kidmid behavior

```
require(ggplot2)
```

```
## Loading required package: ggplot2
```

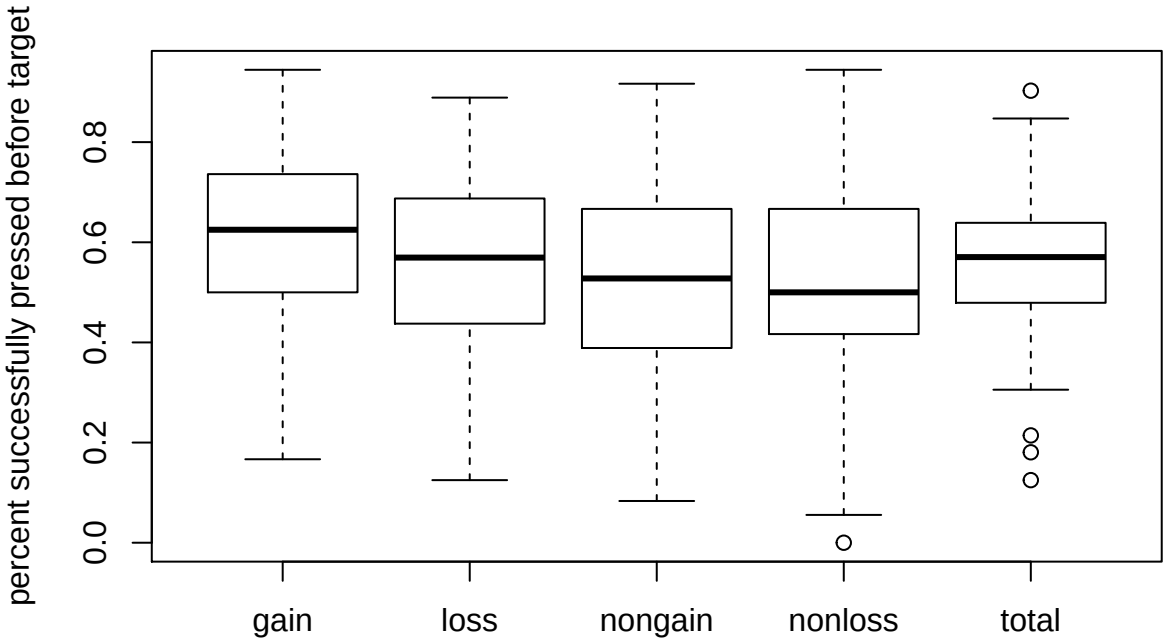
```
setwd("~/Documents/ELS/KIDMID/Analysis/behavior")
d = read.csv("all_behavior_26-Aug-2014.csv", header=TRUE)

n = length(d$subID)
accuracy = data.frame(d$gain_acc,d$loss_acc,d$nongain_acc,d$nonloss_acc,d$total_acc)
rt = data.frame(d$rt_gain,d$rt_loss,d$rt_nongain,d$rt_nonloss,d$rt_mean)
counts = data.frame(d$gain_count, d$loss_count, d$nongain_count, d$nonloss_count)
#mean_rt = (d$rt_gain + d$rt_loss + d$rt_nongain + d$rt_nonloss)/4
#rt = data.frame(d$rt_gain,d$rt_loss,d$rt_nongain,d$rt_nonloss,mean_rt)
```

Summary statistics

–64 subjects

Accuracy

```
plot1 = boxplot(accuracy, names = c("gain","loss","nongain","nonloss","total"),ylab=("percent successful
```



The total accuracy (55.8%) is lower than what is expected. Participants should be successfully pressing the button before the target-offset approximately 66% of the time.

Gain: mean = 61%; median = 62.5%; min = 16.7%; max = 94.4%

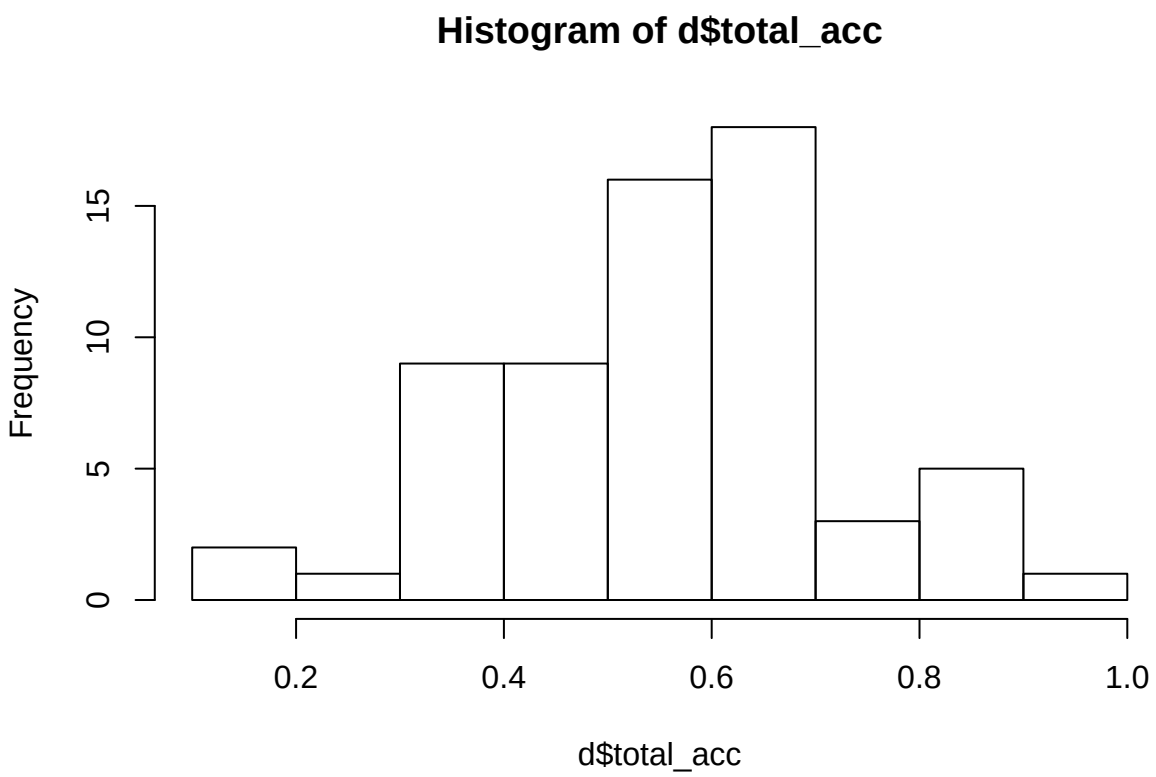
Loss: mean = 55.1%; median = 56.9%; min = 12.5%; max = 88.9%

Nongain: mean = 51.8%; median = 52.8%; min = 8.3%; max = 91.7%

Nonloss: mean = 52.6%; median = 50%; min = 0%; max = 94.4%

All trials: mean = 55.8%; median = 57%; min = 12.5%; max = 90.3%

```
hist(d$total_acc)
```



