Multivariate 652

6.10)

For the oldest child, perform the following regression analyses: FEV1 on weight, FEV1 on height, FVC on weight, and FVC on height. Note the values of the slope and correlation coefficient for each regression and test whether they are equal to zero. Discuss whether height or weight is more strongly associated with lung function in the oldest child.

Models	Slope	Correlation Coefficient
Model 1 (weight and FEV1)	2.488	0.893
Model 2 (height and FEV1)	14.14	0.923
Model 3 (weight and FVC)	2.94	0.888
Model 4 (height and FVC)	16.5	0.904

By looking at the slopes and correlation coefficient we can see that:

1) They are not zero

2) Height is more strongly associated with lung function in the oldest child because slope and correlation coefficient are significantly higher than weight.