1. Exercise re Relationship between test-retest correlation and ICC(X) [In notes on Effect of Errors in X and Y on measured correlation and slope]

2. Exercise re Relationship between correlation(X, X') and ICC(X) [ibid.]

3. Francis Galton (1822-1911) found that the correlation between (self-reported) parental and offspring heights was strongest for the one between fathers and sons, and weakest for the one between mother and daughter. Given the way he obtained the measurements, can you imagine why this was?

4. *Bridging the physical- and the psycho-metric:* The notes on "Increasing Reliability by averaging several measurements" on the right hand column of page 4 of JH's notes on Quantifying Reliability give the formula for the so-called "Stepped-Up Reliability". In psychometrics (where the number of items on a test serves as the "several measurements") this formula serves as the basis for the "Spearman-Brown prediction formula" *.

   Invert the formula on page 4 to derive the formula on the right hand column of page 1 for Spearman-Brown prediction formula relating the reliability of two versions of a test, one with N times more items than the other.

* http://en.wikipedia.org/wiki/Spearman-Brown_prediction_formula

Figure 1: Family heights: Page 1/8 of notebook in Galton Papers : see "Galton's family data on human stature" on JH's website