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

Unit of study_

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 anal which allows for more focused analysis of data where group comparisons are the primary interest. Ano regression and its extensions, which are used when the primary interest is to predict or explain a part other variables.

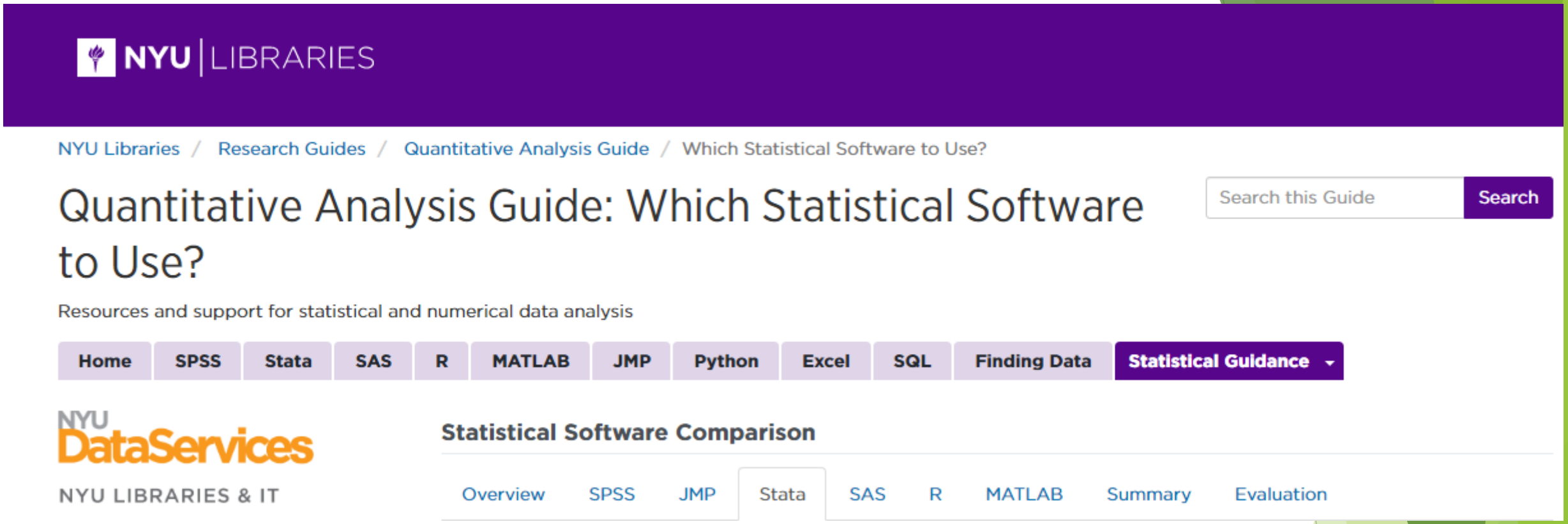
PUBH5018: Introductory Biostatistics

