- We can calculate the proportion of improvement in prediction by looking at the ratio of SS_M to SS_T.

- Actually, this is called R^2 so:

$$R^2 = \frac{SS_M}{SS_T}$$

And this is the <u>same</u> R^2 that we worked out by squaring the Pearson correlation coefficient…..

- We can also assess how good our model is by using the F-test.

- The F-test is based on the ratio of the improvement due to the model (SS_M) and the difference between the model and the observed data (SS_R).

$$F = \frac{MS_M}{MS_R}$$

- Rather than use the sums of squares themselves, we use the mean sums of squares (MS_M and MS_R).