**Quick guide to Pearson’s *r***

What is Pearson’s correlation (Pearson’s r)?

Pearson’s r tests whether there is a significant linear association between two variables. That is, as scores on one variable increase, do scores on the other variable also increase (or decrease) systematically?

Pearson’s r can take any value between -1 and +1.

Positive r values tell you that as scores on one variable INCREASE, scores on the other variable INCREASE.

Negative r values tell you that as scores on one variable INCREASE, scores on the other variable DECREASE.

A zero r value tells you that there is no linear association at all between the two variables – high scores on one variable tell us nothing about whether scores on the other variable will be high or low.

r values from 0 to .3 are considered WEAK correlations

r values from .4 to .6 are considered MODERATE correlations

r values from .7 to 1.00 are considered STRONG correlations

How do I tell whether *r* is significant?

Each Pearson’s *r* result has a ‘Sig. (2-tailed)’ value underneath it.
If the *Sig* value is LESS than .05, then the result is SIGNIFICANT

If the *Sig* value is GREATER than or equal to .05, then the result is NOT SIGNIFICANT.

If a Pearson correlation is SIGNIFICANT then we are allowed to treat the association between the variables involved as real and not accidental.

If a Pearson correlation is NOT SIGNIFICANT then any association between the variables may just be an accident.

How do I report Pearson correlation results in my lab report?

You need three pieces of information from the analysis tables: the Pearson correlation (r), N, and Sig.

In APA style, we write *p* (for probability) rather than Sig (for significance), *p* and Sig. refer to the same thing.

You then need to convert N to df (degrees of freedom). For Pearson’s r, df = N-2.

For a SIGNIFICANT r result (e.g. *r* = .80, N = 100, Sig. = .000), calculate df = 100-2 = 98.

 Write: “Pearson’s *r* was positive and significant, *r*(98) = .80, *p* < .05”

For a NON-SIGNIFICANT r result (e.g. *r* = .06, N = 50, Sig. = .674), calculate df = 50-2 = 48.

 Write: “Pearson’s *r* was not significant, *r* (48) = .06, *p* > .05”

How do I tell whether the data are safe to use for Pearson correlations?

Data in scatterplots should either tend to fall in a straight line, sloping upward or downward, or else just look like a cloud of random dots. Signs of trouble include individual data points very far away from the rest, data points bunching into separate groups, and data points following curves rather than lines. If any of these problems occur, results from *r* should be treated with caution because they *may* be misleading. If you detect a problem but are not able to do anything about it, note it in your Results section and be duly cautious in your interpretation in Discussion.