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

*Courtesy of Dr Amy Weber

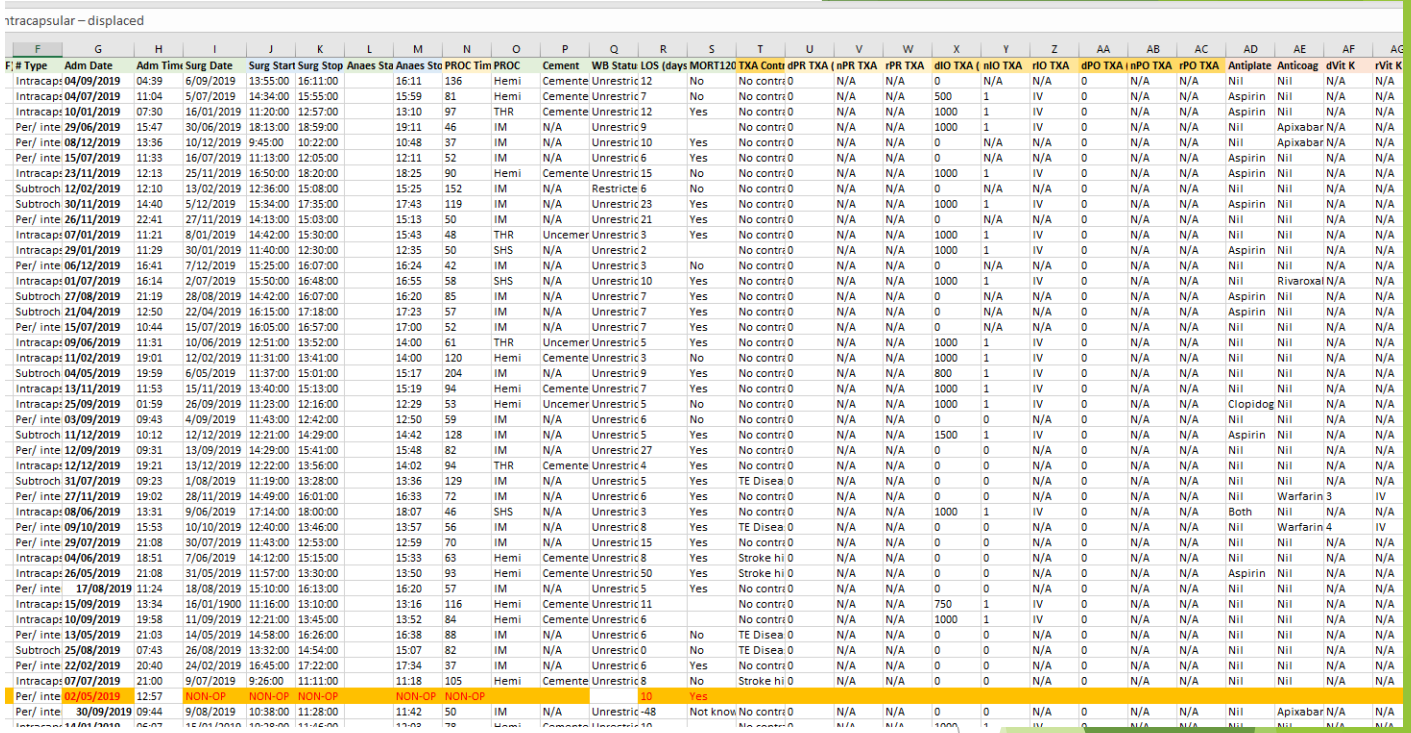
Comparison

	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), Stat a (.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)



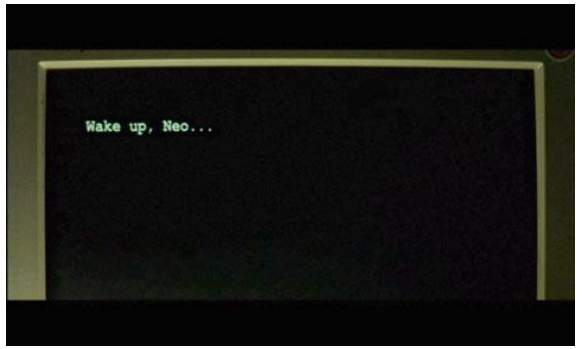
https://guides.nyu.edu/quant/statsoft?fbclid=IwAR3pEchtXv29trd_9M3pabFCp_O0bphn1Zpvon_S-y9sb_4GtCGgHbmLdwQ

