

Jugend ohne Klub

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Packages

```
library(tidyverse)
library(haven)
library(gridExtra)
library(data.table)
library(plotly)
```

SHP: Klub-, Bar- & Restaurantbesuche

Einlesen der Daten und Cleaning

```
rm(list=ls())

list <-c(24,21,18,15,12,10,9,8,7,6,5,4,3,2)

for (i in list){
  j<-formatC(i-2, width = 2, format = "d", flag = "0")
  dt_h <- read_dta(paste0("DATA/data/Data_STATA/SHP-Data-W1-W24-STATA/W",i,"_",1998+i,"/shp")
  dt_h |> select(
    "DISPY" = paste0("i",j,"dispy"),
    #Disposable household income: yearly amount
    #"COM3" = paste0("com3_",j),
    "idhouse" = paste0("idhous",j),
    "CANTON"=paste0("canton",j),
  ) -> dt_h
```

```

read_dta(paste0("DATA/data/Data_STATA/SHP-Data-W1-W24-STATA/W",i,"_",1998+i,"/shp",j,"_p_us
dt_p["wave"]<-i
dt_p |> select(
  "physical"= paste0("p",j,"a01"),
  #Physical activity
  "physical_days" = paste0("p",j,"a04"),
  #Physical activity: days weekly
  "disco" = paste0("p",j,"a13"),
  #Leisure: Disco: Frequency
  "out" = paste0("p",j,"a14"),
  #Leisure: Bar, pub, restaurant: Frequency

  "idhouse" = paste0("idhous",j),
  "age" = paste0("age",j),
  "sex" = paste0("sex",j),
  "PTOTN" =paste0("i",j,"ptotn"),
  #personal net income yearly,
  "friends" =paste0("p",j,"n24"),
  #number of friends
  "colleagues" =paste0("p",j,"n31"),
  #number of colleagues
  idpers,
  wave
) -> dt_p
merge(dt_p, dt_h, by = "idhouse")|>
  assign(paste0("freizeit_",i),value=_)
}

ls(pattern = "freizeit_") |>
  mget() |>
  rbindlist()->freizeit_all

rm(list=setdiff(ls(), "freizeit_all"))

freizeit_all$year<-freizeit_all$wave+1998
freizeit_all<-freizeit_all |> filter(disco>=0)
freizeit_all$disco<-as.factor(freizeit_all$disco)
freizeit_all$disco<-fct_rev(freizeit_all$disco)

freizeit_all |> zap_label() |>
  zap_labels()->freizeit_all

```

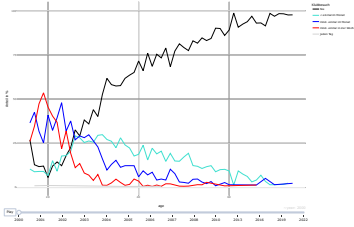
Visualisierung Klubbesuche

```
my_summary_data <- freizeit_all %>%
  filter(age>0) |>
  group_by(age, disco, year) %>%
  summarise(Count = n()) |>
  mutate(age_bin = cut(age, breaks=seq(0, 100, 5)))

my_fun <- function(vec){
  as.numeric(vec[4]) / sum(my_summary_data$Count[my_summary_data$year==vec[3] & my_summary_data$age_bin==vec[4]])
}
my_summary_data$percentage <- apply(my_summary_data , 1 , my_fun)

levels(my_summary_data$disco)<-c("Nie", "< einmal im Monat", "mind. einmal im Monat", "mind. mehr als einmal im Monat")
my_summary_data$Klubbesuch<-my_summary_data$disco |> as.factor()
p<- ggplot(data = my_summary_data |> filter(age>15 & age<75), aes(x=age, frame = year))+
  geom_line(position="identity", aes(color=Klubbesuch, y = percentage))+
  scale_color_manual(values=c("black","turquoise", "blue","red","lightgrey"))+
  labs(y= "Anteil in %") + theme_minimal()

ggplotly(p)
```



Visualisierung Bar- und Restaurantbesuche

```

freizeit_all |> filter(out>0)->freizeit_all
my_summary_data <- freizeit_all %>%
  filter(age>0) |>
  group_by(age, out, year) %>%
  summarise(Count = n()) |>
  mutate(age_bin = cut(age, breaks=seq(0, 100, 5)))

my_fun <- function(vec){
  as.numeric(vec[4]) / sum(my_summary_data$Count[my_summary_data$year==vec[3] & my_summary_data$age_bin==vec[2]])
}

my_summary_data$percentage <- apply(my_summary_data , 1 , my_fun)

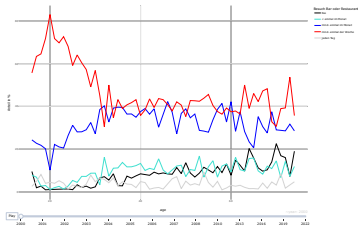
my_summary_data$`Besuch Bar oder Restaurant`<-my_summary_data$out |> as.factor() |> fct_rev(

```

```
levels(my_summary_data$`Besuch Bar oder Restaurant`)<-c("Nie", "< einmal im Monat", "mind. e
```

```
p<- ggplot(data = my_summary_data |> filter(age>15 & age<75), aes(x=age, frame = year))+  
  geom_line(position="identity", aes(color=`Besuch Bar oder Restaurant`, y = percentage))+  
  scale_color_manual(values=c("black", "turquoise", "blue","red","lightgrey"))+  
  labs(y= "Anteil in %")+theme_minimal()
```

```
ggplotly(p)
```



Kohortenvergleich Klubs

```
my_summary_data <- freizeit_all %>%  
  filter(age>=15) |>  
  mutate(age_bin = cut(age, breaks=c(14,24,34,44,54,64,74,100))) |>  
  group_by(age_bin, disco, year) %>%  
  summarise(Count = n())
```

```

levels(my_summary_data$age_bin)<-c("15-24-jährig",
                                   "25-34-jährig",
                                   "35-44-jährig",
                                   "45-54-jährig",
                                   "55-64-jährig",
                                   "65-74-jährig",
                                   "75+-jährig")

my_fun <- function(vec){
  as.numeric(vec[4]) / sum(my_summary_data$Count[my_summary_data$year==vec[3] & my_summary_data$
}
my_summary_data$percentage <- apply(my_summary_data , 1 , my_fun)

#levels(my_summary_data$disco)
levels(my_summary_data$disco)<-c("Nie", "< einmal im Monat", "mind. einmal im Monat", "mind.
my_summary_data$Klubbesuch<-my_summary_data$disco |> as.factor()

##### Plot

dat3<-data.frame("year"=my_summary_data$year,
                 "Value"=my_summary_data$percentage,
                 "age_group"=my_summary_data$age_bin,
                 "freq"=my_summary_data$Klubbesuch)

plot2 <- dat3 |>
  #group_by(freq, year, age_group) |>
  plot_ly(x = ~year,y = ~Value, frame = ~age_group) |>

  add_trace(data = dat3 |> filter(freq=="Nie"), legendgroup="Nie", type = 'scatter', mode =
            line= list(color="black"),
            marker=list(color="black")) |>

  add_trace(data = dat3 |> filter(freq=="< einmal im Monat"), legendgroup="< einmal im Monat",
            name="< einmal im Monat",
            line= list(color="turquoise"),
            marker=list(color="turquoise"))|>

```

```

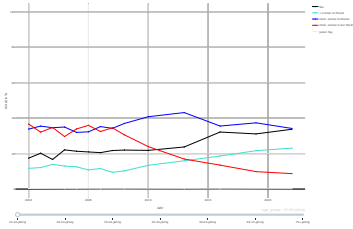
add_trace(data = dat3 |> filter(freq=="mind. einmal im Monat"), legendgroup="mind. einmal im Monat",
          name="mind. einmal im Monat",
          line= list(color="blue"),
          marker=list(color="blue")) |>

add_trace(data = dat3 |> filter(freq=="mind. einmal in der Woche"), legendgroup="mind. einmal in der Woche",
          name="mind. einmal in der Woche",
          line= list(color="red"),
          marker=list(color="red")) |>

add_trace(data = dat3 |> filter(freq=="jeden Tag"), legendgroup="jeden Tag", type = 'scatter',
          name="jeden Tag",
          line= list(color="#eeeeee"),
          marker=list(color="#eeeeee"))

plot2 |> layout(
  xaxis=list(title="Jahr"), yaxis=list(title="Anteil in %")
)|> animation_button(visible=FALSE)

```



Kohortenvergleich Bars und Restaurants

```

freizeit_all |> filter(out>0)->freizeit_all
my_summary_data <- freizeit_all %>%
  filter(age>14) |>
  mutate(age_bin = cut(age, breaks=c(14,24,34,44,54,64,74,110))) |>
  group_by(age_bin, out, year) %>%
  summarise(Count = n())
levels(my_summary_data$age_bin)<-c("15-24-jährig",
                                   "25-34-jährig",
                                   "35-44-jährig",
                                   "45-54-jährig",
                                   "55-64-jährig",
                                   "65-74-jährig",
                                   "75+-jährig")

my_fun <- function(vec){
  as.numeric(vec[4]) / sum(my_summary_data$Count[my_summary_data$year==vec[3] & my_summary_
}

