

Data analysis software & troubleshooting

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Surgical Research Society

Why me?



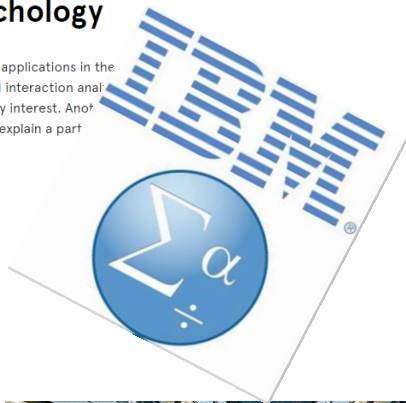
Unit of study

PSYC2012: Statistics and Research Methods for Psych

The aim is to introduce students to fundamental concepts in statistics and research design as applied to psychological research. These include summary descriptive statistics, an introduction to the principles and practice of research design (both quantitative and qualitative), and an introduction to the principles and practice of research design (both quantitative and qualitative).

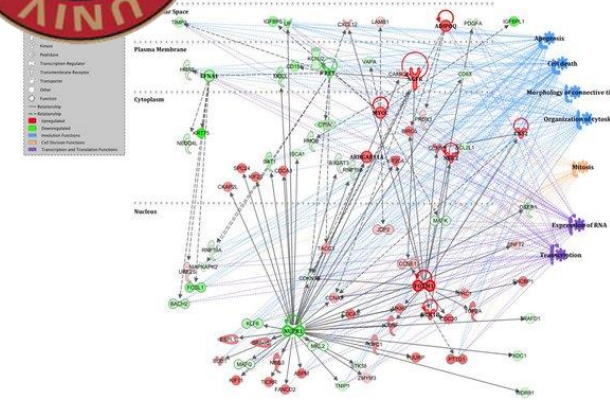
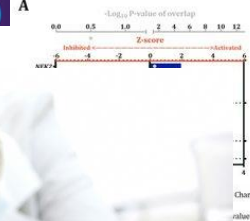
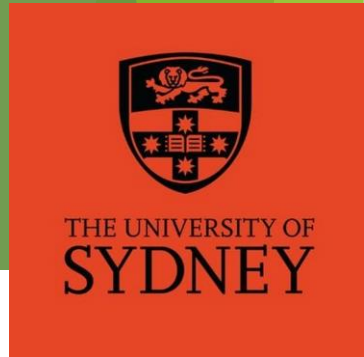
PSYC3010: Advanced Statistics for Psychology

This unit of study expands upon students' knowledge of the general linear model and its applications in the psychological research. One half of the unit introduces students to contrast analysis and interaction analysis which allows for more focused analysis of data where group comparisons are the primary interest. Another half introduces regression and its extensions, which are used when the primary interest is to predict or explain a part of other variables.



PUBH5018: Introductory Biostatistics

This unit introduces students to statistical methods relevant in medicine and health. Students will learn how to appropriately summarise and visualise data, carry out a statistical analysis, interpret p-values and confidence intervals, and present statistical findings in a scientific publication. Students will also learn how to determine the appropriate sample size when planning a research study. Students will learn how to conduct analyses using calculators and statistical software. Specific analysis methods of this unit include: hypothesis tests



Comparison

	How to access	Interface	Learning curve	Data manipulation	Statistical analysis	Graphics	Highlights	Limitations	Import & export
Excel	Standard Microsoft program	Menus	Gradual	Minimal	Low scope, low versatility	Require editing	Manage & store large data sets securely	Formulated operations defined by Microsoft	Excel files (.xls, .xlsx)
SPSS	University access	Menus & syntax	Moderate	Moderate	Moderate scope Low versatility	Good	Custom tables, ANOVA & multivariate analysis Easily exclude data & handle missing data	Can't do regression analyses	Excel files (.xls), test files (.csv, .txt, .dat), stata (.dta)
Stata	Paid (\$74 for 6 months with student discount)	Syntax & menus	Steep	Strong	Broad scope Medium versatility	Good	Works well with panel, survey, and time-series data + mixed models Multivariate analysis Regression analysis	Graphs have limited flexibility Can only hold one dataset in memory at a time	Most file types (Excel files (.xls, .xlsx), Text files (.txt, .csv, .dat), SAS (.XPT), Other (.XML), and various ODBC data sources)
R	Free & open source	Syntax	Steep	Very strong	Very broad scope High versatility	Excellent	Graphic packages, machine learning, predictive modelling	Have to have good understanding of different data types before real ease of use begins	Excel files (.xlsx), Text files (.txt, .csv), SPSS (.sav), Stata (.dta), Other (.json)
Jamovi	Free & open source	Menus & syntax	Gradual	Minimal	Moderate scope Low versatility	Good	Very user friendly	Can't handle date/time variables	Test files (.txt) SPSS (.sav) SAS binary files (.sas7bdat) Stata (.dta)

Quantitative Analysis Guide: Which Statistical Software to Use?

