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Goodness of Model Fit Statistics

The general formulas for MSE, R square, and adjusted R square are the following:

$$MSE = \frac{SSE}{df_E} = \frac{\sum_{i=1}^{n}(y_i - \hat{y}_i)^2}{n-p}$$

$$R^2 = 1 - \frac{SSE}{SST} = 1 - \frac{\sum_{i=1}^{n}(y_i - \hat{y}_i)^2}{\sum_{i=1}^{n}(y_i - \bar{y})^2}$$

$$adj.\ R^2 = 1 - \frac{SSE/df_E}{SST/df_T} = 1 - \frac{\sum_{i=1}^{n}(y_i - \hat{y}_i)^2/(n-p)}{\sum_{i=1}^{n}(y_i - \bar{y})^2/(n-1)}$$

You can write a SAS program to compute these statistics for each model that you fit. The results are summarized above. The sample SAS program is provided in the appendix.

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