

Point Biserial Correlation Coefficient

The point biserial correlation coefficient, here symbolized as r_{pb} , pertains to the case where one variable is dichotomous and the other is non-dichotomous. By convention, the dichotomous variable is treated as the X variable, its two possible values being coded as X=0 and X=1; and the non-dichotomous variable is treated as the Y variable.

Procedure:

- **Entering Data Directly into the Text Fields:**

After clicking the cursor into the scrollable text area labeled 'X=0,' enter the values of Y that are associated with X=0, pressing the carriage return key after each entry except the last. (On a Macintosh platform, the carriage return key is labeled 'Return'; on a Windows platform it is labeled 'Enter.') Perform the same procedure in the 'X=1' text area to enter the values of Y associated with X=1.

- **Importing Data via Copy & Paste:**

Within the spreadsheet application or other source of your data, select and copy the values of Y associated with X=0. Then return to your web browser, click the cursor into the text area for 'X=0' and perform the 'Paste' operation from the 'Edit' menu. Perform the same procedure for the values of Y associated with X=1.

- **Data Check:**

For each list of Y values, make sure that the final entry is **not** followed by a carriage return. (A carriage return after the final entry in a list will be interpreted as an extra data entry whose value is zero. Importing data via the copy and paste procedure will almost always produce an extra carriage return at the end of a list.) After all values have been entered, click the cursor immediately to the right of the final entry in each list, then press the down-arrow key. If an extra line is present, the cursor will move downward. Extra lines can be removed by pressing the down-arrow key until the cursor no longer moves, and then pressing the 'Backspace' key (on a Mac platform, 'delete') until the cursor stands immediately to the right of the final entry.

- **When all** values have been entered and checked, click the button labeled «Calculate».

Data Entry

		Items Coded as	
		X=0	X=1
Values of Y	1		10
	2		11
	7		12
	8		13
	9		14
	15		16
			17
			18
			19
			20
		Reset	Calculate
Data Summary	X=0	X=1	Total

n	6	14	20
ΣY	42	168	210
ΣY^2	424	2446	2870
SS_Y	130	430	665
mean $_Y$	7	12	10.5

r_{pb}	t	df
+0.4	+1.84	18

P	one-tailed	0.0411595
	two-tailed	0.082319

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Sun Mar 17 2019 23:16:03 GMT-0400 (Eastern Daylight Time)

Y Values Entered

For X=0	For X=1
1 2 7 8 9 15	3 4 5 6 10 11 12 13 14 16 17 18 19 20

Summary Data

	X=0	X=1	Total
n	6	14	20
ΣY	42	168	210
ΣY^2	424	2446	2870
SS _Y	130	430	665
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r_{pb}	t	df
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