TestWiz™
Correlation Reports

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Overview

If you are interested in determining whether there is a linear relationship between two different scores (scores from two different tests, two scores on the same test, etc.), you may generate a Correlation Report. The Correlation Report calculates a value for the correlation coefficient, its strength, and its significance. The Correlation Report also includes a scatter plot of the scores together with the regression line. You can use this visual graph, together with the value of the correlation and its significance, to conclude what kind of linear relationship exists between the two report scores and perhaps make estimates for one score based on the other.

The Correlation Report could be particularly useful to determine whether there is a relationship between the scores on a locally developed test and the scores on a state exam.

Creating a Correlation Report

To determine the correlation between two test scores, you may create a Correlation Report. To see a Correlation Report:

1. Go to Utilities.
2. From the Utility Reports menu, choose Correlation Reports. The Correlation Report page appears.
3. In “Step 1 - Select First Test Administration,” choose a Test Administration from the drop-down list. This test and the score you choose can be used as the x values for the linear regression.
4. Click **Next** to go to the next step.

5. In “Step 2 - Select a Score from First Test Administration,” choose the subtest-score combination to use from the first Test Administration.

6. Click **Next** to go to the next step.

7. In “Step 3 - Select Second Test Administration,” choose the second Test Administration containing the second score values.
8. Click **Next** to go to the next step.

9. In “Step 4 - Select a Score from Second Test Administration,” choose the subtest-score combination to use from the second Test Administration. This can be similar or entirely different from the score on the first test.

10. Click **Finish**. The Correlation Report appears.

11. Click **Print** if you want to print the report screen to your printer.
Looking at the Correlation Report

Correlation(r)

Pearson’s Correlation Coefficient. This coefficient measures the strength and direction of a linear relationship between two variables (e.g. two test scores) and is always between -1 and +1: the closer to positive or negative 1, the closer to a perfect linear relationship. A positive correlation means that those students who scored high on the first test, also scored high on the second. A negative correlation means that those students who scored high on the first test, scored low on the second.

While a correlation value close to 1 indicates a very strong relationship between the two test scores, a value close to 0 means that there is little to no relationship. The table below provides positive correlation values with their corresponding degree of strength.

<table>
<thead>
<tr>
<th>Correlation (r)</th>
<th>Strength of Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None</td>
</tr>
<tr>
<td>0&lt;r≤0.20</td>
<td>Very Weak</td>
</tr>
<tr>
<td>0.20&lt;r≤0.40</td>
<td>Weak</td>
</tr>
<tr>
<td>0.40&lt;r≤0.60</td>
<td>Moderate</td>
</tr>
<tr>
<td>0.60&lt;r≤0.80</td>
<td>Strong</td>
</tr>
<tr>
<td>0.80&lt;r≤1.00</td>
<td>Very Strong</td>
</tr>
<tr>
<td>1</td>
<td>Perfect</td>
</tr>
</tbody>
</table>

Confidence Level

The Confidence Level of the correlation is based on the statistical significance of the correlation (whether the correlation occurred by chance or not). To test whether a correlation is statistically significant, statisticians compute a t-value and compare this value to the critical t-value found in the t-table.

If the Confidence Level is 95% or higher, the correlation is labeled “Significant.” Otherwise it is labeled “Not Significant.”

N is the number of data points (or scores) used in the correlation calculation.

The Graph

The scatter plot shows each student’s data point. The score on the first test (x) and the score on the second test (y) are plotted as an (x,y) point.

The regression line, or the best “line of fit”, for these scores is also shown. The regression line can be used to predict the second test score from the first.

Contact Information

Please contact Certica Solutions for help using TestWiz.

Toll-free Help line: 877-456-8949
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