# *Graphing*

Some graphs, like histograms, box plots, and stem and leaf plots, require that the variables used are continuous. This is because those three types of graphs display the variance of the data around the mean, or average. In a categorical variable like health status, for example, there is no mean available. It isn't possible to calculate a mean health status.

Therefore, when looking for graphs to use to illustrate the information in a categorical variable like **neighpol1**, we have to look at other options.

A standard choice for displaying the data contained in a categorical variable (or in several categorical variables) is a bar chart. SPSS can create this graph for you. Just select **Graphs**, **Legacy Dialogs**, and then **Bar**.
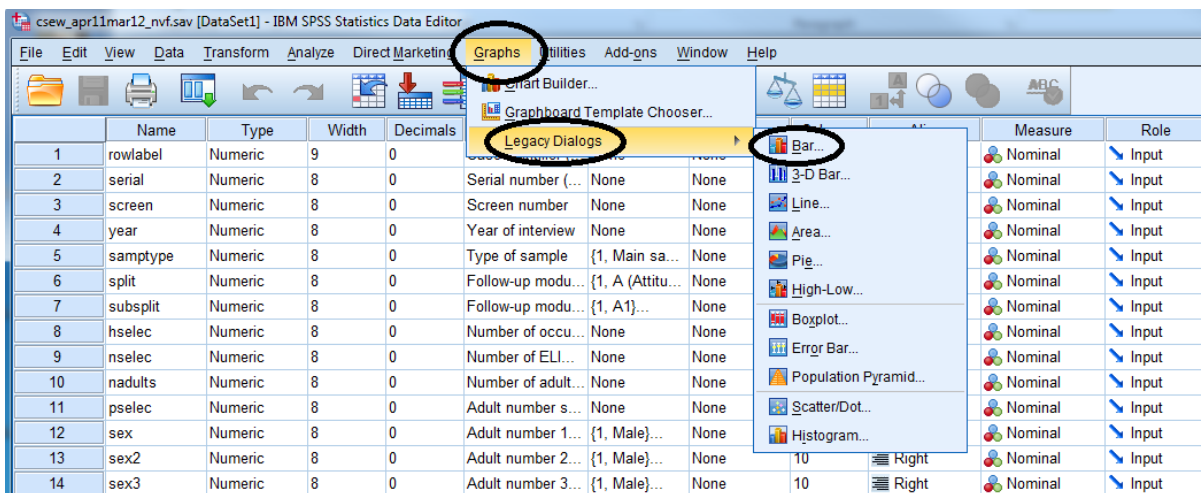

When the Bar Charts dialogue box pops up, choose **Simple**, as we are only looking at one variable at the moment. If you wanted to compare two (or more) variables in a bar chart, you would select a **Clustered** or **Stacked** chart in order to see the values of all variables in the same graph. Next, click **Define.**
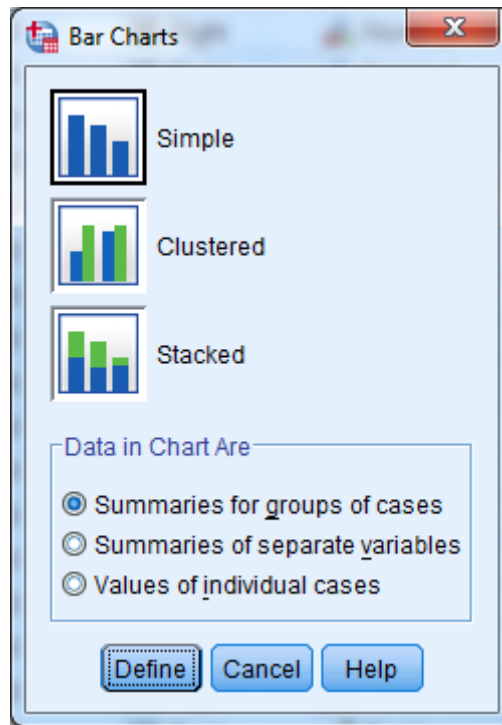
You can see below that you are able to choose what the bars of the graph represent. For example, you can build a bar chart illustrating the number of cases in each category or the percentage of cases each category represents. For our purposes now, select **N of cases** - this will build a bar chart representing the number of cases in each category. Next, find **neighpol1** in the variable list on the left and move it to the **Category Axis** text box using the blue arrow. Click **OK**.
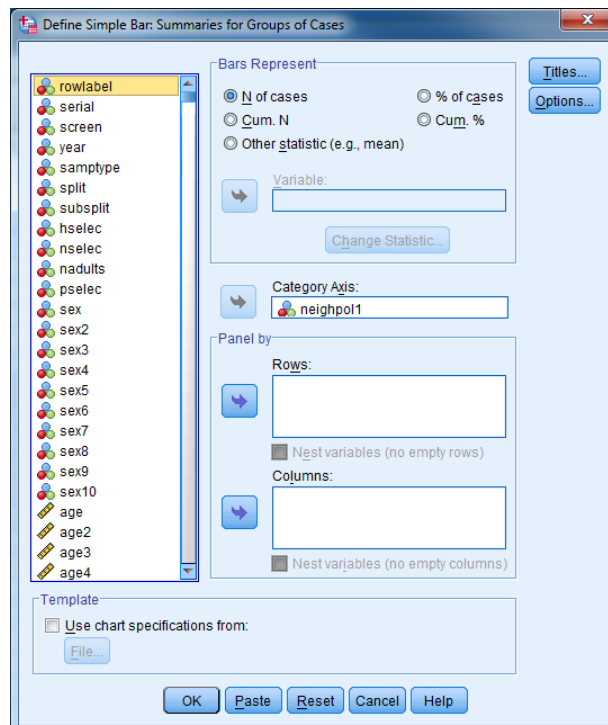

