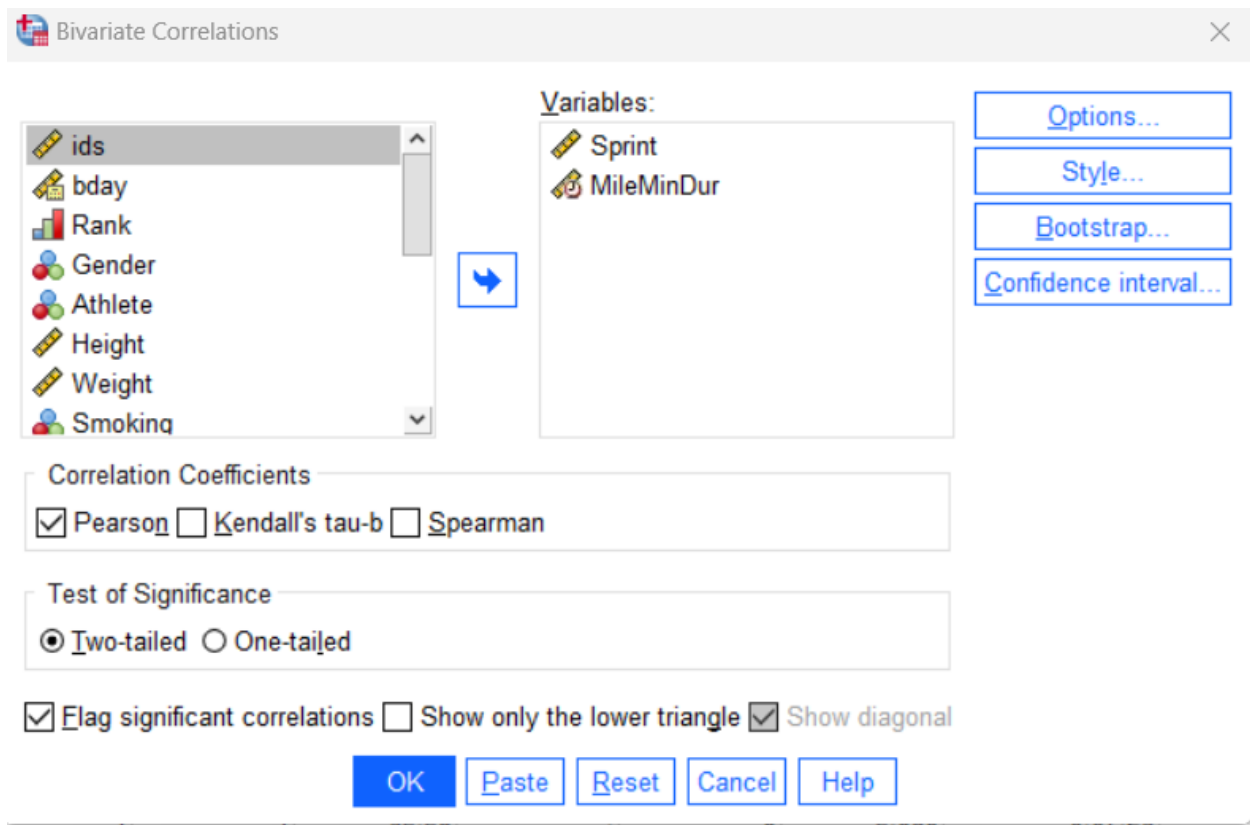


## **Motive**

- Applying following SPSS Actions
  - Pesrson's Correlation
- Using three datasets
  - Open-source dataset1
    - dataset contains survey results from 435 students enrolled at a university in the United States.
      - ID number , Date of birth , Date of college , Expected date of college graduation , Class rank ,Gender ,Athlete , Height Height ,Weight , Smoking , sprint , MileMinDur , English Score , Reading Score, Math Score , Writing Score , State , LiveOnCampus , HowCommute , CommuteTime , SleepTime , StudyTime
  - Open-source dataset2
    - dataset contains heights for 1078 pairs of father/son
      - father\_height/ son\_height
  - Lecture dataset
    - ID , Gender , Age , Marital , Employment , QOL\_total , Distress\_total , Esteem\_Q[1-10]