```



```

my_summary_data$percentage <- apply(my_summary_data , 1 , my_fun)

#levels(my_summary_data$disco)
my_summary_data$out<-as.factor(my_summary_data$out)
my_summary_data$out<-fct_rev(my_summary_data$out)
levels(my_summary_data$out)<-c("Nie", "< einmal im Monat", "mind. einmal im Monat", "mind. e

dat3<-data.frame("year"=my_summary_data$year,
                 "Value"=my_summary_data$percentage,
                 "age_group"=my_summary_data$age_bin,
                 "freq"=my_summary_data$out)

plot2 <- dat3 |>
  #group_by(freq, year, age_group) |>
  plot_ly(x = ~year,y = ~Value, frame = ~age_group) |>

  add_trace(data = dat3 |> filter(freq=="Nie"), legendgroup="Nie", type = 'scatter', mode =
            line= list(color="black"),
            marker=list(color="black")) |>

  add_trace(data = dat3 |> filter(freq=="< einmal im Monat"), legendgroup="< einmal im Monat",
            name="< einmal im Monat",
            line= list(color="turquoise"),
            marker=list(color="turquoise"))|>

  add_trace(data = dat3 |> filter(freq=="mind. einmal im Monat"), legendgroup="mind. einmal :
            name="mind. einmal im Monat",
            line= list(color="blue"),
            marker=list(color="blue")) |>

  add_trace(data = dat3 |> filter(freq=="mind. einmal in der Woche"), legendgroup="mind. einm
            name="mind. einmal in der Woche",
            line= list(color="red"),
            marker=list(color="red")) |>

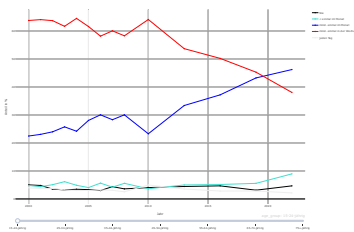
```

```

add_trace(data = dat3 |> filter(freq=="jeden Tag"), legendgroup="jeden Tag", type = 'scatter',
          name="jeden Tag",
          line= list(color="#e6e6e6"),
          marker=list(color="#e6e6e6"))

plot2 |> layout(
  xaxis=list(title="Jahr"), yaxis=list(title="Anteil in %")
)|> animation_button(visible=FALSE)

```



BFS: Unternehmensstruktur

Einlesen der Daten und Cleaning

```

bfs_csv<- read_csv("DATA/BFS.csv", locale=locale(encoding="latin1"))
## https://www.pxweb.bfs.admin.ch/pxweb/de/px-x-0602010000_105/px-x-0602010000_105/px-x-0602010000_105

# recoding NAs
for (i in 4:6){
  bfs_csv[i][bfs_csv[i] == "X"] <- NA
}

# setting classes
bfs_csv$`Institutionelle Einheiten`<-as.numeric(bfs_csv$`Institutionelle Einheiten`)
bfs_csv$Beschäftigte<-as.numeric(bfs_csv$Beschäftigte)
bfs_csv$Vollzeitäquivalente<-as.numeric(bfs_csv$Beschäftigte)

clubs<-bfs_csv |> filter(Wirtschaftsart=="563002 Diskotheken, Dancings, Night Clubs")

```

Visualisierung

```

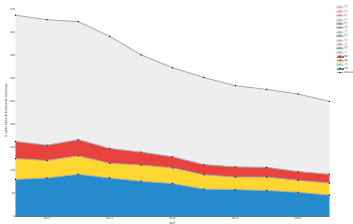
fig <- plot_ly(clubs |> filter(Kanton=="Schweiz"), x = ~Jahr, y = ~`Institutionelle Einheiten`,
  marker=list(color="black"),
  line=list(color="darkgrey"))

fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Zürich" ), name = 'ZH', fillcolor = "#f08080")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Vaud" ), name = 'VD', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Genève" ), name = 'GE', fillcolor = "#add8e6")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Bern / Berne" ), name = 'BE', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Ticino" ), name = 'TI', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Neuchâtel" ), name = 'NE', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Valais / Wallis" ), name = 'VS', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="St. Gallen" ), name = 'SG', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Basel-Stadt" ), name = 'BS', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Thurgau" ), name = 'TG', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Graubünden / Grigioni / Grischun" ), name = 'GR', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Fribourg / Freiburg" ), name = 'FR', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Aargau" ), name = 'AG', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Basel-Landschaft" ), name = 'BL', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Solothurn" ), name = 'SO', fillcolor = "#90ee90")
fig <- fig %>% add_trace(data = clubs |> filter(Kanton=="Schwyz" ), name = 'SZ', fillcolor = "#90ee90")

```

```
#, visible='legendonly'  
fig <- fig %>% layout(title = '',  
  
                      xaxis = list(title = "Jahr",  
                                   showgrid = FALSE),  
  
                      yaxis = list(title = "Anzahl Klubs/Dikotheken/Dancings",  
                                   showgrid = FALSE))
```

fig



SGB: Konsumverhalten

Regelmässiger Alkoholkonsum

Erstellung Datensatz

Gemäss Tabelle: <https://www.bfs.admin.ch/bfs/de/home/statistiken/gesundheit/determinanten/alkohol.assetdetail.28725089.html>

```
#####  
# 2022  
#####  
age_group =c(  
  "15-24-jährig",  
  "25-34-jährig",  
  "35-44-jährig",  
  "45-54-jährig",  
  "55-64-jährig",  
  "65-74-jährig",  
  "75+ -jährig")  
  
jeden_tag=c(  
  0.6,  
  1.8,  
  3.5,  
  5.8,  
  11.1,  
  18.0,  
  24.9)  
  
KI_jeden_tag=c(  
  0.5,  
  0.6,  
  0.8,  
  0.9,  
  1.2,  
  1.5,  
  1.9  
)  
  
drei_sechs_mal_woche=c(  
  6.6,
```

```
12.7,  
13.6,  
15.2,  
16.7,  
17.0,  
10.2)  
  
KI_3_6_mal_woche=c(  
1.3,  
1.7,  
1.4,  
1.4,  
1.4,  
1.5,  
1.3  
)  
  
eins_zwei_mal_woche=c(  
34.5,  
37.1,  
34.9,  
35.4,  
33.3,  
30.6,  
24.4)  
  
KI_1_2_mal_woche=c(  
2.6,  
2.4,  
2.0,  
1.8,  
1.7,  
1.9,  
1.8  
)  
  
weniger_einmal_woche=c(  
34.0,  
33.8,  
31.3,  
27.1,  
24.4,
```

```

19.9,
19.9)

KI_weniger_1_woche=c(
  2.5,
  2.4,
  2.0,
  1.7,
  1.6,
  1.6,
  1.8
)

nie=c(
  24.4,
  14.6,
  16.7,
  16.6,
  14.4,
  14.6,
  20.6)

KI_nie=c(
  2.3,
  1.8,
  1.6,
  1.5,
  1.3,
  1.5,
  1.8
)

alk_2022<-data.frame(age_group,jeden_tag, KI_jeden_tag,
  drei_sechs_mal_woche,KI_3_6_mal_woche,
  eins_zwei_mal_woche, KI_1_2_mal_woche,
  weniger_einmal_woche, KI_weniger_1_woche,
  nie, KI_nie)

alk_2022$year<-2022

#####
## 2017

```

```
#####
```

```
age_group =c(  
  "15-24-jährig",  
  "25-34-jährig",  
  "35-44-jährig",  
  "45-54-jährig",  
  "55-64-jährig",  
  "65-74-jährig",  
  "75+ -jährig")
```

```
jeden_tag=c(  
  1.5,  
  3.1,  
  5.1,  
  9.6,  
  14.0,  
  24.6,  
  28.7)
```

```
KI_jeden_tag=c(  
  0.5,  
  0.8,  
  0.9,  
  1.0,  
  1.3,  
  1.8,  
  2.1)
```

```
drei_sechs_mal_woche=c(  
  7.5,  
  14.1,  
  16.5,  
  17.2,  
  17.5,  
  17.0,  
  9.6)
```

```
KI_3_6_mal_woche=c(  
  1.2,  
  1.6,
```



```
1.5,  
1.4,  
1.5,  
1.6,  
1.5)  
  
eins_zwei_mal_woche=c(  
35.7,  
40.8,  
35.8,  
34.9,  
32.4,  
23.9,  
20.6)  
  
KI_1_2_mal_woche=c(  
2.0,  
2.2,  
1.9,  
1.7,  
1.8,  
1.8,  
2.0)  
  
weniger_einmal_woche=c(  
31.1,  
25.3,  
24.2,  
22.7,  
19.3,  
18.4,  
19.8)  
  
KI_weniger_1_woche=c(  
2.0,  
1.9,  
1.7,  
1.5,  
1.5,  
1.6,  
2.0)
```

```

nie=c(
  24.3,
  16.7,
  18.5,
  15.5,
  16.8,
  16.1,
  21.4)

KI_nie=c(
  1.8,
  1.5,
  1.5,
  1.3,
  1.4,
  1.6,
  2.0)

alk_2017<-data.frame(age_group,jeden_tag, KI_jeden_tag,
  drei_sechs_mal_woche,KI_3_6_mal_woche,
  eins_zwei_mal_woche, KI_1_2_mal_woche,
  weniger_einmal_woche, KI_weniger_1_woche,
  nie, KI_nie)

alk_2017$year<-2017

#####
## 2012
#####

age_group =c(
  "15-24-jährig",
  "25-34-jährig",
  "35-44-jährig",
  "45-54-jährig",
  "55-64-jährig",
  "65-74-jährig",
  "75+ -jährig")

jeden_tag=c(

