# Strategy for Predicting Values of y.

In this activity, we will review the flowchart procedure for making predictions about a variable y given a value of a variable x.

First, we must determine whether the regression equation is a “good” model?

The regression equation is a good model if it satisfies the following criteria.

1. The regression line graphed in the scatterplot shows that the line fits the points well.
2. *r* indicates that there is a linear correlation. and
3. The prediction is not much beyond the scope of the available sample data.

If using the preceding criteria, the regression equation appears to be a good model, then we can make predictions using the regression equation.

Substitute the given value x into the regression equation.

The result is the predicted value of y.

For example, consider the regression equation y-hat=2+3x

If that regression equation is found to be a good model and we are given x=5, the predicted value of y is 2 + 3(5) = 17.

However, if the regression equation is not found to be a good model, the best predicted value of y is it’s sample mean.

In this case, predicted values are generally not very good because the predicted value is always the same regardless of the value of x.

In this case, then we do not substitute x into the regression equation.

There is no correlation between height and IQ score.

Given someone of any height, their best predicted IQ score is 100, which is the mean IQ score of the population.

Now, it is time to test your knowledge.

Let’s try another one.

This flowchart reviewed the strategy for predicting values of a variable y when given some value of x.

Use the regression equation to make predictions for the variable y if and only if the regression equation is found to be a good model.

Congratulations, you have mastered an important concept of Statistics!

Using regression, I predict that you are on your way to great success!