4 Exploring Data with Graphs - part 2

Sejin Park

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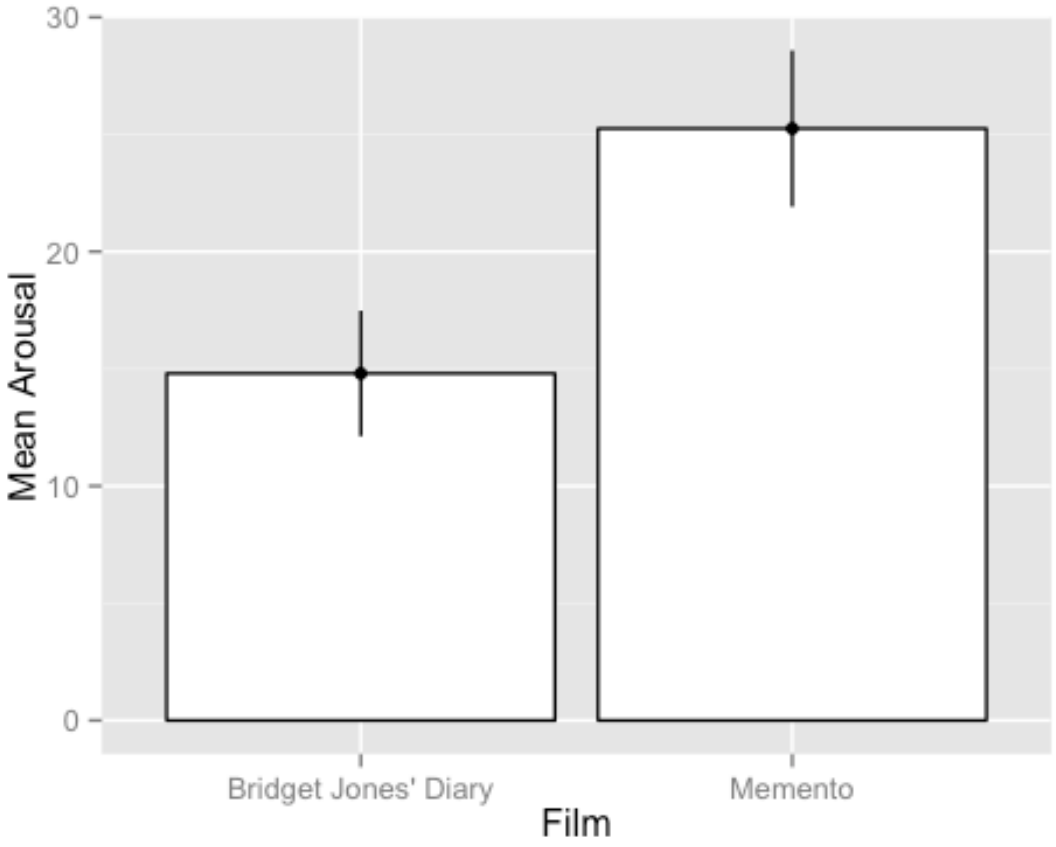
```
setwd("~/Documents/Dropbox/RstatisticsStudy/ch4_graph/data")
library(ggplot2)
```