```

```
1.9,  
3.2,  
7.7,  
11.6,  
20.0,  
27.8,  
28.1)
```

```
KI_jeden_tag=c(  
0.6,  
0.9,  
1.1,  
1.1,  
1.8,  
1.9,  
2.5)
```

```
drei_sechs_mal_woche=c(  
6.8,  
12.1,  
12.4,  
15.3,  
13.5,  
12.2,  
6.6)
```

```
KI_3_6_mal_woche=c(  
1.1,  
1.6,  
1.4,  
1.4,  
1.5,  
1.4,  
1.3)
```

```
eins_zwei_mal_woche=c(  
41.1,  
37.2,  
34.7,  
35.2,  
30.5,  
23.7,
```

```
16.1)

KI_1_2_mal_woche=c(
  2.2,
  2.4,
  1.9,
  1.8,
  2.0,
  1.9,
  2.0)

weniger_einmal_woche=c(
  31.8,
  29.5,
  29.5,
  24.1,
  20.7,
  20.1,
  26.5)

KI_weniger_1_woche=c(
  2.1,
  2.3,
  1.9,
  1.6,
  1.7,
  1.8,
  2.9)

nie=c(
  18.5,
  18.0,
  15.7,
  13.8,
  15.3,
  16.2,
  22.8)

KI_nie=c(
  1.8,
  2.0,
  1.5,
```

```

1.3,
1.6,
1.7,
2.3)

alk_2012<-data.frame(age_group,jeden_tag, KI_jeden_tag,
                    drei_sechs_mal_woche,KI_3_6_mal_woche,
                    eins_zwei_mal_woche, KI_1_2_mal_woche,
                    weniger_einmal_woche, KI_weniger_1_woche,
                    nie, KI_nie)

alk_2012$year<-2012

#####
## 2007
#####

age_group =c(
  "15-24-jährig",
  "25-34-jährig",
  "35-44-jährig",
  "45-54-jährig",
  "55-64-jährig",
  "65-74-jährig",
  "75+ -jährig")

jeden_tag=c(
  1.9,
  3.2,
  7.7,
  11.6,
  20.0,
  27.8,
  28.1)

KI_jeden_tag=c(
  0.6,
  0.9,
  1.1,
  1.1,
  1.8,
  1.9,

```

```
2.5)

drei_sechs_mal_woche=c(
  6.8,
  12.1,
  12.4,
  15.3,
  13.5,
  12.2,
  6.6)

KI_3_6_mal_woche=c(
  1.1,
  1.6,
  1.4,
  1.4,
  1.5,
  1.4,
  1.3)

eins_zwei_mal_woche=c(
  41.1,
  37.2,
  34.7,
  35.2,
  30.5,
  23.7,
  16.1)

KI_1_2_mal_woche=c(
  2.2,
  2.4,
  1.9,
  1.8,
  2.0,
  1.9,
  2.0)

weniger_einmal_woche=c(
  31.8,
  29.5,
  29.5,
```

```

24.1,
20.7,
20.1,
26.5)

KI_weniger_1_woche=c(
  2.1,
  2.3,
  1.9,
  1.6,
  1.7,
  1.8,
  2.9)

nie=c(
  18.5,
  18.0,
  15.7,
  13.8,
  15.3,
  16.2,
  22.8)

KI_nie=c(
  1.8,
  2.0,
  1.5,
  1.3,
  1.6,
  1.7,
  2.3)

alk_2007<-data.frame(age_group,jeden_tag, KI_jeden_tag,
                     drei_sechs_mal_woche,KI_3_6_mal_woche,
                     eins_zwei_mal_woche, KI_1_2_mal_woche,
                     weniger_einmal_woche, KI_weniger_1_woche,
                     nie, KI_nie)

alk_2007$year<-2007

#####
## 2002

```

```
#####
```

```
age_group =c(  
  "15-24-jährig",  
  "25-34-jährig",  
  "35-44-jährig",  
  "45-54-jährig",  
  "55-64-jährig",  
  "65-74-jährig",  
  "75+ -jährig")
```

```
jeden_tag=c(  
  1.9,  
  5.4,  
  12.0,  
  18.3,  
  26.6,  
  29.3,  
  31.2)
```

```
KI_jeden_tag=c(  
  0.8,  
  1.0,  
  1.3,  
  1.8,  
  1.9,  
  2.2,  
  2.6)
```

```
drei_sechs_mal_woche=c(  
  5.0,  
  10.2,  
  12.2,  
  13.6,  
  10.4,  
  8.7,  
  5.1)
```

```
KI_3_6_mal_woche=c(  
  1.3,  
  1.3,
```



```
1.2,  
1.5,  
1.4,  
1.3,  
1.3)  
  
eins_zwei_mal_woche=c(  
39.1,  
37.1,  
32.1,  
29.6,  
26.3,  
16.7,  
12.8)  
  
KI_1_2_mal_woche=c(  
2.8,  
2.2,  
1.7,  
2.0,  
1.9,  
1.8,  
1.9)  
  
weniger_einmal_woche=c(  
27.4,  
24.6,  
23.9,  
19.8,  
17.9,  
19.5,  
19.1)  
  
KI_weniger_1_woche=c(  
2.6,  
1.9,  
1.7,  
1.8,  
1.6,  
1.9,  
2.3)
```

```

nie=c(
  26.6,
  22.8,
  19.8,
  18.7,
  18.8,
  25.8,
  31.8)

KI_nie=c(
  2.7,
  1.9,
  1.6,
  1.8,
  1.7,
  2.2,
  2.7)

alk_2002<-data.frame(age_group,jeden_tag, KI_jeden_tag,
  drei_sechs_mal_woche,KI_3_6_mal_woche,
  eins_zwei_mal_woche, KI_1_2_mal_woche,
  weniger_einmal_woche, KI_weniger_1_woche,
  nie, KI_nie)
alk_2002$year<-2002

timeseries_alk<-rbindlist(list(alk_2002,alk_2007,alk_2012,alk_2017,alk_2022))

rm(list=setdiff(ls(), "timeseries_alk"))

dat <- timeseries_alk %>%
  select(-KI_jeden_tag,-KI_3_6_mal_woche, -KI_1_2_mal_woche, -KI_weniger_1_woche, -KI_nie) |>
  gather(freq, Value, -age_group, -year)
dat2 <- timeseries_alk %>%
  select(age_group, year,
    "jeden_tag"=KI_jeden_tag,
    "drei_sechs_mal_woche"=KI_3_6_mal_woche,
    "eins_zwei_mal_woche"=KI_1_2_mal_woche,
    "weniger_einmal_woche"=KI_weniger_1_woche,
    "nie"=KI_nie) |>

```

```
gather(freq, KI, -age_group, -year)

dat3<-merge(dat, dat2, by.x=c('age_group', 'year', "freq"),
            by.y=c('age_group', 'year', "freq"))

dat3$freq<-recode_factor(dat3$freq, `1` = "nie",
                        `2` = "weniger_einmal_woche",
                        `3` = "eins_zwei_mal_woche",
                        `4` = "drei_sechs_mal_woche",
                        `5` = "jeden_tag")
```

