

The invalid assumption that correlation implies cause is probably among the two or three most serious and common errors of human reasoning.

– Stephen J. Gould

Name: _____

DUE In One Week

Goal: Learn to do multiple correlations at a time. On the back of this page are five variables we measured: **EDW** (energy drinks per week), **AFstCell** (age when owned 1st cellphone), **FFpM** (fast food visits per month), **TpY** (number of tacos eaten per year), and **ASOCcell** (age a child should be to own their 1st cell phone). Enter the data into **SPSS-29** and create a correlation matrix. That means you will tell SPSS to perform all correlations at the same time. You *can* do them one at a time (i.e., 10 different correlations) but that seems like a waste of time to me.

Part I

Create an SPSS data file to be analyzed.

[After data entry: Analyze → Correlate → Bivariate → Select all data variables to analyze → OK]

Part II

Use SPSS to calculate a **complete correlation matrix**. (a) The 10 correlations should be summarized below in the UNSHADED portions of the table; (b) The *best (strongest) correlation* should be recorded in the blanks beneath the table (note that $df = N - 2$, where N represents the number of *pairs* of data being compared in the correlation – so in this case we had data from **21** people, your df should be **19**; and (c) then generate a scatter-plot (one per page would be ideal) of the single *strongest* and the single *weakest* correlation identified in the correlation table below.

	EDW	AFstCell	FFpM	TpY	ASOCcell
EDW	1.00				
AFstCell		1.00			
FFpM			1.00		
TpY				1.00	
ASOCcell					1.00

The **strongest** correlation obtained was: _____ correlated with _____.

$r =$ _____ $df =$ **19** $p =$ _____

The **weakest** correlation obtained was: _____ correlated with _____.

$r =$ _____ $df =$ **19** $p =$ _____

Part III

Use SPSS to **generate scatter-plots of two correlations** (Graphs → Select the Scatter/Dot option, then tiny graph with dots: “Simple Scatter” → Define → Select a variable for the Y Axis and then a variable for the X Axis(doesn’t matter which goes where) → OK → A scatter plot will be generated, but you will need to double-click on it to activate options → This will generate your graph in a stand-alone pop-up window; from the little graph icons just above your graph, select the small icon that represents “Add Fit Line at Total” (hover the mouse over each icon until you find the correct one) → Close the “properties” pop-up as well as the figure pop-up and now your output file should contain a figure with a best-fit line in it. Click on the graph to select it, then copy and paste it into a word document (no more than two graphs per page).

EDW	AFstCell	FFpM	TpY	ASOCcell
2	12	1	30	12
0	10	2	3	13
2	13	12	25	13
0	11	5	24	13
7	12	2	180	12
0	9	2	15	11
1	12	7	2	14
0	14	10	100	15
0	11	9	21	10
14	12	1	10	15
16	11	10	8	11
0	12	2	53	13
0	8	15	100	16
0	12	5	300	11
2	14	4	24	15
1	13	2	52	14
0	14	6	45	14
0	14	10	5	16
3	9	1	10	10
0	12	5	30	12
0	12	4	24	12