

URBAN 520 QUANTITATIVE METHODS

Introduction to SPSS

URBAN 520 • SPSS Session

DATA / SYNTAX / OUTPUT

SPSS and R: Different strengths

Both tools support statistical analysis—your workflow determines which is most useful.

01 Interface

SPSS: menus + optional syntax
R: primarily code-based

02 Learning curve

SPSS: approachable for beginners
R: more coding, greater flexibility

03 Data manipulation

SPSS: built-in procedures
R: dplyr and tidyr

04 Statistical analysis

Both: common methods
R: extensive advanced packages

05 Visualization

SPSS: Chart Builder
R: ggplot2 customization

Three SPSS file types

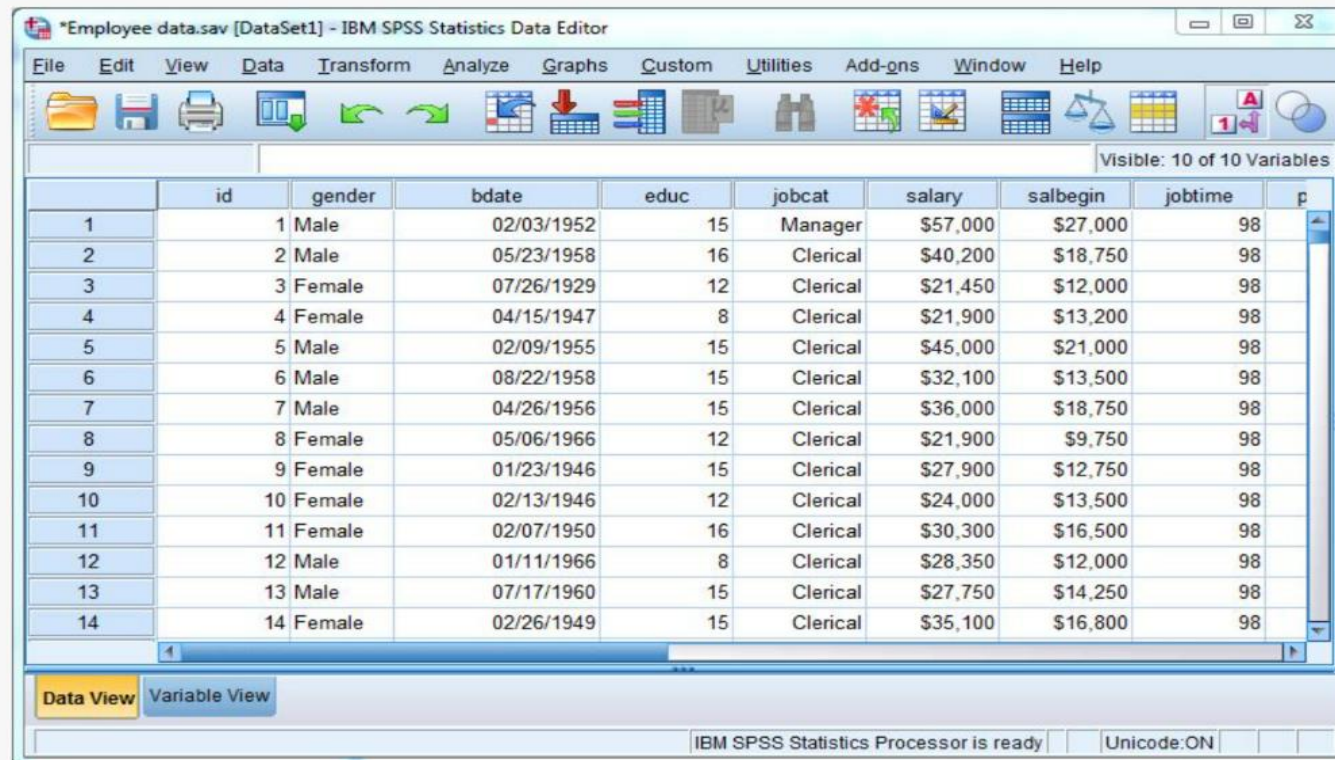
Each file serves a different purpose in your analysis workflow.

File type	Extension	Purpose	R equivalent	Example
Data	.sav	Stores datasets	.RData / .rds	kingco_sales.sav
Syntax	.sps	Stores commands	.R script	lab6.sps
Output	.spv	Tables, charts, results	R output / Rmd	lab6_output.spv

DATA → ANALYSIS → OUTPUT

SAV: the data file

Open an SPSS dataset through File → Open → Data.



