## *Univariate Analysis*

### *What factors influence police confidence?*

Univariate analysis refers to the quantitative data exploration we do at the beginning of any analysis. These analyses provide us with descriptions of single variables we are interested in using in more advanced tests and help us narrow down exactly what types of bivariate and multivariate analyses we should carry out.

We'll start our univariate analysis with our dependent variable, police confidence. There is no one variable in the CSEW dataset that concerns police conference. There are, however, six variables, called **polatt1** through **polatt7**, which address CSEW respondent confidence in the police. Each of these variables contains answers to questions about confidence in the police, and because we are curious about all aspects of police confidence, we are interested in the responses to all of these questions. We could analyse each of them separately – but overall confidence is a good place to start. Because we want to analyse the responses to all of the **polatt** variables, we can use SPSS to combine these six questions about police confidence together, creating one new variable for us to use. **Polatt1-polatt7** are categorical variables, with responses falling into distinct categories on a 1 through 5 scale. When we combine all of the **polatt** variables into one single variable, we'll have created a continuous variable. This is because SPSS will collapse each respondent's six **polatt** responses into one total police confidence score, giving us a range of numerical scores from 6 to 30.

There are a few necessary conditions to keep in mind when selecting categorical variables to transform into a continuous variable:

- The categorical variables must have data collected from the whole sample. Some variables represent the responses to questions only some of the survey participants have answered. You can check to make sure your variables meet this condition by searching for them in the survey questionnaire and ensuring that they have been asked of all participants.
- The categorical variables you select need to contain data concerning the same basic questions. For example, you would not want to compress data from a variable about the number of dogs walked with a variable about the amount of money made selling pies. Those two variables use two different measures to answer two different questions.
- The categorical variables must use the same units of measure. In our case, the categorical variables we select must all use the same point scale, either "1 through 4" or "1=strongly agree to 5=strongly disagree." In addition, these scales need to be going in the same direction, meaning that you wouldn't collapse two variables together if one was measured with "1=strongly agree" and the other was measured with "1=strongly disagree."

Using those conditions, we can be sure that the variables **polatt1-polatt7** are acceptable categorical variables to transform into a new continuous variable.

a. The variables **polatt1-7** were asked of all the survey respondents
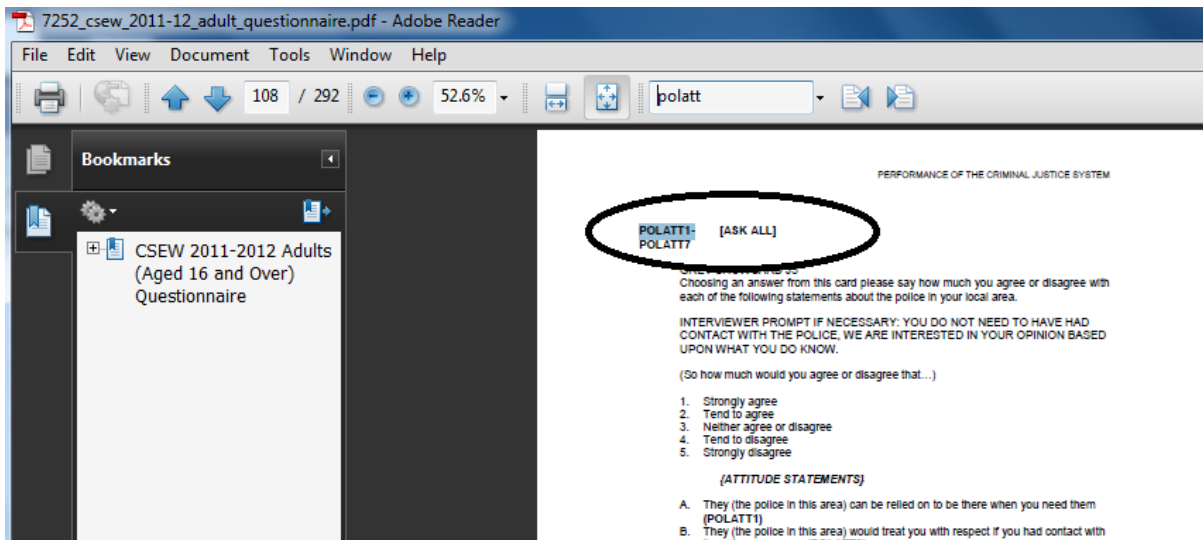
(Find out how to access the questionnaire here.)

b. **Polatt1-7** revolve around the same basic question (concerning confidence in the police)

| 432 | polatt1 | Numeric | 8 | 0 | The police in this area can be relied on to be there when you need them |
| 433 | polatt2 | Numeric | 8 | 0 | The police in this area would treat you with respect if you had contact... |
| 434 | polatt3 | Numeric | 8 | 0 | The police in this area treat everyone fairly regardless of who they are |
| 435 | polatt5 | Numeric | 8 | 0 | The police in this area understand the issues that affect this community |
| 436 | polatt6 | Numeric | 8 | 0 | The police in this area are dealing with the things that matter to this c... |
| 437 | polatt7 | Numeric | 8 | 0 | Taking everything into account I have confidence in the police in this ... |

(This information is available in the **Variable View** window of the CSEW dataset **Data Editor**.)

c. And **polatt1-7** are measured with the same 5-point scale, heading in the same direction, making the respondent answers easy to collapse together:
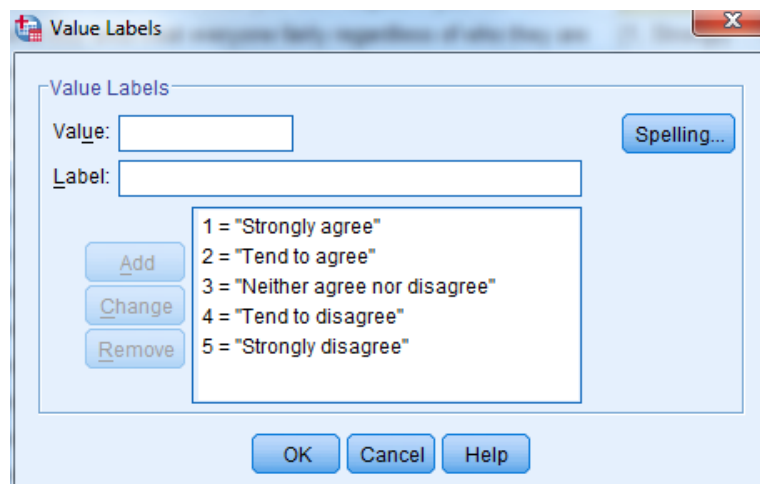


(You can check these values by clicking on the **Values** cell in each **polatt** row in **Variable View**.)

Now that we know that our selected variables are appropriate, we can begin out univariate anaylsis! We will be running frequency analyses and creating graphs to check the distribution of the values in our dependent variable.