

✓ Liberalism of Austrians

To answer this question, we use **EVS 1990-2018 Austrian data (SUF edition)** from Kritzinger, Sylvia; Aichholzer, Julian; Glavanovits, Josef; Hajdinjak, Sanja; Klaiber, Judith; Seewann, Lena; Friesl, Christian; Zulehner, Paul M., 2019, "European Values Study 1990-2018 Austria Longitudinal Data (SUF edition)", <https://doi.org/10.11587/C4YBOT>, AUSSDA, V1, UNF:6:AxP/dfTpO2hObtNvNy/JiQ== [fileUNF].


We download the dataset and upload it to Google Colab into a new folder called data.

But before we download the data, let us configure the session (i.e. load the required packages)

```
# install management tool to make sure that all packages are always loaded
install.packages("pacman")

library(pacman)

p_load(tidyverse, # data manipulation and visualisation
       ggplot2,
       haven,
       showtext, # using non-standard font in R graphs
       ggtext, # coloring title in plots
       sjlabelled, # using SPSS datasets with its labels
       MASS, # for statistical analysis and user-friendly export of models
       tidymodels) # for statistical analysis and user-friendly exports of models
```

 Installing package into ‘/usr/local/lib/R/site-library’
(as ‘lib’ is unspecified)

Let us now load the dataset and have a look at the variables

```
# loading the dataset with the read_dta function
df_evs <- read_dta("/content/data/10048_da_en_v1_0-1.dta")

# print the first 10 lines of the dataset
head(df_evs)
```



By looking

```
df <- df_evs |> dplyr::select(
  year=S002EVS,
  sex=X001,
  homo=F118
)
```

```
print(df)
```

```
# A tibble: 6,440 × 3
  year      sex      homo
  <dbl+lbl> <dbl+lbl> <dbl+lbl>
1 3 [1999] 1 [Male] 10 [Always justifiable]
2 5 [2018] 2 [Female] 6 [6]
3 3 [1999] 1 [Male] 10 [Always justifiable]
4 3 [1999] 2 [Female] 10 [Always justifiable]
5 2 [1990] 2 [Female] 3 [3]
6 4 [2008] 2 [Female] 3 [3]
7 4 [2008] 1 [Male] 1 [Never justifiable]
8 3 [1999] 2 [Female] 7 [7]
9 2 [1990] 1 [Male] 10 [Always justifiable]
10 4 [2008] 2 [Female] 10 [Always justifiable]
# i 6,430 more rows
```

Let's run some regression `homo ~ sex + year`

```
lm_fit <- lm(homo ~ year + sex, data=df)
```

```
summary(lm_fit)
```

```
#
```

Let's have more beautiful results

```
tidy(lm_fit)
```

Plot relationship

```
p <- df |> filter(!is.na(homo)) |> # filter NAs
  group_by(sex, year) |> # group by variables
  # plot year on x- and homosexuality on y-axis; use as_label function so that ggplot2 c
  ggplot(aes(as_label(year), as_label(homo), color = as_label(sex))) +
  geom_jitter() + # use geom_jitter to show all data points; prevents overplotting
  theme_minimal()
```

p

Let's save the plot

```
png(filename = "plots/plot_homosexuality.png",  
width = 21.1,  
height = 10.2,  
units = "in",  
res = 300,  
bg = "#ffffff"  
)  
  
p  
  
dev.off()
```

