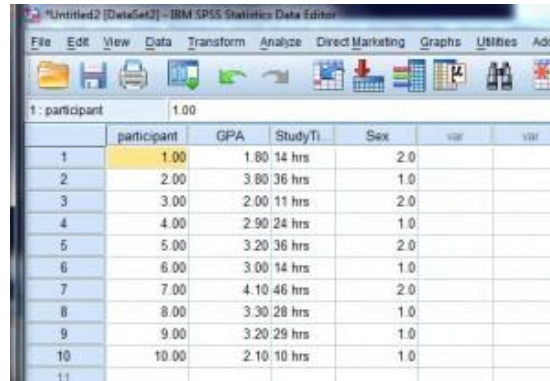


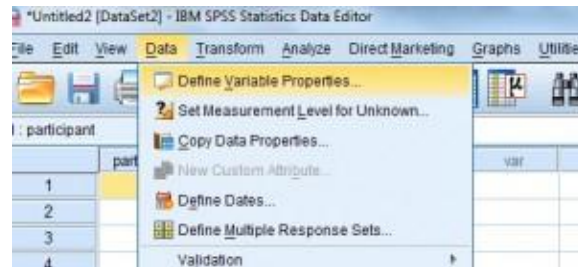
Define Variables in SPSS

Sample Problem: Define the variables for sex in the following data sheet, where “1” represents a female and “2” represents a male.



	participant	GPA	StudyTi	Sex	var1	var2
1	1.00	1.80	14 hrs	2.0		
2	2.00	3.80	36 hrs	1.0		
3	3.00	2.00	11 hrs	2.0		
4	4.00	2.90	24 hrs	1.0		
5	5.00	3.20	36 hrs	2.0		
6	6.00	3.00	14 hrs	1.0		
7	7.00	4.10	46 hrs	2.0		
8	8.00	3.30	28 hrs	1.0		
9	9.00	3.20	29 hrs	1.0		
10	10.00	2.10	10 hrs	1.0		
11						

Step 1: Click “Data” and then click “Define Variable Properties.”



Variables are defined in SPSS with the Data>Define Variable Properties command.

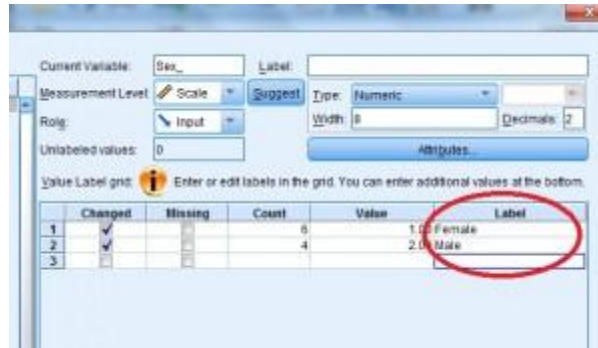
Step 2: Click a variable in the left window that you want to define. In this sample problem, we want to define the “sex” variable, so click “Sex” and then click the center arrow.



Selecting the variables to define in SPSS.

Step 3: Click “Continue.” The main Define Variable Properties window will open.

Step 4: Type your variable names in the “Label” section of the Define Properties window. For this sample problem, type “Female” to the right of the value 1.00 and “Male” to the right of the value 2.00.

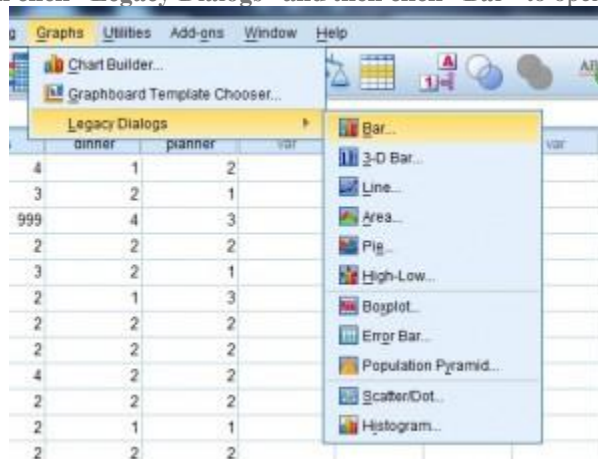


Step 5: Click “OK” to save the variable changes.