Bar charts for one independent variable

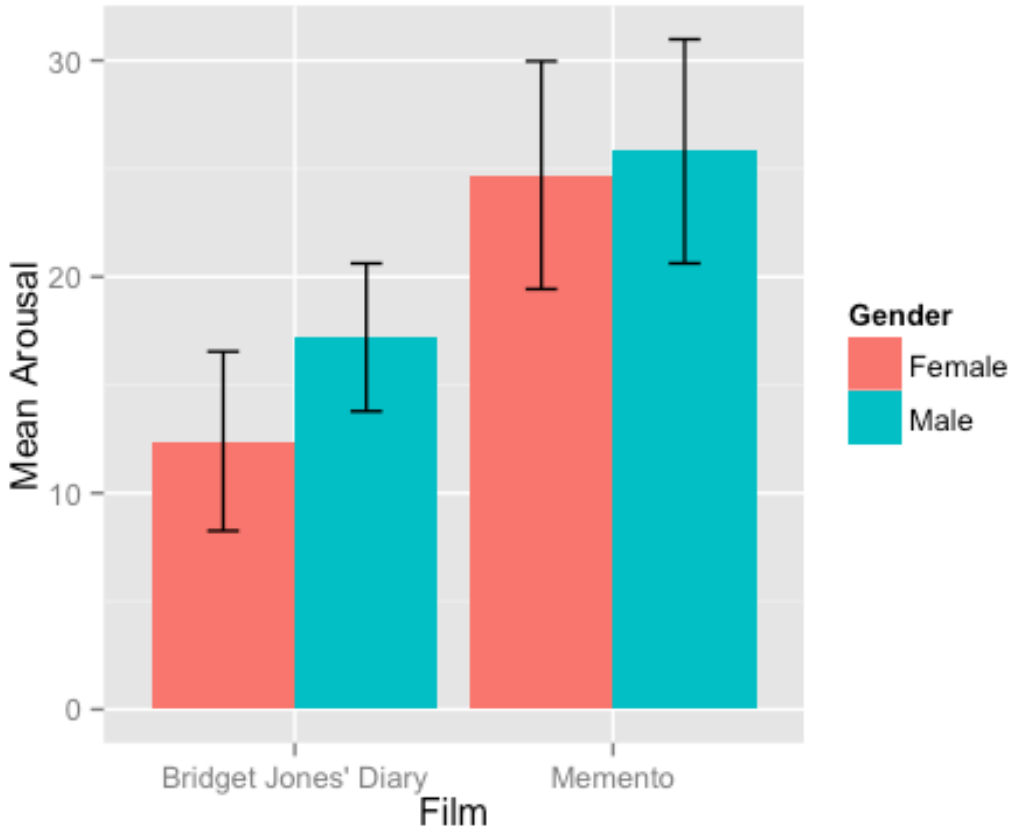
```
chickFlick = read.delim("ChickFlick.dat",  header = TRUE)

bar <- ggplot(chickFlick, aes(film, arousal))
bar + stat_summary(fun.y = mean, geom = "bar", fill = "White", colour =
"Black") + stat_summary(fun.data = mean_cl_normal, geom = "pointrange")
+ labs(x = "Film", y = "Mean Arousal")
```



Bar charts for several independent variables

```
bar <- ggplot(chickFlick)
bar + stat_summary(aes(film, arousal, fill = gender ), fun.y = mean,
geom = "bar", position="dodge") + stat_summary(aes(film, arousal, fill
= gender ), fun.data = mean_cl_normal, geom = "errorbar",
position=position_dodge(width=0.90), width = 0.2) + labs(x = "Film", y
= "Mean Arousal", fill = "Gender")
```