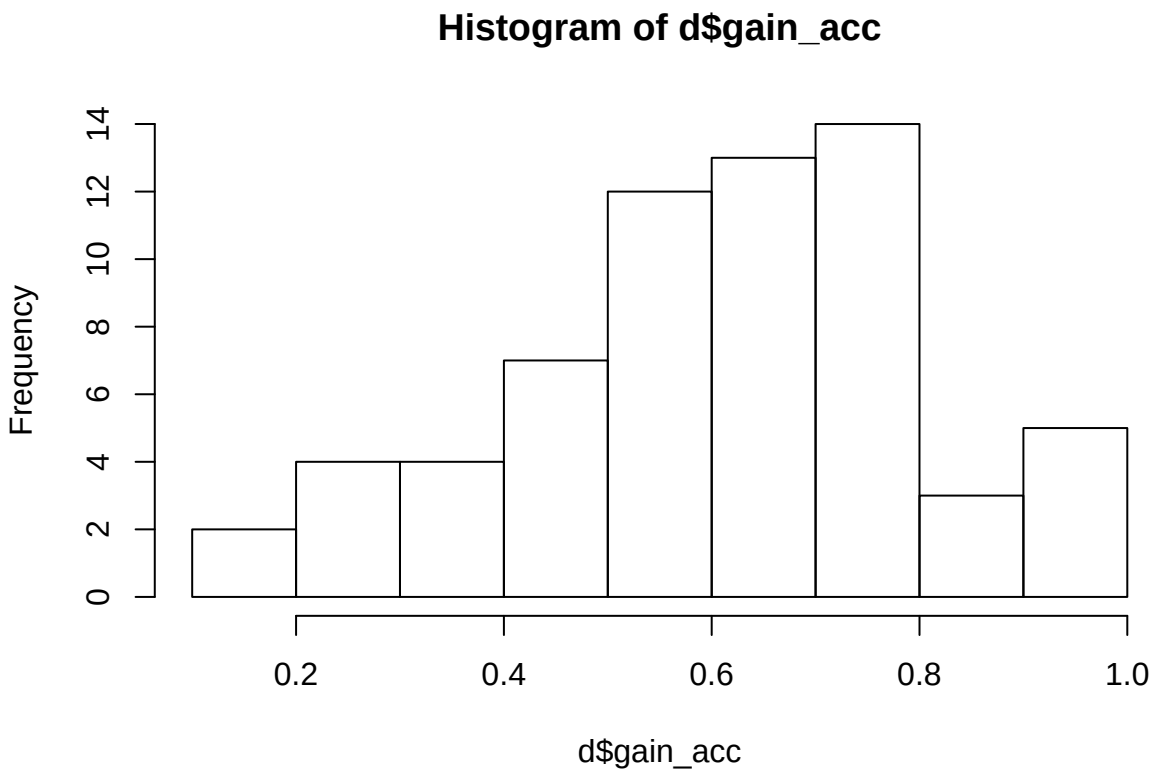

```
summary(d$total_acc)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.125   0.483   0.570   0.558   0.639   0.903
```

```
total.out = boxplot.stats(d$total_acc, do.out=TRUE)
total.out$out
```

```
## [1] 0.9028 0.1806 0.2143 0.1250
```

```
hist(d$gain_acc)
```



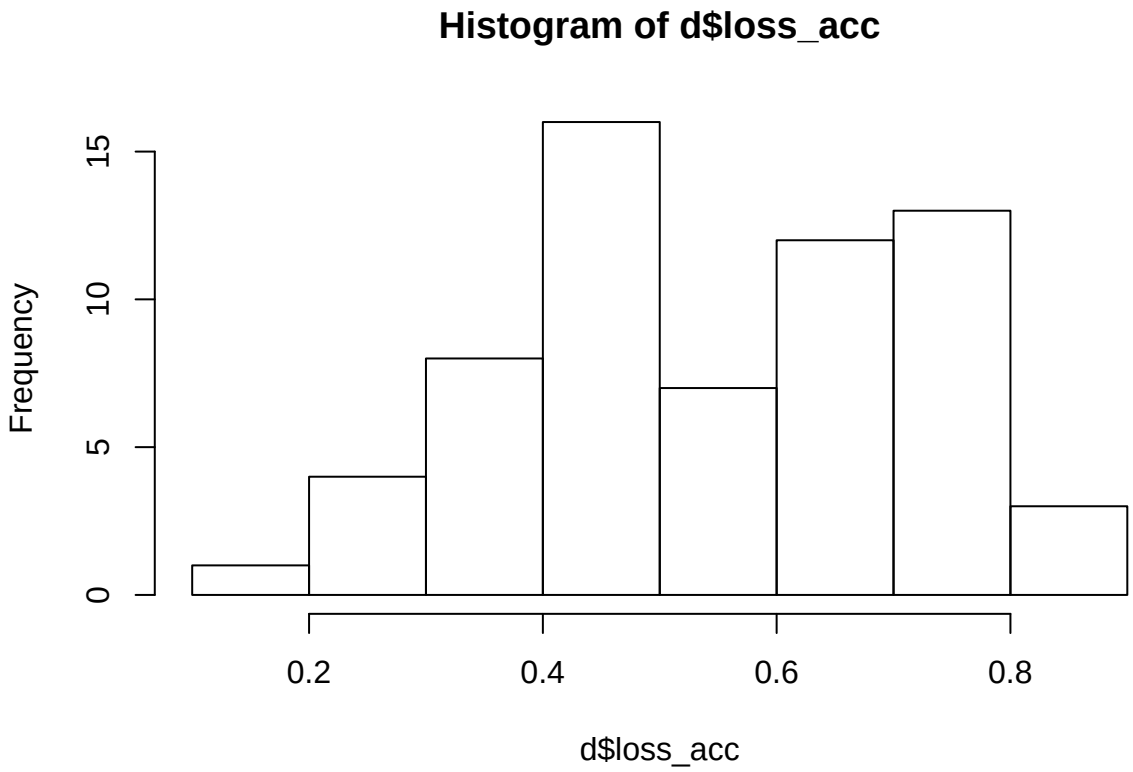

```
summary(d$gain_acc)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.167   0.500   0.625   0.610   0.729   0.944
```

```
gain_acc.out = boxplot.stats(d$gain_acc, do.out=TRUE)
gain_acc.out$out
```

```
## numeric(0)
```

```
hist(d$loss_acc)
```



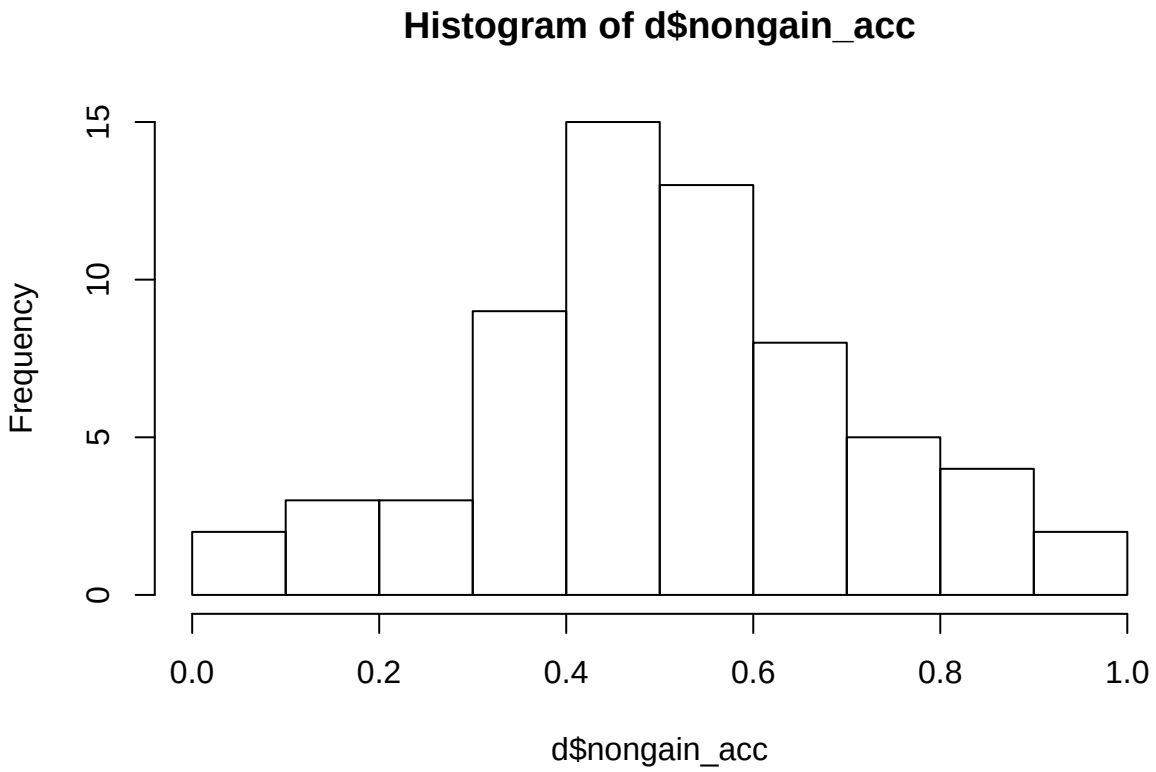

```
summary(d$loss_acc)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.125   0.448   0.569   0.551   0.677   0.889
```

```
loss_acc.out = boxplot.stats(d$loss_acc, do.out=TRUE)
loss_acc.out$out
```

```
## numeric(0)
```

```
hist(d$nongain_acc)
```