Bar Chart in SPSS

Step 1: Open the file you want to work with in SPSS or type the data into a new worksheet.

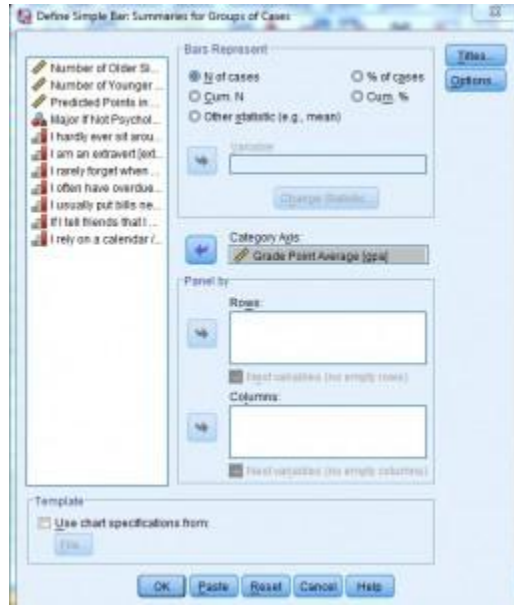
Step 2: Click “Graphs,” then click “Legacy Dialogs” and then click “Bar” to open the Bar Charts dialog box.



Step 3: Click on an image for the type of bar graph you want (Simple, Clustered, or Stacked) and then click the appropriate radio button to tell SPSS what type of data is in your variables lists: Summaries for groups of cases, Summaries of separate variables or Values of individual cases. When you have made your selections, click the “Define” button.

Step 4: Click a radio button in the Bars Represent area to choose what you would like the bars to represent. For example, if you want the bars to represent the number of cases, click the “N of cases” radio button

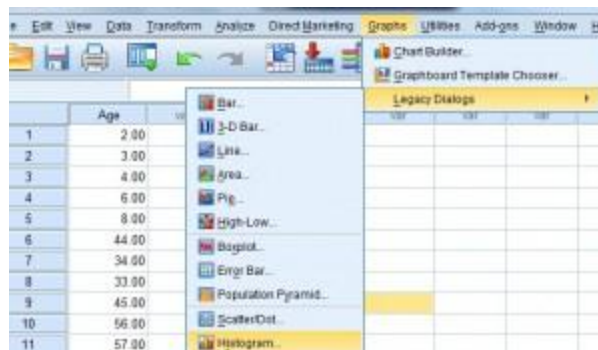
Step 5: Click a variable in the left-hand window in the “Define Simple Bar” pop-up window and then transfer those variables by clicking the appropriate center arrow. For this simple example, click “Grade Point Average” and then click the arrow to the left of “Category Axis.” When you have made your selections, click “OK.” This will produce a graph of the number (counts) of each grade point average.



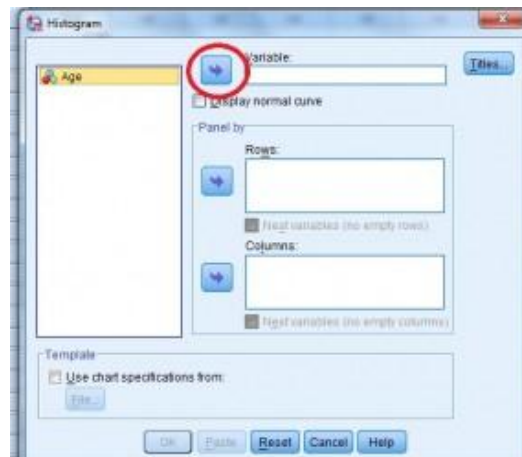
The SPSS Define Simple Bar window.

SPSS Histogram

Step 1: Click “Graphs,” then mouse over “Legacy Dialogs” and then click “Histogram”.