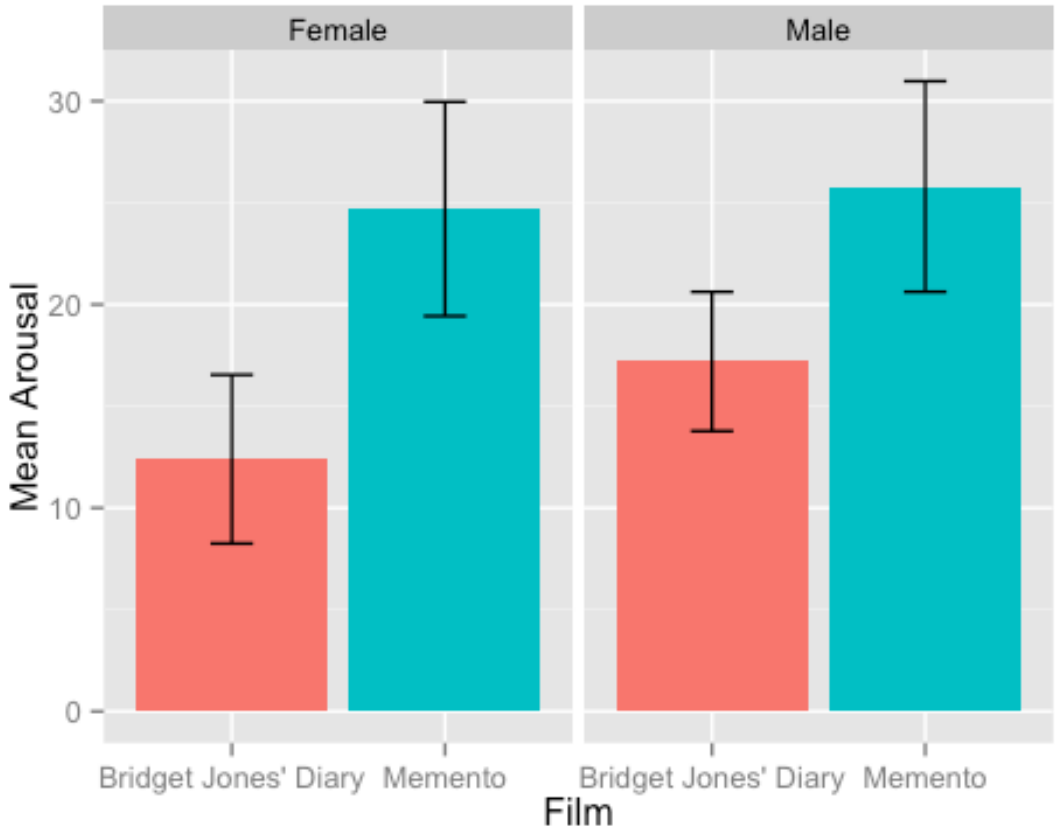
bar <- ggplot(chickFlick, aes(film, arousal, fill = gender)) bar + stat_summary(fun.y = mean, geom = "bar", position="dodge") + stat_summary(fun.data = mean_cl_normal, geom = "errorbar", position=position_dodge(width=0.90), width = 0.2) + labs(x = "Film", y = "Mean Arousal", fill = "Gender") + scale_fill_manual("Gender", c("Female" = "Blue", "Male" = "Green"))

bar <- ggplot(chickFlick, aes(film, arousal, fill = gender)) bar + stat_summary(fun.y = mean, geom = "bar", position="dodge") + stat_summary(fun.data = mean_cl_normal, geom = "errorbar", position=position_dodge(width=0.90), width = 0.2) + labs(x = "Film", y = "Mean Arousal", fill = "Gender") + scale_fill_manual("Gender", c("Female" = "#3366FF", "Male" = "#336633"))

```
bar <- ggplot(chickFlick, aes(film, arousal, fill = film))
bar + stat_summary(fun.y = mean, geom = "bar") + stat_summary(fun.data
= mean_cl_normal, geom = "errorbar", width = 0.2) + facet_wrap(~gender)
+ labs(x = "Film", y = "Mean Arousal") + opts(legend.position="none")

## Error: 'opts' is deprecated. Use 'theme' instead. (Defunct; last
used in version 0.9.1)

bar <- ggplot(chickFlick, aes(film, arousal, fill = film))
bar + stat_summary(fun.y = mean, geom = "bar") + stat_summary(fun.data
= mean_cl_normal, geom = "errorbar", width = 0.2) + facet_wrap(~gender)
+ labs(x = "Film", y = "Mean Arousal") + theme(legend.position="none")
```

