremely likely to go to college (N=5)

# Answering our questions: Descriptives

- What is the average GPA of our sample?

Same path as Frequencies

Analyze > Descriptive Statistics > Descriptives



# Our results:

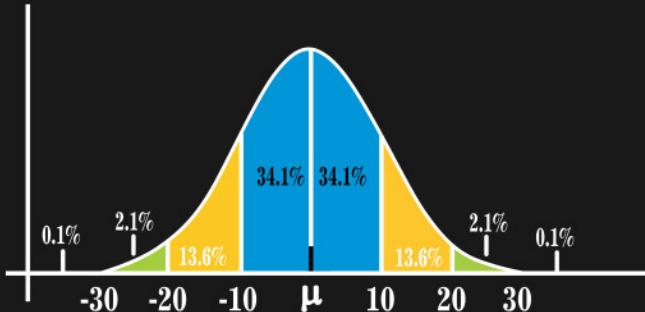
## → Descriptives

| Descriptive Statistics                             |   |         |         |      |                |
|--|---|---------|---------|------|----------------|
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| What is your current GPA for this semester? – Text | 5 | 3       | 4       | 3.22 | .313           |
| Valid N (listwise)                                 | 5 |         |         |      |                |

- What is the average GPA of our sample?
  - The average GPA of our sample was 3.22 (N=5, SD=.313)

# THE END ☺

DON'T BE MEAN



BE ABOVE AVERAGE