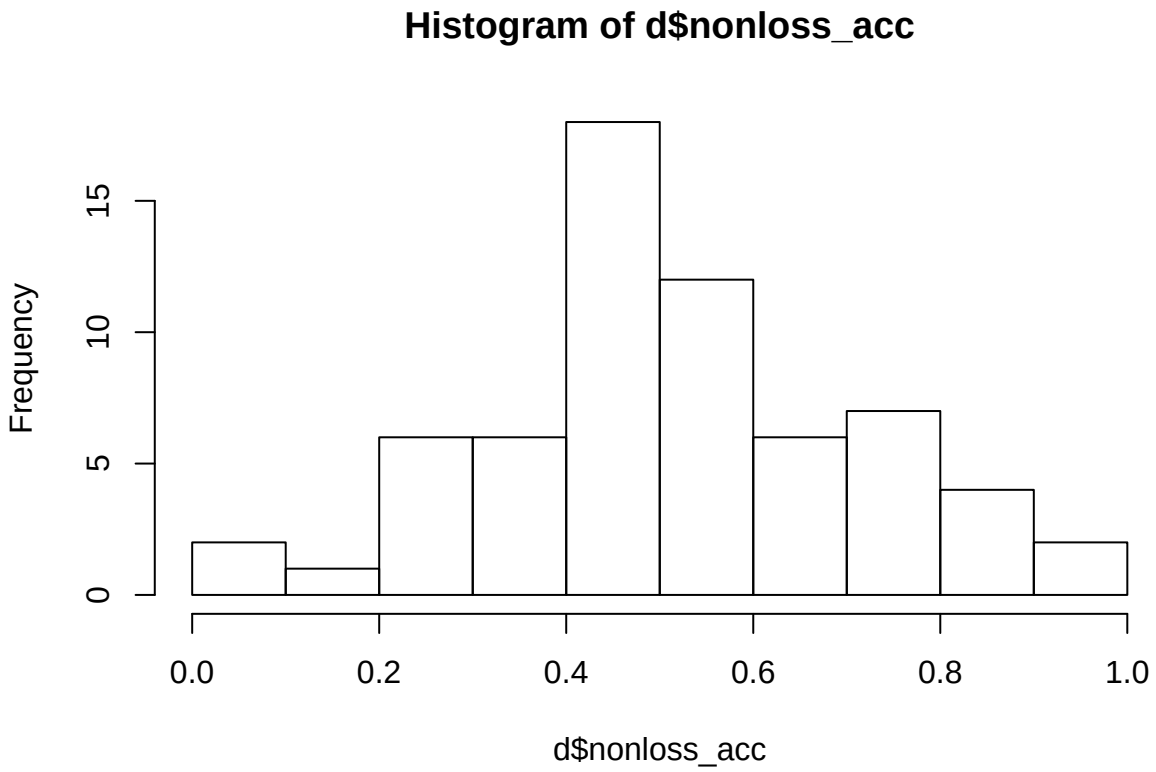

```
summary(d$nongain_acc)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##  0.0833  0.3890  0.5280  0.5180  0.6670  0.9170
```

```
nongain_acc.out = boxplot.stats(d$nongain_acc, do.out=TRUE)
nongain_acc.out$out
```

```
## numeric(0)
```

```
hist(d$nonloss_acc)
```




```
summary(d$nonloss_acc)
```

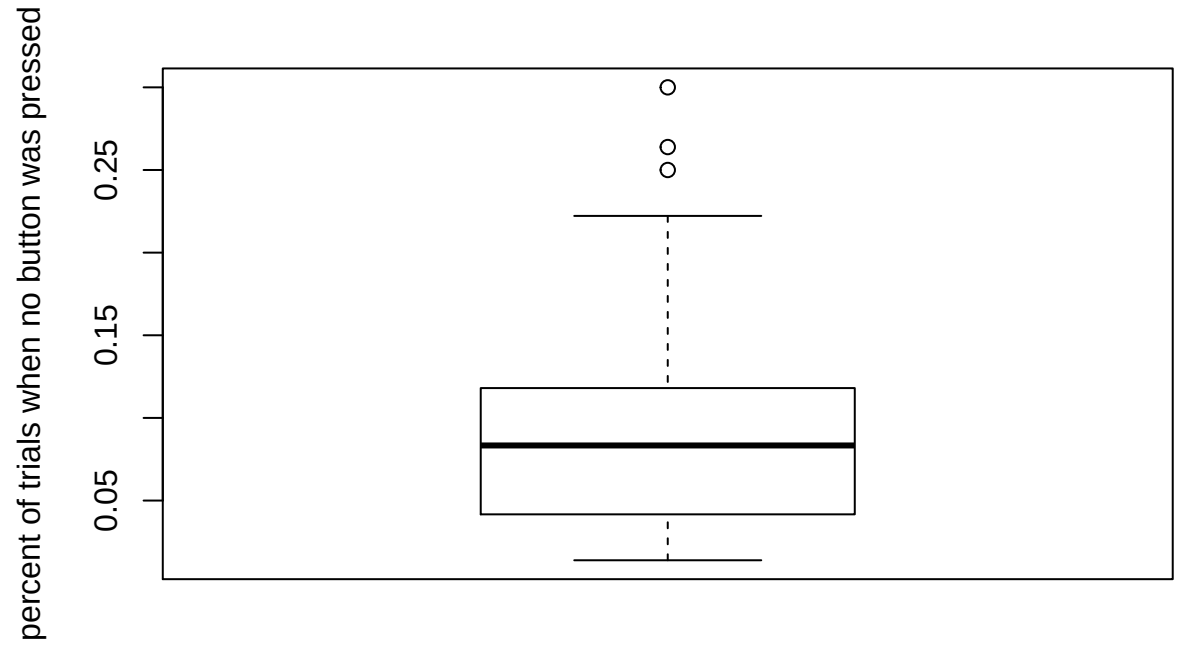
```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.000   0.417   0.500   0.526   0.667   0.944
```

```
nonloss_acc.out = boxplot.stats(d$nonloss_acc, do.out=TRUE)
nonloss_acc.out$out
```

```
## [1] 0
```

Missed Trials

```
plot2 = boxplot(d$missed_percent,ylab=("percent of trials when no button was pressed"))
```