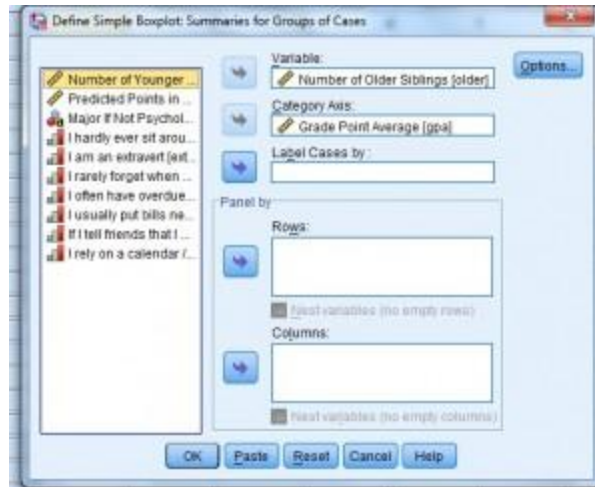


Step 2: Pick one variable from the left dialog box and then click the center arrow to move your selection to the “Variable” box.

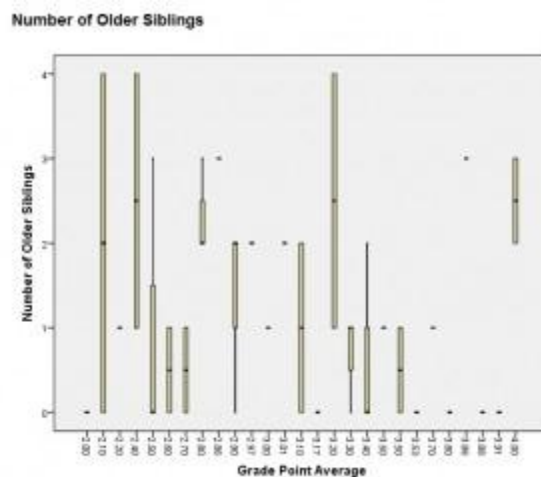


window.

Step 6: Click a second variable in the left window that you want to display on the x-axis (the categorical variable), then click the second arrow down, to the left of Category Axis.



Step 7: Click “OK” to display the boxplot.

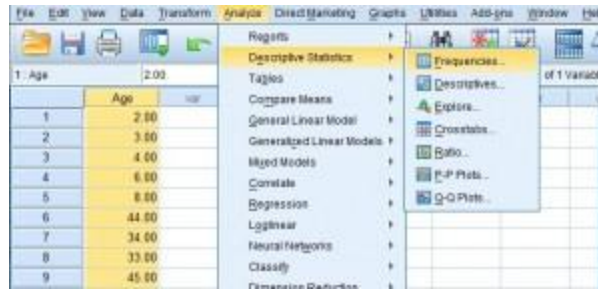


SPSS Frequency Table

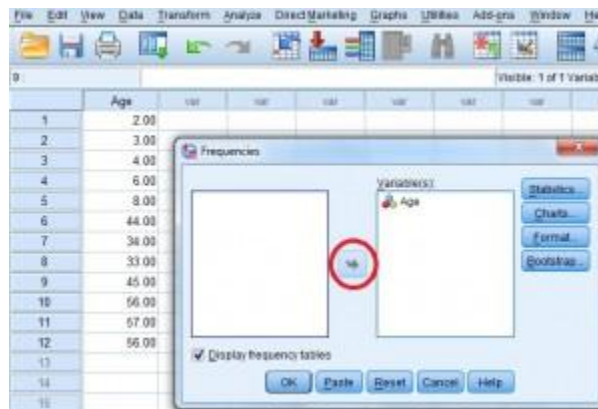
Sample problem: You are studying people in a group home and want to look at their ages at a glance. Create an SPSS frequency table for the following ages: 2,3,4,6,8,44,34,33,45,56,57,56.

Step 1: Type your data into an SPSS worksheet. If you haven’t already done so, click “File,” then click “New,” then click “Data.” You may need to check the “Type in data” radio button. Make sure you enter your data into columns.

