

# Contact\_\_matrices

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2023-01-27

## Load packages, data and functions

```
library(readr)
library(survey)
library(tidyverse)
library(covidregionaldata)
library(socialmixr)
library(ggplot2)
library(data.table)
```

```
complete.data <- read_csv("Data/Data_processed/full_data.csv")
clean_cont <- read_csv("Data/Data_processed/clean_cont.csv")
clean_part <- read_csv("Data/Data_processed/clean_part.csv")
```

```
source("Functions/contact_matrices.R")
```

## Data prep for plotting

```
# Matrices - contacts per day
```

```
# Plot over whole time Comix data
```

```
comixdata <- survey(complete.data, clean_cont)
```

```
contactcomix <- contact_matrix(comixdata, age.limits = c(18, 24, 44, 64, 120))
```

```
# Initial plot POLYMOD
```

```
contactUK <- contact_matrix(polymod, countries = "United Kingdom", age.limits = c(18, 24, 44, 64, 120))
```

```
# Matrices - contacts per day (Type of contact)
```

```
# Only physical contact for Comix data
```

```
phys_contactcomix <- clean_cont %>%
```

```
  filter(phys_contact == 1)
```

```
phys_comixdata <- survey(complete.data, phys_contactcomix)
```

```
phys_contactcomix <- contact_matrix(phys_comixdata, age.limits = c(18, 24, 44, 64, 120))
```

```
# Only physical contact for Polymod data
```

```
phys_contactpoly <- polymod$contacts %>%
```

```

    filter(phys_contact == 1)
phys_poly <- survey(polymod$participants, phys_contactpoly)
phys_contactUK <- contact_matrix(phys_poly, countries = "United Kingdom", age.limits = c(18, 24, 44, 64, 120))

# Data prep - Matrices - contacts per day (Time periods)
Period_1 <- complete.data %>%
  filter(sday_id >= "2020.03.23" & sday_id <= "2020.06.03")

Period_2 <- complete.data %>%
  filter(sday_id >= "2020.06.24" & sday_id <= "2020.07.29")

Period_3 <- complete.data %>%
  filter(sday_id >= "2020.07.30" & sday_id <= "2020.08.08")

# Period 1
period1_comixdata <- survey(Period_1, clean_cont)
period1_contactcomix <- contact_matrix(period1_comixdata, age.limits = c(18, 24, 44, 64, 120))

# Period 2
period2_comixdata <- survey(Period_2, clean_cont)
period2_contactcomix <- contact_matrix(period2_comixdata, age.limits = c(18, 24, 44, 64, 120))

#Period 3
period3_comixdata <- survey(Period_3, clean_cont)
period3_contactcomix <- contact_matrix(period3_comixdata, age.limits = c(18, 24, 44, 64, 120))

gplot1 <- contactmatrices(contactcomix, "Social contact CoMix")

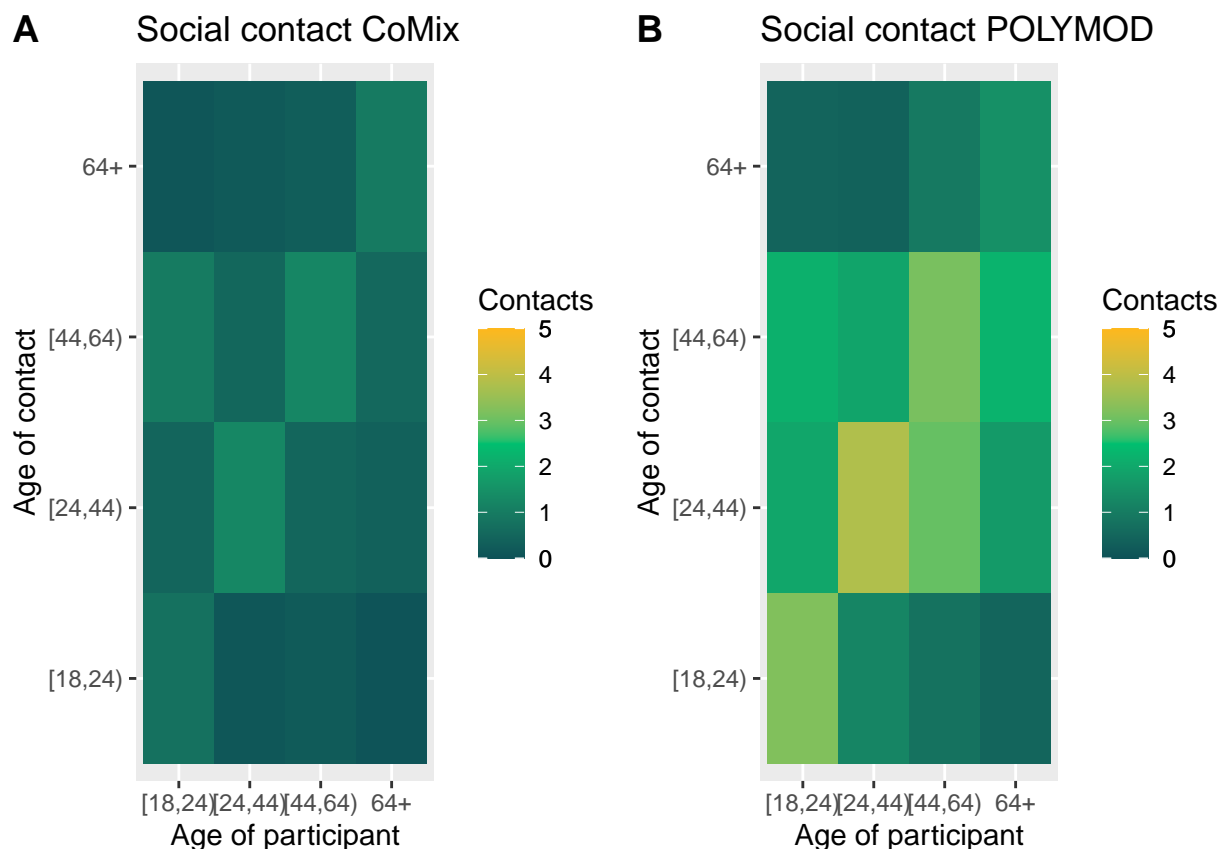
## Using age.group as id variables

gplot2 <- contactmatrices(contactUK, "Social contact POLYMOD")

## Using age.group as id variables

compare_plot <- cowplot::plot_grid(gplot1,gplot2, labels = "AUTO")
compare_plot