	id	gender	bdate	educ	jobcat	salary	salbegin	jobtime	p
1	1	Male	02/03/1952	15	Manager	\$57,000	\$27,000	98	
2	2	Male	05/23/1958	16	Clerical	\$40,200	\$18,750	98	
3	3	Female	07/26/1929	12	Clerical	\$21,450	\$12,000	98	
4	4	Female	04/15/1947	8	Clerical	\$21,900	\$13,200	98	
5	5	Male	02/09/1955	15	Clerical	\$45,000	\$21,000	98	
6	6	Male	08/22/1958	15	Clerical	\$32,100	\$13,500	98	
7	7	Male	04/26/1956	15	Clerical	\$36,000	\$18,750	98	
8	8	Female	05/06/1966	12	Clerical	\$21,900	\$9,750	98	
9	9	Female	01/23/1946	15	Clerical	\$27,900	\$12,750	98	
10	10	Female	02/13/1946	12	Clerical	\$24,000	\$13,500	98	
11	11	Female	02/07/1950	16	Clerical	\$30,300	\$16,500	98	
12	12	Male	01/11/1966	8	Clerical	\$28,350	\$12,000	98	
13	13	Male	07/17/1960	15	Clerical	\$27,750	\$14,250	98	
14	14	Female	02/26/1949	15	Clerical	\$35,100	\$16,800	98	

What it contains

Data values and SPSS variable properties.

Remember

.sav = dataset
(not analysis output)

Creating SAV files from R

Example: export King County data for use in SPSS.

Workflow

1. Load kingCoData in R
2. Load the two datasets
3. Export each with `haven::write_sav()`

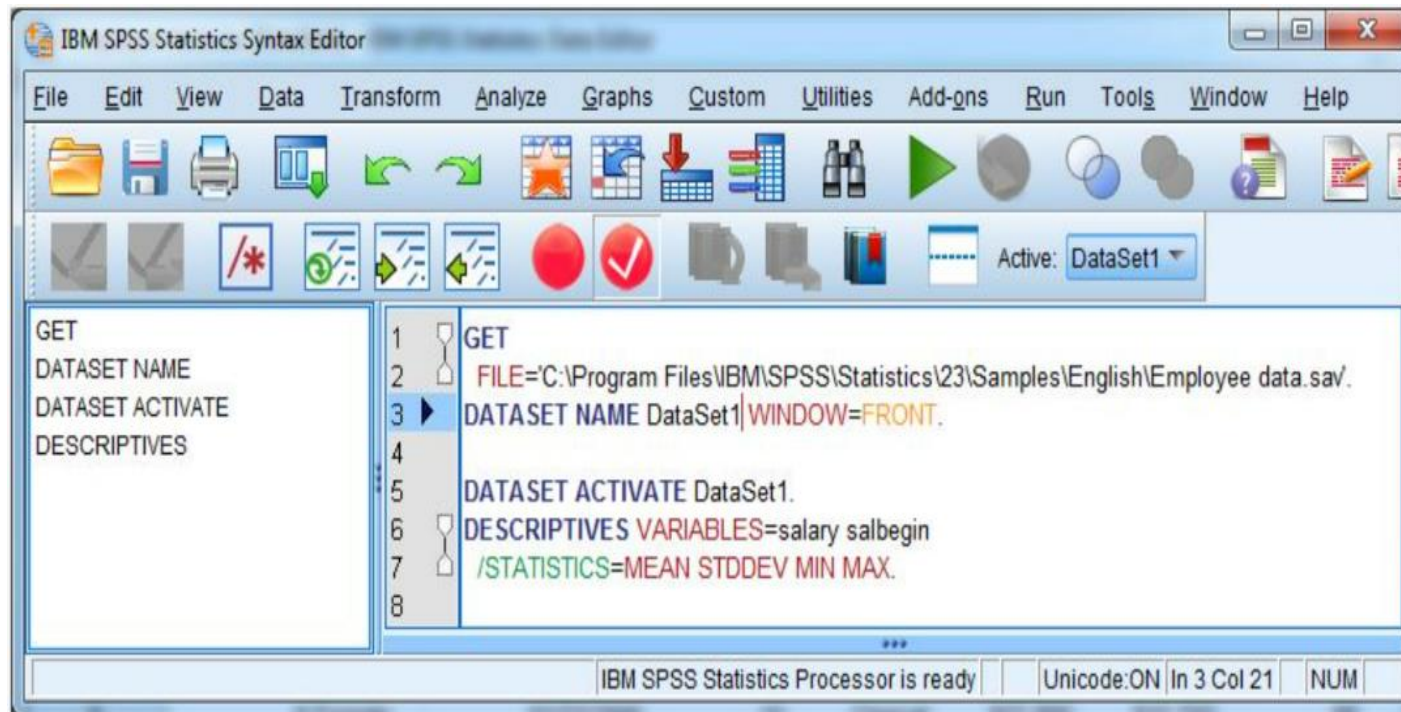
```
library(kingCoData)
library(haven)

data("kingco_sales")
data("kingco_homes")

write_sav(as.data.frame(kingco_sales),
          "kingco_sales.sav")
write_sav(as.data.frame(kingco_homes),
          "kingco_homes.sav")
```

SPS: the syntax file

Write, edit, save, and run SPSS commands.



