

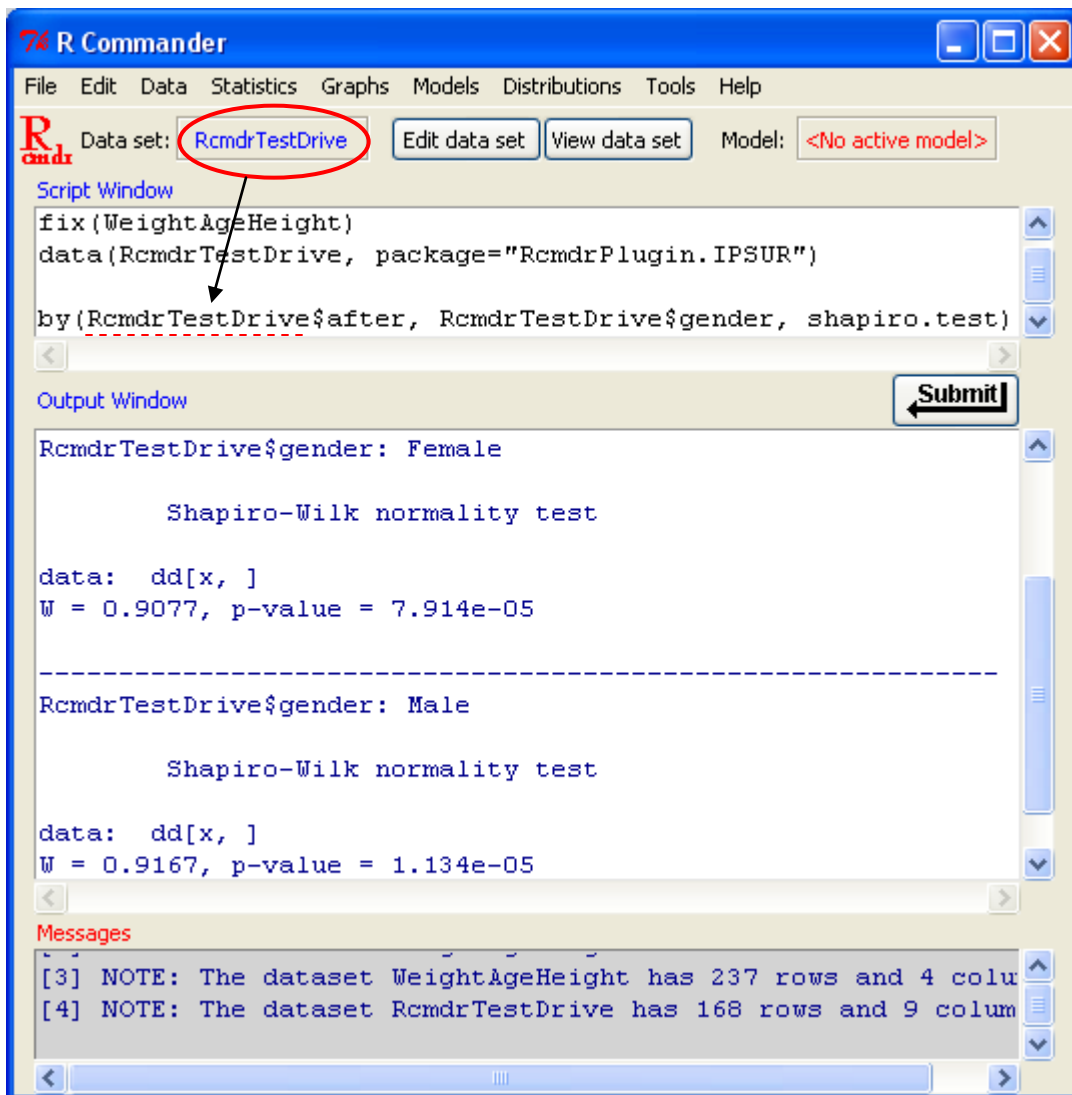
## Normality Tests for Subgroups in a Data File

If you have a quantitative variable **after** (in RcmdrTestDrive file) in a data file and you wish to test for normality for after variable for male and female subjects separately, the following is the R command to do it.

Assume the RcmdrTestDrive has the quantitative variable “after” and the qualitative variable “gender”, the R command to do normality test on “after” variable for each gender is using a **by** command as the following: (You may enter this command in the Script Window and click on **Submit** button in the R Commander window)

RcmdrTestDrive\$after means the after variable in the RcmdrTestDrive data set.

```
by(RcmdrTestDrive$after, RcmdrTestDrive$gender, shapiro.test)
```



Since the p-values are  $7.914 \times 10^{-5}$  (0.00007914) and  $1.134 \times 10^{-5}$  (0.00001134) are both less than 0.05, we reject the normality assumption for both samples at 5% level of significance.