```



```
gplot3 <- contactmatrices(phys_contactcomix, "Physical contact CoMix")
```

```
## Warning in melt(df, varnames = c("age1", "age2"), value.name = "contacts"): The
## melt generic in data.table has been passed a list and will attempt to redirect
## to the relevant reshape2 method; please note that reshape2 is deprecated, and
## this redirection is now deprecated as well. To continue using melt methods from
## reshape2 while both libraries are attached, e.g. melt.list, you can prepend the
## namespace like reshape2::melt(df). In the next version, this warning will
## become an error.
```

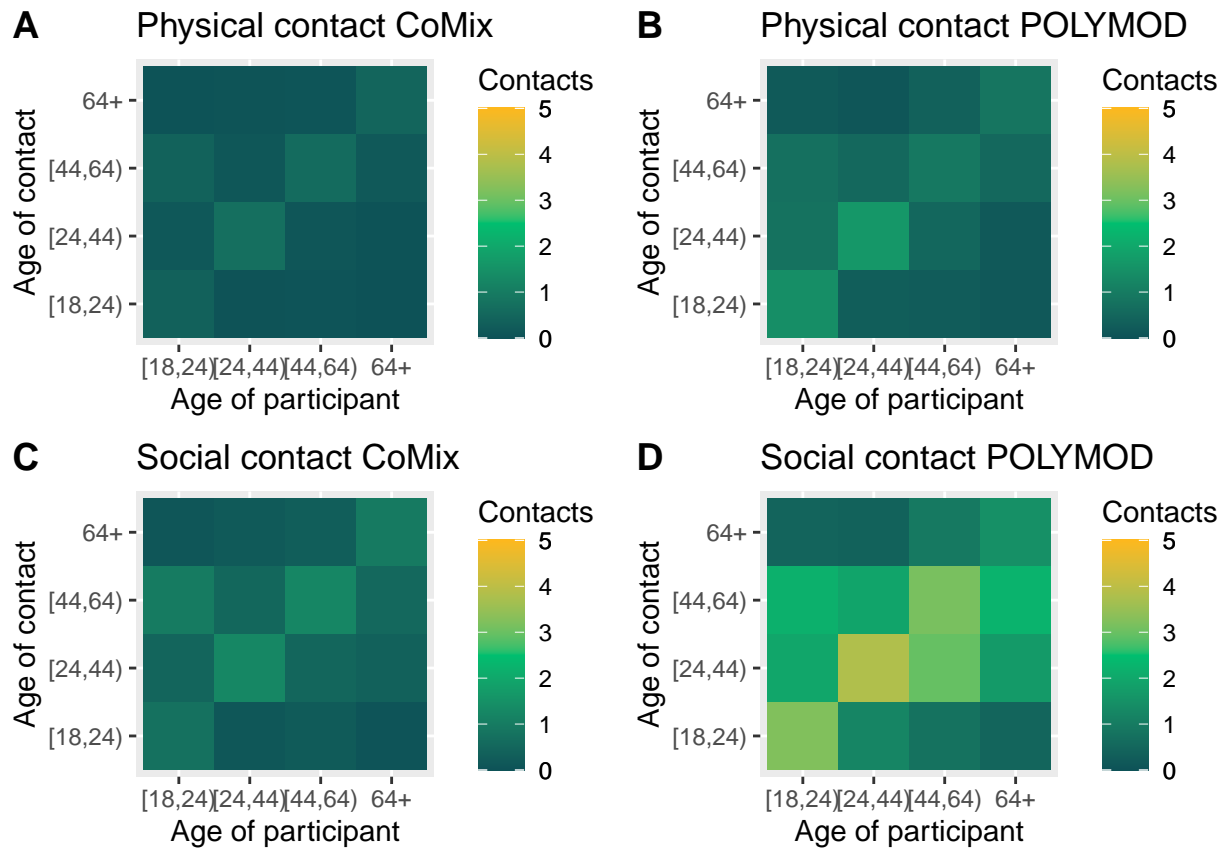
```
## Using age.group as id variables
```

```
gplot4 <- contactmatrices(phys_contactUK, "Physical contact POLYMOD")
```

```
## Warning in melt(df, varnames = c("age1", "age2"), value.name = "contacts"): The
## melt generic in data.table has been passed a list and will attempt to redirect
## to the relevant reshape2 method; please note that reshape2 is deprecated, and
## this redirection is now deprecated as well. To continue using melt methods from
## reshape2 while both libraries are attached, e.g. melt.list, you can prepend the
## namespace like reshape2::melt(df). In the next version, this warning will
## become an error.
```

```
## Using age.group as id variables
```

```
compare_plot1 <- cowplot::plot_grid(gplot3,gplot4, gplot1, gplot2, labels = "AUTO")
compare_plot1
```



```
gplot5 <- contactmatrices(period1_contactcomix, "Lockdown Social contact CoMix")
```

```