Visualisierung

```
plot2 <- dat3 |>
  #group_by(freq, year, age_group) |>
  plot_ly(x = ~year, y = ~Value, frame = ~age_group, color = ~freq) |>

  add_ribbons(data = dat3 |> filter(freq=="nie"),
             ymin = ~Value - KI ,
             ymax = ~Value + KI ,
             line = list(color = 'rgba(7, 164, 181, 0.05)'),
             fillcolor = 'rgba(7, 164, 181, 0.2)',
             name = '95% ribbon', legendgroup="Nie", showlegend=F) |>
  add_trace(data = dat3 |> filter(freq=="nie"), legendgroup="Nie", type = 'scatter', mode =
            line= list(color="white"),
            marker=list(color="lightgrey")) |>

  add_ribbons(data = dat3 |> filter(freq=="weniger_einmal_woche"),
             ymin = ~Value - KI ,
             ymax = ~Value + KI ,
             line = list(color = 'rgba(7, 164, 181, 0.05)'),
             fillcolor = 'rgba(7, 164, 181, 0.2)',
             name = '95% ribbon', legendgroup="Weniger als einmal der Woche", showlegend=F)
  add_trace(data = dat3 |> filter(freq=="weniger_einmal_woche"), legendgroup="Weniger als ein
            name="Weniger als einmal der Woche",
            line= list(color="turquoise"),
            marker=list(color="turquoise"))|>
```

```

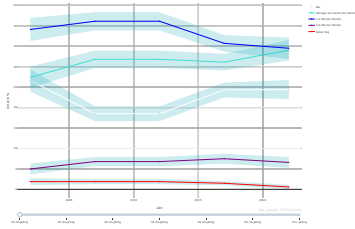
add_ribbons(data =dat3 |> filter(freq=="eins_zwei_mal_woche"),
            ymin = ~Value - KI ,
            ymax = ~Value + KI ,
            line = list(color = 'rgba(7, 164, 181, 0.05)'),
            fillcolor = 'rgba(7, 164, 181, 0.2)',
            name = '95% ribbon',legendgroup="1-2 Mal der Woche", showlegend=F) |>
add_trace(data = dat3 |> filter(freq=="eins_zwei_mal_woche"), legendgroup="1-2 Mal der Woche",
          name="1-2 Mal der Woche",
          line= list(color="blue"),
          marker=list(color="blue")) |>

add_ribbons(data =dat3 |> filter(freq=="drei_sechs_mal_woche"),
            ymin = ~Value - KI ,
            ymax = ~Value + KI ,
            line = list(color = 'rgba(7, 164, 181, 0.05)'),
            fillcolor = 'rgba(7, 164, 181, 0.2)',
            name = '95% ribbon',legendgroup="3-6 Mal der Woche", showlegend=F) |>
add_trace(data = dat3 |> filter(freq=="drei_sechs_mal_woche"), legendgroup="3-6 Mal der Woche",
          name="3-6 Mal der Woche",
          line= list(color="purple"),
          marker=list(color="purple")) |>

add_ribbons(data =dat3 |> filter(freq=="jeden_tag"),
            ymin = ~Value - KI ,
            ymax = ~Value + KI ,
            line = list(color = "rgba(7, 164, 181, 0.05)",
            fillcolor = 'rgba(7, 164, 181, 0.2)',
            name = '95% ribbon',legendgroup="Jeden Tag", showlegend=F) |>
add_trace(data = dat3 |> filter(freq=="jeden_tag"), legendgroup="Jeden Tag", type = 'scatter',
          name="Jeden Tag",
          line= list(color="red"),
          marker=list(color="red"))

plot2 |> layout(
  xaxis=list(title="Jahr"), yaxis=list(title="Anteil in %")
)|> animation_button(visible=FALSE)

```



Rauschtrinken

Erstellung Datensatz

gemäss Tabelle: <https://www.bfs.admin.ch/bfs/de/home/statistiken/gesundheit/determinanten/alkohol.assetdetail.28725072.html>

```
#####
# 2022
#####
age_group =c(
  "15-24-jährig",
  "25-34-jährig",
  "35-44-jährig",
  "45-54-jährig",
  "55-64-jährig",
  "65-74-jährig",
  "75+ -jährig")
```

```
mehr_einmal_monat=c(  
  26.1,  
  20.8,  
  14.3,  
  13.0,  
  12.0,  
  10.7,  
  5.7  
)
```

```
KI_mehr=c(  
  2.5,  
  2.0,  
  1.5,  
  1.4,  
  1.2,  
  1.2,  
  1.0  
)
```

```
weniger_einmal_monat=c(  
  32.6,  
  37.5,  
  35.0,  
  29.4,  
  26.8,  
  20.5,  
  14.0  
)
```

```
KI_weniger=c(  
  2.5,  
  2.5,  
  2.0,  
  1.7,  
  1.7,  
  1.6,  
  1.5  
)
```

```
nie=c(  

```

```
17.4,  
28.2,  
34.9,  
42.4,  
47.5,  
55.2,  
60.8  
  
)  
  
KI_nie=c(  
2.0,  
2.3,  
2.0,  
1.9,  
1.9,  
2.0,  
2.2  
)  
  
abstinent=c(  
23.9,  
13.5,  
15.8,  
15.2,  
13.6,  
13.6,  
19.5  
)  
  
KI_abstinent=c(  
2.3,  
1.7,  
1.6,  
1.5,  
1.3,  
1.4,  
1.8  
)  
  
rausch_2022<-data.frame(age_group,  
                          mehr_einmal_monat, KI_mehr, weniger_einmal_monat, KI_weniger, nie, KI_nie,
```

```
rausch_2022$year<-2022
```

```
#####
```

```
## 2017
```

```
#####
```

```
mehr_einmal_monat=c(
```

```
  27.1,
```

```
  22.3,
```

```
  16.1,
```

```
  13.8,
```

```
  12.8,
```

```
  10.0,
```

```
  4.8
```

```
)
```

```
KI_mehr=c(
```

```
  2.0,
```

```
  1.9,
```

```
  1.5,
```

```
  1.3,
```

```
  1.3,
```

```
  1.3,
```

```
  1.1
```

```
)
```

```
weniger_einmal_monat=c(
```

```
  34.0,
```

```
  40.2,
```

```
  36.4,
```

```
  32.4,
```

```
  28.5,
```

```
  22.9,
```

```
  15.0
```

```
)
```

```
KI_weniger=c(
```



```
2.1,  
2.2,  
2.0,  
1.7,  
1.8,  
1.8,  
1.7  
  
)  
  
nie=c(  
  15.1,  
  21.8,  
  30.6,  
  39.5,  
  43.7,  
  52.3,  
  60.2  
  
)  
  
KI_nie=c(  
  1.6,  
  1.9,  
  1.9,  
  1.8,  
  1.9,  
  2.1,  
  2.5  
  
)  
  
abstinent=c(  
  23.8,  
  15.7,  
  17.0,  
  14.2,  
  15.0,  
  14.8,  
  19.9
```

```

)

KI_abstinent=c(
  1.8,
  1.5,
  1.5,
  1.3,
  1.4,
  1.5,
  2.1
)

rausch_2017<-data.frame(age_group,
                        mehr_einmal_monat, KI_mehr, weniger_einmal_monat, KI_weniger, nie, K
rausch_2017$year<-2017

#####
# 2007
#####

mehr_einmal_monat=c(
  21.1,
  16.4,
  9.2,
  9.1,
  8.5,
  4.7,
  1.9
)

KI_mehr=c(
  2.4,
  1.8,
  1.2,
  1.3,
  1.3,
  1.0,
  0.7
)

```

```
weniger_einmal_monat=c(  
  16.8,  
  23.8,  
  23.8,  
  23.7,  
  17.9,  
  11.6,  
  4.8  
)
```

```
KI_weniger=c(  
  2.1,  
  2.0,  
  1.7,  
  2.0,  
  1.7,  
  1.7,  
  1.2  
)
```

```
nie=c(  
  42.6,  
  44.3,  
  53.3,  
  54.1,  
  60.5,  
  69.0,  
  71.6  
)
```

```
KI_nie=c(  
  2.9,  
  2.4,  
  2.0,  
  2.4,  
  2.2,  
  2.3,  
  2.5  
)
```

```
abstinent=c(  
  19.6,
```

```

15.4,
13.8,
13.0,
13.1,
14.7,
21.7
)

KI_abstinent=c(
  2.5,
  1.8,
  1.4,
  1.6,
  1.5,
  1.7,
  2.2
)

rausch_2007<-data.frame(age_group,
                        mehr_einmal_monat, KI_mehr, weniger_einmal_monat, KI_weniger, nie, KI_abstinent)
rausch_2007$year<-2007

timeseries_rausch<-rbindlist(list(rausch_2007,rausch_2017,rausch_2022))

rm(list=setdiff(ls(), "timeseries_rausch"))

dat <- timeseries_rausch %>%
  select(-KI_mehr, -KI_weniger, -KI_nie, KI_abstinent) |>
  gather(freq, Value, -age_group, -year)
dat2 <- timeseries_rausch %>%
  select(age_group, year,
         "mehr_einmal_monat"=KI_mehr,
         "weniger_einmal_monat"=KI_weniger,
         "nie"=KI_nie,
         "abstinent"=KI_abstinent) |>
  gather(freq, KI, -age_group, -year)

dat3<-merge(dat, dat2, by.x=c('age_group', 'year', "freq"),

```

```

    by.y=c('age_group', 'year', "freq"))
dat3$freq<-recode_factor(dat3$freq, `1` = "abstinent",
    `2` = "nie",
    `3` = "weniger_einmal_monat",
    `4` = "mehr_einmal_monat")

