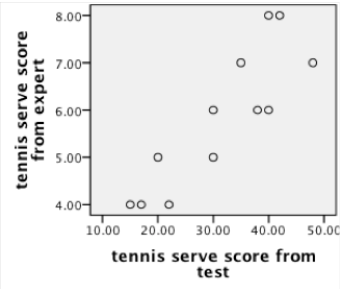
Part 1: Answers - Concurrent Validity

Create the data file below. Assume you wanted to estimate the concurrent validity of scores from a tennis serve test you developed and the criterion measure available to you was an expert's scores of your students' serves. Using the data below, estimate validity. Explain what your answer tells you.

Serve test score	Expert's scores (consider continuous)
42	8
30	5
15	4
17	4
20	5
38	6
48	7
22	4
40	6
40	8
35	7
30	6

Checked Linearity - Fine



Obtained PPMC. The value rxy = .87 tells me there is good concurrent validity. The scores from the test are evaluating tennis serves as good as the expert.

		tennis serve score from test	tennis serve score from expert
tennis serve score from test	Pearson Correlation	1	.869**
	Sig. (2-tailed)		0.000
	N	12	12
tennis serve score from expert	Pearson Correlation	.869**	1
	Sig. (2-tailed)	0.000	
	N	12	12

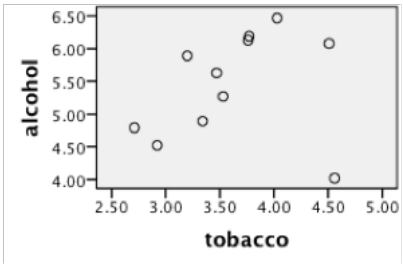
Part 2: Answers - Predictive Validity

Use the Alcohol and Tobacco file

Determine if the amount spent on tobacco is a valid predictor of the amount spent on alcohol.

Checked linearity

Noticed outlier (northern ireland)



Removed outlier - deleted 4.56 for tobacco and 4.02 for alcohol from the data view. NOTE: do NOT make these values 'missing' from the variable view as they might be legitimate values for other cases.

Obtained PPMC

		alcohol	tobacco
alcohol	Pearson Correlation	1	.784**
	Sig. (2-tailed)		0.007
	N	11	10
tobacco	Pearson Correlation	.784**	1
	Sig. (2-tailed)	0.007	
	N	10	10

PPMC = .78. A strong positive correlation between amount spent on tobacco and amount spent on alcohol. Not at the threshold value of .80 for validity but close enough to say amount spent on tobacco an acceptable (not good) predictor of amount spent on alcohol.
Note that if you don't remove outlier, r = .224

Obtain SEE

alcohol		
N	Valid	10
	Missing	1
Std. Deviation	0.67781	

$$SEE = .67781\sqrt{1-(.784^2)} = .4233$$

Interpretation: There is a moderate amount of error in prediction.

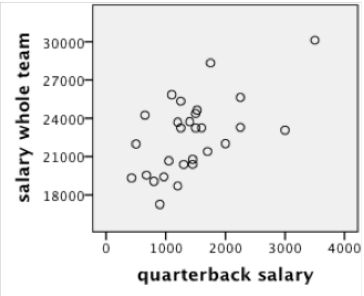
Part 3: Answers - Predictive Validity

Use the football file

Note: needed to add variable labels to variables and add value labels for the variable conference.

Is quarterback's salary a good predictor of total team salary?

Checked linearity - fine



Obtained PPMC

		quarterback salary	salary whole team
quarterback salary	Pearson Correlation	1	.582**
	Sig. (2-tailed)		0.001
	N	28	28
salary whole team	Pearson Correlation	.582**	1
	Sig. (2-tailed)	0.001	
	N	28	28

Interpretation: Since PPMC (.58) only moderate, quarterback salary would not be considered a good predictor of total team salary.