

# McKO sleep data

CT Berezin

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```
library(tidyverse)

## -- Attaching packages ----- tidyverse 1.3.1 --
## v ggplot2 3.3.5      v purrr  0.3.4
## v tibble  3.1.6      v dplyr  1.0.7
## v tidyr   1.1.4      v stringr 1.4.0
## v readr   2.1.0      v forcats 0.5.1

## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()

library(ggpubr)

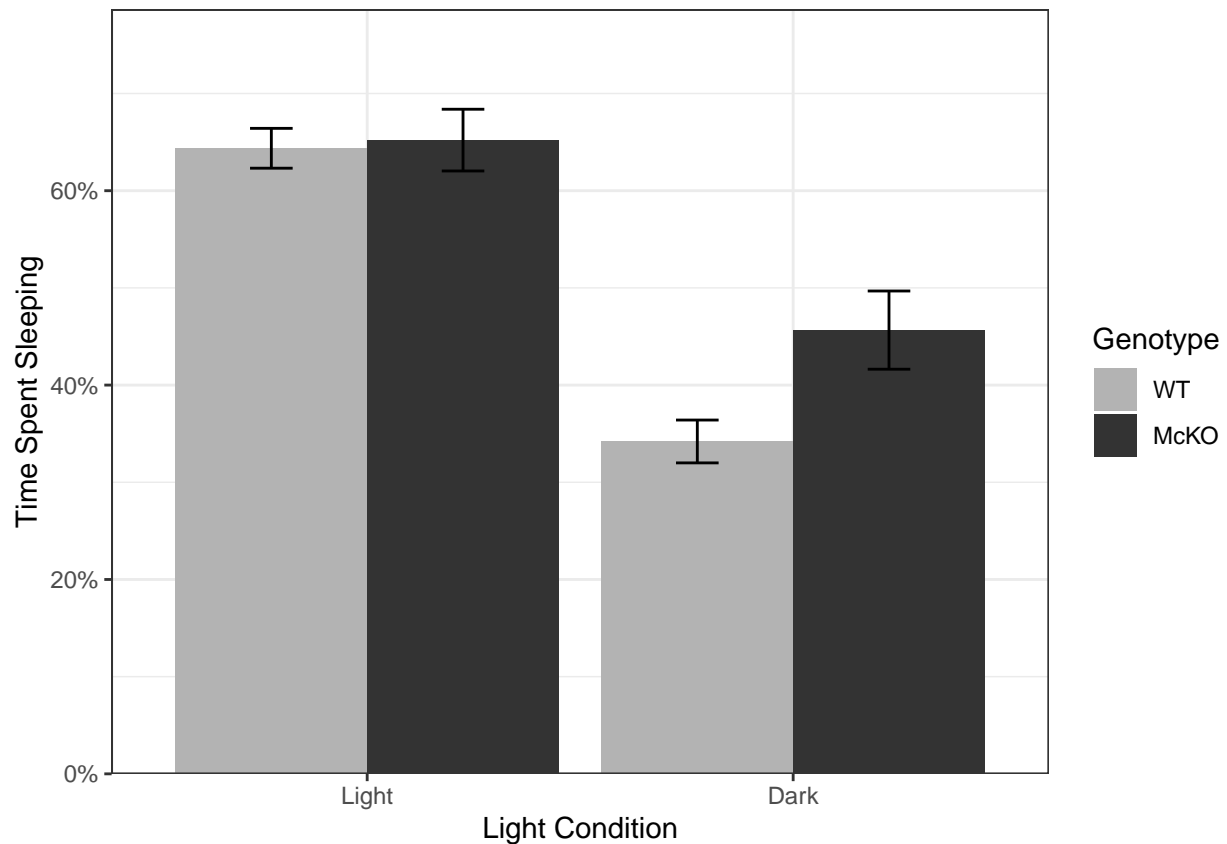
#making the dataframe
#from Nik's analysis
Genotype <- c("McKO", "McKO", "WT", "WT")
condition <- c("Light", "Dark", "Light", "Dark")
ns <- c(7, 7, 9, 9)
mean_sleep <- c(0.6520544, 0.4565667, 0.6436465, 0.3419856)
sds <- c(0.0840014, 0.1064821, 0.0614947, 0.0661068)
ses <- c(0.0317495, 0.0402464, 0.0204982, 0.0220356)

sleepdata <- tibble(Genotype, condition, ns, mean_sleep, sds, ses)

sleepdata <- sleepdata %>%
  mutate(Genotype = fct_relevel(Genotype, c("WT", "McKO")),
         condition = fct_relevel(condition, c("Light", "Dark")))

sleep_plot <- sleepdata %>% ggplot(aes(x=condition, y=mean_sleep, fill=Genotype)) +
  geom_bar(stat="identity", position="dodge") +
  geom_errorbar(stat="identity",
               aes(ymin=mean_sleep-ses, ymax=mean_sleep+ses),
               position=position_dodge(0.9),
               width=0.2) +
  labs(x="Light Condition",
       y="Time Spent Sleeping") +
  scale_y_continuous(labels = scales::percent_format(accuracy = 1),
                    expand = expansion(mult = c(0, 0.15))) +
  scale_fill_manual(values = c("grey70", "grey20")) +
  theme_bw() %+replace%
  theme(plot.background = element_rect(fill = "transparent", colour = NA),
        panel.background = element_rect(fill = "transparent", colour = NA))
```

```
sleep_plot
```



```
ggsave("../figures/sleep_plot.png", plot=sleep_plot, height=3, width=5)
```

```
sleepdata_dark_only <- sleepdata %>%
  filter(condition == "Dark") %>%
  mutate(Genotype = fct_relevel(Genotype, c("WT", "McKO")))

sleep_plot_dark_only <- sleepdata_dark_only %>% ggplot(aes(x=Genotype, y=mean_sleep)) +
  geom_bar(stat="identity", position="dodge", fill = "grey70") +
  geom_errorbar(stat="identity",
    aes(ymin=mean_sleep-ses, ymax=mean_sleep+ses),
    position=position_dodge(0.9),
    width=0.2) +
  labs(x="",
    y="Time Spent Sleeping") +
  scale_y_continuous(labels = scales::percent_format(accuracy = 1),
    expand = expansion(mult = c(0, 0.1)))

#ggsave("../figures/sleep_plot_dark_only.png", plot=sleep_plot_dark_only, height=2, width=2.5)
```