```

Visualisierung

```

dat3 |>
  #group_by(freq, year, age_group) |>
  plot_ly(x = ~year,y = ~Value, frame = ~age_group, color = ~freq) %>%
  add_trace(data = dat3 |> filter(freq=="abstinent"), legendgroup="abstinent", type = 'scatter',
    line= list(color="darkgrey"),
    marker = list(color="black")) |>
  add_ribbons(data =dat3 |> filter(freq=="abstinent"),
    ymin = ~Value - KI ,
    ymax = ~Value + KI ,
    line = list(color = 'rgba(7, 164, 181, 0.05)'),
    fillcolor = 'rgba(7, 164, 181, 0.2)',
    name = '95% ribbon',legendgroup="abstinent", showlegend=F) |>

  add_trace(data = dat3 |> filter(freq=="nie"), legendgroup="nie", type = 'scatter', mode =
    name="Nie",
    line= list(color="turquoise"),
    marker = list(color="turquoise")) |>
  add_ribbons(data =dat3 |> filter(freq=="nie"),
    ymin = ~Value - KI ,
    ymax = ~Value + KI ,
    line = list(color = 'rgba(7, 164, 181, 0.05)'),
    fillcolor = 'rgba(7, 164, 181, 0.2)',
    name = '95% ribbon',legendgroup="nie", showlegend=F) |>

  add_trace(data = dat3 |> filter(freq=="weniger_einmal_monat"), legendgroup="weniger_einmal",
    name="Weniger als einmal im Monat",
    line= list(color="blue"),
    marker = list(color="blue")) |>
  add_ribbons(data =dat3 |> filter(freq=="weniger_einmal_monat"),
    ymin = ~Value - KI ,
    ymax = ~Value + KI ,

```

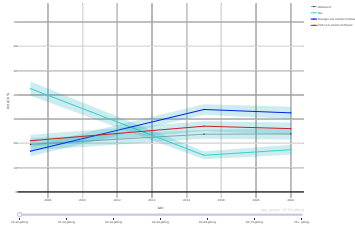
```

    line = list(color = 'rgba(7, 164, 181, 0.05)'),
    fillcolor = 'rgba(7, 164, 181, 0.2)',
    name = '95% ribbon',legendgroup="weniger_einmal_monat", showlegend=F) |>

add_trace(data = dat3 |> filter(freq=="mehr_einmal_monat"), legendgroup="mehr_einmal_monat",
          name="mehr als einmal im Monat",
          line= list(color="red"),
          marker = list(color="red")) |>
add_ribbons(data =dat3 |> filter(freq=="mehr_einmal_monat"),
            ymin = ~Value - KI ,
            ymax = ~Value + KI ,
            line = list(color = 'rgba(7, 164, 181, 0.05)'),
            fillcolor = 'rgba(7, 164, 181, 0.2)',
            name = '95% ribbon',legendgroup="mehr_einmal_monat", showlegend=F) -> plot2

plot2 |> layout(
  xaxis=list(title="Jahr"), yaxis=list(title="Anteil in %")
)|> animation_button(visible=FALSE)

```



Drogen Insgesamt

Erstellung Datensatz

Gemäss Tabelle: <https://www.bfs.admin.ch/bfs/de/home/statistiken/gesundheit/determinanten/illegal-drogen.assetdetail.30305686.html>

```
#####
# 2022
#####
age_group =c(
  "15-24-jährig",
  "25-34-jährig",
  "35-44-jährig",
  "45-54-jährig",
  "55-64-jährig")

monat=c(
  8.7,
  6.3,
```

```
3.3,  
2.3,  
1.3  
)  
  
KI_monat=c(  
1.6,  
1.2,  
0.8,  
0.7,  
0.4  
)  
  
jahr=c(  
9.8,  
7.8,  
3.3,  
1.8,  
1.0  
)  
  
KI_jahr=c(  
1.6,  
1.3,  
0.7,  
0.5,  
0.4  
)  
  
mehr_als_jahr=c(  
14.2,  
29.1,  
30.5,  
25.1,  
20.9)  
  
KI_mehr_als_jahr=c(  
1.9,  
2.3,  
1.9,  
1.7,  
1.6
```



```

)

nie=c(
  67.2,
  56.9,
  62.9,
  70.8,
  76.8
)

KI_nie=c(
  2.5,
  2.5,
  2.0,
  1.8,
  1.6
)

drug_2022<-data.frame(age_group,
                      monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2022$year<-2022

#####
## 2017
#####

monat=c(
  9.0,
  5.3,
  3.6,
  2.1,
  0.9
)

KI_monat=c(
  1.3,
  1.1,
  0.8,
  0.6,

```

```
0.4
)

jahr=c(
  9.1,
  5.7,
  3.7,
  1.9,
  1.0
)

KI_jahr=c(
  1.3,
  1.1,
  0.8,
  0.5,
  0.4
)

mehr_als_jahr=c(
  14.6,
  32.4,
  27.0,
  22.2,
  15.2)

KI_mehr_als_jahr=c(
  1.6,
  2.1,
  1.8,
  1.5,
  1.4
)

nie=c(
  67.2,
  56.5,
  65.8,
  73.8,
  82.9
)
```

```

KI_nie=c(
  2.1,
  2.2,
  1.9,
  1.6,
  1.5
)

drug_2017<-data.frame(age_group,
                      monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, I
drug_2017$year<-2017

#####
# 2012
#####

monat=c(
  6.7,
  5.0,
  1.9,
  1.0,
  0.5
)

KI_monat=c(
  1.1,
  1.1,
  0.6,
  0.3,
  0.3
)

jahr=c(
  8.8,
  5.4,
  2.8,
  1.1,
  0.6
)

```

```

KI_jahr=c(
  1.4,
  1.1,
  0.8,
  0.4,
  0.3
)

mehr_als_jahr=c(
  16.7,
  30.2,
  28.6,
  21.4,
  12.2)

KI_mehr_als_jahr=c(
  1.7,
  2.4,
  1.9,
  1.6,
  1.5
)

nie=c(
  67.8,
  59.3,
  66.7,
  76.5,
  86.7
)

KI_nie=c(
  2.1,
  2.5,
  2.0,
  1.6,
  1.5
)

drug_2012<-data.frame(age_group,
  monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)

```

```
drug_2012$year<-2012
```

```
#####
```

```
## 2007
```

```
#####
```

```
monat=c(
```

```
  5.9,
```

```
  5.1,
```

```
  1.7,
```

```
  1.1,
```

```
  0.3
```

```
)
```

```
KI_monat=c(
```

```
  1.3,
```

```
  1.1,
```

```
  0.5,
```

```
  0.4,
```

```
  0.2
```

```
)
```

```
jahr=c(
```

```
  5.9,
```

```
  3.9,
```

```
  1.5,
```

```
  1.2,
```

```
  0.3
```

```
)
```

```
KI_jahr=c(
```

```
  1.3,
```

```
  1.0,
```

```
  0.5,
```

```
  0.5,
```

```
  0.2
```

```
)
```

```
mehr_als_jahr=c(
```

```

19.3,
28.4,
23.4,
17.9,
6.6
)

KI_mehr_als_jahr=c(
2.3,
2.2,
1.7,
1.8,
1.1
)

nie=c(
68.8,
62.5,
73.5,
79.8,
92.8
)

KI_nie=c(
2.7,
2.4,
1.7,
1.9,
1.2
)

drug_2007<-data.frame(age_group,
                      monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2007$year<-2007

#####
## 2002
#####

```

```
monat=c(  
  9.7,  
  4.1,  
  2.1,  
  0.9,  
  0.1  
)  
  
KI_monat=c(  
  1.8,  
  0.8,  
  0.5,  
  0.4,  
  0.1  
)  
  
jahr=c(  
  7.7,  
  3.1,  
  1.7,  
  1.2,  
  0.3  
)  
  
KI_jahr=c(  
  1.5,  
  0.7,  
  0.4,  
  0.5,  
  0.2  
)  
  
mehr_als_jahr=c(  
  13.6,  
  22.2,  
  19.2,  
  10.7,  
  2.2  
)  
  
KI_mehr_als_jahr=c(  
  2.0,
```

```

1.9,
1.5,
1.3,
0.6
)

nie=c(
  69.1,
  70.6,
  77.0,
  87.2,
  97.4
)

KI_nie=c(
  2.7,
  2.0,
  1.6,
  1.4,
  0.7
)

drug_2002<-data.frame(age_group,
                      monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2002$year<-2002

timeseries_drug<-rbindlist(list(drug_2002,drug_2007,drug_2012,drug_2017,drug_2022))

rm(list=setdiff(ls(), "timeseries_drug"))

dat <- timeseries_drug %>%
  select(-KI_monat,-KI_jahr, -KI_mehr_als_jahr, -KI_nie) |>
  gather(freq, Value, -age_group, -year)
dat2 <- timeseries_drug %>%
  select(age_group, year,
         "monat"=KI_monat,
         "jahr"=KI_jahr,
         "mehr_als_jahr"=KI_mehr_als_jahr,

```



```

      "nie"=KI_nie) |>
gather(freq, KI, -age_group, -year)

dat3<-merge(dat, dat2, by.x=c('age_group', 'year', "freq"),
            by.y=c('age_group', 'year', "freq"))

dat3$freq<-recode_factor(dat3$freq, `1` = "nie",
                        `2` = "mehr_als_jahr",
                        `3` = "jahr",
                        `4` = "monat")

