2.13 Exercise: Comparing groups – *R version*

**Note:** *Copying and pasting text (e.g. R code) from a pdf is not reliable. For that reason we have also provided this file in [Word format (.docx)](https://www.stat.auckland.ac.nz/~wild/d2i/exercises/2.13%20exercise-comparing-groups_R_17.docx) and also the code in* [*a text file*](https://www.stat.auckland.ac.nz/~wild/d2i/exercises/2.13%20exercise-comparing-groups_R_17.txt)

We are going to use the gapminder\_2008 data in the FutureLearnData package and look at the values of ChildrenPerWoman for each of the countries broken out by Region.

|  |  |
| --- | --- |
| **# R CODE** | **COMMENTARY or OUTPUT** |
| **# *Setup***  library(iNZightPlots)  library(FutureLearnData)  **data(gapminder\_2008)**  names(gapminder\_2008)  iNZightPlot(**ChildrenPerWoman**, **data=*gapminder\_2008*)** | ***Commentary***  *Make* ***gapminder\_2008*** *inside*  ***FutureLearnData*** *available for analysis*  *Useful for checking on the spellings of variable names*  *Dot plot for*  ***ChildrenPerWoman*** |
| **# *Now break out by Region***  iNZightPlot(ChildrenPerWoman**, Region**, data=gapminder\_2008) |  |

|  |  |  |
| --- | --- | --- |
| **# *Get Summary*** *of* *ChildrenPerWoman broken out by Region*  **getPlotSummary(**ChildrenPerWoman**,** Region, data=gapminder\_2008**)** |  | |
| **# *Colour by*** *Region*  iNZightPlot(ChildrenPerWoman, Region, data=gapminder\_2008, **colby=Region**)  **# *Try also***  iNZightPlot(ChildrenPerWoman, Region, data=gapminder\_2008, colby=Region, **cex.text=.3**)  iNZightPlot(ChildrenPerWoman, Region, data=gapminder\_2008, colby=Region, **hide.legend = TRUE**) | |  |
| **# *Colour by*** *Infantmortality*  iNZightPlot(ChildrenPerWoman, Region, data=gapminder\_2008, **colby=Infantmortality**) | |  |

* **What do you see in the last graph?**
* **Also try colouring by other variables you think might help explain the Regional differences.**

***Cont. over …***

**Optional: *Try this new feature*** *(interactive web graphics)*

We will export an iNZightPlot graph as an *Interactive HTML* file and open this file up in our default browser. If that is a modern browser like Chrome, Firefox or Safari (but not Internet Explorer) this will then give you an interactive version of the graph that lets you query it in various ways like hovering over the points or clicking them. Click on the box plot and it will display the numerical values.

***The save process can be slow if there are a lot of dots to be drawn.***

***The save window allows other variables to be exported along with the plot***. This is particularly useful for hover-over if you have a variable that gives the names of the people or objects.

You can give such files to others. They do not need to be connected to iNZight to work.

Here is sample code:

# *Make a plot and also store the output in myplot*

**myplot = iNZightPlot(**ChildrenPerWoman, Region, data=gapminder\_2008**)**

# *Specify a location to store an Interactive HTML file. I will call my file "myintplot.html"*

*# You will have to change the path to the file because this one is to a location on my desktop!*

**filepath = "**C:/Users/cwil119/Desktop/**myintplot.html"**

**exportHTML(myplot, filepath)**

**browseURL(filepath)** *#open the file up in my default browser*

**To discuss issues related to this Exercise,**

go to [**https://gitter.im/iNZightVIT/d2i-R-discussion**](https://gitter.im/iNZightVIT/d2i-R-discussion)

*To be able to post to the list you will have to set up a (free) account on* ***Github***

<https://github.com/login>

***If your question relates to an Exercise, say which one you are talking about!***