Data terms and Inputs

Glossary terms

Descriptive Statistics (DS)	describe data set concisely and in a repeatable format
Central tendency (DS)	several different types- all attempt to give a single number that represents your variables. most common is average but also includes mean, median and mode
Dispersion (DS)	aims to give a single number that represents the spread or variability of the variables. The larger the dispersion value = the larger its variability. standard deviation is the most common measure
Standard deviation (DS)	an estimate of the average variability of spread of the variables.
Standardised scores (DS)	is measured in terms of standard deviations and allows instant comparisons to the means score on a variable- can then tell if score is greater or lesser than the mean.

Glossary terms (cont)

Inferential Statistics (IS)	allows you to make inferences from your sample about the larger population. Will tell you the probability of your results occurring in the population. However it does not tell you anything regarding the size of the difference.
Effect sizes	indicate the strength of the relationship between your variables #. should be reported in conjunction with the probability level associated with any inferential statistics.
Parametric variables (IS)	tests that assume that the data approximates a certain distribution e.g. normal distribution. Allows us to make inferences that are capable of producing accurate results. Must double check assumptions.
Non-parametric variables (IS)	tests that make fewer assumptions about the data and thus can be used to analyse a more diverse range of data. Less powerful than parametric.

Glossary terms (cont)

Independent Groups Design	looking for differences on a variable between separate groups of people. two groups often use t-test or non-parametric Mann-Whitney test. When investigating differences between more than two groups the parametric between-groups ANOVA- often follow up with a post-hoc test
Repeated Measure Design	looking for differences on a variable within the same group of people- look to see have scores have changed. If you have tested your participants twice you can use a paired t-test or non-parametric Wilcoxon test to identify if the difference is significant. If you have tested them more than twice use a parametric within groups ANOVA.

Identifying types of data

Variable	what we measure- must identify: Type (discrete or continuous), Level of measurement (normal, oridnal, interval or ratio), Role in the research study (independent, dependent or covariate).

Identifying types of data (cont)

Data	information we collect about the variable
Data Set	collection of information about the several variables
Discrete variables (Categorical varaiables)	variables that contain separate and distinct categories. e.g. Gender- split into female, male etc.
Continuous variables	not spilt into distinct categories e.g. age. fractions are meaningful
Measurement properties	magnitude (can order the values in a variable from highest to lowest), equal intervals (unit difference on a measurement scale is the same regardless of where that unit difference occurs on the scale e.g. temperature) , true absolute zero (zero point on the scale is the point where nothing of the variable exists and there are no scores).
Level of measurement	Nominal, Ordinal, Interval and Ratio
Nominal	Variable has none of the measurement properties. use the numbers in the variable only as labels

Identifying types of data (cont)

Ordinal	have the measurement property of magnitude-ordered/ranked
Interval	measurment properties of magnitude and equal intervals.
Ratio	measurement properties of magnitude, equal intervals and absolute zero.
Covariates	broad label for a variable in a research design that's neither an IV or DV. Can be used to take account of other factors that might influence the relationship between IV and DV. Can also exist in research designs where no IV or DV exist.

Inputting Data- Variable View Window

1) Identify your variables and label	choose concise and distinct variable names e.g. Time, Age ect.
2) Decide on variable type	Variable view window (bottom left) > Numeric (can change to things such as dates ect.) in the values section you can click the three dots and assign numbers to scores e.g. 0=easy
3) Assign level of measurement	variable view window > measure > scale/nominal/ordinal

Inputting Data- Data View window

Sorting cases	Can be a useful tool in ordering variables you have inputted (e.g. highest to lowest). Data > Sort cases > select variable you wish to sort > select either ascending or descending > Ok >
Recoding variables	converting the data in a variable into new data (as a new variable with different meaning or measured on a different scale). e.g. wanting to examined differences in exercise taken less than 12 months after transplant and more than 12 months after- can recode the data so it establishes these different groups. Transform > Recode into Different Variables... > select the variable (e.g. time) and move to right box > Output variable box allows you to name new variable > press change > Old and new values.. > input the values from the existing variable that you want to recode in the left hand box > new value that you want to apply in the value box under new value > add > click continue after adding all the values > can then go to variable view window and add labels

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Measure of Central Tendency

Central Tendency (CT)	a representative value from the data- a summary of all the values on a variable in your data set. Always refers to a single variable- thus if you have several variables in the data set they each need their own CT
Dispersion	how much the data deviates from the central tendency
Mode	simplest measure of central tendency to calculate- most frequently occurring. Order data if doing it manually. SPSS: Analyse > Descriptive Statistics > Frequencies > move variable containing your scores into the variables window >