Chapter 7: Correlation

Labcoat Leni's Real Research

Why do you like your lecturers?

Problem

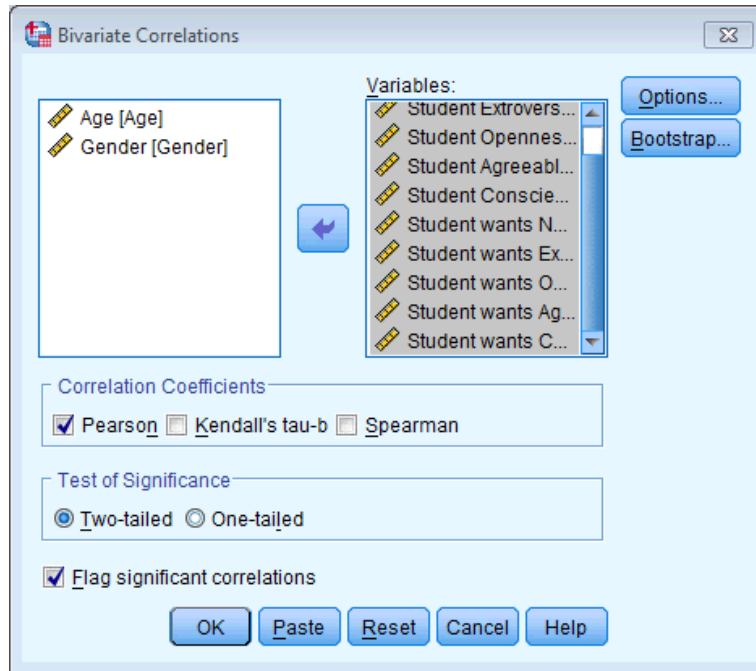Chamorro-Premuzic, T., et al. (2008). *Personality and Individual Differences*, *44*, 965–976.

As students you probably have to rate your lecturers at the end of the course. There will be some lecturers you like and others you hate. As a lecturer I find this process horribly depressing (although this has a lot to do with the fact that I tend focus on negative feedback and ignore the good stuff). There is some evidence that students tend to pick courses of lecturers they perceive to be enthusastic and good communicators. In a fascinating study, Tomas Chamorro-Premuzic and his colleagues (Chamorro-Premuzic, Furnham, Christopher, Garwood, & Martin, 2008) tested a slightly different hypothesis, which was that students tend to like lecturers who are like themselves. (This hypothesis will have the students on my course who like my lectures screaming in horror.)

First of all the authors measured students' own personalities using a very well-established measure (the NEO-FFI) which gives rise to scores on five fundamental personality traits: neuroticism, extroversion, openness to experience, agreeableness and conscientiousness. Students also completed a questionnaire in which they were given descriptions (e.g., 'warm: friendly, warm, sociable, cheerful, affectionate, outgoing') and asked to rate how much they wanted to see this in a lecturer from –5 (I don't want this characteristic at all) through 0 (the characteristic is not important) to +5 (I really want this characteristic in my lecturer). The characteristics on the questionnaire all related personality characteristics measured by the NEO-FFI.

As such, the authors had a measure of how much a student had each of the five core personality characteristics, but also a measure of how much they wanted to see those same characteristics in their lecturer. Tomas and his colleagues could then test whether, for instance, extroverted students want extroverted lecturers. The data from this study (well, for the variables that I've mentioned) are in the file **Chamorro-Premuzic.sav**. Run Pearson correlations on these variables to see if students with certain personality characteristics want to see those characteristics in their lecturers. What conclusions can you draw?

Solution

We can run this analysis by loading the file and just pretty much selecting everything in the variable list and running a Pearson correlation. The dialog box will look like this:

The resulting output will look like this:

Correlations

		Student Neuroticosm	Student Extroversion	Student Openness	Student Agreeablenes s	Student Conscientiou sness	Student wants Neuroticism in lecturers	Student wants Extroversion in lecturers	Student wants Openness in lecturers	Student wants Agreeablenes s in lecturers	Student wants Conscientiou sness in lecturers
Student Neuroticosm	Pearson Correlation	1	-.336**	-.055	.006	-.196**	.007	-.081	-.018	.101*	.003
	Sig. (2-tailed)		.000	.259	.896	.000	.895	.176	.712	.041	.956
	N	420	418	418	408	416	413	281	416	413	413
Student Extroversion	Pearson Correlation	-.336**	1	.069	.080	.186**	-.099*	.153*	.068	.004	-.010
	Sig. (2-tailed)	.000		.160	.106	.000	.045	.010	.165	.932	.844
	N	418	418	416	406	414	411	281	414	411	411
Student Openness	Pearson Correlation	-.055	.069	1	-.037	-.091	-.101*	.041	.201**	-.163**	-.034
	Sig. (2-tailed)	.259	.160		.461	.066	.041	.499	.000	.001	.494
	N	418	416	418	406	414	411	281	414	411	411
Student Agreeableness	Pearson Correlation	.006	.080	-.037	1	.522**	-.021	.050	.107*	.164**	.198**
	Sig. (2-tailed)	.896	.106	.461		.000	.667	.412	.031	.001	.000
	N	408	406	406	413	404	406	276	408	405	405
Student Conscientiousness	Pearson Correlation	-.196**	.186**	-.091	.522**	1	-.140**	.102	.027	.133**	.216**
	Sig. (2-tailed)	.000	.000	.066	.000		.005	.090	.582	.007	.000
	N	416	414	414	404	416	409	280	412	409	409
Student wants Neuroticism in lecturers	Pearson Correlation	.007	-.099*	-.101*	-.021	-.140**	1	-.002	.037	.045	-.258**
	Sig. (2-tailed)	.895	.045	.041	.667	.005		.975	.456	.361	.000
	N	413	411	411	406	409	417	279	415	414	414
Student wants Extroversion in lecturers	Pearson Correlation	-.081	.153*	.041	.050	.102	-.002	1	.492**	.118*	.101
	Sig. (2-tailed)	.176	.010	.499	.412	.090	.975		.000	.049	.093
	N	281	281	281	276	280	279	283	282	280	281
Student wants Openness in lecturers	Pearson Correlation	-.018	.068	.201**	.107*	.027	.037	.492**	1	.242**	.120*
	Sig. (2-tailed)	.712	.165	.000	.031	.582	.456	.000		.000	.014
	N	416	414	414	408	412	415	282	420	415	415
Student wants Agreeableness in lecturers	Pearson Correlation	.101*	.004	-.163**	.164**	.133**	.045	.118*	.242**	1	.240**
	Sig. (2-tailed)	.041	.932	.001	.001	.007	.361	.049	.000		.000
	N	413	411	411	405	409	414	280	415	417	414
Student wants Conscientiousness in lecturers	Pearson Correlation	.003	-.010	-.034	.198**	.216**	-.258**	.101	.120*	.240**	1
	Sig. (2-tailed)	.956	.844	.494	.000	.000	.000	.093	.014	.000	
	N	413	411	411	405	409	414	281	415	414	417

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

*. Correlation is significant at the 0.05 level (2-tailed).

This looks pretty horrendous, but there are actually a lot of correlations that we don't need. First, the table is symmetrical around the diagonal so we can first ignore either the top diagonal or the bottom (the values are the same). The second thing is that we're interested only in the correlations between students' personality and what they want in lecturers. We're not interested in how their own five personality traits correlate with each other (i.e. if a student is neurotic are they conscientious too?) The red squares above show the areas of the table that contain the information that we need to address our hypothesis. The top right red square is a replica of the values reported in the original research paper (part of the authors' table is below so you can see how they reported these values – match these values to the values in your SPSS output):

		Lecturer				
		N	E	O	A	C
Student	N	.00	−.08	−.02	.10*	.00
	E	−.10*	.15*	.07	.00	−.01
	O	−.10*	.04	.20**	−.17**	.03
	A	−.02	.05	.11**	.16**	.20**
	C	−.14**	.10*	.03	.13	.22**

As for what we can conclude, well, neurotic students tend to want agreeable lecturers, r = .10, p < .05; extroverted students tend to want extroverted lecturers, r = .15, p < .05; students who are open to experience tend to want lecturers who are open to experience, r = .20, p < .01, and don't want agreeable lecturers, r = −.17, p < .01; agreeable students want every sort of lecturer apart from neurotic and extroverted. This could be because these students are agreeable! Finally, conscientious students tend to want conscientious lecturers, r = .22, p < .01, and extroverted ones, r = .10, p < .05, but don't want neurotic ones, r = −.14, p < .01.