Chapter 5: Exploring data with graphs

Labcoat Leni's Real Research

Seeing Red

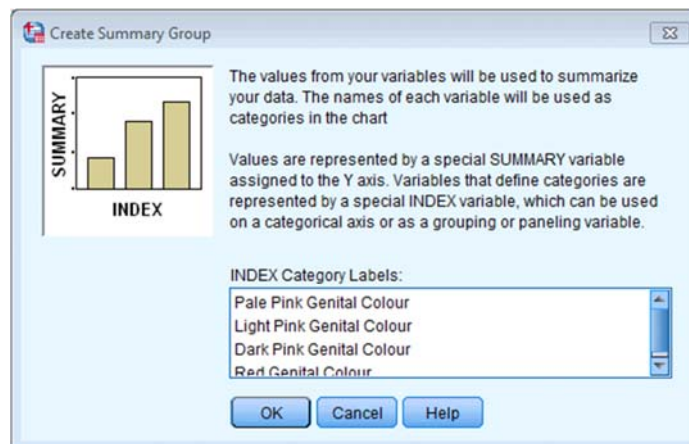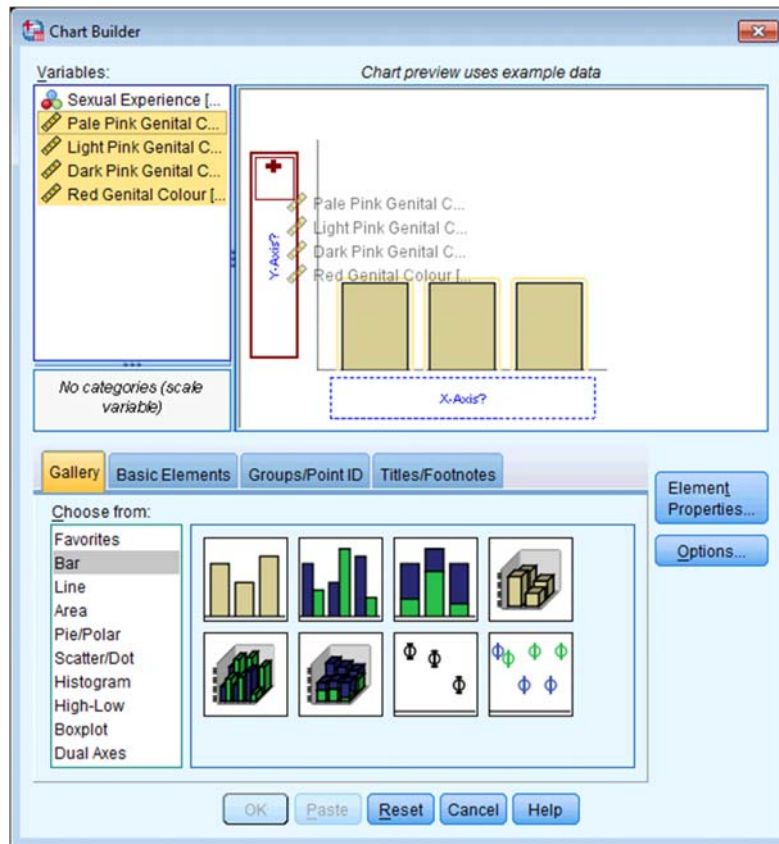### Problem
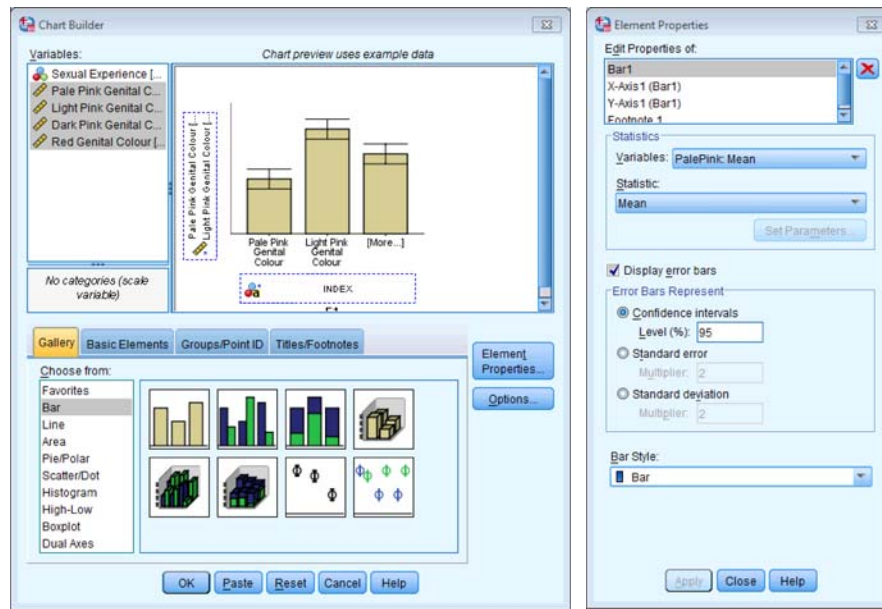
Johns, S. E., et al. (2012). *PLoS One, 7*(4), e34669.