In your Output window, you should see this completed bar graph:

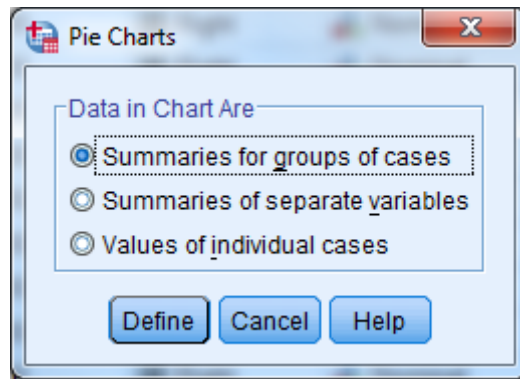**Aware of Neighbourhood Policing Team in your local area - recoded**
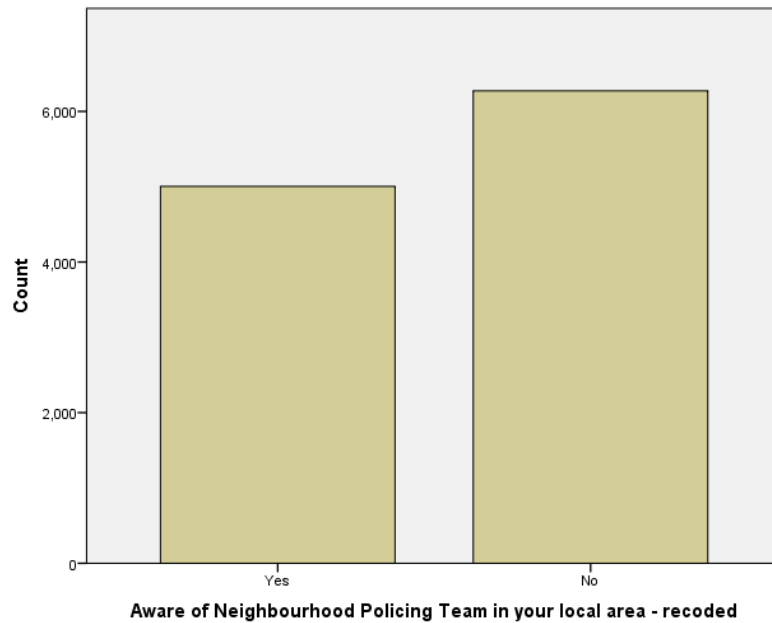
It's clear from the bar chart that there are more respondents unaware of neighbourhood policing than aware of the neighbourhood policing programs.

Also, notice that because we chose to build the graph using the total number of cases in each category, the y-axis of this graph is the count of cases. If we had selected percentage of cases, the y-axis would be percentage tallies.

