

languages,” and the circle on the right represents the actual test of knowledge of programming languages. The overlap between the two circles represents the degree of accuracy of measurement for the test. The greater the overlap, the greater the accuracy of measurement.

Notice that perfect overlap is not shown in Exhibit 7.11. This signifies the occurrence of measurement error with the use of the test. These errors, as indicated in the exhibit, are the errors of deficiency and contamination previously discussed.

So how does accuracy of measurement differ from reliability of measurement since both are concerned with deficiency and contamination? There is disagreement among people on this question. Generally, the difference may be thought of as follows. Reliability refers to consistency among the scores on the test, as determined by comparing scores as previously described. Accuracy of measurement goes beyond this to assess the extent to which the scores truly reflect the attribute being measured—the overlap shown in Exhibit 7.11. Accuracy requires reliability, but it also requires more by way of evidence. For example, accuracy requires knowing something about how the test was developed. Accuracy also requires some evidence concerning how test scores are influenced by other factors—for example, how do test scores change as a result of employees attending a training program devoted to providing instruction on programming languages? Accuracy thus demands greater evidence than reliability.

Accuracy of Prediction

Measures are often developed because they provide information about people that can be used to make predictions about them. In Exhibit 7.1, the knowledge test was to be used to help make hiring decisions, which are actually predictions about which people will be successful at a job. Knowing something about the accuracy with which a test predicts future job success requires examining the relationship between scores on the test and scores on some measure of job success for a group of people.

Accuracy of prediction is illustrated in the top half of Exhibit 7.12. Where there is an actual job success outcome (criterion) to predict, the test (predictor) will be used to predict the criterion. Each person is classified as high or low on the predictor and high or low on the criterion, based on predictor and criterion scores. Individuals falling into cells A and C represent correct predictions, and individuals falling into cells B and D represent errors in prediction. Accuracy of prediction is the percentage of total correct predictions and can range from 0% to 100%.

The bottom half of Exhibit 7.12 shows an example of the determination of accuracy of prediction using a selection example. The predictor is the test of knowledge of programming languages, and the criterion is an overall measure of job performance. Scores on the predictor and criterion measures are gathered for 100 job applicants and are dichotomized into high or low scores on each. Each individual is placed into one of the four cells. The accuracy of prediction for the test is 70%.