

# P8131 HW7 yz4184

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```
library(tidyverse)
library(nlme)
library(ggplot2)
library(lattice)
library(patchwork)
```

```
# import data
pitch_df = read.csv("./HW7-politeness_data.csv")%>%
  drop_na()%>%
  janitor::clean_names()
```

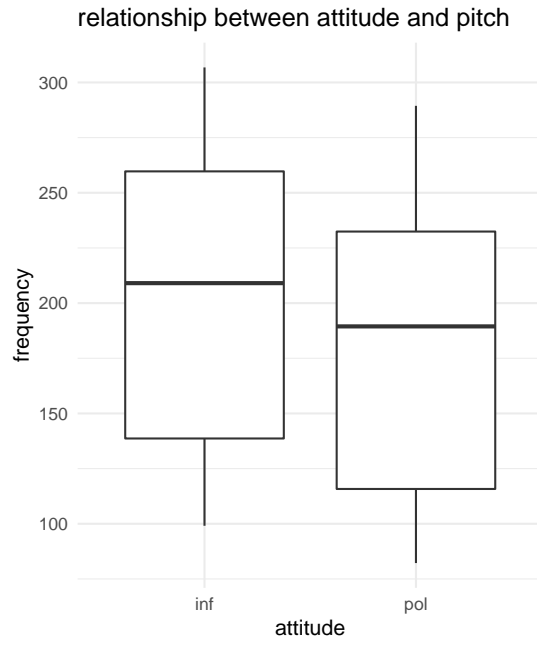
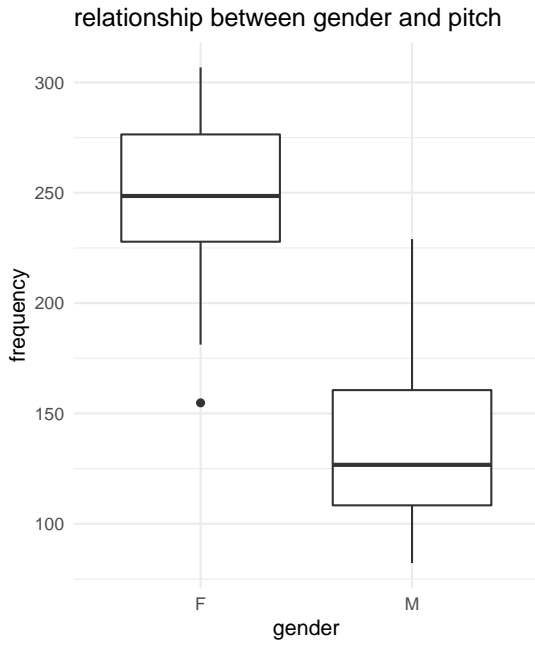
## (a) Exploratory analysis

provide boxplots to show the relation between gender/attitude and pitch (ignoring different scenarios).

```
a.p1 = pitch_df %>%
  ggplot(aes(x = gender, y = frequency)) +
  geom_boxplot()+
  labs(title = "relationship between gender and pitch")

a.p2 = pitch_df %>%
  ggplot(aes(x = attitude, y = frequency)) +
  geom_boxplot()+
  labs(title = "relationship between attitude and pitch")

(a.p1 + a.p2)
```



(b)

Fit a mixed effects model with random intercepts for different subjects (gender and attitude being the fixed effects).