```

Visualisierung

```

dat3 |>
  #group_by(freq, year, age_group) |>
  plot_ly(x = ~year, y = ~Value, frame = ~age_group, color = ~freq) %>%

  add_ribbons(data =dat3 |> filter(freq=="nie"),
              ymin = ~Value - KI ,
              ymax = ~Value + KI ,
              line = list(color = 'rgba(7, 164, 181, 0.05)'),
              fillcolor = 'rgba(7, 164, 181, 0.2)',
              name = '95% ribbon', legendgroup="Nie", showlegend=F) |>
  add_trace(data = dat3 |> filter(freq=="nie"), legendgroup="Nie", type = 'scatter', mode =
            line= list(color="white"),
            marker = list(color="grey")) |>

  add_trace(data = dat3 |> filter(freq=="mehr_als_jahr"), legendgroup="mehr_als_jahr", type =
            name="Vor mehr als 12 Monaten",
            line= list(color="turquoise"),
            marker = list(color="turquoise")) |>
  add_ribbons(data =dat3 |> filter(freq=="mehr_als_jahr"),
              ymin = ~Value - KI ,
              ymax = ~Value + KI ,
              line = list(color = 'rgba(7, 164, 181, 0.05)'),
              fillcolor = 'rgba(7, 164, 181, 0.2)',
              name = '95% ribbon', legendgroup="mehr_als_jahr", showlegend=F) |>

  add_trace(data = dat3 |> filter(freq=="jahr"), legendgroup="jahr", type = 'scatter', mode =

```

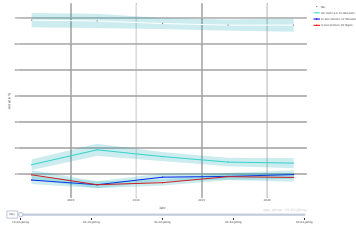
```

    name="In den letzten 12 Monaten",
    line= list(color="blue"),
    marker = list(color="blue")) |>
add_ribbons(data =dat3 |> filter(freq=="jahr"),
  ymin = ~Value - KI ,
  ymax = ~Value + KI ,
  line = list(color = 'rgba(7, 164, 181, 0.05)'),
  fillcolor = 'rgba(7, 164, 181, 0.2)',
  name = '95% ribbon',legendgroup="jahr", showlegend=F) |>

add_trace(data = dat3 |> filter(freq=="monat"), legendgroup="monat", type = 'scatter', mode = 'lines',
  name="in den letzten 30 Tagen",
  line= list(color="red"),
  marker = list(color="red")) |>
add_ribbons(data =dat3 |> filter(freq=="monat"),
  ymin = ~Value - KI ,
  ymax = ~Value + KI ,
  line = list(color = 'rgba(7, 164, 181, 0.05)'),
  fillcolor = 'rgba(7, 164, 181, 0.2)',
  name = '95% ribbon',legendgroup="monat", showlegend=F)->plot2

plot2 |> layout(
  xaxis=list(title="Jahr"), yaxis=list(title="Anteil in %", autorange = TRUE)
)

```



Cannabis

Erstellung Datensatz

Gemäss Tabelle: <https://www.bfs.admin.ch/bfs/de/home/statistiken/gesundheit/determinanten/illegal-drogen.assetdetail.30305706.html>

```
# Cannabiskonsum mit KI
```

```
library(data.table)
library(tidyverse)
library(plotly)
```

```
#####
```

```
# 2022
```

```
#####
```

```
age_group =c(
  "15-24-jährig",
  "25-34-jährig",
  "35-44-jährig",
```

```
"45-54-jährig",  
"55-64-jährig")  
  
monat=c(  
  8.7,  
  6.3,  
  3.3,  
  2.3,  
  1.3  
)  
  
KI_monat=c(  
  1.6,  
  1.2,  
  0.8,  
  0.7,  
  0.4  
)  
  
jahr=c(  
  9.3,  
  6.2,  
  2.4,  
  1.4,  
  0.8  
)  
  
KI_jahr=c(  
  1.5,  
  1.2,  
  0.6,  
  0.5,  
  0.3  
)  
  
mehr_als_jahr=c(  
  14.7,  
  30.3,  
  31.0,  
  24.8,  
  20.8)
```

```

KI_mehr_als_jahr=c(
  2.0,
  2.3,
  1.9,
  1.7,
  1.5
)

nie=c(
  67.3,
  57.3,
  63.3,
  71.5,
  77.1
)

KI_nie=c(
  2.5,
  2.5,
  2.0,
  1.8,
  1.6
)

drug_2022<-data.frame(age_group,
                      monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2022$year<-2022

#####
## 2017
#####

monat=c(
  9.0,
  5.3,
  3.6,
  2.1,
  0.9
)

```

```
KI_monat=c(
  1.3,
  1.1,
  0.8,
  0.6,
  0.4
)

jahr=c(
  8.6,
  5.3,
  3.3,
  1.7,
  0.9
)

KI_jahr=c(
  1.3,
  1.0,
  0.8,
  0.5,
  0.4
)

mehr_als_jahr=c(
  15.0,
  32.5,
  26.9,
  22.3,
  15.0
)

KI_mehr_als_jahr=c(
  1.6,
  2.1,
  1.8,
  1.5,
  1.4
)

nie=c(
  67.3,
```

```

56.9,
66.2,
73.9,
83.1
)

KI_nie=c(
  2.1,
  2.2,
  1.9,
  1.6,
  1.5
)

drug_2017<-data.frame(age_group,
                      monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, I
drug_2017$year<-2017

#####
# 2012
#####

monat=c(
  6.7,
  5.0,
  1.9,
  1.0,
  0.5
)

KI_monat=c(
  1.1,
  1.1,
  0.6,
  0.3,
  0.3
)

```

```
jahr=c(
  8.3,
  4.6,
  2.7,
  1.0,
  0.5
)

KI_jahr=c(
  1.3,
  0.9,
  0.8,
  0.4,
  0.3
)

mehr_als_jahr=c(
  17.2,
  30.9,
  28.4,
  21.4,
  12.2
)

KI_mehr_als_jahr=c(
  1.7,
  2.4,
  1.9,
  1.6,
  1.5
)

nie=c(
  67.8,
  59.5,
  66.9,
  76.6,
  86.8
)

KI_nie=c(
```



```

2.1,
2.5,
2.0,
1.6,
1.5
)

drug_2012<-data.frame(age_group,
                      monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, I
drug_2012$year<-2012

#####
## 2007
#####

monat=c(
  5.9,
  5.1,
  1.7,
  1.1,
  0.3
)

KI_monat=c(
  1.3,
  1.1,
  0.5,
  0.4,
  0.2
)

jahr=c(
  5.9,
  3.6,
  1.3,
  0.9,
  0.3
)

```

```
KI_jahr=c(
  1.3,
  1.0,
  0.5,
  0.4,
  0.2
)

mehr_als_jahr=c(
  19.2,
  28.3,
  23.3,
  17.9,
  6.5
)

KI_mehr_als_jahr=c(
  2.3,
  2.2,
  1.7,
  1.8,
  1.1
)

nie=c(
  69.0,
  62.9,
  73.8,
  80.1,
  93.0
)

KI_nie=c(
  2.7,
  2.4,
  1.7,
  1.8,
  1.2
)

drug_2007<-data.frame(age_group,
```

```
monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, I  
drug_2007$year<-2007
```

```
#####  
## 2002  
#####
```

```
monat=c(  
  9.7,  
  4.1,  
  2.1,  
  0.9,  
  0.1  
)
```

```
KI_monat=c(  
  1.8,  
  0.8,  
  0.5,  
  0.4,  
  0.1  
)
```

```
jahr=c(  
  7.5,  
  2.9,  
  1.6,  
  1.2,  
  0.3  
)
```

```
KI_jahr=c(  
  1.5,  
  0.7,  
  0.4,  
  0.5,  
  0.2  
)
```

```

mehr_als_jahr=c(
  13.7,
  22.2,
  19.3,
  10.5,
  2.1
)

KI_mehr_als_jahr=c(
  2.0,
  1.9,
  1.5,
  1.3,
  0.6
)

nie=c(
  69.1,
  70.8,
  77.1,
  87.4,
  97.5
)

KI_nie=c(
  2.7,
  2.0,
  1.6,
  1.4,
  0.7
)

drug_2002<-data.frame(age_group,
                      monat, KI_monat, jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2002$year<-2002

timeseries_drug<-rbindlist(list(drug_2002,drug_2007,drug_2012,drug_2017,drug_2022))

rm(list=setdiff(ls(), "timeseries_drug"))

