

Homework 3

STAT 430: Infectious Diseases Modeling

03/10/2022

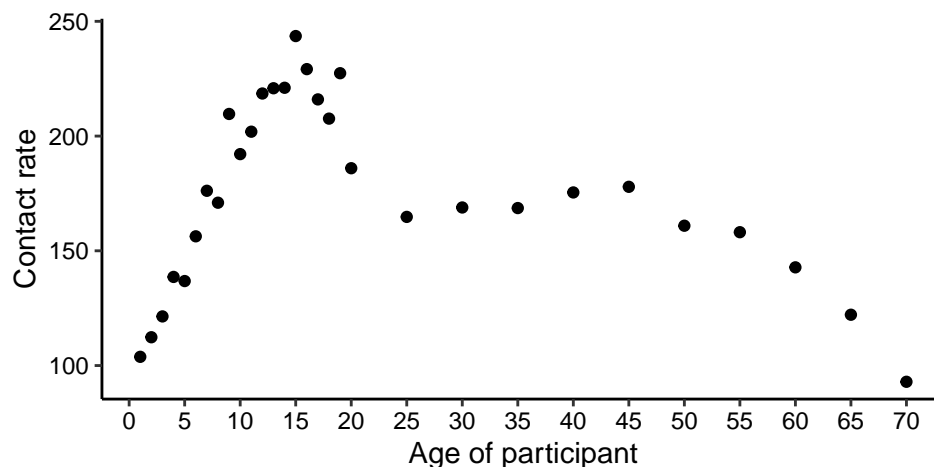
```
# Libraries
library(epimdr)
library(deSolve)
library(tidyverse)
```

#Exercise 1

```
library(epimdr)
library(deSolve)
library(tidyverse)

data(mossong)
table(head(mossong))

mossong %>% group_by(contactor) %>%
  summarise(contact.rate = mean(contact.rate, na.rm=T)) %>%
  ungroup() %>% ggplot() +
  geom_point(aes(contactor, contact.rate)) +
  labs(x = "Age of participant", y = "Contact rate") +
  theme_classic() + scale_x_continuous(breaks = seq(0, 70, 5)) +
  theme(axis.text = element_text(color = "black"))
```



```
mossong <- mossong %>% as_tibble() %>%
  mutate(contactor = case_when(contactor %in% 1:5 ~ 5,
    contactor %in% 6:10 ~ 10, contactor %in% 11:15 ~ 15,
    contactor %in% 16:20 ~ 20, TRUE ~ as.numeric(contactor)))
```