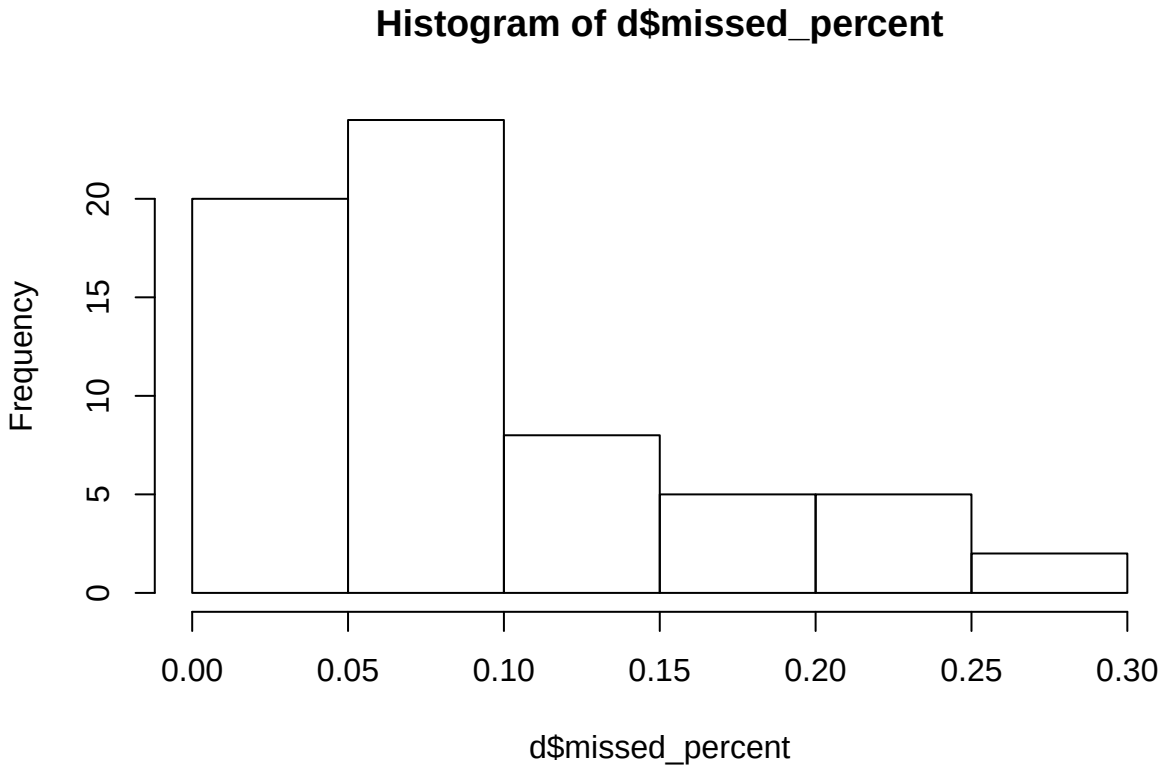


Outliers

```
missed.out = boxplot.stats(d$missed_percent,do.out = TRUE)
missed.out$out
```

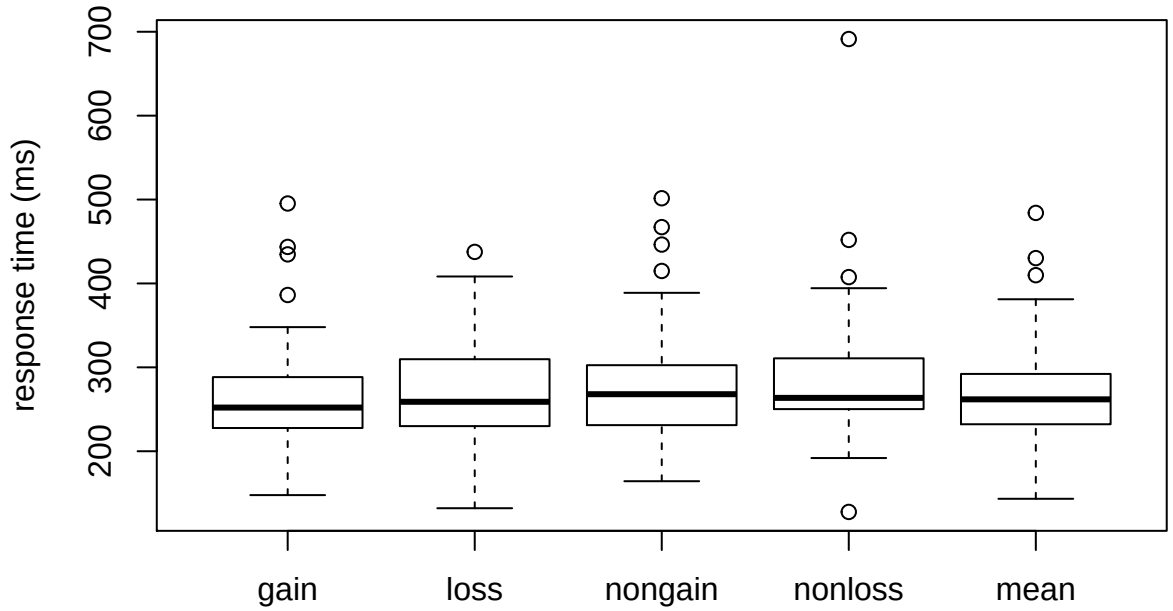
```
## [1] 0.3000 0.2639 0.2500
```

```
hist(d$missed_percent)
```



Response Time

```
plot3 = boxplot(rt, names = c("gain","loss","nongain","nonloss","mean"),ylab=("response time (ms)"))
```



Gain: mean = 262.74 ms; median = 252.08 ms; min = 147.71 ms; max = 495.29 ms

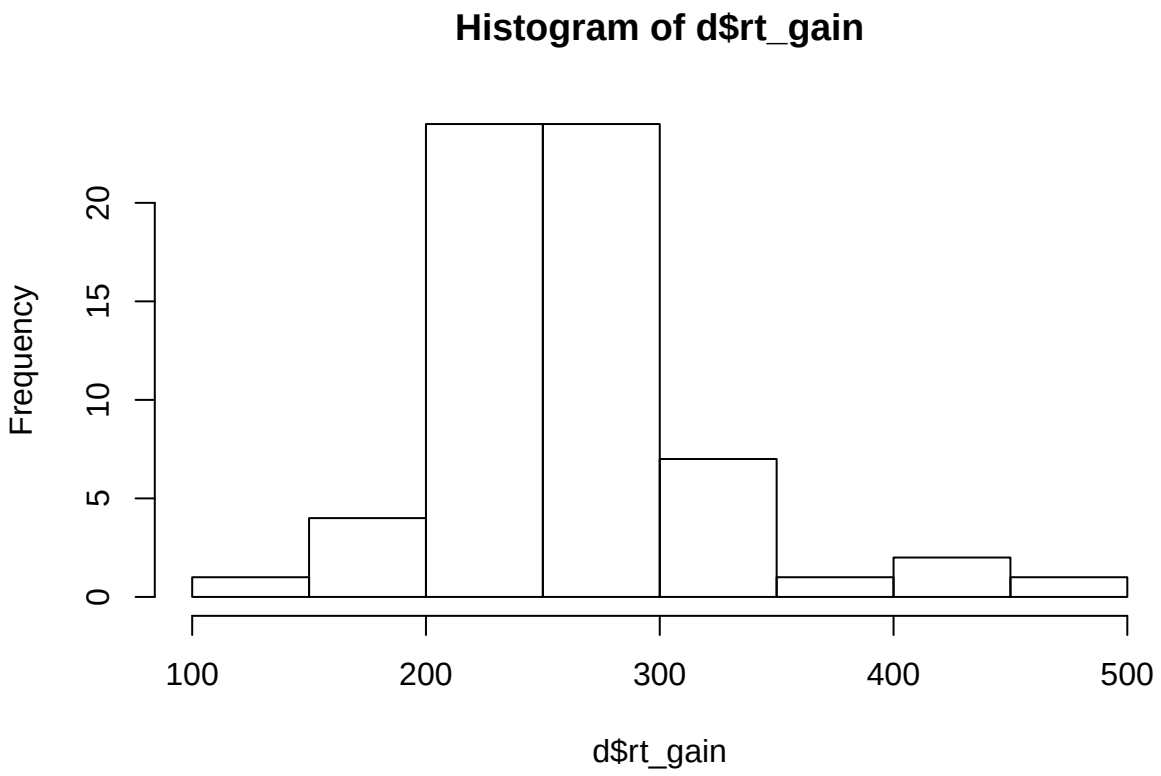
Loss: mean = 269.24 ms; median = 258.93 ms; min = 132.07 ms; max = 437.59 ms

