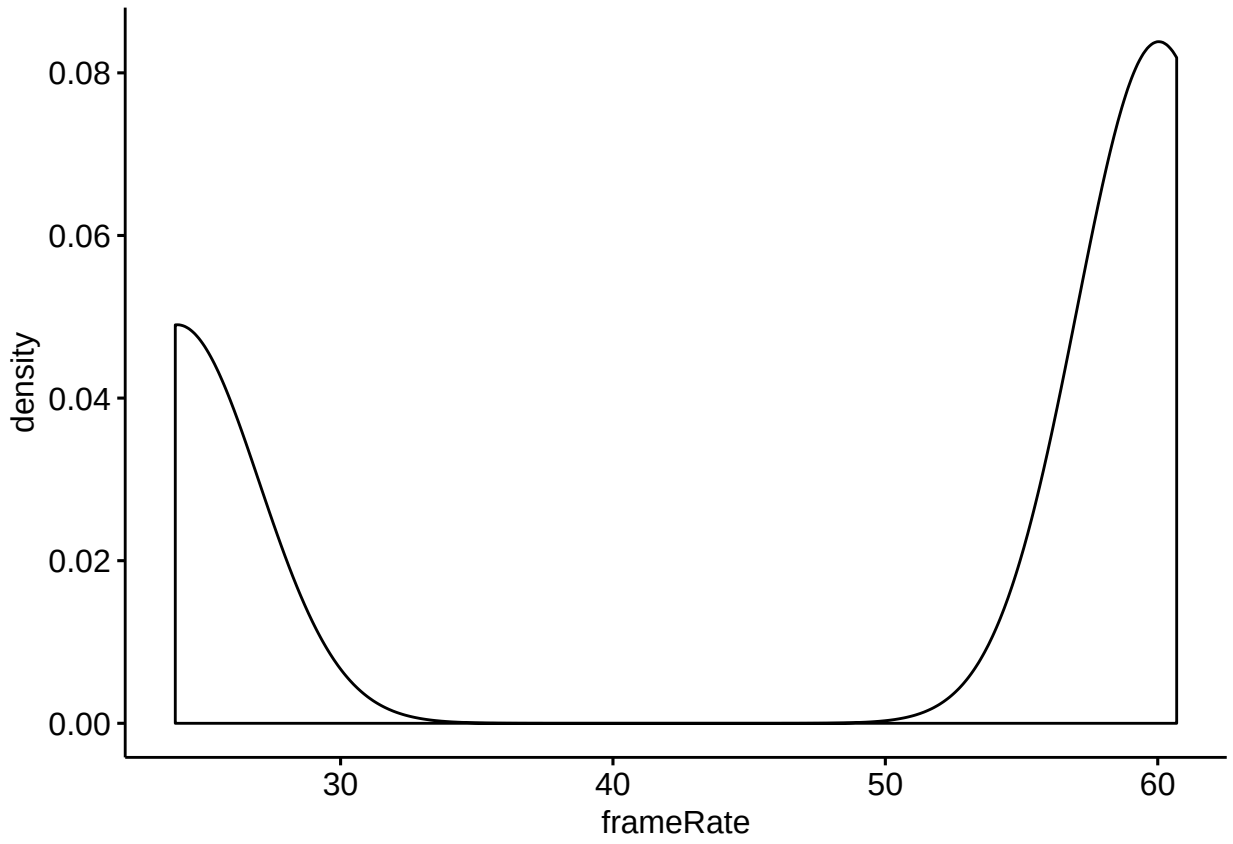
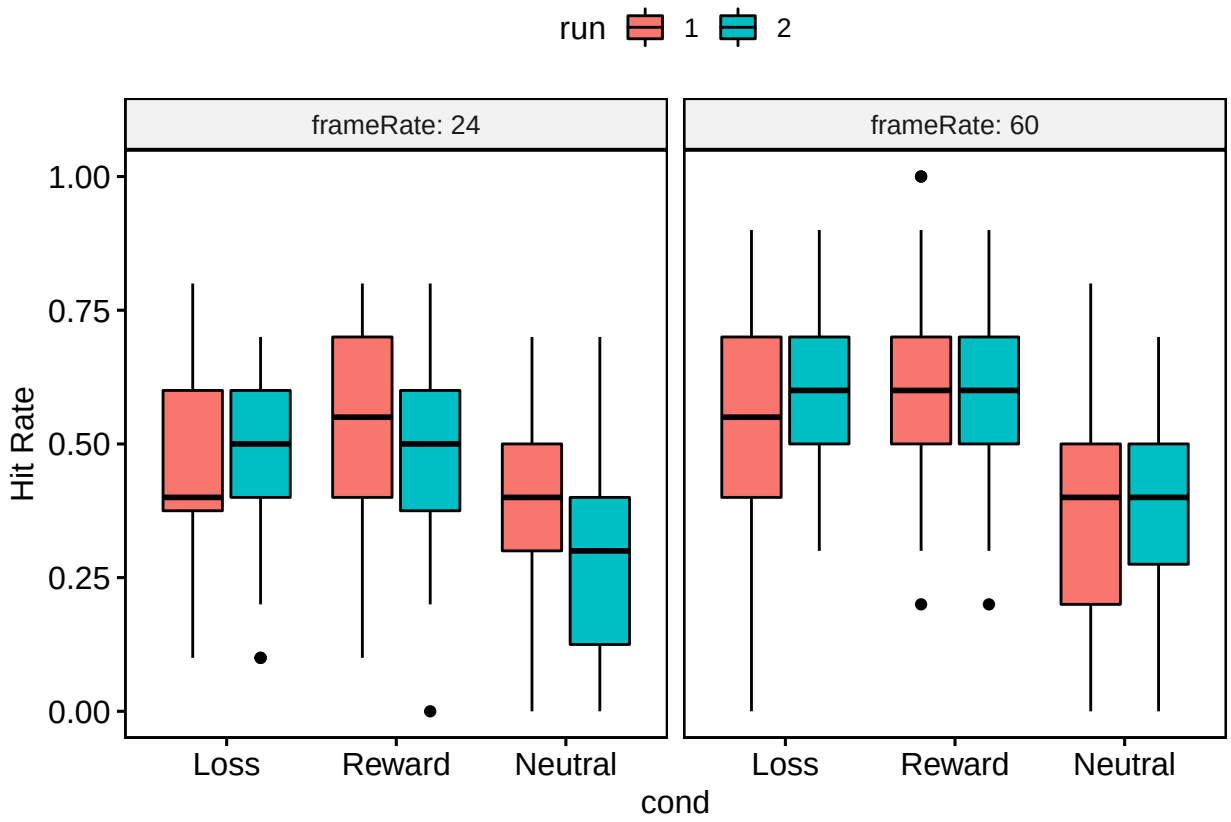
ULG fMRI-task behavioral data

MID

```
MID_long <- read.csv("MID/data/MID_merged_bdat.csv")
MID_long$probeResp.corr <- as.integer(MID_long$probeResp.corr)
MID_long$run <- as.factor(MID_long$run)

# replace NA with 0s
MID_long$probeResp.corr[is.na(MID_long$probeResp.corr)] <- 0

MID_wide <- MID_long %>%
  filter(Condition != "") %>%
  group_by(participant, Condition, run) %>%
  summarise(meanacc = mean(probeResp.corr), meanrt =1000* mean(probeResp.rt, na.rm=TRUE), frameRate = m


MID_wide <- MID_wide %>% mutate(cond = case_when(
        Condition == "LgPun" | Condition == "SmallPun" ~ "Loss",
        Condition == "LgReward" | Condition == "SmallReward" ~ "Reward",
        Condition == "Triangle" ~ "Neutral"))

MID_wide <- MID_wide %>% mutate(frameRate = case_when(