Step 2: Click “Analyze,” then mouse over “Descriptive Statistics” and then click “Frequencies.”



Step 3: Select one or more variables in the left column of the “Frequencies” pop up window and then click the center arrow to move them to the right hand “Variable(s)” window.



Step 4: Click the “Display Frequency Tables” check box and then click “OK.” SPSS will calculate the frequency table and display the results in a separate window.

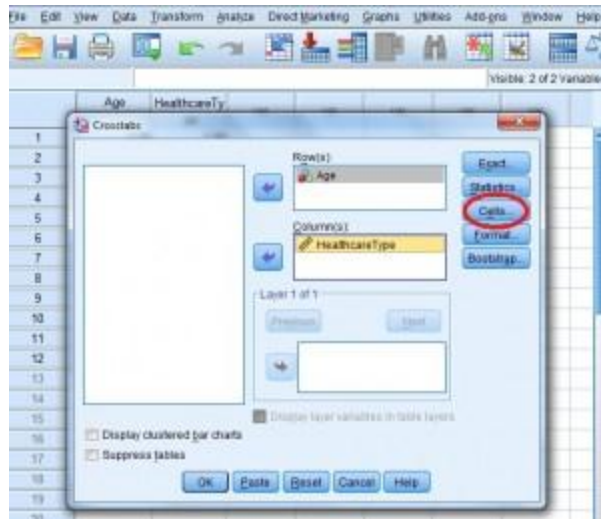
Crosstabs in SPSS

Sample question: Make an SPSS Crosstab for age (2,3,4,6,8,44,34,33,45,56,57,57) vs. healthcare type (1,1,2,3,4,5,6,1,2,4,5,5). Show percentages of healthcare type in the contingency table.

Step 1: Type your data into a worksheet. Contingency tables require at least two variables (columns) of data. For this sample question, type ages (2,3,4,6,8,44,34,33,45,56,57,57) into the first column and then type Healthcare type (1,1,2,3,4,5,6,1,2,4,5,5) into the second column. Change the variable names (the column headers) by clicking the “Variable” button at the bottom of the sheet and typing over the variable name.

Step 2: Click “Analyze,” then click “Descriptive Statistics” and then click “Crosstabs.” The Crosstabs dialog window will open.

Step 3: Select one variable in the left window and then click the top arrow to populate the “Row(s)” box. Select a variable to populate the “Column(s)” box and then click the center arrow. For this sample problem, “Age” was selected for “Row(s)” and “Healthcare Type” was selected for “Column(s).” Once you have made your selection, click “Cells.”



Step 4: Check which percentages you want to see (rows or columns). What you select will depend upon what variables you put in rows and what you put in columns. For this sample problem, “Healthcare Type” was placed in the columns, so check “Column” under percentages.

Step 5: Click “Continue” and then click “OK.” The Crosstabs window will appear.

Crosstabs

[DataSet1]

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * HealthcareType	12	100.0%	0	0.0%	12	100.0%

Age * HealthcareType Crosstabulation

Age	Count	% within HealthcareType	HealthcareType					
			1.00	2.00	3.00	4.00	5.00	6.00
2.00	1	8.3%	0	0	0	0	0	0
	% within HealthcareType	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
3.00	1	8.3%	0	0	0	0	0	
	% within HealthcareType	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
4.00	0	0.0%	1	0	0	0	0	
	% within HealthcareType	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	
6.00	0	0.0%	0	1	0	0	0	
	% within HealthcareType	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	
8.00	0	0.0%	0	0	1	0	0	
	% within HealthcareType	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	
10.00	1	8.3%	0	0	0	0	0	
	% within HealthcareType	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	

IBM SPSS Statistics Processor is ready.

