Pearson's Correlation

Similar to the researcher for the problem which called for an independent groups t test, the researcher in the present problem was also interested in the relationship between source credibility and the extent to which people agreed with the content of the message delivered by the speaker. However, the approach taken by the present researcher is different. In the present study the researcher does **NOT** randomly assign subjects to one of two source credibility conditions. Instead, the researcher in the present study had the subjects listen to a message delivered by a speaker and then asked the subjects to indicate the extent to which they agreed with the speaker on a 7 point agreement scale that looked like this:

low agreement: 1 2 3 4 5 6 7: high agreement

The researcher then had the subjects give their perceptions of the speaker's credibility by rating the speaker's credibility on a 7 point credibility scale that looked like this:

In my opinion the speaker has
low credibility: 1 2 3 4 5 6 7: high credibility

Finally, since the researcher was also interested in the relationship between the subject's intelligence and the extent to which they would agree with a speaker who delivered a message, the researcher also collected information on the subjects' intelligence by administering an I.Q. test. The results the researcher obtained were then put in a table like that below:

Subject	Extent of Agreement	Perceptions of Credibility	Subject's Intelligence
Hank	6	7	101
Bob	3	4	102
Sally	7	9	103
Sue	5	5	103
John	4	3	104
Ruth	2	1	105
Ron	3	2	106

1. Logon to system
2. **Click Start > Programs > SPSS for Windows > SPSS 10.1 for Windows**. At this point a window will appear asking you what you would like to do. Click on the circle next to Type in Data (2nd option in list) and then click **OK** at the bottom of the window.
3. A Data Editor will appear. Look in the lower left corner of the screen. You should see a **Data View** tab and to the right of it a **Variable View** tab. The **Variable View** tab will be used first for the Data **Definition** Phase of creating a data file. The Data **View** tab will be used to actually enter the raw numbers listed above. (See pages 1-3 for a more detailed explanation of creating data files.)

DATA DEFINITION PHASE

4. Click on the **Variable View** tab in the lower left corner. A new screen will appear with the following words at the top of each column.

   Name Type Width Decimals **Label Values** Missing Columns Align Measure

5. Click on the white cell in **Row 1** under the word **Name** and type in the word **Agree** (for agreement).
6. Click on the white cell in **Row 1** under the word **Label** and type in **Extent of Agreement** (Doing this will provide you with more expansive labels in your results output).

7. Click on the white cell in **Row 2** under the word **Name** and type in **Credible** (for credibility).
8. Click on the white cell in **Row 2** under the word **Label** and type in **Credibility Perceptions** (Doing this will provide you with more expansive labels in your results output).
9. Click on the white cell in **Row 3** under the word **Name** and type in the word **IQ** (for intelligence).
10. Click on the white cell in **Row 3** under the word **Label** and type in **Subject's Intelligence**. (Doing this will provide you with more expansive labels in your results output).

DATA ENTRY PHASE

11. Click on the **Data View** tab in the lower left corner. The **data view** screen will now appear with Column 1 named **Agree** (for agreement), column 2 named **Credible** (for perceptions of credibility) and column 3 named **IQ** (for Subject's intelligence).
12. Enter the data for all 7 subjects as follows. Click on the white cell at Row 1, Column 1 under agree and enter:
    6 tab 7 tab 101 enter. Then mouse to the second row to enter the data for the second case.
    3 tab 4 tab 102 enter. Then mouse to the third row to enter the data for the third case etc. for the remaining cases.

7 tab 9 tab 103
5 tab 5 tab 103
4 tab 3 tab 104
2 tab 1 tab 105
3 tab 2 tab 106

> The data may also be entered down one column at a time, entering all the agreement numbers first, and then moving on to column 2 and entering the credibility data, then moving on to column 3 and entering the intelligence data.

Data Analysis

1. Click on **Analyze** at top of screen then
   a. Click on **Correlate** then
   b. Click on **bi-variate**
2. Highlight the word **agree** by clicking on it and then
   a. Click on **arrow >** to transfer this name to the **Variables** box
3. Highlight the word **credible** by clicking on it and then
   a. Click on **arrow >** to transfer this name to the **Variables** box
4. Highlight the word **intell** by clicking on it and then
   a. Click on **arrow >** to transfer this name to the **Variables** box
5. Make sure there is a check mark in the small white box next to the word **Pearson**. If not click on the small white box and a check mark should appear.
6. Click on **OK.**
7. Your results will appear in a Window. Scroll up using the slide bar on the right to the top of the output. The results of this analysis are presented below.

Correlations

		Extent of Agreement	Credibility Perceptions	Subject's Intelligence
Extent of Agreement	Pearson Correlation	1	.957**	-.585
	Sig. (2-tailed)	.	.001	.167
	N	7	7	7
Credibility Perceptions	Pearson Correlation	.957**	1	-.698
	Sig. (2-tailed)	.001	.	.081
	N	7	7	7
Subject's Intelligence	Pearson Correlation	-.585	-.698	1
	Sig. (2-tailed)	.167	.081	.
	N	7	7	7

**. Correlation is significant at the 0.01 level (2-tailed).

8. For the problem above the null and alternative hypotheses are spelled out below:

H_{null}: a) There is no relationship between agreement with the speaker's message and perceptions of the speaker's credibility.
b) There is no relationship between agreement with the speaker's message and the subject's intelligence score.
c) There is no relationship between perceptions of the speaker's credibility and the subject's intelligence score.

H_{alt}: a) There is a relationship between agreement with the speaker's message and perceptions of the speaker's credibility.
b) There is a relationship between agreement with the speaker's message and the subject's intelligence score.
c) There is a relationship between perceptions of the speaker's credibility and the subject's intelligence score.

9. **Interpretation and APA writing template for Results Above:**

A series of Pearson correlations were calculated in order to determine the association among the variables. The participants' intelligence scores were not related to their perceptions of the speaker's credibility $r(5) = -.69$, $p > .05$. Similarly, the participants' intelligence scores were not related to their agreement with the speaker's message $r(5) = -.58$, $p > .05$. However, the participant's agreement with the speaker's message was positively related to their perceptions of the speaker's credibility $r(5) = .95$, $p < .05$. The more credibility the participants perceived the speaker as having, the more likely they were to agree with the speaker's message.