        frameRate < 40 ~  24,
        frameRate > 50 ~ 60))

MID_wide$frameRate <- as.factor(MID_wide$frameRate)

ggdensity(MID_long, x = "frameRate")
```

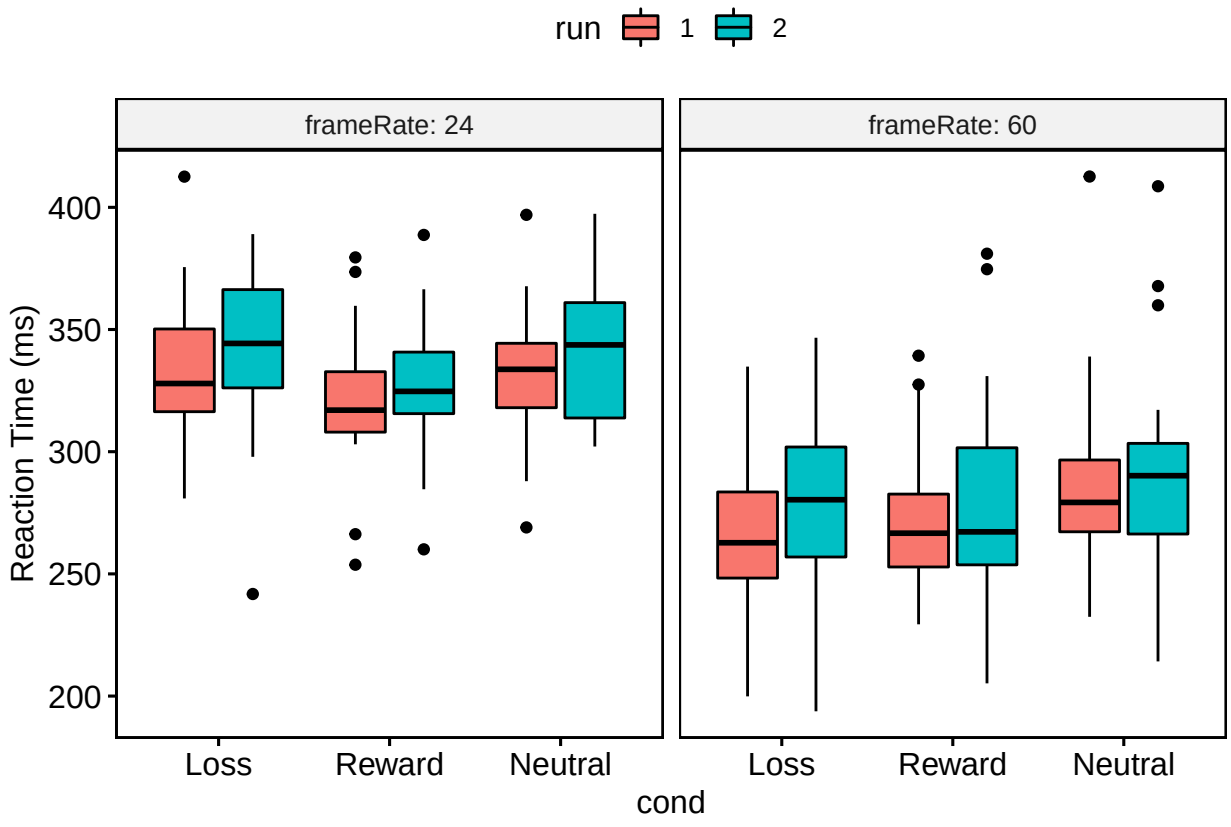



```
# meanrt is for correct trials only
ggboxplot(MID_wide, "cond", "meanacc", fill = "run", ylab = "Hit Rate", facet.by = "frameRate", short.pa
```




```
ggboxplot(MID_wide, "cond", "meanrt", fill = "run", ylab = "Reaction Time (ms)", facet.by = "frameRate"
```

```
## Warning: Removed 13 rows containing non-finite values (stat_boxplot).
```

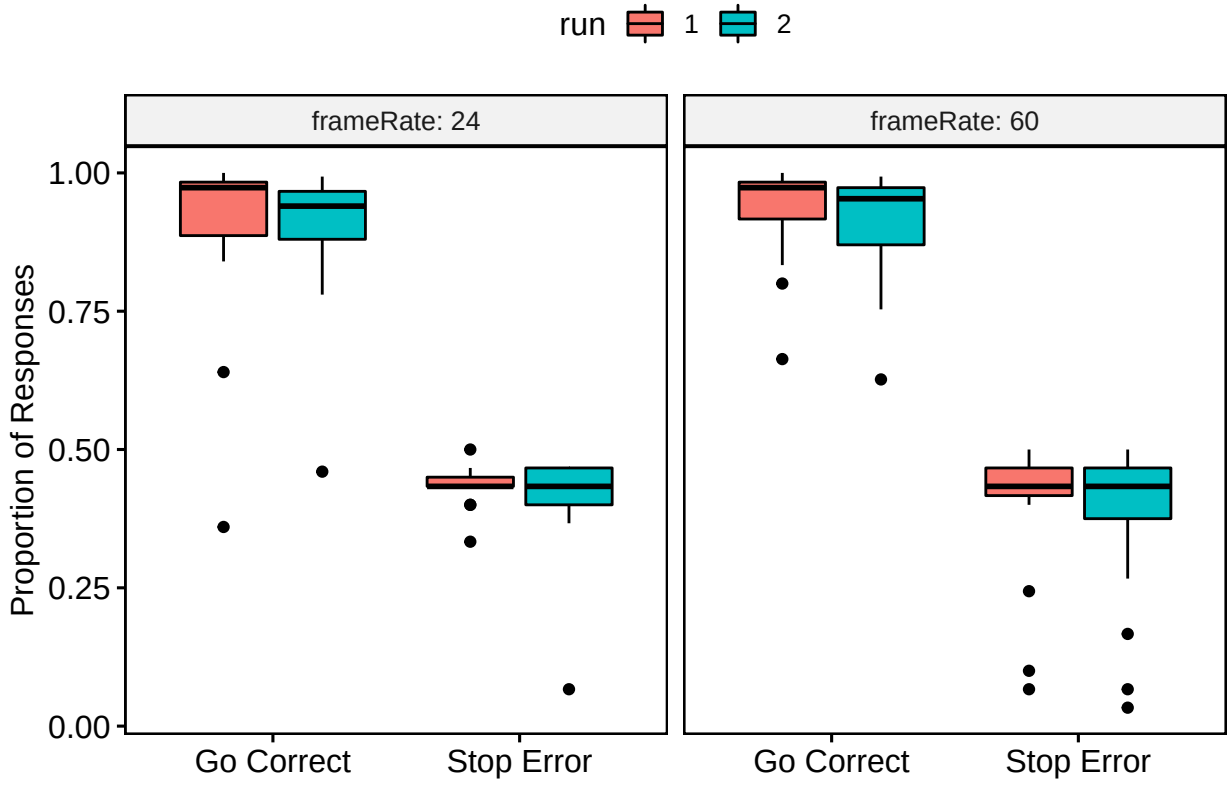


SST

```
SST_long <- read.csv("SST/data/SST_merged_bdat.csv")
SST_long$frameRate <- as.character(SST_long$frameRate)
SST_long$run <- as.factor(SST_long$run)

# manually change 038's framerate
SST_long$frameRate[SST_long$participant == 38 & SST_long$run == 1] <- 24