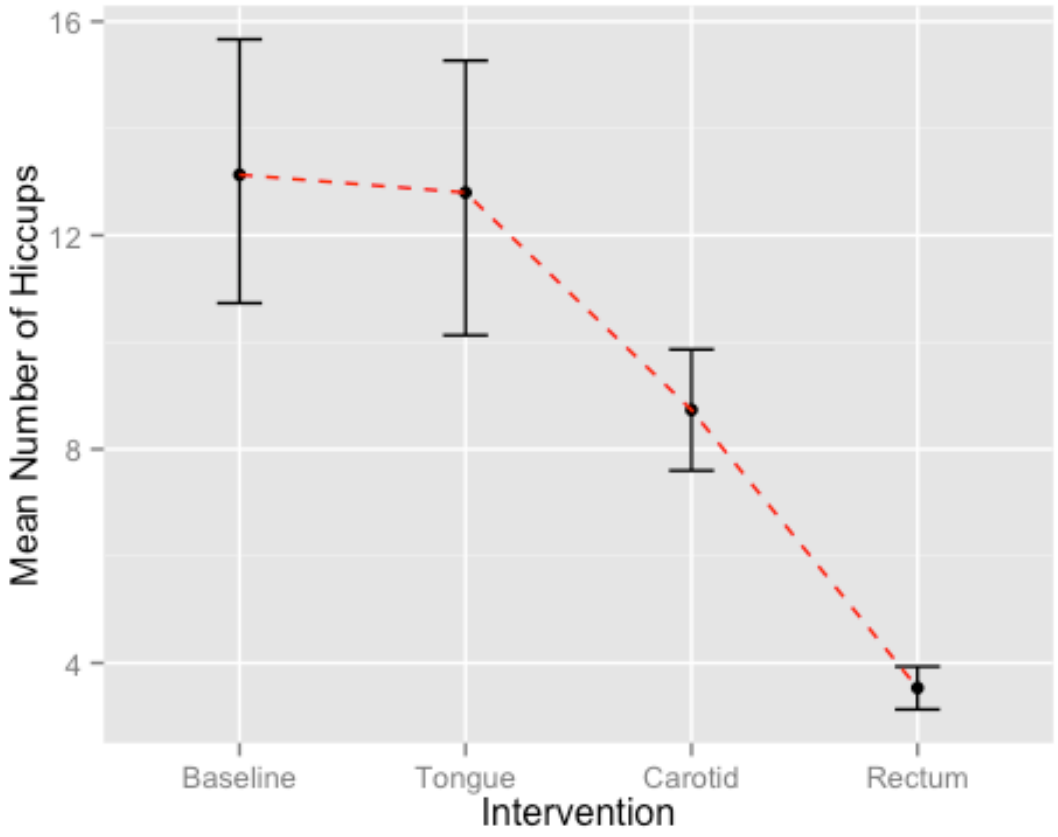


Line graphs

Line graphs of a single independent variable

```
hiccupsData <- read.delim("Hiccups.dat",  header = TRUE)
hiccups<-stack(hiccupsData)
names(hiccups)<-c("Hiccups","Intervention")
hiccups$Intervention_Factor<-factor(hiccups$Intervention,
levels(hiccups$Intervention)[c(1, 4, 2, 3)])
```

```
line <- ggplot(hiccups,  aes(Intervention_Factor, Hiccups))
line + stat_summary(fun.y = mean, geom = "point") +
stat_summary(fun.data = mean_cl_boot, geom = "errorbar", width = 0.2) +
labs(x = "Intervention", y = "Mean Number of Hiccups") +
stat_summary(fun.y = mean, geom = "line", aes(group=1),colour = "Red",
linetype = "dashed")
```