It is believed that males have a biological predispoition towards the colour red because it is sexually salient. The theory suggests that women use the colour red as a proxy signal for genital colour to indicate ovulation and sexual proceptivity. If this hypothesis is true then using the colour red in this way would have to attract men (otherwise it's a pointless strategy). In a novel study, Sarah Johns tested this idea by manipulating the colour of four pictures of female genitalia to make them increasing shades of red (pale pink, light pink, dark pink, red). Heterosexual males rated the resulting 16 pictures from 0 (unattractive) to 100 (attractive). The data are in the file **Johns et al. (2012).sav**. Draw and error bar graph of the mean ratings for the four different colours. Do you think men preferred red genitals? (Remember, if the theory is correct then red should be rated highest.)
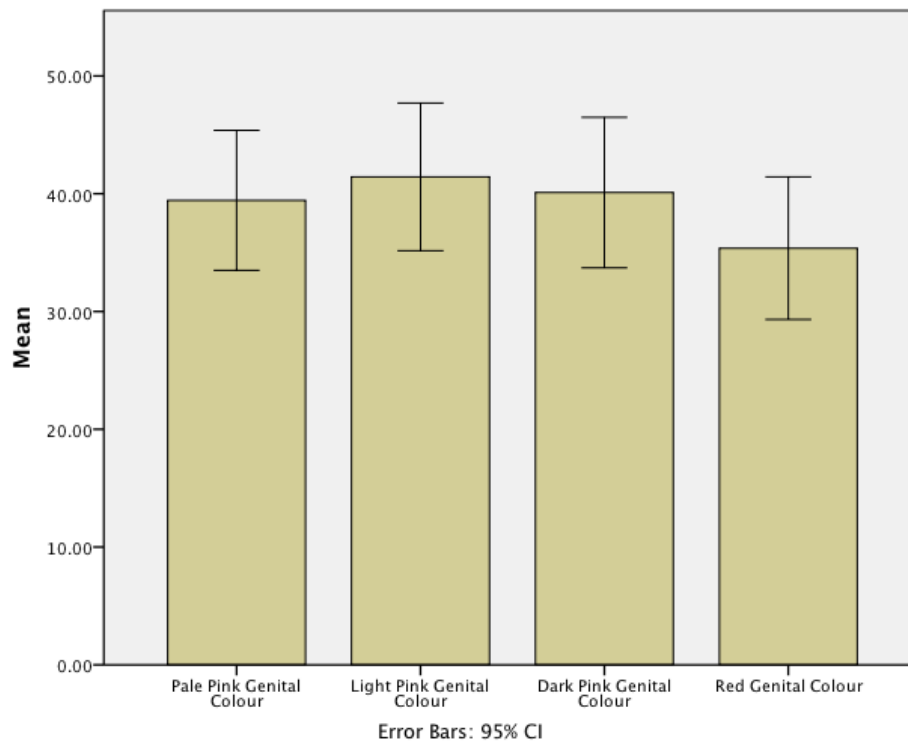
Solution

First of all, access the Chart Builder and select a simple bar chart. The *y*-axis needs to be the dependent variable, or the thing you've measured, or more simply the thing for which you want to display the mean. In this case it would be the four different colours (pale pink, light pink, dark pink and red). So select all of these colours from the variable list and drag them into the *y*-axis drop zone (Y-Axis?) (see below). A dialog box should pop up (see below) informing you that the values from your variables will be used to summarize your data; this is fine, so click on OK .

To add error bars to your graph click on [Element Properties...] and select 'mean' from the *statistics* dropdown list and ☑ Display error bars, then click on [Apply]. The finished Chart Builder will look like this:

Next, click on OK to produce the graph.

Error Bars: 95% CI

Looking at the resulting graph above, we can see that the mean ratings for all colours are fairly similar, suggesting that men don't prefer the colour red. In fact, the colour red has the lowest mean rating, suggesting that men liked the red genitalia the least. The light pink genital colour had the highest mean rating; however, as I said, the means are all fairly similar.