```

```

dat <- timeseries_drug %>%
  select(-KI_monat,-KI_jahr, -KI_mehr_als_jahr, -KI_nie) |>
  gather(freq, Value, -age_group, -year)
dat2 <- timeseries_drug %>%
  select(age_group, year,
         "monat"=KI_monat,
         "jahr"=KI_jahr,
         "mehr_als_jahr"=KI_mehr_als_jahr,
         "nie"=KI_nie) |>
  gather(freq, KI, -age_group, -year)

dat3<-merge(dat, dat2, by.x=c('age_group', 'year', "freq"),
            by.y=c('age_group', 'year', "freq"))

dat3$freq<-recode_factor(dat3$freq, `1` = "nie",
                        `2` = "mehr_als_jahr",
                        `3` = "jahr",
                        `4` = "monat")

```

Visualisierung

```

dat3 |>
  #group_by(freq, year, age_group) |>
  plot_ly(x = ~year,y = ~Value, frame = ~age_group, color = ~freq) %>%

  add_ribbons(data =dat3 |> filter(freq=="nie"),
             ymin = ~Value - KI ,
             ymax = ~Value + KI ,
             line = list(color = 'rgba(7, 164, 181, 0.05)'),
             fillcolor = 'rgba(7, 164, 181, 0.2)',
             name = '95% ribbon',legendgroup="Nie", showlegend=F, visible='legendonly') |>
  add_trace(data = dat3 |> filter(freq=="nie"), legendgroup="Nie", type = 'scatter', mode =
            line= list(color="white"),
            marker =list(color="grey")
            , visible='legendonly') |>

  add_trace(data = dat3 |> filter(freq=="mehr_als_jahr"), legendgroup="mehr_als_jahr", type =
            name="Vor mehr als 12 Monaten",

```

```

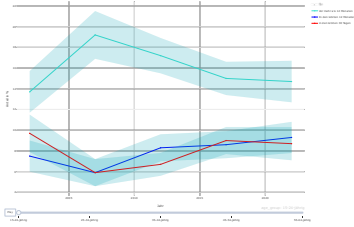
        line= list(color="turquoise"),
        marker =list(color="turquoise")) |>
add_ribbons(data =dat3 |> filter(freq=="mehr_als_jahr"),
            ymin = ~Value - KI ,
            ymax = ~Value + KI ,
            line = list(color = 'rgba(7, 164, 181, 0.05)'),
            fillcolor = 'rgba(7, 164, 181, 0.2)',
            name = '95% ribbon',legendgroup="mehr_als_jahr", showlegend=F) |>

add_trace(data = dat3 |> filter(freq=="jahr"), legendgroup="jahr", type = 'scatter', mode =
            name="In den letzten 12 Monaten",
            line= list(color="blue"),
            marker =list(color="blue")) |>
add_ribbons(data =dat3 |> filter(freq=="jahr"),
            ymin = ~Value - KI ,
            ymax = ~Value + KI ,
            line = list(color = 'rgba(7, 164, 181, 0.05)'),
            fillcolor = 'rgba(7, 164, 181, 0.2)',
            name = '95% ribbon',legendgroup="jahr", showlegend=F) |>

add_trace(data = dat3 |> filter(freq=="monat"), legendgroup="monat", type = 'scatter', mode =
            name="in den letzten 30 Tagen",
            line= list(color="red"),
            marker =list(color="red")) |>
add_ribbons(data =dat3 |> filter(freq=="monat"),
            ymin = ~Value - KI ,
            ymax = ~Value + KI ,
            line = list(color = 'rgba(7, 164, 181, 0.05)'),
            fillcolor = 'rgba(7, 164, 181, 0.2)',
            name = '95% ribbon',legendgroup="3-6 Mal der Woche", showlegend=F)->plot2

plot2 |> layout(
    xaxis=list(title="Jahr"), yaxis=list(title="Anteil in %", autorange = TRUE)
)

```



Kokain

Erstellung Datensatz

gemäss Tabelle: <https://www.bfs.admin.ch/bfs/de/home/statistiken/gesundheit/determinanten/illegale-drogen.assetdetail.30385616.html>

```
#####
# 2022
#####
age_group =c(
  "15-24-jährig",
  "25-34-jährig",
  "35-44-jährig",
  "45-54-jährig",
  "55-64-jährig")
```

```
jahr=c(
```

```
1.6,  
2.4,  
0.7,  
0.5,  
0.2  
)  
  
KI_jahr=c(  
0.8,  
0.8,  
0.3,  
0.2,  
0.2  
)  
  
mehr_als_jahr=c(  
1.3,  
6.0,  
6.7,  
5.9,  
4.7  
)  
  
KI_mehr_als_jahr=c(  
0.6,  
1.2,  
1.1,  
1.0,  
0.9  
)  
  
nie=c(  
97.1,  
91.6,  
92.6,  
93.6,  
95.1  
)  
  
KI_nie=c(  
1.0,
```



```

1.5,
1.1,
1.0,
0.9
)

drug_2022<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2022$year<-2022

#####
## 2017
#####

jahr=c(
  1.8,
  1.6,
  1.1,
  0.3,
  0.0
)

KI_jahr=c(
  0.6,
  0.5,
  0.5,
  0.2,
  0.0
)

mehr_als_jahr=c(
  1.9,
  6.0,
  7.3,
  5.0,
  3.1
)

```

```

KI_mehr_als_jahr=c(
  0.7,
  1.1,
  1.1,
  0.8,
  0.7
)

nie=c(
  96.3,
  92.5,
  91.7,
  94.6,
  96.9
)

KI_nie=c(
  0.9,
  1.2,
  1.2,
  0.9,
  0.7
)

drug_2017<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2017$year<-2017

#####
# 2012
#####

jahr=c(
  1.4,
  1.4,
  0.5,
  0.1,
  0.1
)

```

```
KI_jahr=c(
  0.5,
  0.6,
  0.3,
  0.1,
  0.1
)

mehr_als_jahr=c(
  1.2,
  5.9,
  5.1,
  3.7,
  1.3)

KI_mehr_als_jahr=c(
  0.5,
  1.2,
  0.9,
  0.7,
  0.5
)

nie=c(
  97.4,
  92.7,
  94.5,
  96.1,
  98.6
)

KI_nie=c(
  0.7,
  1.3,
  0.9,
  0.7,
  0.5
)

drug_2012<-data.frame(age_group,
```

```

                                jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2012$year<-2012

#####
## 2007
#####

jahr=c(
  0.8,
  0.8,
  0.3,
  0.3,
  0.0
)

KI_jahr=c(
  0.5,
  0.4,
  0.2,
  0.2,
  0.0
)

mehr_als_jahr=c(
  1.8,
  5.1,
  4.9,
  2.6,
  0.5
)

KI_mehr_als_jahr=c(
  0.7,
  1.1,
  0.9,

```

```

0.7,
0.3
)

nie=c(
  97.4,
  94.1,
  94.9,
  97.2,
  99.5
)

KI_nie=c(
  0.9,
  1.2,
  0.9,
  0.7,
  0.3
)

drug_2007<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2007$year<-2007

#####
## 2002
#####

jahr=c(
  0.6,
  0.4,
  0.1,
  0.1,
  NA

```

```
)  
  
KI_jahr=c(  
  0.5,  
  0.3,  
  0.1,  
  0.1,  
  NA  
)  
  
mehr_als_jahr=c(  
  1.3,  
  3.2,  
  3.2,  
  1.4,  
  0.1  
)  
  
KI_mehr_als_jahr=c(  
  0.7,  
  0.7,  
  0.7,  
  0.5,  
  0.1  
)  
  
nie=c(  
  98.1,  
  96.5,  
  96.7,  
  98.6,  
  99.9  
)  
  
KI_nie=c(  
  0.9,  
  0.8,  
  0.7,  
  0.5,  
  0.1
```

```

)

drug_2002<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2002$year<-2002

timeseries_drug<-rbindlist(list(drug_2002,drug_2007,drug_2012,drug_2017,drug_2022))

rm(list=setdiff(ls(), "timeseries_drug"))

dat <- timeseries_drug %>%
  select(-KI_jahr, -KI_mehr_als_jahr, -KI_nie) |>
  gather(freq, Value, -age_group, -year)
dat2 <- timeseries_drug %>%
  select(age_group, year,
         "jahr"=KI_jahr,
         "mehr_als_jahr"=KI_mehr_als_jahr,
         "nie"=KI_nie) |>
  gather(freq, KI, -age_group, -year)

dat3<-merge(dat, dat2, by.x=c('age_group', 'year', "freq"),
            by.y=c('age_group', 'year', "freq"))

dat3$freq<-recode_factor(dat3$freq, `1` = "nie",
                        `2` = "mehr_als_jahr",
                        `3` = "jahr")

```

Visualisierung

```

dat3 |>
  #group_by(freq, year, age_group) |>
  plot_ly(x = ~year,y = ~Value, frame = ~age_group, color = ~freq) %>%

  add_ribbons(data =dat3 |> filter(freq=="nie"),
             ymin = ~Value - KI ,

