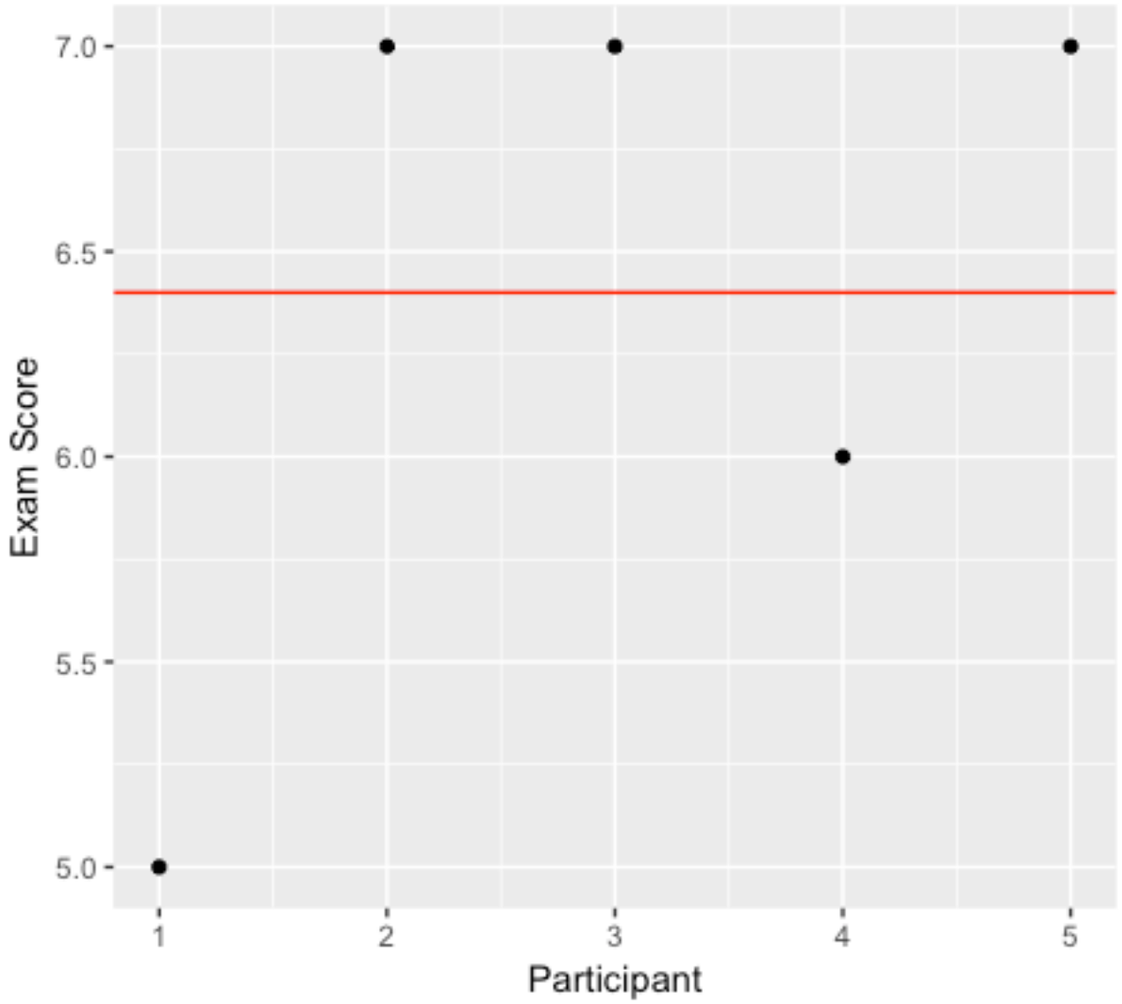
Covariance

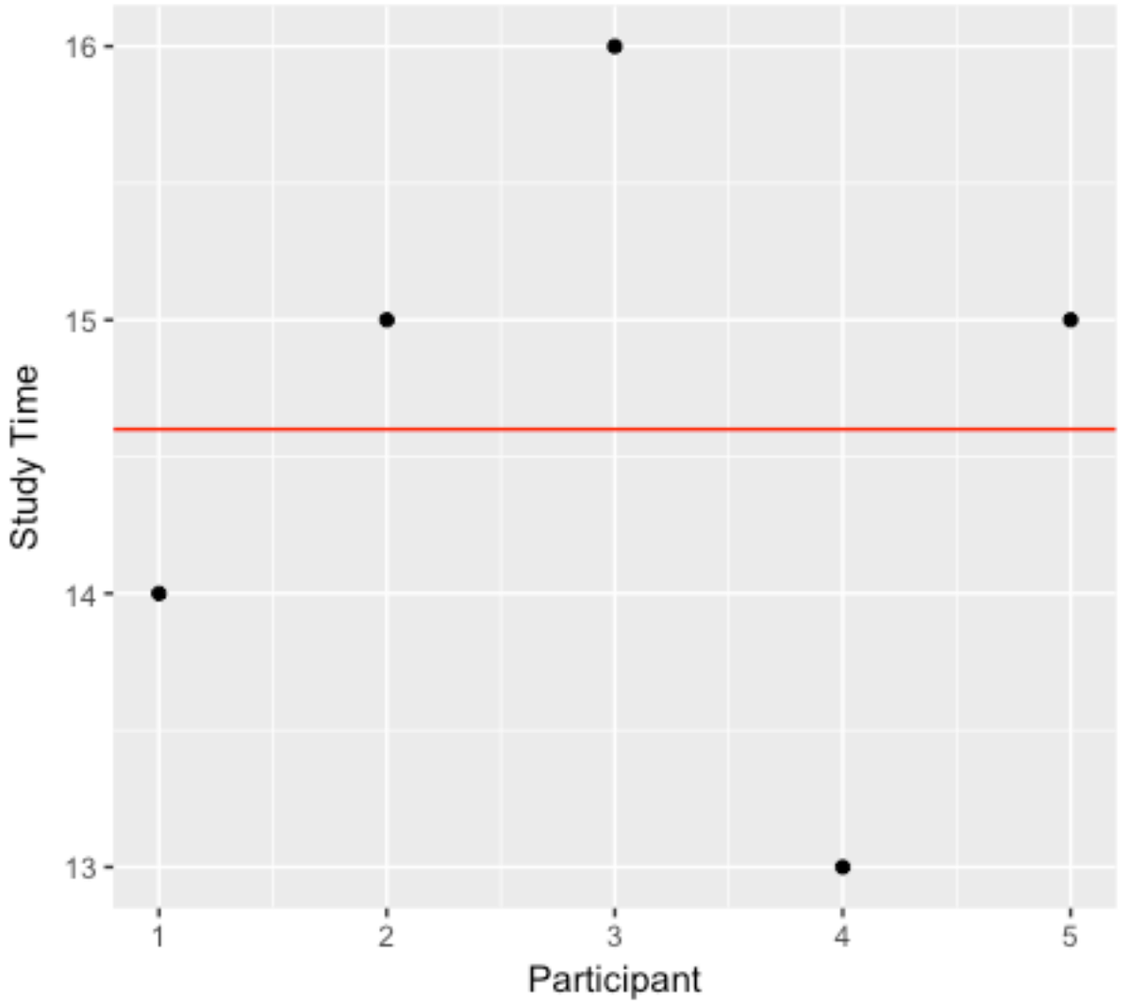
- Remember variance?

- It's the measure of the average amount by which data associated with a variable vary from the mean of that variable…

$$= \frac{\sum (x_i - \bar{x})(x_i - \bar{x})}{N - 1}$$

- If two variables *covary*, then when one variable deviates from the mean, we expect the other variable to deviate from its mean in a similar way.





The red horizontal lines represent the mean for each variable - if a participant is below the mean on one variable, notice that they are also below the mean for the other variable - this suggests the two variable co-vary.