SST_long <- SST_long %>% mutate(frameRate = case_when(
        frameRate < 40 ~  24,
        frameRate > 50 ~ 60))

SST_long$frameRate <- as.factor(SST_long$frameRate)

# calculate corr go RT
SST_corr_go_rt <- SST_long %>% ungroup() %>%
  filter(trial_type == "go" & key_response.corr == 1) %>%
  group_by(participant, run) %>%
  summarise(go_correct_rt = 1000*mean(key_response.rt))

# calc stop err RT
SST_stop_err_rt <- SST_long %>% ungroup() %>%
  filter(trial_type == "stop" & key_response.corr == 0) %>%
  group_by(participant, run) %>%
```

```
  summarise(stop_error_rt = 1000*mean(key_response.rt))

SST_wide <- SST_long %>%
  filter(trial_type != "") %>%
  group_by(participant, trial_type, run, frameRate) %>%
  summarise(meanacc = mean(key_response.corr, na.rm = TRUE), meanrt = 1000* mean(key_response.rt, na.rm=


SST_wide <- merge(SST_wide, SST_corr_go_rt, by = c('participant', 'run'))

SST_wide <- merge(SST_wide, SST_stop_err_rt, by = c('participant', 'run'))



SST_wide <- SST_wide %>% mutate(stopError_prop = stopError/stopTotal,
                    goCorr_prop = GoCorr/GoTotal)

SST_rt <- SST_wide %>% ungroup() %>% select(participant, run, frameRate, go_correct_rt, stop_error_rt, s

SST_prop <- SST_wide %>% ungroup() %>% select(participant, run, frameRate, goCorr_prop, stopError_prop)



ggboxplot(SST_prop, "condition", "value", fill = "run", ylab = "Proportion of Responses", xlab = "", fa
  scale_x_discrete(labels = c('Go Correct','Stop Error'))
```

```
## Warning: Removed 150 rows containing non-finite values (stat_boxplot).
```



```
ggboxplot(SST_rt, "condition", "value", fill = "run", ylab = "Reaction Time (ms)", xlab = "", facet.by =
   scale_x_discrete(labels = c('Go Correct','Stop Error', 'SSD'))
```