Toolpak Regress: Excel 2013. One Continuous Predictor

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Materials at: www.StatLit.org/pdf/
Excel2013-Model-Toolpak-Regress1C-Slides.pdf
Excel2013-Model-Toolpak-Regress1C-Output.pdf

Weight-Height Association

Required output: Create and upload your worksheet:

1. Calculate mean height and weight: slide 3
2. Model Weight on Height using Regression command in the Data Analysis Toolbox: slide 6.
3. Generate Trendline chart with equation & R^2. Slide 7

Note: The equation and R^2 in the Regression output is the same as that generated by Trendline. Slide 8.

Data: www.StatLit.org/xls/
Excel2013-Model-Toolpak-Regress1C-Data.xlsx

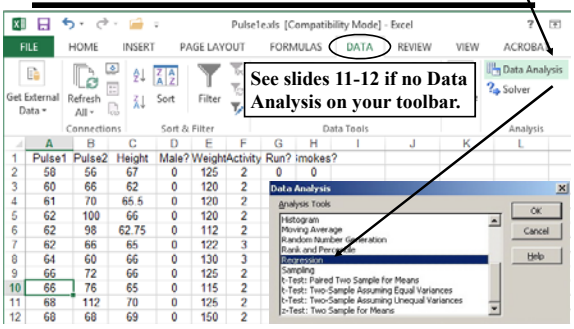
Subjects are college students.

1) Analyze Data: Enter formula: K4:K6, P4:P5

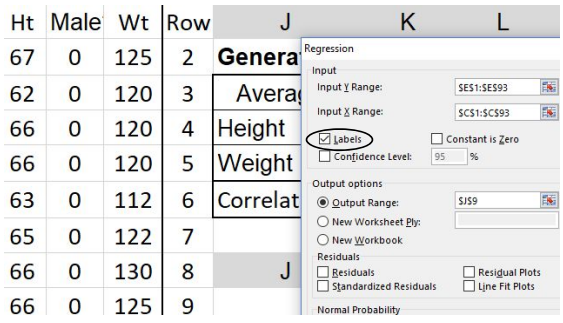
Ht	Male	Wt	Row	J	K	L	M	N
67	0	125	2	**Generate Summary Statistics**				
62	0	120	3	Averages	ALL			
66	0	120	4	Height	68.7	=AVERAGE(C2:C93)		
66	0	120	5	Weight	145.2	=AVERAGE(E2:E93)		
63	0	112	6	Correlate	0.785	=CORREL(C2:C93,E2:E93)		

N	O	P	Q	R
3	Std. Dev	ALL		
4	Height	3.66	=STDEV(C2:C93)	
5	Weight	23.7	=STDEV(E2:E93)	

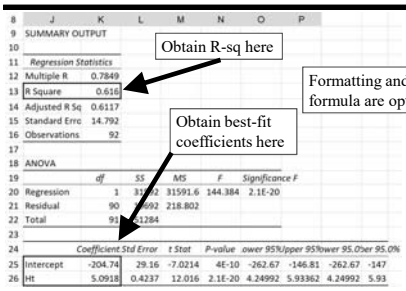
2a) Data Toolbar, select Data Analysis. Select Regression



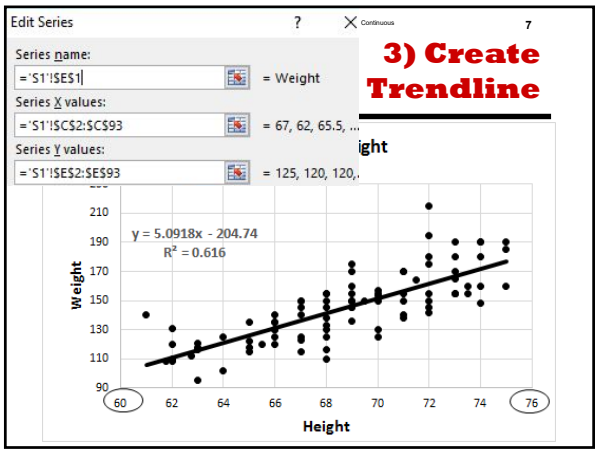
2b) Regress Weight (E1:E93) on Height (C1:C93)



2c) Results: Regress Weight on Height



Weight = -204.74 + (5.0918*Height)



4. Conclusion

Trendline and the Data Analysis Regression command both generate the same model:

- Same constant: -204.74
- Same slope: 5.0918
- Same R-squared: 0.616

Trendline is limited to a single predictor.

Data analysis Regression can handle multiple predictors.

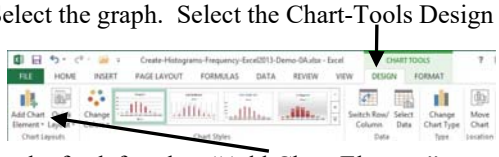
Appendix: What to do if .....

Slide 10: What to do if the plus sign doesn't appear on the upper-right side of the graph

Slides 11 & 12: What to do if the Data Analysis object doesn't appear on the right side of the Data toolbar.

If + Sign doesn't appear on upper-right side of graph...

Select the graph. Select the Chart-Tools Design tab.

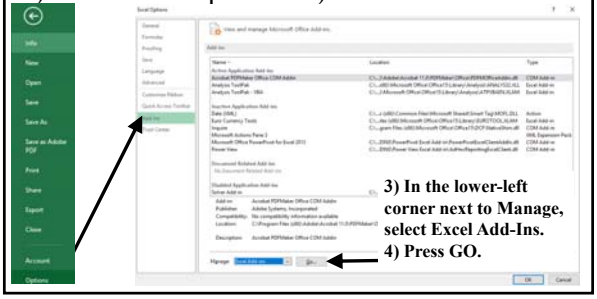


At the far-left, select "Add Chart Element".
Select "Axis Titles" and "Chart Title".

To add a Trendline, either select "Trendline" under "Add Chart Element" or right-mouse on a data point and select Trendline from menu.

If Data Analysis doesn't appear on Data Toolbar

1) Select File/Options. 2) Select Add-Ins.



Add Data Analysis to the Data Toolbar

1) Checks the boxes involving Analysis ToolPak.
2) Press OK