Statistical Package for the Social Sciences(SPSS)



SPSS data and variable views

SPSS data editor window always contains two sheets: The first sheet (the date view)-the one we just saw displays our data. A second sheet (the variable view) shows the meaning of data values and variables as shown below.



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SPSS variable views

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Importing Data into SPSS

If you already have data that are in SPSS file format (file extension ".sav"), you can simply open that file to begin working with your data in SPSS. However Once the data in your Excel file, it can be imported into SPSS by following these steps:

Click on File then Open. After that click on Data. In the Files of type list select Excel (*.xls, *.xlsx, *.xlsm) to specify that your data are in an Excel file as shown below.

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The Opening Excel Data Source window will appear as shown below.

ta Opening Excel Data Source
E:\Tutorial Sample Data\Sample Dataset 2014.xlsx
Read variable names from the first row of data
Worksheet: Sample Dataset 2014 [A1:W436]
Range:
Maximum width for string columns: 32767
OK Cancel Help



Data analysis

For data analysis click on analyze then descriptive statistics dialog window as shown below.





After running descriptive statistics, the results appear in a different window, known as SPSS output viewer window as shown below.

Descriptives

[DataSet0]

Descriptive Statistics

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score	10	1	5	2.80	1.476
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To make graph, click on analyze, then click on descriptive statistics, and then frequencies. After that click on chart

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<u>Bar chart</u>



Pie chart



Histogram



For One-Way ANOVA test click analyze then Compare Means. After that click on One-Way ANOVA as shown below.

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score

After running descriptive statistics and One-Way ANOVA, the results appear in a different window, known as SPSS output viewer window as shown below.

Descriptives

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1	3	4.00	2.646	1.528	-2.57-	10.57	2	7
2	3	8.33	1.528	.882	4.54	12.13	7	10
3	3	12.33	2.082	1.202	7.16	17.50	10	14
Total	9	8.22	4.055	1.352	5.11	11.34	2	14

ANOVA

score					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	104.222	2	52.111	11.439	.009
Within Groups	27.333	6	4.556		
Total	131.556	8			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: score LSD

		Mean Difference (l-			95% Confide	ence Interval
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1	2	-4.333-	1.743	.047	-8.60-	07-
	3	-8.333-	1.743	.003	-12.60-	-4.07-
2	1	4.333	1.743	.047	.07	8.60
	3	-4.000-	1.743	.061	-8.26-	.26
3	1	8.333	1.743	.003	4.07	12.60
	2	4.000	1.743	.061	26-	8.26

*. The mean difference is significant at the 0.05 level.



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For Two-Way ANOVA test click analyze then general linear model. After that click on univariate as shown below.

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After running two-Way ANOVA, the results appear in a different window, known as SPSS output viewer window as shown below.



Profile Plots

Univariate Analysis of Variance

Between-Subjects Factors

			Value Label	N
	gender	1	boys	9
•		2	girls	9
	age	1	10 year olds	6
		2	11 year olds	6
		3	12 year olds	6

Descriptive Statistics

Dependent Variable:	scor
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gender	age	Mean	Std. Deviation	N
boys	10 year olds	6.00	2.000	3
	11 year olds	7.00	1.732	3
	12 year olds	11.33	2.082	3
	Total	8.11	2.977	9
girls	10 year olds	7.00	2.646	3
	11 year olds	10.33	2.517	3
	12 year olds	16.33	2.517	3
	Total	11.22	4.658	9
Total	10 year olds	6.50	2.168	6
	11 year olds	8.67	2.658	6
	12 year olds	13.83	3.430	6
	Total	9.67	4.116	18

Tests of Between-Subjects Effects

10 year olds

age

Dependent Variable: score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	226.000 ^a	5	45.200	8.748	.001	.785
Intercept	1682.000	1	1682.000	325.548	.000	.964
gender	43.556	1	43.556	8.430	.013	.413
age	170.333	2	85.167	16.484	.000	.733
gender * age	12.111	2	6.056	1.172	.343	.163
Error	62.000	12	5.167			
Total	1970.000	18				
Corrected Total	288.000	17				

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For T-test click analyze then Compare Means. After that click on independent sample T Test as shown below.

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After running T- test, the results appear in a different window, known as SPSS output viewer window as shown below.

T-Test

Group Statistics

	factor	Ν	Mean	Std. Deviation	Std. Error Mean
Group	1	6	19.33	4.033	1.647
	2	6	18.50	5.010	2.045

Independent Samples Test

		Levene's Test Varia	for Equality of nces		t-test for Equality of Means								
							Mean	Std. Error	95% Confidence Interval of the Difference				
		F	Sig.	t	df	Sig. (2-tailed)	Difference	Difference	Lower	Upper			
Gro	up Equal variances assumed	.579	.464	.317	10	.757	.833	2.626	-5.017-	6.684			
	Equal variances not assumed			.317	9.564	.758	.833	2.626	-5.054-	6.720			



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After running T- test, the results appear in a different window, known as SPSS output viewer window as shown below.

T-Test

[DataSet0]

Paired Samples Statistics

		Mean	Ν	Std. Deviation	Std. Error Mean
Pair 1	postmodule	22.17	6	4.956	2.023
	premodule	20.00	6	2.898	1.183

Paired Samples Correlations

		Ν	Correlation	Sig.
Pair 1	postmodule & premodule	6	.849	.032

Paired Samples Test

			Std. Error	95% Confidenc Differ				
	Mean	Std. Deviation	Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1 postmodule - premo	dule 2.16	2.927	1.195	905-	5.238	1.813	5	.130

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For chi-square test click on data then weight cases as shown below.

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After that, click on descriptive statistics closstads as shown below.



After running chi-square, the results appear in a different window, known as SPSS output viewer window as shown below.

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			drivi	ing	
			Yes	No	
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gender	male	Count	25	75	100
		Expected Count	17.5	82.5	100.0
		% within gender	25.0%	75.0%	100.0%
	female	Count	10	90	100
		Expected Count	17.5	82.5	100.0
		% within gender	10.0%	90.0%	100.0%
Total		Count	35	165	200
		Expected Count	35.0	165.0	200.0
		% within gender	17.5%	82.5%	100.0%

gender * driving Crosstabulation

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	7.792 ^a	1	.005		
Continuity Correction ^b	6.788	1	.009		
Likelihood Ratio	8.007	1	.005		
Fisher's Exact Test				.009	.004
Linear-by-Linear Association	7.753	1	.005		
N of Valid Cases	200				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 17.50.

b. Computed only for a 2x2 table

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