Nongain: mean = 277.29 ms; median = 268 ms; min = 164.28 ms; max = 501.56 ms

Nonloss: mean = 283.94 ms; median = 263.59 ms; min = 127.67 ms; max = 691.33 ms

All trials: mean = 271.71 ms; median = 261.85 ms; min = 143.34 ms; max = 484.08 ms

```
hist(d$rt_gain)
```



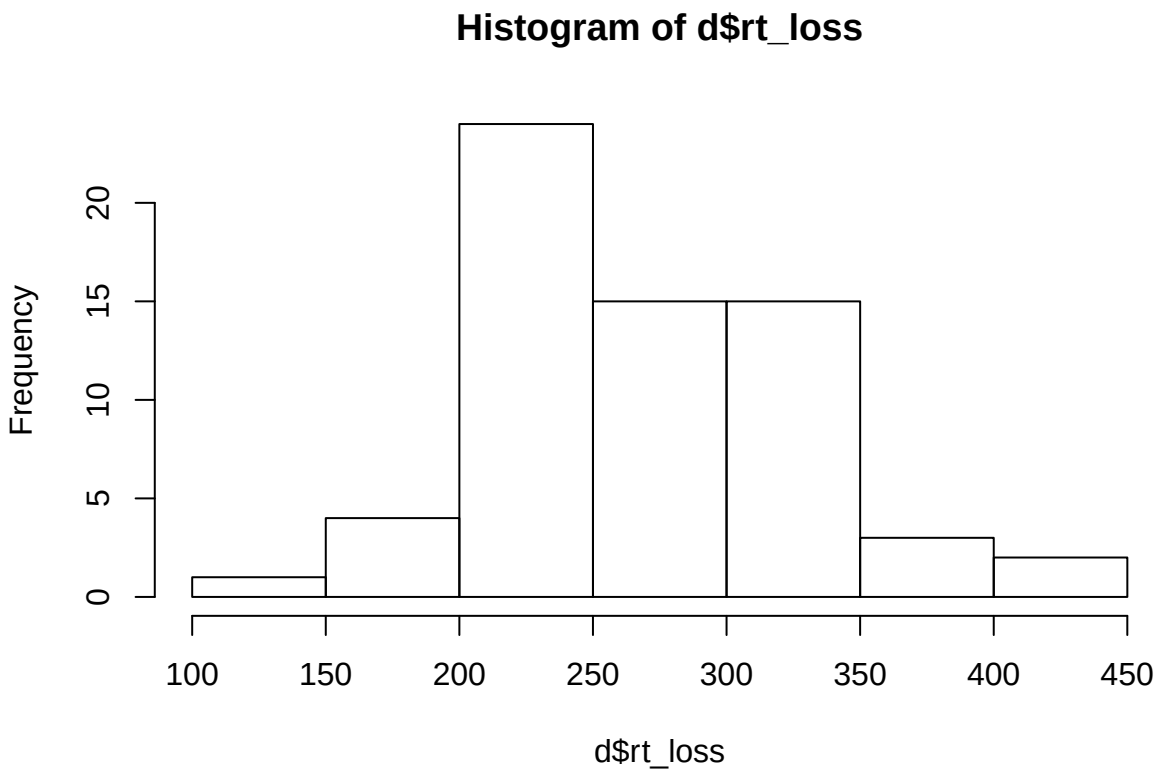

```
summary(d$rt_gain)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     148     228     252     263     288     495
```

```
gain_rt.out = boxplot.stats(d$rt_gain, do.out=TRUE)
gain_rt.out$out
```

```
## [1] 495.3 434.6 443.5 386.2
```

```
hist(d$rt_loss)
```



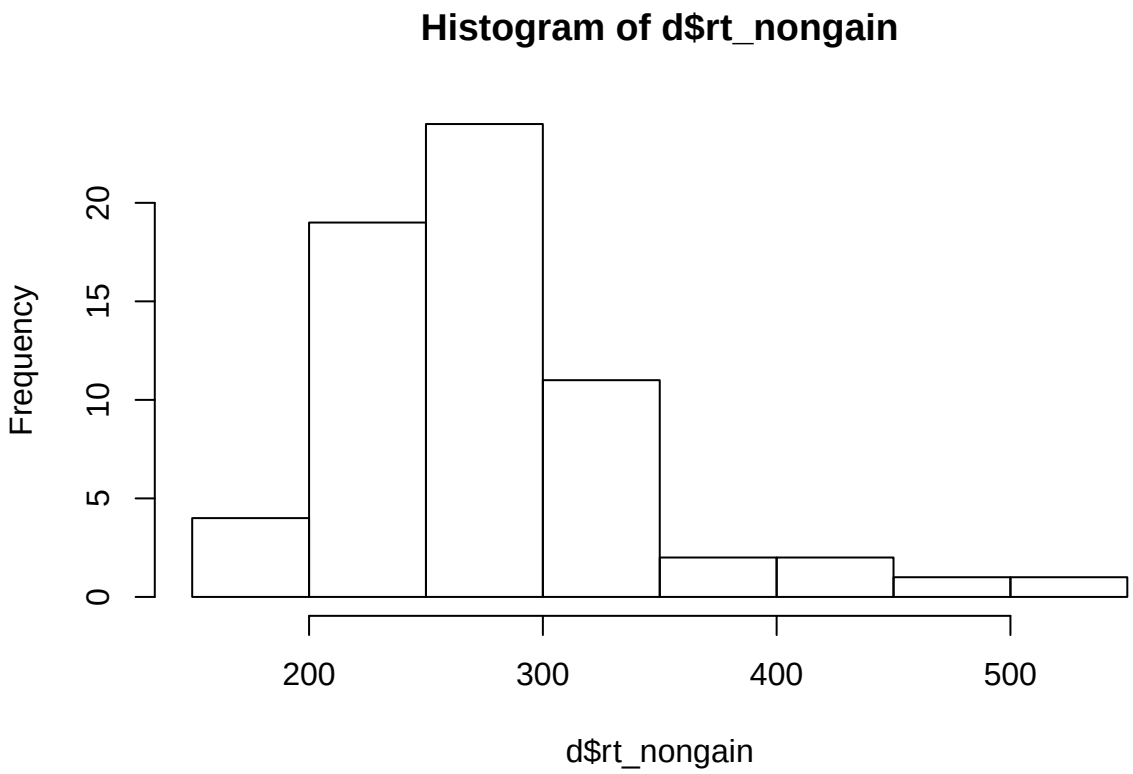

```
summary(d$rt_loss)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     132     230     259     269     309     438
```

```
rt_loss.out = boxplot.stats(d$rt_loss, do.out=TRUE)
rt_loss.out$out
```

```
## [1] 437.6
```

```
hist(d$rt_nongain)
```