# Open-Source Dataset1

Correlation between sprint run time and mile run time



The image shows the 'Bivariate Correlations' dialog box in SPSS. On the left, a list of variables includes 'ids', 'bday', 'Rank', 'Gender', 'Athlete', 'Height', 'Weight', and 'Smoking'. A blue arrow points from this list to a 'Variables:' box on the right, which contains 'Sprint' and 'MileMinDur'. Below the variable lists are three sections: 'Correlation Coefficients' with checkboxes for 'Pearson' (checked), 'Kendall's tau-b', and 'Spearman'; 'Test of Significance' with radio buttons for 'Two-tailed' (selected) and 'One-tailed'; and a row of checkboxes for 'Flag significant correlations' (checked), 'Show only the lower triangle', and 'Show diagonal'. On the far right, there are four buttons: 'Options...', 'Style...', 'Bootstrap...', and 'Confidence interval...'. At the bottom are buttons for 'OK', 'Paste', 'Reset', 'Cancel', and 'Help'.

## Correlations

		Sprint	MileMinDur
Sprint	Pearson Correlation	1	.707**
	Sig. (2-tailed)		<.001
	N	374	337
MileMinDur	Pearson Correlation	.707**	1
	Sig. (2-tailed)	<.001	
	N	337	392

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

- $\text{Sig} < 0.05$  so they are correlated
- $\text{Abs}(r) = 0.71$  so there's high correlation between them
- $\text{Sign}(\text{sig})$  : positive so means it's positive correlation

## Open-Source Dataset2

The image shows the 'Bivariate Correlations' dialog box in SPSS. On the left is an empty box for 'Display' and on the right is a box for 'Variables' containing 'Father' and 'Son'. Below these are sections for 'Correlation Coefficients' (Pearson checked, Kendall's tau-b and Spearman unchecked), 'Test of Significance' (Two-tailed selected, One-tailed unselected), and checkboxes for 'Flag significant correlations' (checked), 'Show only the lower triangle' (unchecked), and 'Show diagonal' (checked). At the bottom are buttons for 'OK', 'Paste', 'Reset', 'Cancel', and 'Help'. On the far right are buttons for 'Options...', 'Style...', 'Bootstrap...', and 'Confidence interval...'.

Bivariate Correlations

Variables:

- Father
- Son

Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☐ Spearman

Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations ☐ Show only the lower triangle ☒ Show diagonal

OK Paste Reset Cancel Help

Options... Style... Bootstrap... Confidence interval...

### Correlations

		Father	Son
Father	Pearson Correlation	1	.501**
	Sig. (2-tailed)		<.001
	N	1078	1078
Son	Pearson Correlation	.501**	1
	Sig. (2-tailed)	<.001	
	N	1078	1078

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

- Sig < 0.05 so they are correlated
- Abs(r) = 0.71 so there's medium correlation between them
- Sign(sig) : positive so means it's positive correlation

# Lecture Dataset

**Bivariate Correlations**

Variables:

- Quality of life scale total scor...
- Distress scale total score [Di...
- E\_total**

Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☐ Spearman

Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations ☐ Show only the lower triangle ☒ Show diagonal

OK Paste Reset Cancel Help

Options... Style... Bootstrap... Confidence interval...

		Correlations		
		Quality of life scale total score	Distress scale total score	E_total
Quality of life scale total score	Pearson Correlation	1	-.708**	.660**
	Sig. (2-tailed)		<.001	<.001
	N	200	198	200
Distress scale total score	Pearson Correlation	-.708**	1	-.685**
	Sig. (2-tailed)	<.001		<.001
	N	198	198	198
E_total	Pearson Correlation	.660**	-.685**	1
	Sig. (2-tailed)	<.001	<.001	
	N	200	198	200

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

- Between Quality of life , Distress
  - Sig < 0.05 so they are correlated
  - Abs(r) = 0.71 so there's significant correlation between them
  - Sign(sig) : negative so means it's negative correlation

- Between quality of life and self esteem
  - $\text{Sig} < 0.05$  so they are correlated
  - $\text{Abs}(r) = 0.66$  so there's significant correlation between them
  - $\text{Sign}(\text{sig})$  : positive so means it's positive correlation
- As  $0.71 > 0.66$ 
  - Correlation between quality of life and distress is higher than Correlation between quality of life and self esteem
- Between self esteem , distress
  - $\text{Sig} < 0.05$  so they are correlated
  - $\text{Abs}(r) = 0.69$  so there's significant correlation between them
  - $\text{Sign}(\text{sig})$  : negative so means it's negative correlation
  -