Why use syntax?

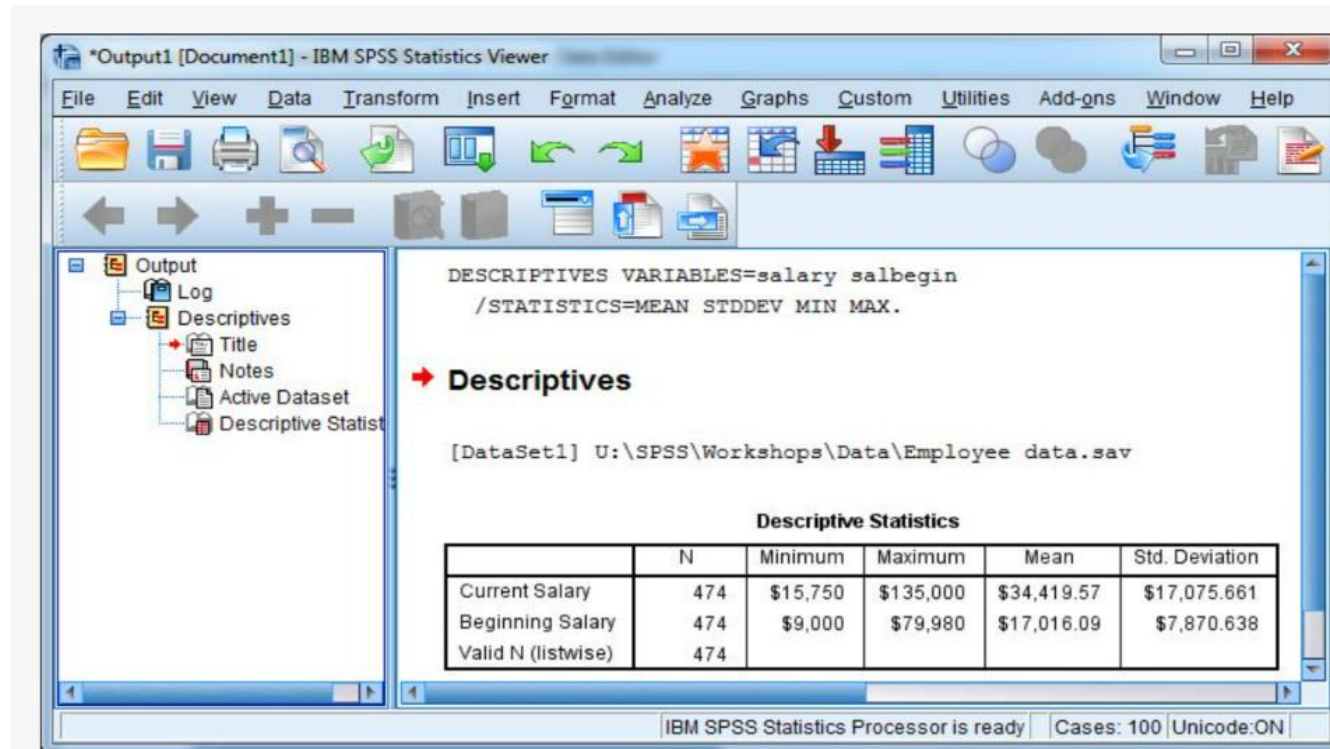
Repeat analyses consistently.

Document every step.

Edit commands instead of repeating clicks.

SPV: the output file

The Output Viewer stores analysis results and messages.



Results

Statistical tables and graphs.

Other output

Command logs, warnings, and errors.

SPSS syntax vs. R coding

Similar analytical tasks, different command structures.

Task	R	SPSS syntax
Comment	<code># This is a comment</code>	<code>* This is a comment.</code>
Assignment	<code>x <- 10</code>	<code>COMPUTE x = 10.</code>
Square root	<code>sqrt(x)</code>	<code>SQRT(x)</code>
Mean	<code>mean(x, na.rm=TRUE)</code>	<code>DESCRIPTIVES VARIABLES=x /STATISTICS=MEAN.</code>
Standard deviation	<code>sd(x, na.rm=TRUE)</code>	<code>DESCRIPTIVES VARIABLES=x /STATISTICS=STDDEV.</code>

SPSS commands typically end with a period (.).

Syntax vs. point-and-click (GUI)

Two ways to work in SPSS—both are useful.

Point-and-click (GUI)

Easy to learn; convenient for exploring data and running simple analyses.

Syntax

Efficient for repeated tasks, complex workflows, and reproducible analysis.

Example : Descriptive statistics

GUI

Analyze → Descriptive Statistics → Descriptives

SYNTAX

```
DESCRIPTIVES VARIABLES=sale_price  
/STATISTICS=MEAN STDDEV MIN MAX.
```