SPSS Mean Mode Median

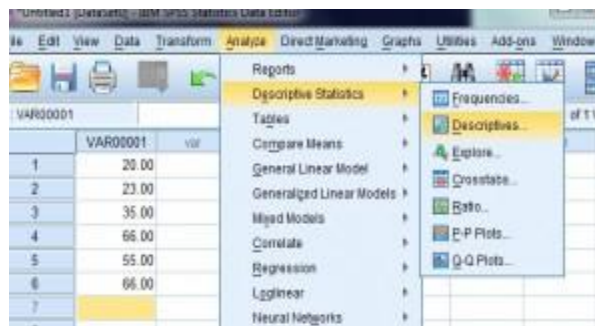
Sample question: Find the SPSS mean mode median for the following data set: 20,23,35,66,55,66.

Step 1: Open SPSS. In the “What would you like to do?” dialog box, click the “type in data” radio button and then click “OK.” A new worksheet will open.

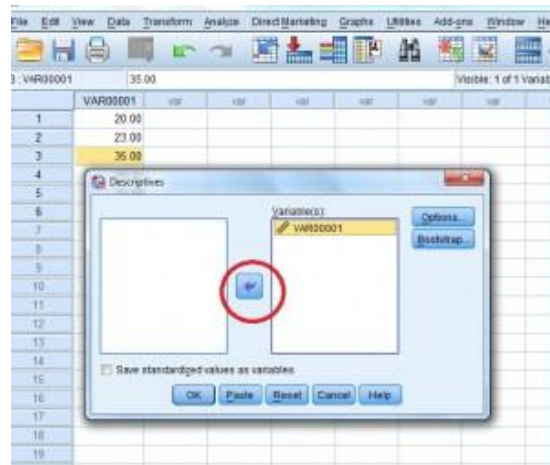


Step 2: Type your data into the worksheet. You can type the data into one column or multiple columns if you have multiple data sets. For this example, type 20,23,35,66,55,66 into column 1. Do not leave spaces between the data (i.e. don't leave any empty rows).

Step 3: Click “Analyze” from the top of the toolbar, then mouse over “Descriptive Statistics” and then click “Descriptives.” The variables dialog box will appear.



Step 4: Select the variables you want to find descriptive statistics for. Click the center arrow to move those variables from the left box to the right box and then click “OK” for the results, which will appear in a pop up window.



Step 5: Click “Analyze,” then click “Descriptive Statistics” and then click “Frequencies.”

Step 6: Check the boxes “mean”, “mode” and “median.” Click “Continue” twice (select “none” as the chart type in the second window).

The frequency results will appear as output. The top part of the output will display the mean, mode and median.

If you scroll down, the frequency table will also show you the mode. The mode is defined in statistics as the number with the highest frequency (for this sample data set, the number appearing the most is 66, with two results in the frequency column).

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20.00	1	16.7	16.7	16.7
23.00	1	16.7	16.7	33.3
35.00	1	16.7	16.7	50.0
55.00	1	16.7	16.7	66.7
66.00	2	33.3	33.3	100.0
Total	6	100.0	100.0	

SPSS Scatter Plot

Step 1: Click “Graphs,” then mouse over “Legacy Dialogs” then click “Scatter/Dot”.



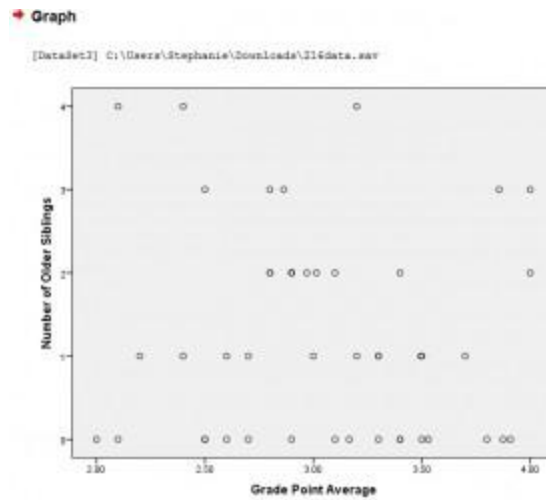
Step 2: Choose a type of Scatter Plot. For this example, click “Simple Scatter.”

Step 3: Click the “Define” button to open the “Simple Scatterplot” window.

Step 4: Click on the variable you want to display on the Y-axis and then click the arrow to the left of the “Y-Axis” selection box.