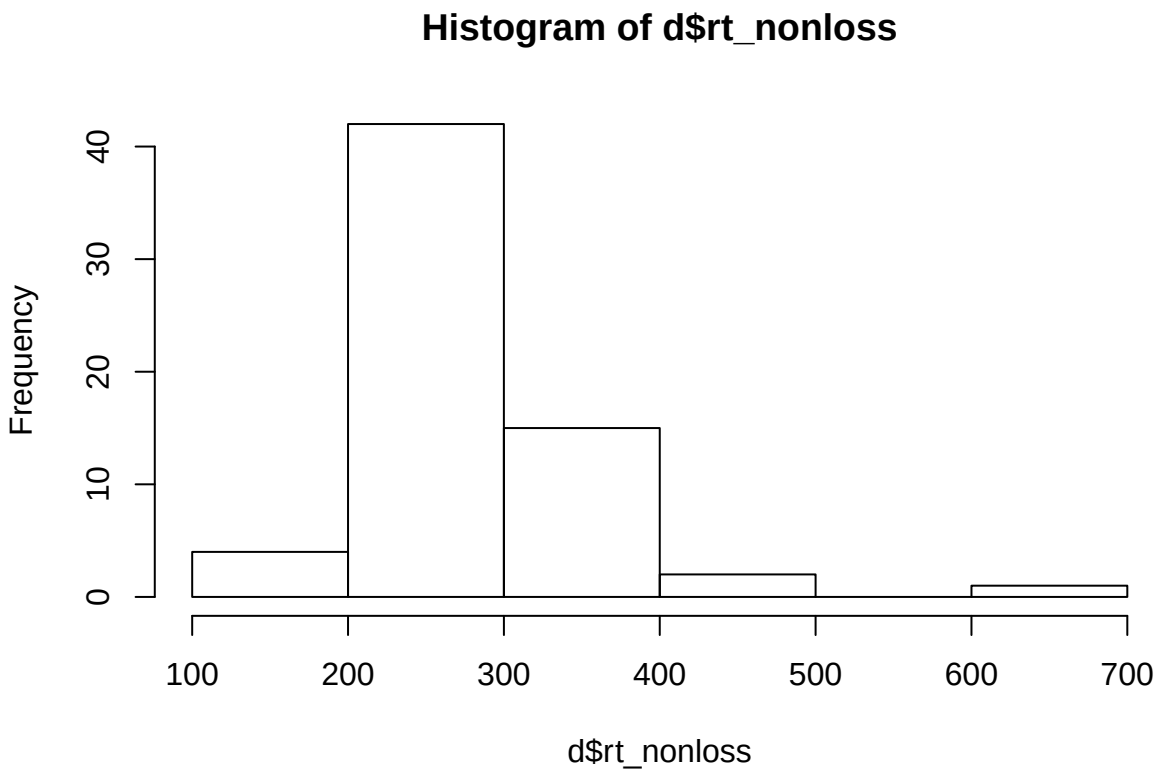

```
summary(d$rt_nongain)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     164     231     268     277     302     502
```

```
rt_nongain.out = boxplot.stats(d$rt_nongain, do.out=TRUE)
rt_nongain.out$out
```

```
## [1] 501.6 414.9 467.1 446.3
```

```
hist(d$rt_nonloss)
```



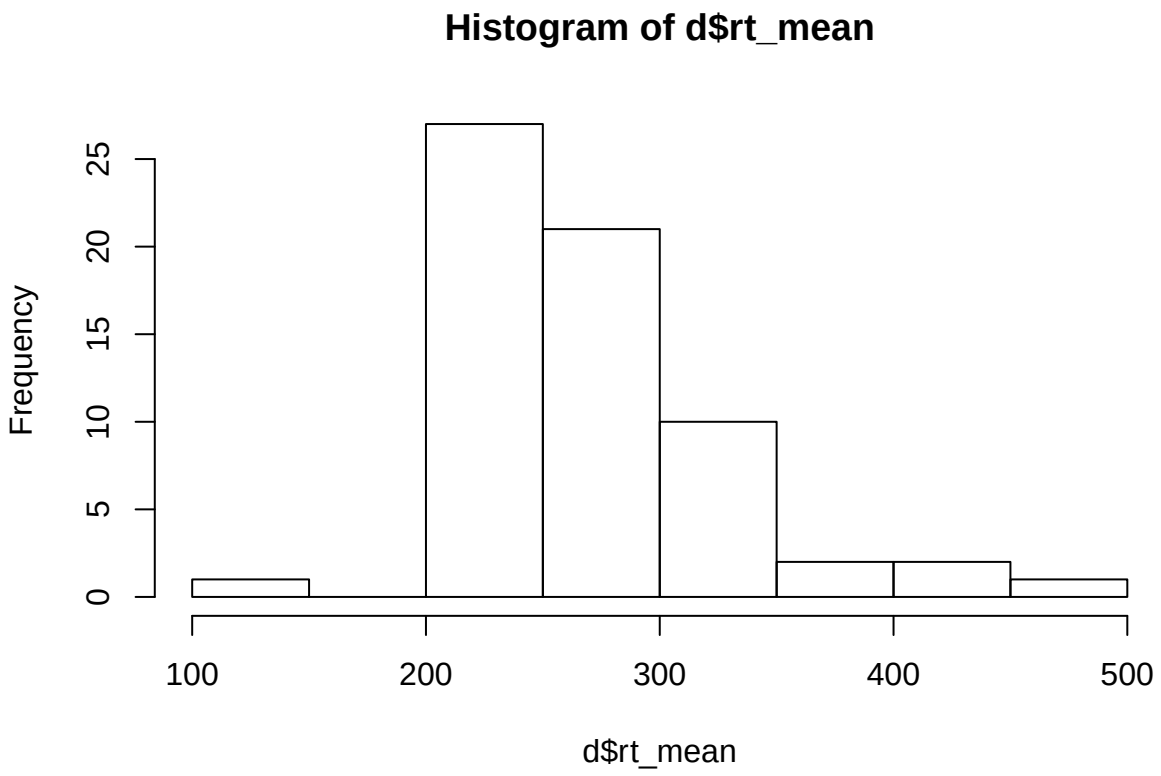

```
summary(d$rt_nonloss)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     128     252     264     284     310     691
```

```
rt_nonloss.out = boxplot.stats(d$rt_nonloss, do.out=TRUE)
rt_nonloss.out$out
```

```
## [1] 127.7 451.9 691.3 407.5
```

```
hist(d$rt_mean)
```




```
summary(d$rt_mean)
```

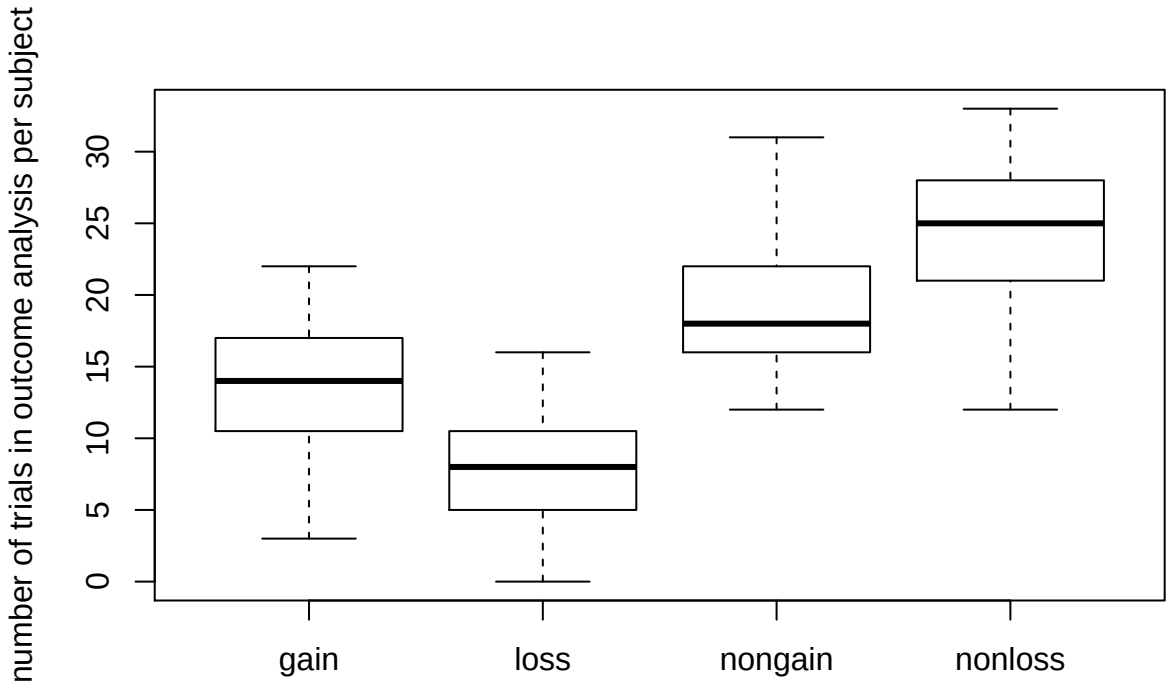
```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     143     232     262     272     291     484
```

```
rt_mean.out = boxplot.stats(d$rt_mean, do.out=TRUE)
rt_mean.out$out
```

```
## [1] 430.2 484.1 409.9
```

