

How to Use SPSS Statistics to Run a Correlation FACULTY CREATED CONTENT

A short burst learning video prepared by the Research & Methodology SIG in the Research Hub

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Welcome to this Short Burst Learning Video on How to Use SPSS Statistics to Run a Correlation presented by the Research and Methodologies Special Interest Group on the University Research Hub.

I'm Dr. Frederick Lawrence, a quantitative methodologist.

Correlation determines the degree to which a relationship is linear.

Put another way, correlation determines whether there is a linear component of association between two continuous variables.

We illustrate the procedure with an example, courtesy of Laerd Statistics and images from SPSS statistics with permission from the IBM Corporation.

The research question was, is a person's height related to how well he or she performs in a long jump? A sample of 14 untrained individuals was randomly chosen from the general population and their height and distance in the long jump were measured.

Whether there was an association between height and long jump performance wasn't investigated with Pearson's correlation.

To start, the data were entered in the data view and the variable attributes in the variable view of SPSS statistics.

For help with these steps, see our short burst learning video using quantitative analysis programs.

Then, the assumptions were checked.

The variables should be measured on a continuous scale, interval or ratio.

There should be a linear relationship between the two variables.

This can be checked with a scatter plot, which is available in SPSS statistics.

If the relationship between the two variables is not linear, then it would be better described by another statistical measure other than correlation.

There are no significant outliers and the variables should be approximately normally distributed.

This can be checked with the Shapiro-Wilk test of normality, which is available in SPSS statistics.

For further discussion on checking assumptions, see the example on the Laerd website.

Choose bi-variate in the correlate group on the analyze menu.

In the dialog box, move the height and long jump distance variables to the variables window.

Select the correlation coefficient.

Pearson is the default.

Select a two-tailed or one-tailed test of significance.

Two-tailed is the default.

In the options window, you may choose to generate descriptive statistics or specify how to handle missing values.

The default values are shown on this screen.

Then click continue and then click okay at the bottom of the dialog box.

In the correlations output, the correlation coefficient is shown twice.

Once for each of the two variables with the other variable.

For this example, the Pearson correlation, 0.706, was statistically significant at the one half of 1% level for a two-tailed test.

The conclusion was there was a strong, positive correlation between height and distance jumped in a long jump.

Further help is available through the quantitative office hours.

On the research hub homepage, navigate to the research and methodology group, and then to office hours implementing research.

Contact a quantitative methodologist to schedule a consulting appointment.

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