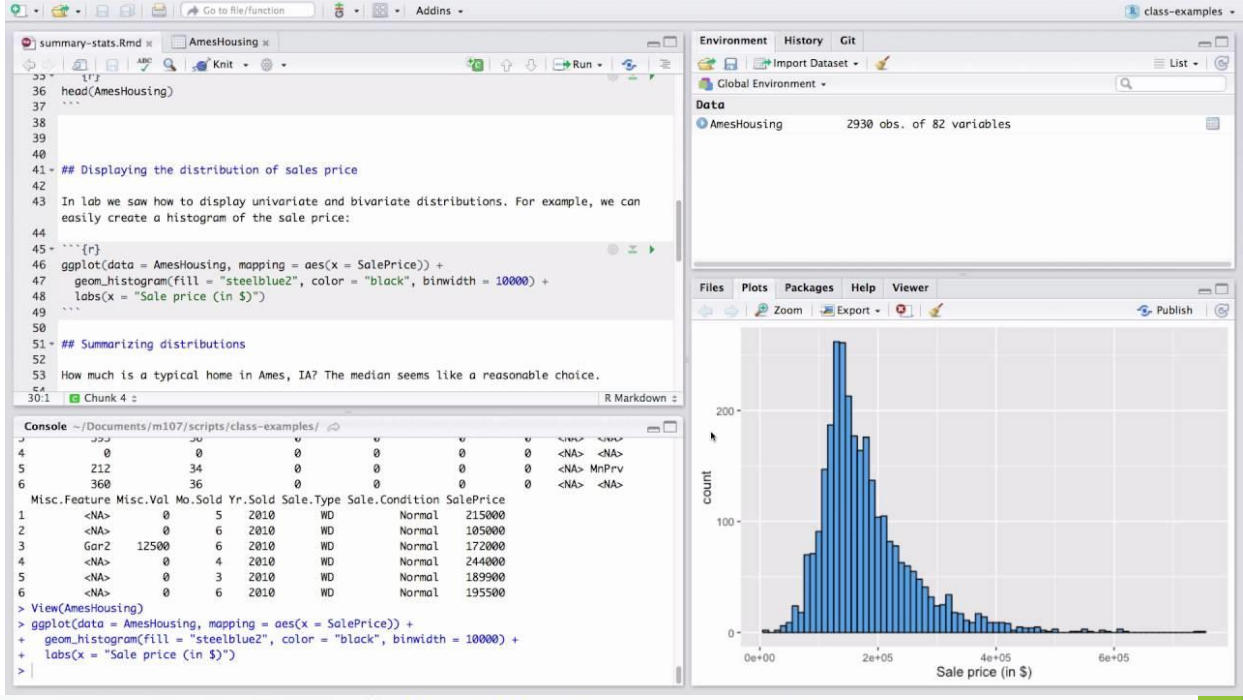
Excel

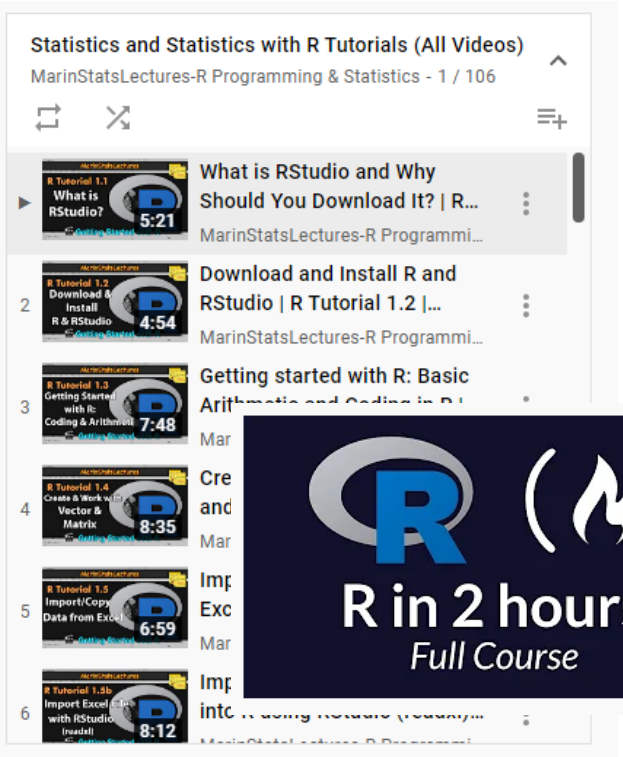


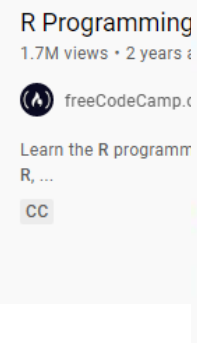
OVERALL	N	N(TF)	%	Hb Delta	Mort120	LOS
NO TXA	107	41	38.32%	29.21495	0.728972	8.6542
TXA	73	16	21.92%	27.72603	0.514019	8.9452
Z			2.67		1.97	
P			0.01	0.03	0.02	
Chi			7.300 (1 df)			
P			0.0069			

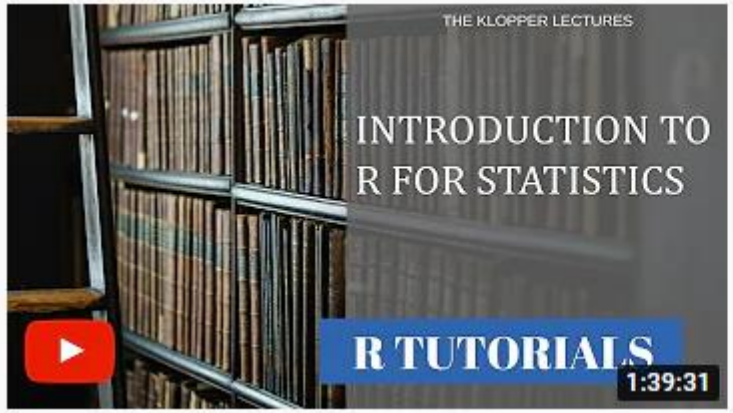
- Free, widespread, easily transferable
- Good for collection
- Can use for analysis if you're a sadist
- Lots of resources out there

