An example might help clarify this idea. Taking our previous example of 200 information technology analysts, let's say that we found a correlation of r = .20 between a measure of programming language knowledge and job performance. How likely is it that we would obtain a correlation of .20 if the "true" correlation between those variables in the population was actually r = 0? The t value of our correlation would be 2.87, with a $p < .05$ (actually the p value would be .005). This means that if we hypothetically took 100 more different samples of 200 information technology analysts and computed the correlation in each sample, and the true correlation in the population was actually r = 0, we would expect to find a correlation of .20 in only half a percent (.005) of those samples. In other words, a correlation of .20 would be extremely rare, and so we conclude that the actual correlation is not r = 0. The correlation of r = .20 is deemed "statistically significant."

It is important to avoid concluding that there is a relationship in the population when in fact there is not. (Consider the ramifications of concluding that a new drug with harmful side effects drastically reduces the risk of cancer, yet in fact the drug does nothing to reduce that risk.) Therefore, one usually chooses a fairly conservative or stringent level of significance that the correlation must attain before concluding that it is significant. Typically, a standard of $p < .05$ or less (another common standard is $p < .01$) is chosen. The actual significance level (based on the t value for the correlation) is then compared with the desired significance level, and a decision is reached as to whether the correlation is statistically significant. Here are some examples:

Desired Level	Actual Level	Conclusion About Correlation
$p < .05$	$p < .23$	Not significant
$p < .05$	$p < .02$	Significant
$p < .01$	$p < .07$	Not significant
$p < .01$	$p < .009$	Significant

Although statistical significance is important in judging the usefulness of a selection measure, caution should be exercised in placing too much weight on this. With very large sample sizes, even very small correlations will be significant, and with very small samples, even strong correlations will fail to be significant. The absolute size of the correlation matters as well.

QUALITY OF MEASURES

Measures are developed and used to gauge attributes of objects. Results of measures are expressed in the form of scores, and various manipulations may be done to them. Such manipulations lead to better understanding and interpretation of the scores, and thus the attribute represented by the scores.

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