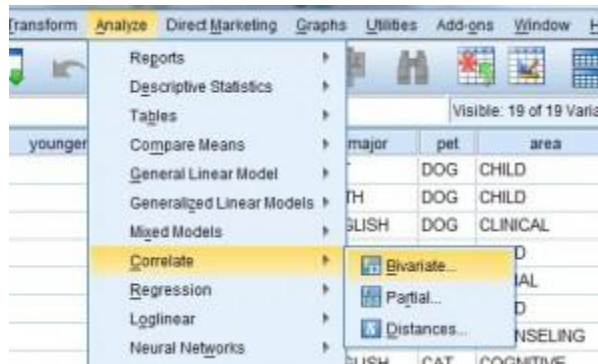


Step 5: Click on the variable you want to display on the X-axis and then click the arrow to the left of the “X Axis” selection box. Click “OK” to produce the scatterplot.

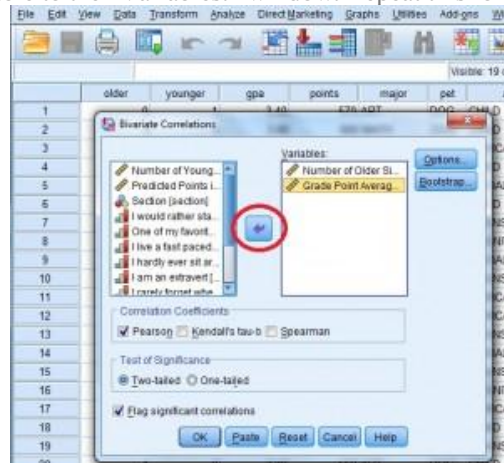


Correlation in SPSS

Step 1: Click “Analyze,” then click “Correlate,” then click “Bivariate.” The Bivariate Correlations window will appear.



Step 2: Click one of the variables in the left-hand window of the Bivariate Correlations pop-up window. Then click the center arrow to move the variable to the “Variables:” window. Repeat this for a second variable.



Step 3: Click the “Pearson” check box if it isn’t already checked. Then click either a “one-tailed” or “two-tailed” test radio button. If you aren’t sure if your test is one-tailed or two-tailed, see: [Is it a one-tailed test or two-tailed test?](#)

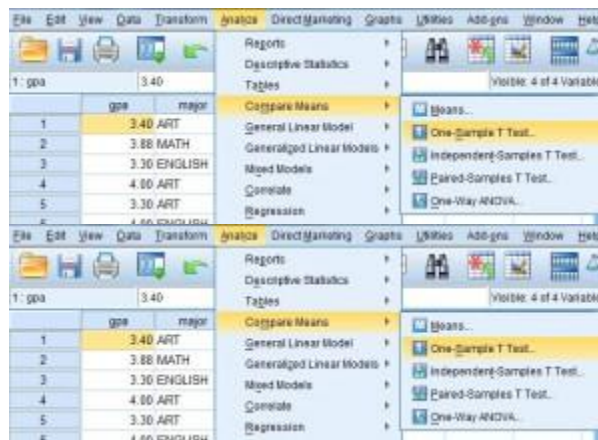
Step 4: Click “OK” and read the results. Each box in the output gives you a [correlation](#) between two variables.

T Test in SPSS

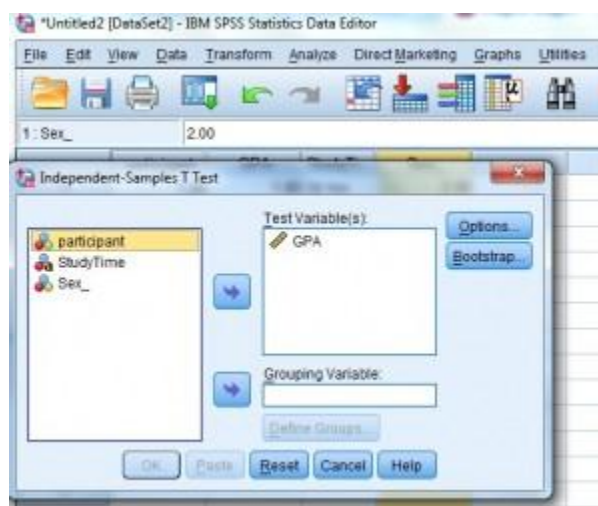
Step 1: Open the worksheet with the data you want to perform the t test in SPSS.