Line graphs for several independent variables

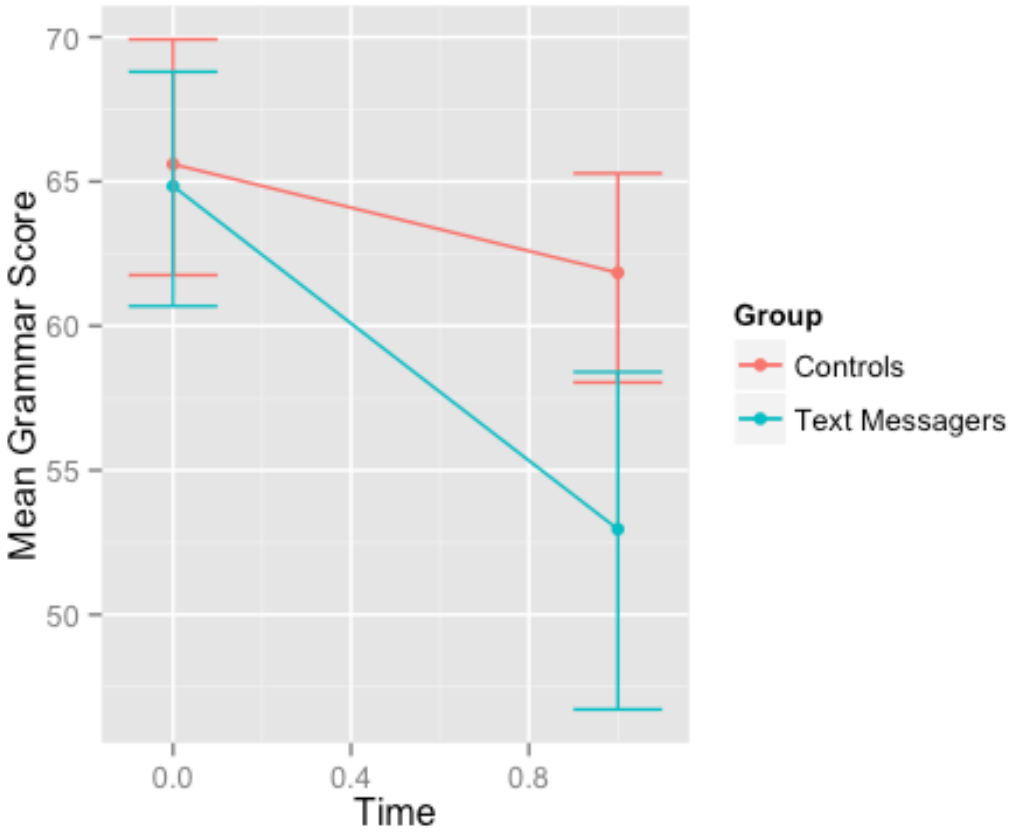
```
textData <- read.delim("TextMessages.dat",  header = TRUE)
textData$id = row(textData[1])

textMessages = reshape(textData, idvar = c("id", "Group"), varying =
c("Baseline", "Six_months"), v.names = "Grammar_Score", timevar =
"Time", times = c(0:1), direction = "long")
```

textMessages<-melt(textData, id = c("id", "Group"), measured = c("Baseline", "Six_months")) names(textMessages)<-c("id", "Group", "Time", "Grammar_Score") textMessages$Time <- -factor(textMessages$Time, labels = c("Baseline", "6 Months"))

print (textMessages)

```
line <- ggplot(textMessages, aes(Time, Grammar_Score, colour = Group))
line + stat_summary(fun.y = mean, geom = "point") + stat_summary(fun.y
= mean, geom = "line", aes(group= Group)) + stat_summary(fun.data =
mean_cl_boot, geom = "errorbar", width = 0.2) + labs(x = "Time", y =
"Mean Grammar Score", colour = "Group")
```



```
line <- ggplot(textMessages, aes(Time, Grammar_Score, colour = Group))
line + stat_summary(fun.y = mean, geom = "point", aes(shape = Group),
size = 4) + stat_summary(fun.y = mean, geom = "line", aes(group= Group,
linetype = Group)) + stat_summary(fun.data = mean_cl_boot, geom =
"errorbar", width = 0.2) + labs(x = "Time", y = "Mean Grammar Score",
colour = "Group")
```