

## PSYC 5322: Psychometrics

Tarleton State University

Homework 6

Spring 2020

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1. Test score  $X$  has a reliability of 0.75. Criterion  $Y$  has a reliability of 0.80. The observed validity coefficient is 0.60. If you could increase the reliability of your measurements, how big could your validity coefficient be?
2. A predictor and a criterion have a correlation of 0.62. If the reliabilities of the predictor and criterion are 0.73 and 0.82, respectively, what is the estimated correlation between the predictor observed score and the criterion true score?
3. For the data in the following table:

Score	Successful	Unsuccessful
10	8	0
9	7	1
8	12	2
7	9	3
6	4	2
5	8	4
4	2	3
3	1	6
2	0	8
1	0	19

- (a) What is the base rate?
- (b) What cut score yields the best hit rate? What is the best hit rate?