Flow Diagram for Data Analysis Process

Examine the data and use exploratory statistics:
- Plot the original data (scatter, matrix, interval, time series, panel plots).
- Check the shape of the data with a histogram or probability plot.
- Use box plots to check for any potential outliers.
- Investigate any unusual data points

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Assess the data scale for the response variable and independent (factor) variables:
Binary – only two categories (eg, on and off, male and female),
Nominal – two or more categorical levels (eg, red, green, blue, or agree, neutral, disagree),
Ordinal – classifications with some order (eg, low, medium, high or young, middle-aged, old),
Continuous – measurements that fall anywhere on a continuum (eg, weight, length, temperature,time, ratios, intervals or transformations).

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* call a Statistician

Methods of statistical analysis for various scales of response and independent variables

Independent variables (factors)	Response variable: Binary	Response variable: Nominal with more than 2 categories	Response variable: Continuous
Binary	2x2 contingency tables, logistic regression*	Contingency tables and log-linear models*	*t*-tests
Nominal with more than 2 categories	Generalized logistic regression*	Contingency tables and log-linear models*	Analysis of variance
Continuous	Generalized logistic regression*	Ordinal or multinomial regression*	Multiple regression
Some continuous and some categorical	Generalized logistic regression*	Ordinal or multinomial regression *	Analysis of covariance*


THE END