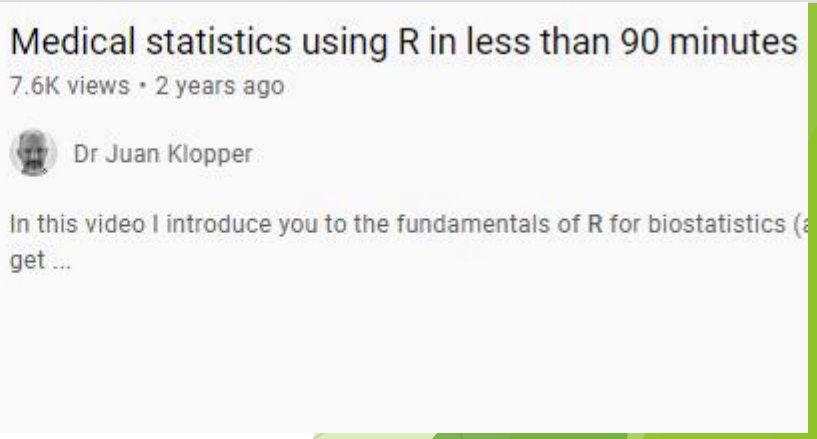










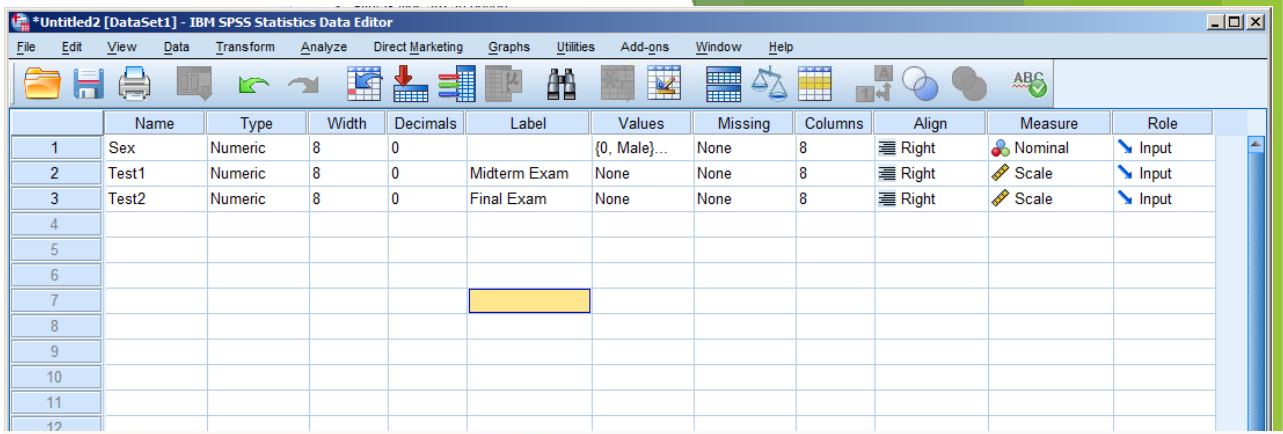


- https://www.youtube.com/watch?v=riONFzJdXcs&list=PLqzoL9-eJTNBDdKgJgJzaQcY6OXmsXAHU
- https://www.youtube.com/watch?v=_V8eKsto3Ug
- https://www.youtube.com/watch?v=zrXPG1onjiE

SPSS

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

- WORKED EXAMPLE TIME



01 How to Use SPSS - An Introduction to SPSS for Beginners

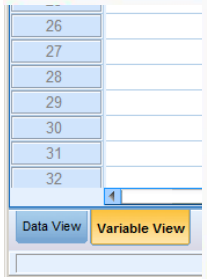
1M views • 3 years ago

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



Diving Deeper into SPSS for Beginners Introduction (Ep.1)