## Warning in melt(df, varnames = c("age1", "age2"), value.name = "contacts"): The
## melt generic in data.table has been passed a list and will attempt to redirect
## to the relevant reshape2 method; please note that reshape2 is deprecated, and
## this redirection is now deprecated as well. To continue using melt methods from
## reshape2 while both libraries are attached, e.g. melt.list, you can prepend the
## namespace like reshape2::melt(df). In the next version, this warning will
## become an error.
```

```
## Using age.group as id variables
```

```
gplot6 <- contactmatrices(period2_contactcomix, "Lockdown easing Social contact CoMix")
```

```
## Warning in melt(df, varnames = c("age1", "age2"), value.name = "contacts"): The
## melt generic in data.table has been passed a list and will attempt to redirect
## to the relevant reshape2 method; please note that reshape2 is deprecated, and
## this redirection is now deprecated as well. To continue using melt methods from
## reshape2 while both libraries are attached, e.g. melt.list, you can prepend the
## namespace like reshape2::melt(df). In the next version, this warning will
## become an error.
```

```
## Using age.group as id variables
```

```
gplot7 <- contactmatrices(period3_contactcomix, "Reduced restrictions Social contact CoMix")
```

```
## Warning in melt(df, varnames = c("age1", "age2"), value.name = "contacts"): The
## melt generic in data.table has been passed a list and will attempt to redirect
## to the relevant reshape2 method; please note that reshape2 is deprecated, and
## this redirection is now deprecated as well. To continue using melt methods from
## reshape2 while both libraries are attached, e.g. melt.list, you can prepend the
## namespace like reshape2::melt(df). In the next version, this warning will
## become an error.
```

```
## Using age.group as id variables
```

```
compare_plot2 <- cowplot::plot_grid(gplot2, gplot5, gplot6, gplot7, labels = "AUTO")
compare_plot2
```