Step 2: Define the variables you want to perform a t-test on. For example, you might want to compare GPAs between male and female high school students. Therefore, you’ll want to define the variables “sex” (i.e. other male or female).

Step 3: Click “Analyze,” then click “Compare Means,” then click “Independent Sample T Test.”



Step 4: Select the test variables from the left window pane and then click the top arrow button to move the variables over to the Test Variable(s): window. For this example, we are comparing GPAs, so the test variable we want to select is GPA.



Step 5: Select the grouping variable in the left window and then click the arrow to the left of the “Grouping Variable” box. The grouping variable is the variable you divided into groups when you defined variables. For this example, the groups are “male” and “female” so the grouping variable you want to select is “Sex.”

Step 6: Click “Define Groups.” For this example, type “1” into the Group 1 box (for female) and then type “2” into the Group 2 box (for male).

Step 7: Click “Continue” and then click “OK.” The T-Test is calculated and the results will appear in a new window.

T-Test

[DataSet2]

Group Statistics

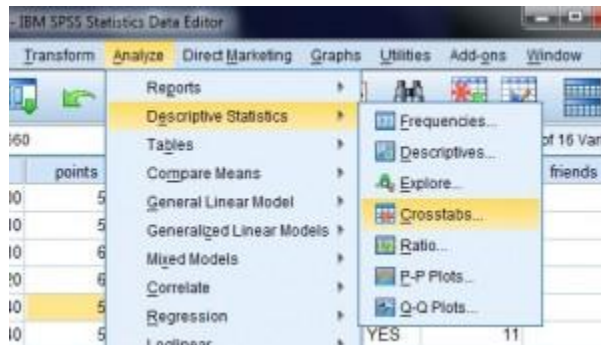
	Sex	N	Mean	Std. Deviation	Std. Error Mean
GPA	Female	8	3.0500	.56125	.22913
	Male	4	2.7750	1.07619	.53910

Independent Sam

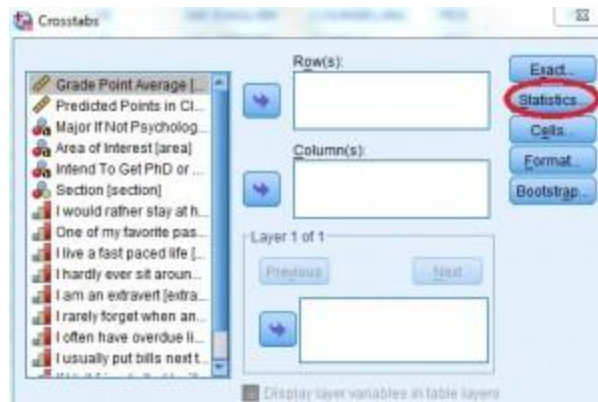
		Levene's Test for Equality of Variances			
		F	Sig.	t	df
GPA	Equal variances assumed	4.150	.076	536	8
	Equal variances not assumed			469	4.101

Chi Square Test in SPSS

Step 1: Click “Analyze,” then click “Descriptive Statistics,” then click “Crosstabs.”



Step 2: Click the “Statistics” button. The statistics button is to the right of the Crosstabs window. A new pop up window will appear.



Step 3: Click “Chi Square” to place a check in the box and then click “Continue” to return to the Crosstabs window.

Step 4: Select the variables you want to run (in other words, choose two variables that you want to compare using the chi square test). Click one variable in the left window and then click the arrow at the top to move the variable into “Row(s).” Repeat to add a second variable to the “Column(s)” window.

Step 5: Click “OK” to run the Chi Square Test. The Chi Square tests will be returned at the bottom of the output sheet in the “Chi Square Tests” box.