Search this Guide

Search

Resources and support for statistical and numerical data analysis

Home

SPSS

Stata

SAS

R

MATLAB

JMP

Python

Excel

SQL

Finding Data

Statistical Guidance ▾



NYU LIBRARIES & IT

Statistical Software Comparison

Overview

SPSS

JMP

Stata

SAS

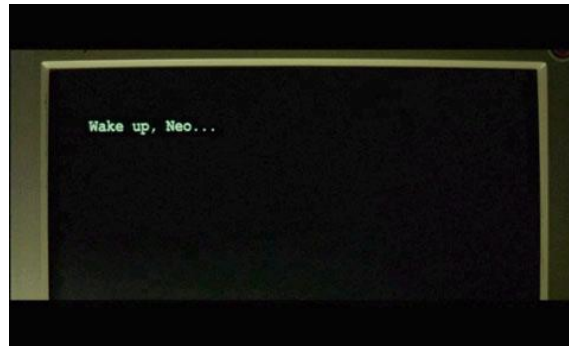
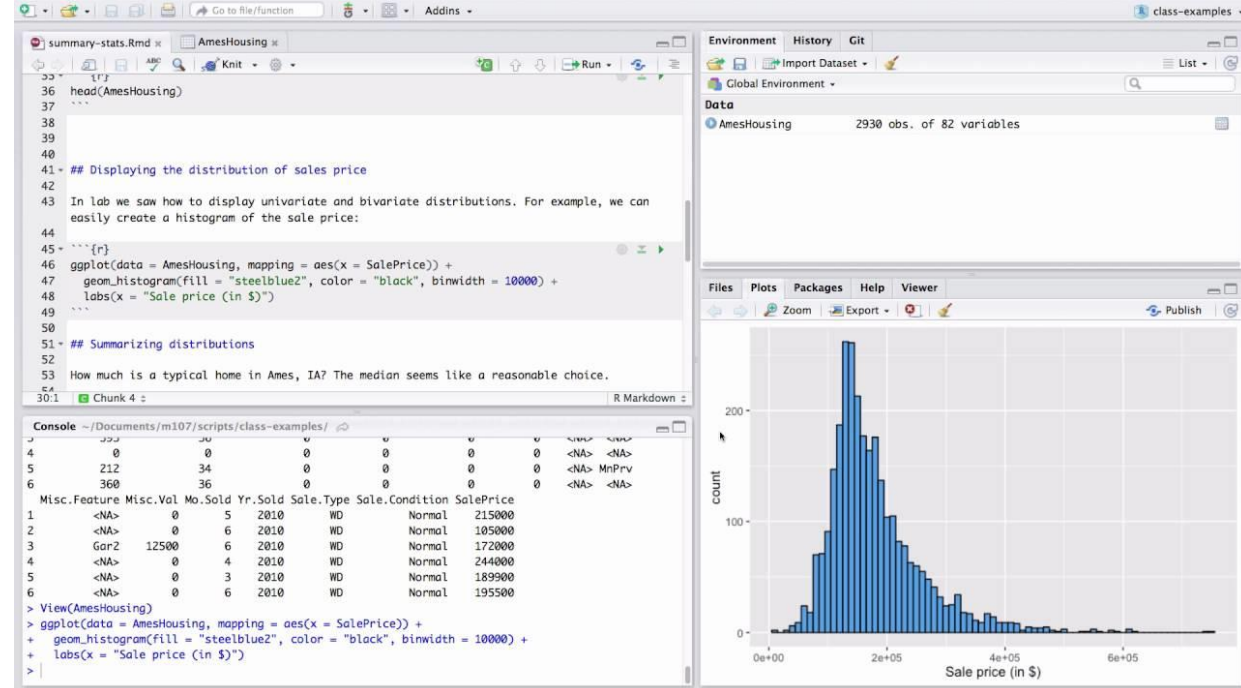
R

MATLAB

Summary

Evaluation

https://guides.nyu.edu/quant/statsoft?fbclid=IwAR3pEchtXv29trd_9M3pabFCp_00bphn1Zpvn_S-y9sb_4GtCGgHbmLdwQ

```

summary-stats.Rmd x AmesHousing x
36 head(AmesHousing)
37 ...
38
39
40
41 ## Displaying the distribution of sales price
42
43 In lab we saw how to display univariate and bivariate distributions. For example, we can
44 easily create a histogram of the sale price:
45 ```{r}
46 ggplot(data = AmesHousing, mapping = aes(x = SalePrice)) +
47   geom_histogram(fill = "steelblue2", color = "black", binwidth = 10000) +
48   labs(x = "Sale price (in $)")
49 ...
50
51 ## Summarizing distributions
52
53 How much is a typical home in Ames, IA? The median seems like a reasonable choice.
54
55 |> Chunk 4 <
R Markdown >

```

Environment History Git
Global Environment
Data
AmesHousing 2930 obs. of 82 variables

Files Plots Packages Help Viewer
Zoom Export Publish

count
200
100
0
0e+00 2e+05 4e+05 6e+05
Sale price (in \$)

