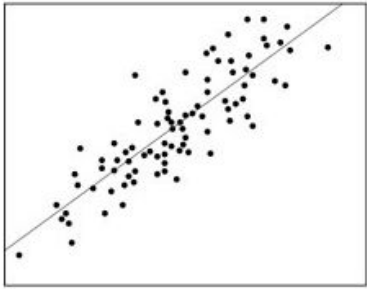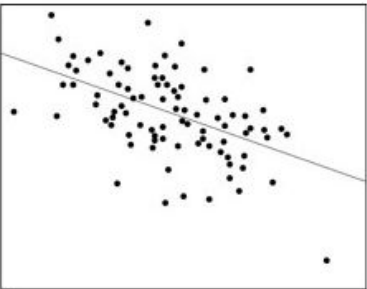# OCR Psychology A-level

Paper 1: Research Methods

Correlations

CORRELATION:

A measure of the strength of a relationship between two variables.

- A correlation refers to how strongly two variables, for example, height and hand span, are related to each other - as one variable changes, the other changes in a predictable manner.
- **A perfect correlation however does not mean causation!**
- A correlation of exactly -1 or +1 instead means that there is definitely a relationship between the variables, such that as one changes, the other must change in such a manner. However, this does not mean that one of the variables is *causing* the change, only that they are *definitely related.*
- There is no independent or dependent variable in a correlational study - instead, the variables being researched are called **"covariables"** (co-occurring variables).
- Because of the fact we are not manipulating any variables, we cannot establish cause and effect, even with a perfect correlation coefficient.
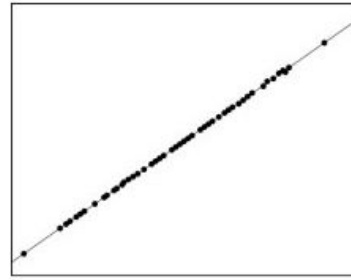
Gathering data to conduct a correlational study is very similar to an experiment - self report techniques like questionnaires, interviews and tests can be used to find relationships with other types of data too, such as experimental data.

Strong Positive Correlation As one variables increases, the other also increases. The dots plotted are all close to the line, making the correlation strong. **Correlation Coefficient:** between +0.5 and +0.9	
Weak Negative Correlation As one variable increases, the other decreases. The dots plotted are more spread out about the line, meaning the correlation is quite weak. **Correlation Coefficient:** between -0.1 and -0.4	

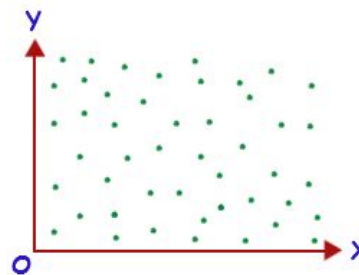|	
Perfect Positive Correlation As one variable increases, the other variable increases proportionally. This does not mean that variable one caused the change in variable two, but they are definitely linked. **Correlation Coefficient:** +1	
No Correlation There is no relationship between the variables. **Correlation Coefficient:** 0	

Mathematical calculations can be performed on data to establish a Correlation Coefficient. This value is an indicator of the strength of the relationship and can be used to interpret the data in an accurate and standardised manner.

You don't need to know how to calculate the Correlation Coefficient, but ensure you understand the above table so that you can accurately interpret coefficients presented to you in the exam.

Hypotheses
- As correlations cannot show cause and effect, when writing a hypothesis do not use the word "effect" as this is incorrect.
- Instead, declare that there will be a relationship between the two variables, as this is what a correlational study aims to determine.
- It is still important to operationalise the co-variables (make it clear how you will measure each one in the study).

Strengths of Correlations	Weaknesses of Correlations
Correlations allow you to research variables that are too complicated or unethical to manipulate to establish the relationship between the two.	No matter how strong the relationship, a correlational study can never establish cause and effect. This is less useful as it only shows the relationship between what is

	being studied, and not the actual causes. This means there are less useful applications from the research.
If a very strong correlation is found, further research can be done to establish cause and effect, which may involve researching another outside variable. This means correlational studies are very useful for scientific research.	Correlations require further research into other variables to find cause.
Correlations can be quite easy to conduct as secondary data can often be used.	Correlations are often used in a misleading fashion when published by media in cases where correlations are found, and are published as causations.