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Adjusted R²

Adjusted R² is used to compensate for the addition of variables to the model. As more independent variables are added to the regression model, unadjusted R² will generally increase but there will never be a decrease. This will occur even when the additional variables do little to help explain the dependent variable. To compensate for this, adjusted R² is corrected for the number of independent variables in the model. The result is an adjusted R² that can go up or down depending on whether the addition of another variable adds or does not add to the explanatory power of the model. Adjusted R² will always be lower than unadjusted.

It has become standard practice to report the adjusted R², especially when there are multiple models presented with varying numbers of independent variables.

$$\bar{R}^2 = \left(R^2 - \frac{k}{n-1} \right) \left(\frac{n-1}{n-k-1} \right)$$

$$\bar{R}^2 = \left(.948 - \frac{2}{5-1} \right) \left(\frac{5-1}{5-2-1} \right) \quad \bar{R}^2 = (.948 - .50)(2) \quad \bar{R}^2 = .906$$



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