```

```

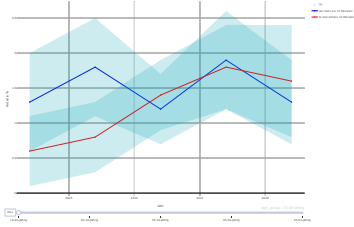
      ymax = ~Value + KI ,
      line = list(color = 'rgba(7, 164, 181, 0.05)'),
      fillcolor = 'rgba(7, 164, 181, 0.2)',
      name = '95% ribbon',legendgroup="Nie", showlegend=F, visible='legendonly') |>
add_trace(data = dat3 |> filter(freq=="nie"), legendgroup="Nie", type = 'scatter', mode =
      line= list(color="white"),
      marker =list(color="grey")
      , visible='legendonly') |>

add_trace(data = dat3 |> filter(freq=="mehr_als_jahr"), legendgroup="mehr_als_jahr", type =
      name="Vor mehr als 12 Monaten",
      line= list(color="blue"),
      marker = list(color="blue")) |>
add_ribbons(data =dat3 |> filter(freq=="mehr_als_jahr"),
      ymin = ~Value - KI ,
      ymax = ~Value + KI ,
      line = list(color = 'rgba(7, 164, 181, 0.05)'),
      fillcolor = 'rgba(7, 164, 181, 0.2)',
      name = '95% ribbon',legendgroup="mehr_als_jahr", showlegend=F) |>

add_trace(data = dat3 |> filter(freq=="jahr"), legendgroup="jahr", type = 'scatter', mode =
      name="In den letzten 12 Monaten",
      line= list(color="red"),
      marker =list(color="red")) |>
add_ribbons(data =dat3 |> filter(freq=="jahr"),
      ymin = ~Value - KI ,
      ymax = ~Value + KI ,
      line = list(color = 'rgba(7, 164, 181, 0.05)'),
      fillcolor = 'rgba(7, 164, 181, 0.2)',
      name = '95% ribbon',legendgroup="jahr", showlegend=F) -> plot2

plot2 |> layout(
  xaxis=list(title="Jahr"), yaxis=list(title="Anteil in %", autorange = TRUE)
)

```

Ecstasy

Erstellung Datensatz

Gemäss Tabelle: <https://www.bfs.admin.ch/bfs/de/home/statistiken/kataloge-datenbanken/tabellen.assetdetail.31866305.html>

```
#####  
# 2022  
#####  
age_group =c(  
  "15-24-jährig",  
  "25-34-jährig",  
  "35-44-jährig",  
  "45-54-jährig",  
  "55-64-jährig")
```

```
jahr=c(  

```

```
1.6,  
2.0,  
0.5,  
0.4,  
0.1  
)  
  
KI_jahr=c(  
0.7,  
0.7,  
0.3,  
0.3,  
0.1  
)  
  
mehr_als_jahr=c(  
2.1,  
6.6,  
6.5,  
4.9,  
1.7  
)  
  
KI_mehr_als_jahr=c(  
0.8,  
1.3,  
1.0,  
0.9,  
0.5  
)  
  
nie=c(  
96.3,  
91.4,  
93.0,  
94.7,  
98.3  
)  
  
KI_nie=c(  
1.1,
```

```

1.4,
1.1,
0.9,
0.5
)

drug_2022<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2022$year<-2022

#####
## 2017
#####

jahr=c(
  1.6,
  1.3,
  0.6,
  0.2,
  0.0
)

KI_jahr=c(
  0.6,
  0.5,
  0.4,
  0.1,
  0.0
)

mehr_als_jahr=c(
  2.9,
  5.5,
  6.8,
  2.9,

```

```

0.6
)

KI_mehr_als_jahr=c(
0.9,
1.1,
1.1,
0.7,
0.3
)

nie=c(
95.5,
93.2,
92.5,
97.0,
99.4
)

KI_nie=c(
1.0,
1.2,
1.2,
0.7,
0.3
)

)

drug_2017<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2017$year<-2017

#####
# 2012
#####

jahr=c(
2.0,
0.9,

```

```
0.1,  
0.2,  
0.0  
  
)  
  
KI_jahr=c(  
0.6,  
0.5,  
0.1,  
0.2,  
0.0  
  
)  
  
mehr_als_jahr=c(  
1.0,  
5.6,  
4.4,  
1.4,  
0.7)  
  
KI_mehr_als_jahr=c(  
0.4,  
1.1,  
0.9,  
0.4,  
0.4  
  
)  
  
nie=c(  
97.1,  
93.5,  
95.5,  
98.4,  
99.3  
  
)  
  
KI_nie=c(  

```

```

0.7,
1.2,
1.0,
0.5,
0.4

)

drug_2012<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2012$year<-2012

#####
## 2007
#####

jahr=c(
  0.1,
  0.4,
  0.1,
  0.0,
  NA

)

KI_jahr=c(
  0.1,
  0.3,
  0.1,
  0.0,
  NA

)

mehr_als_jahr=c(

```

```

2.3,
4.9,
2.9,
0.8,
0.2

)

KI_mehr_als_jahr=c(
0.8,
1.0,
0.7,
0.3,
0.2

)

nie=c(
97.6,
94.7,
97.0,
99.2,
99.8

)

KI_nie=c(
0.8,
1.1,
0.7,
0.3,
0.2

)

drug_2007<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2007$year<-2007

```

```
#####  
## 2002  
#####  
  
jahr=c(  
  0.7,  
  0.4,  
  0.2,  
  0.2,  
  0.1  
)  
  
KI_jahr=c(  
  0.5,  
  0.2,  
  0.2,  
  0.2,  
  0.1  
)  
  
mehr_als_jahr=c(  
  1.7,  
  2.4,  
  1.0,  
  0.3,  
  0.0  
)  
  
KI_mehr_als_jahr=c(  
  0.8,  
  0.6,  
  0.4,  
  0.2,  
  0.0  
)
```



```

nie=c(
  97.6,
  97.2,
  98.8,
  99.5,
  99.9
)

KI_nie=c(
  0.9,
  0.7,
  0.4,
  0.3,
  0.1
)

drug_2002<-data.frame(age_group,
                      jahr, KI_jahr, mehr_als_jahr, KI_mehr_als_jahr, nie, KI_nie)
drug_2002$year<-2002

timeseries_drug<-rbindlist(list(drug_2002,drug_2007,drug_2012,drug_2017,drug_2022))

rm(list=setdiff(ls(), "timeseries_drug"))

dat <- timeseries_drug %>%
  select(-KI_jahr, -KI_mehr_als_jahr, -KI_nie) |>
  gather(freq, Value, -age_group, -year)
dat2 <- timeseries_drug %>%
  select(age_group, year,
         "jahr"=KI_jahr,
         "mehr_als_jahr"=KI_mehr_als_jahr,
         "nie"=KI_nie) |>
  gather(freq, KI, -age_group, -year)

dat3<-merge(dat, dat2, by.x=c('age_group', 'year', "freq"),
            by.y=c('age_group', 'year', "freq"))

```

```
dat3$freq<-recode_factor(dat3$freq, `1` = "nie",
                        `2` = "mehr_als_jahr",
                        `3` = "jahr")
```

Visualisierung

```
dat3 |>
  #group_by(freq, year, age_group) |>
  plot_ly(x = ~year, y = ~Value, frame = ~age_group, color = ~freq) %>%

  add_ribbons(data = dat3 |> filter(freq=="nie"),
             ymin = ~Value - KI ,
             ymax = ~Value + KI ,
             line = list(color = 'rgba(7, 164, 181, 0.05)'),
             fillcolor = 'rgba(7, 164, 181, 0.2)',
             name = '95% ribbon', legendgroup="Nie", showlegend=F, visible='legendonly') |>
  add_trace(data = dat3 |> filter(freq=="nie"), legendgroup="Nie", type = 'scatter', mode =
            line= list(color="white"),
            marker =list(color="grey")
            , visible='legendonly') |>

  add_trace(data = dat3 |> filter(freq=="mehr_als_jahr"), legendgroup="mehr_als_jahr", type =
            name="Vor mehr als 12 Monaten",
            line= list(color="blue"),
            marker = list(color="blue")) |>
  add_ribbons(data = dat3 |> filter(freq=="mehr_als_jahr"),
             ymin = ~Value - KI ,
             ymax = ~Value + KI ,
             line = list(color = 'rgba(7, 164, 181, 0.05)'),
             fillcolor = 'rgba(7, 164, 181, 0.2)',
             name = '95% ribbon', legendgroup="mehr_als_jahr", showlegend=F) |>

  add_trace(data = dat3 |> filter(freq=="jahr"), legendgroup="jahr", type = 'scatter', mode =
            name="In den letzten 12 Monaten",
            line= list(color="red"),
            marker =list(color="red")) |>
  add_ribbons(data = dat3 |> filter(freq=="jahr"),
             ymin = ~Value - KI ,
             ymax = ~Value + KI ,
             line = list(color = 'rgba(7, 164, 181, 0.05)'),
```

```
fillcolor = 'rgba(7, 164, 181, 0.2)',  
name = '95% ribbon', legendgroup="jahr", showlegend=F) -> plot2
```

```
plot2 |> layout(  
  axis=list(title="Jahr"), yaxis=list(title="Anteil in %", autorange = TRUE)  
)
```