Console ~/Documents/m107/scripts/class-examples/ <>
4 0 0 0 0 0 <NA> <NA>
5 212 34 0 0 0 <NA> MnPrv
6 360 36 0 0 0 <NA> <NA>
Misc.Feature Misc.Val Mo.Sold Yr.Sold Sale.Type Sale.Condition SalePrice
1 <NA> 0 5 2010 WD Normal 215000
2 <NA> 0 6 2010 WD Normal 105000
3 Gar2 12500 6 2010 WD Normal 172000
4 <NA> 0 4 2010 WD Normal 244000
5 <NA> 0 3 2010 WD Normal 189900
6 <NA> 0 6 2010 WD Normal 195500
> View(AmesHousing)
> ggplot(data = AmesHousing, mapping = aes(x = SalePrice)) +
+ geom_histogram(fill = "steelblue2", color = "black", binwidth = 10000) +
+ labs(x = "Sale price (in \$)")
> |

Statistics and Statistics with R Tutorials (All Videos)
MarinStatsLectures-R Programming & Statistics - 1 / 106

- 1 What is RStudio and Why Should You Download It? | R...
MarinStatsLectures-R Programmi...
5:21
- 2 Download and Install R and RStudio | R Tutorial 1.2 |...
MarinStatsLectures-R Programmi...
4:54
- 3 Getting started with R: Basic Arithmetic and Coding in R...
7:48
- 4 Create and Work with Vectors and Matrices
8:35
- 5 Import/Export Data from Excel
6:59
- 6 Import/Export Data from R to Excel
8:12



R Programming
1.7M views • 2 years ago
freeCodeCamp
Learn the R program
R, ...
CC



Medical statistics using R in less than 90 minutes

7.6K views • 2 years ago

Dr Juan Klopper

In this video I introduce you to the fundamentals of R for biostatistics (and get ...)

▶ https://www.youtube.com/watch?v=riONFzJdXcs&list=PLqz_oL9-eJTNBDdKgJgJzaQcY6OXmsXAHU

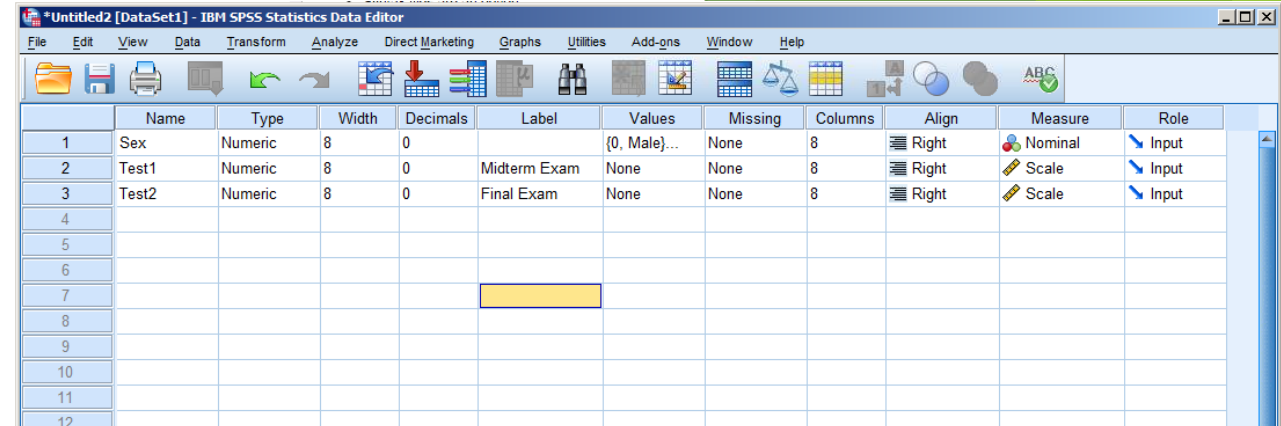
▶ https://www.youtube.com/watch?v=_V8eKsto3Ug

▶ <https://www.youtube.com/watch?v=zrXPG1onjiE>

SPSS

- ▶ Old faithful
- ▶ Middle of the ground
- ▶ <https://www.youtube.com/user/RStatsInstitute>

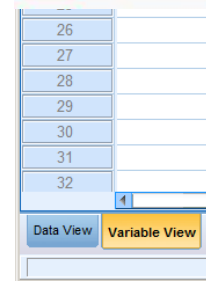
- ▶ WORKED EXAMPLE TIME



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Sex	Numeric	8	0		{0, Male}...	None	8	Right	Nominal	Input
2	Test1	Numeric	8	0	Midterm Exam	None	None	8	Right	Scale	Input
3	Test2	Numeric	8	0	Final Exam	None	None	8	Right	Scale	Input
4											
5											
6											
7											
8											
9											
10											
11											
12											



01 How to Use SPSS - An Introduction to SPSS for Beginners
1M views · 3 years ago
Research By Design
Note about the camera: the most common comment I get is about the camera work, p
3:15 The letters no longer stand for anything and its proper name is now IBM SPSS S
CC



26	
27	
28	
29	
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Diving Deeper into SPSS for Beginners Introduction (Ep.1)