We can illustrate the number of cases in each category of **neighpol1** in another way by using the pie chart builder of SPSS. As there are only two categories a pie chart doesn't make much sense, but in order to highlight how to do this, we will draw one. First, select **Graphs**, **Legacy Dialogs**, and then **Pie**.
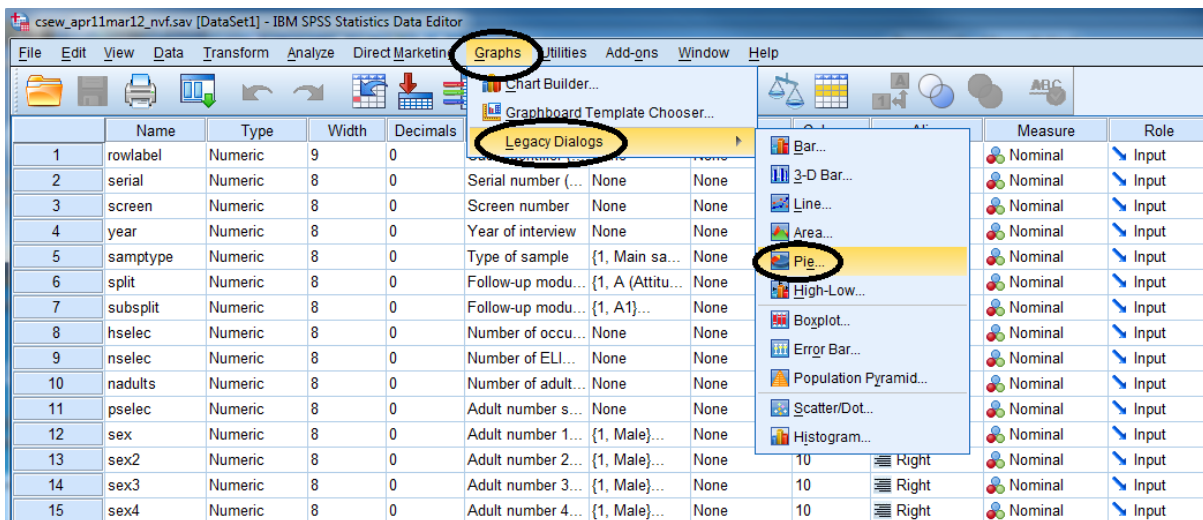
Select **Summaries of groups of cases**, which will tell SPSS to display the data by the categories of the variables.
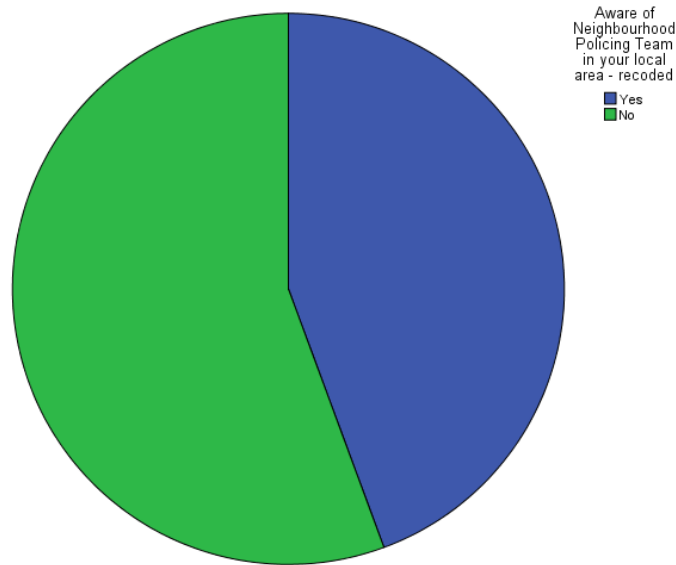
Click **Define**.
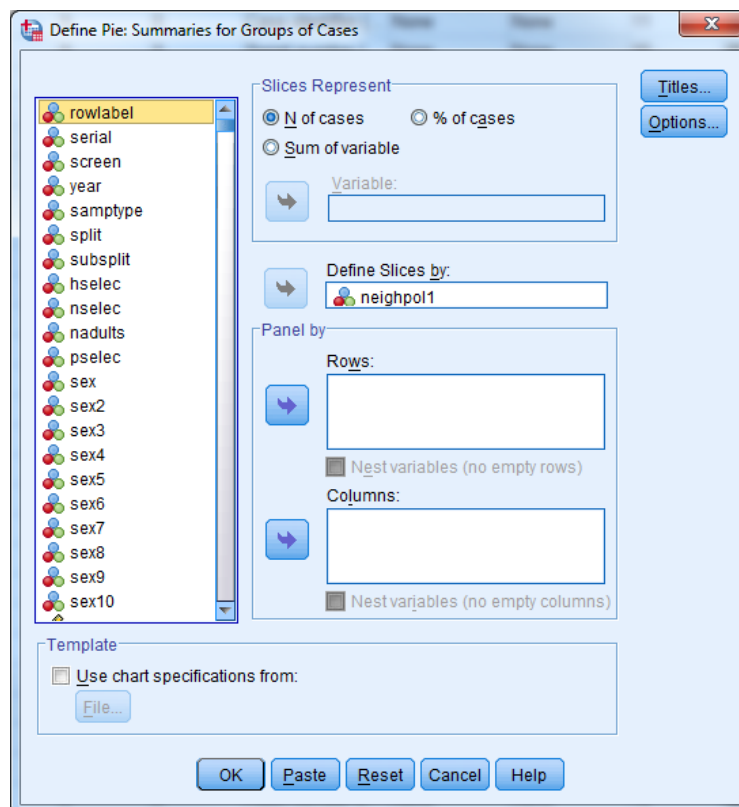
Move **neighpol1** to the **Define Slices by** text box and then click **OK**.

The Output window will display the following pie chart:

Once again, it is clear that the number of people unaware of neighbourhood policing is larger than the number of people aware of the program.

Summary

You have used SPSS to illustrate the data in neighpol1 in two different kinds of graph: a bar graph and a pie chart. You can use these types of graphs to illustrate the data in the categorical variables, as they make the information in your variables clear and easy to interpret.