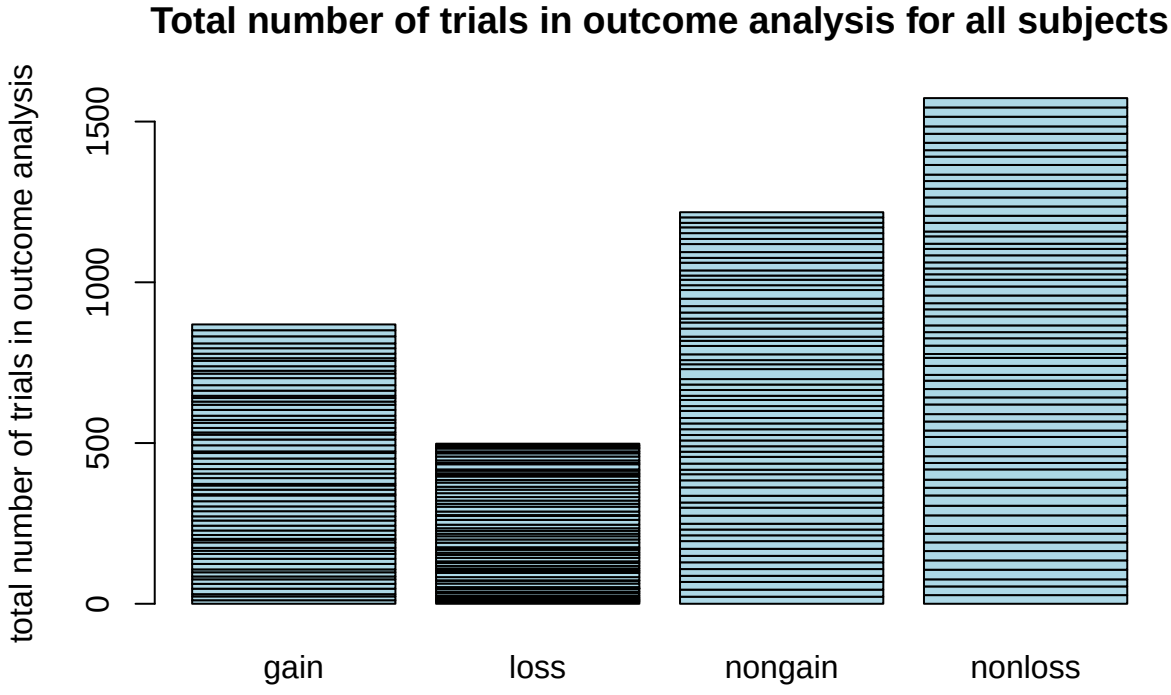
Number of trials going into the single-subject model

```
plot4 = boxplot(counts, names = c("gain","loss","nongain","nonloss"), ylab="number of trials in outcome
```



counts1.pdf

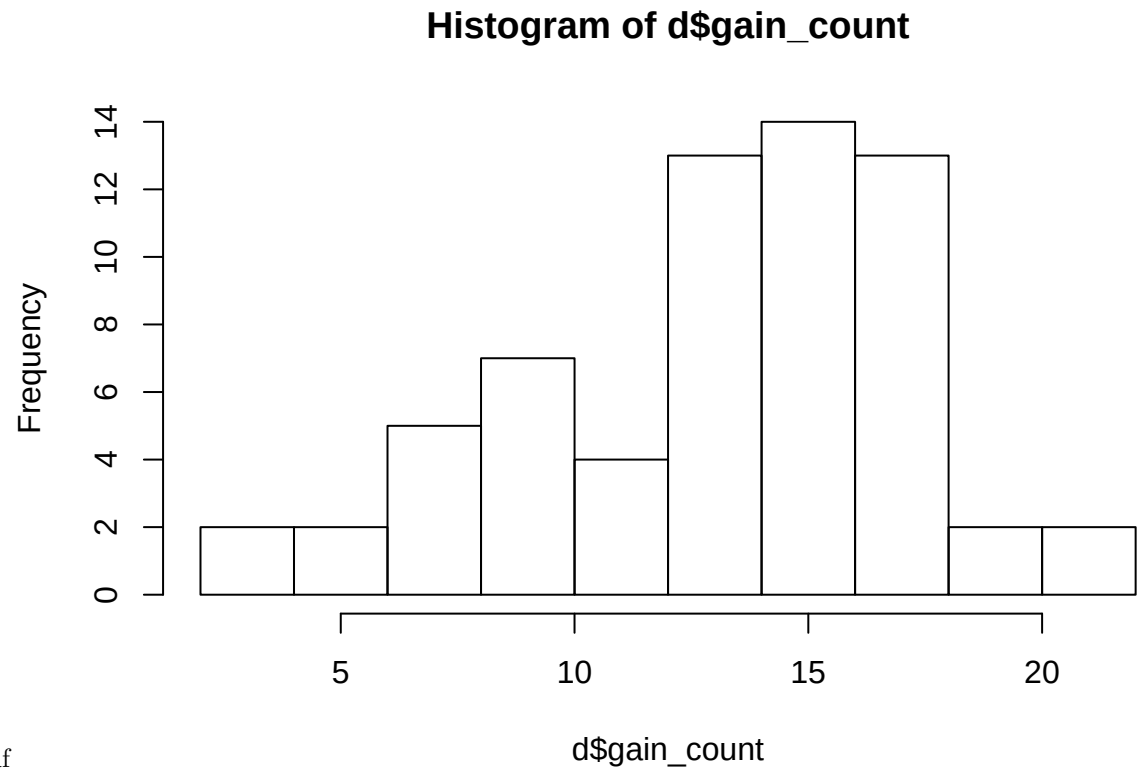
```
counts.m = as.matrix(counts)


barplot(counts.m,names.arg = c("gain","loss","nongain","nonloss"), ylab = "total number of trials in ou
```



counts2.pdf

```
# text(.5,865, sum(d$gain_count))
# text(1.5, sum(d$gain_count))
```

```
hist(d$gain_count)
```



outcome counts.pdf

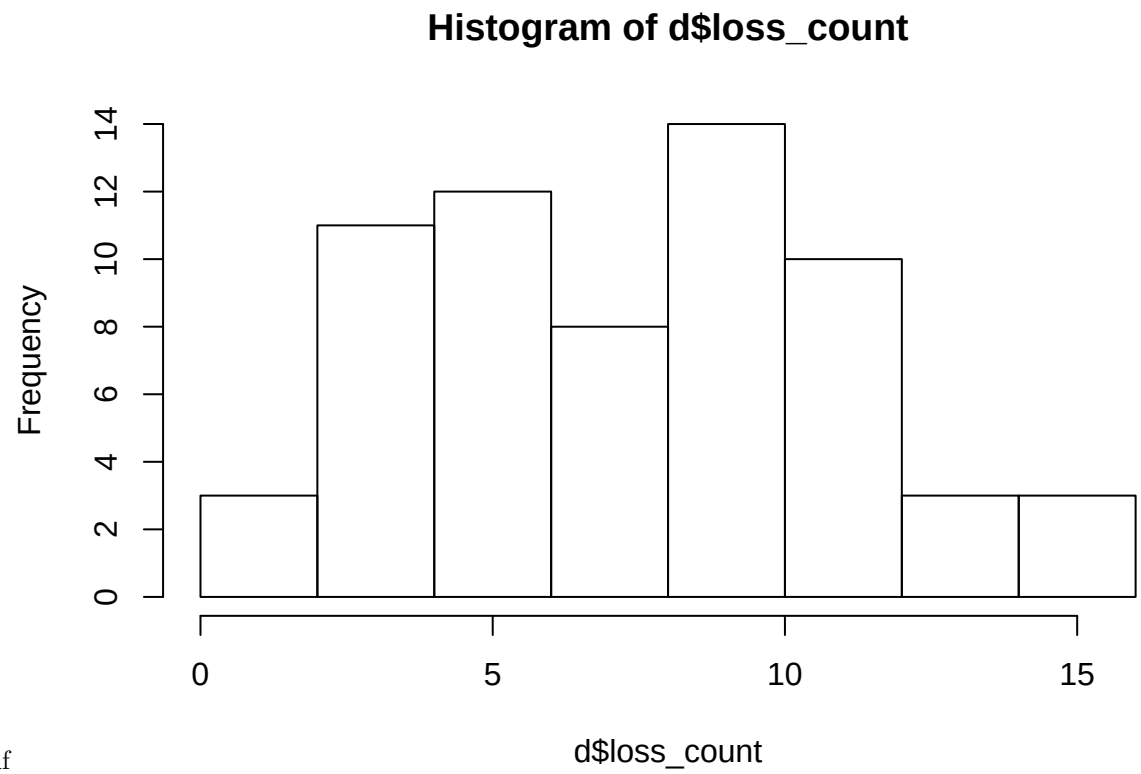
```
summary(d$gain_count)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     3.0    10.8    14.0    13.6    17.0    22.0
```

```
gain_count.out = boxplot.stats(d$gain_count, do.out=TRUE)
gain_count.out$out
```

```
## integer(0)
```

```
hist(d$loss_count)
```



