**Transcript: Conduction Regression Analyses in R Commander**

In this video, we will go over how to conduct linear regression in R Commander. We have our data set loaded in which is called “Bfox”, and it contains information about the labour force in Canada between 1946 and 1975. The first variable “partic” reflects the percentage of adult women who are employed in the paid labour force. “tfr” is total fertility rate, and it reflects the average number of children per thousand women estimated in each year. For example, in 1946, the total fertility rate was 3746 children per thousand women, so an average of 3.7 children per woman. This doesn't mean that there were 3.7 children born in 1946 to each woman, but that over their entire lifetime, each woman would be expected to have an average of 3.7 children. Next, we have wages for men and women, some information about average levels of debt, and finally “parttime”, which reflects the percentage of the labour force that works part time.

In today's analysis, we are going to predict women's labour force participation using total fertility rate. Because women have historically been expected to care for children and do a lot of that labour, we might expect there to be a relationship between the average number of children that each woman has and the percentage of women who are employed in the paid labour force. To conduct this analysis, we will navigate to “Statistics”, “Fit models”, and “Linear regression”. For our “Response variable”, we will select “partic”, and for our “Explanatory variable”, we will select “tfr” or total fertility rate. Once we click “OK”, R Commander will run our analysis and produce this output.

For this analysis, we are also going to produce a graph that shows a scatter plot including a line of best fit. To do this, we will navigate to “Graphs” and “Scatterplot”. We will select the same variables that we did for our analysis, “tfr” on the x-axis and “partic” on the y-axis. Next, we need to go into “Options”. We will select the box for “Least-squares line”, which will add a line of best fit to our scatter plot. If you were producing this plot for a paper or poster, you could also specify the axis labels and graph title. However, for this lab we will just leave them as they are. Once we click “OK”, R Commander will produce our plot. R Commander sometimes cuts off the bottom of the plot, so if we resize it a little bit we will be able to see the whole thing.

In a future video, we will go over how to interpret the output of both the model and the plot.