outcome counts.pdf

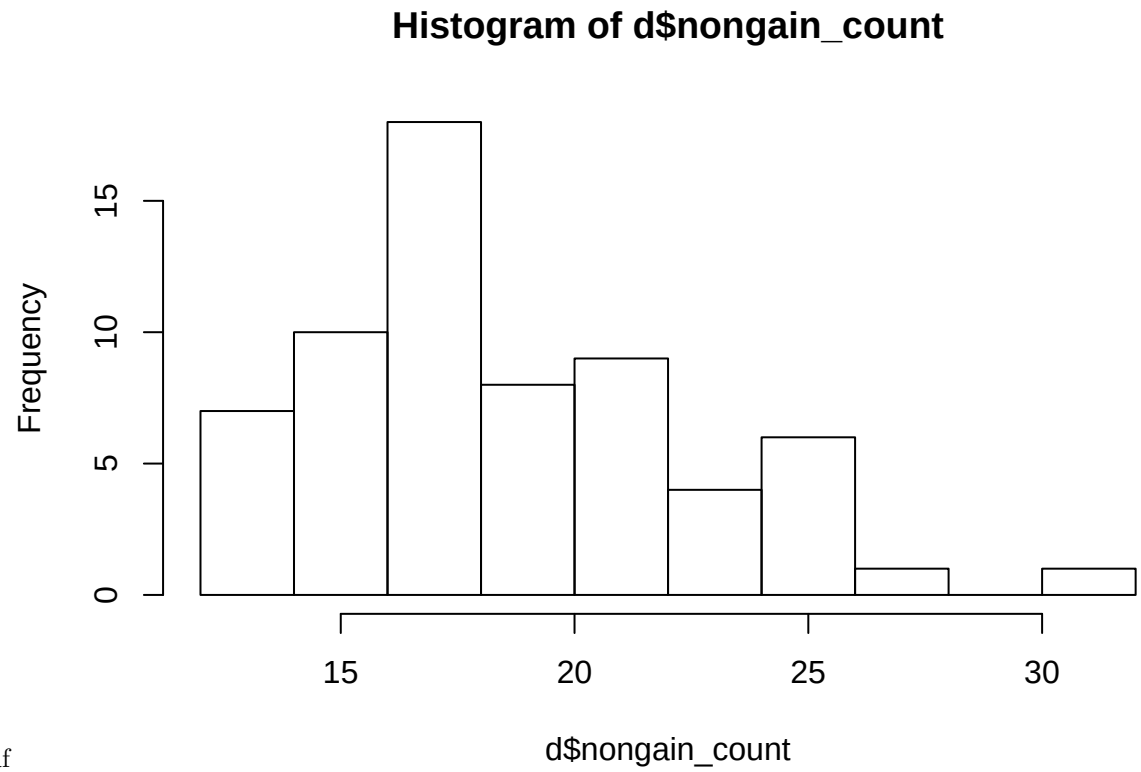
```
summary(d$loss_count)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    0.00    5.00    8.00    7.78   10.20   16.00
```

```
loss_count.out = boxplot.stats(d$loss_count, do.out=TRUE)
loss_count.out$out
```

```
## integer(0)
```

```
hist(d$nongain_count)
```



outcome counts.pdf

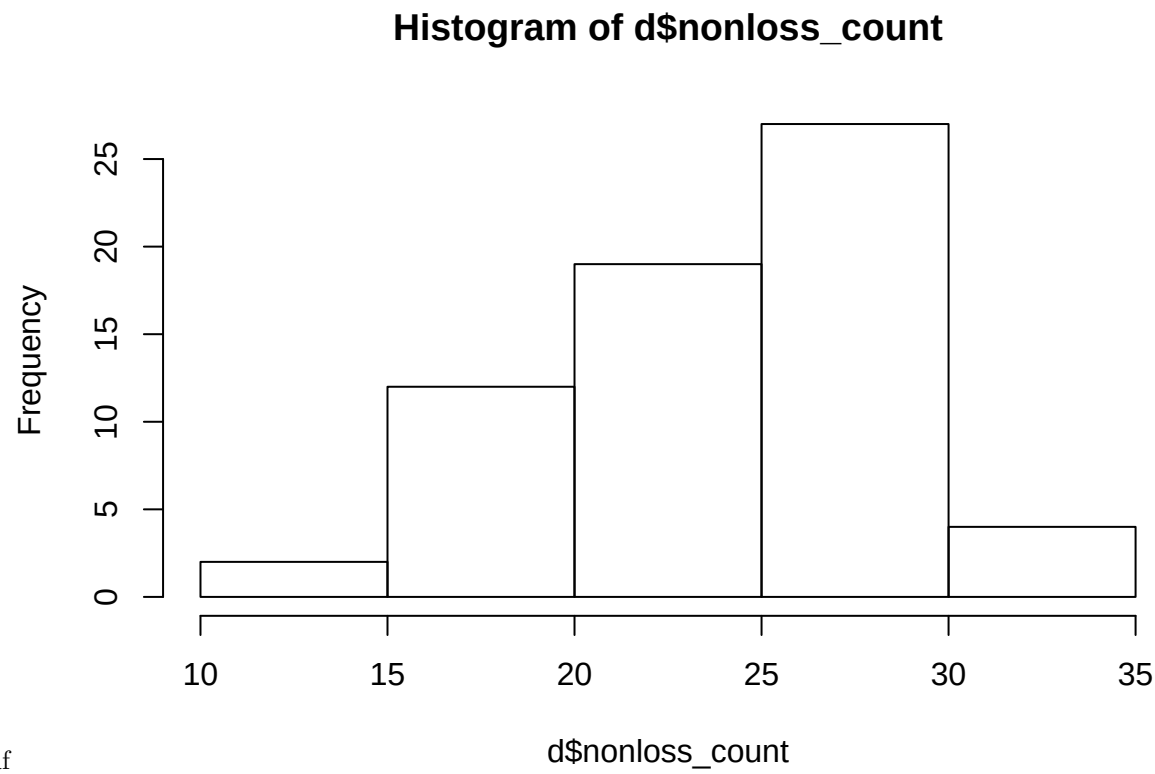
```
summary(d$nongain_count)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      12      16      18      19      22      31
```

```
nongain_count.out = boxplot.stats(d$nongain_count, do.out=TRUE)
nongain_count.out$out
```

```
## integer(0)
```

```
hist(d$nonloss_count)
```



outcome counts.pdf

```
summary(d$nonloss_count)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    12.0    21.0    25.0    24.6    28.0    33.0
```

```
nonloss_count.out = boxplot.stats(d$nonloss_count, do.out=TRUE)
nonloss_count.out$out
```

```
## integer(0)
```