

World Happiness Report 2023

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Uvod

*dodati opis naseg zadatka

Deskriptivna analiza

Učitavanje podataka.

```
opis_var = read.csv("datasets/opis_varijabli.csv")
WHR_22 = read.csv("datasets/WHR_2022.csv")
WHR_22 = head(WHR_22, -1) # preskacem zadnji red jer je "xx"
WHR_23 = read.csv("datasets/WHR_2023.csv")
```

Podatci za 2022. godinu sastoje se od 146 država i dvije varijable. Podatci za 2023. godinu sastoje se od 137 država i 15 varijabli.

```
cat("Varijable za 2022. godinu:\n")
```

```
## Varijable za 2022. godinu:
```

```
names(WHR_22)
```

```
## [1] "Country" "Happiness.score"
```

```
cat("Varijable za 2023. godinu:\n")
```

```
## Varijable za 2023. godinu:
```

```
names(WHR_23)
```

```
## [1] "Country.name"
## [2] "Regional.indicator"
## [3] "Ladder.score"
## [4] "GDP.per.capita"
## [5] "Social.support"
## [6] "Healthy.life.expectancy"
## [7] "Freedom.to.make.life.choices"
## [8] "Generosity"
## [9] "Perceptions.of.corruption"
## [10] "Alcohol.consumption.Both.Sexes..L.year."
## [11] "Alcohol.consumption.Male..L.year."
## [12] "Alcohol.consumption.Female..L.year."
## [13] "Crime.rate.Crime.Index"
## [14] "Healthcare.Legatum.Prosperty.Index.Health.Score"
## [15] "Gini.Coefficient...World.Bank"
```

```
any(is.na(WHR_22))
```

```
## [1] FALSE
```

```
cat("U podatcima za 2022. godinu nema nedostajućih vrijednosti.\n")
```

```
## U podatcima za 2022. godinu nema nedostajućih vrijednosti.
```

```
any(is.na(WHR_23))
```

```
## [1] TRUE
```

```
cat("U podatcima za 2023. godinu ima nedostajućih vrijednosti.\n")
```

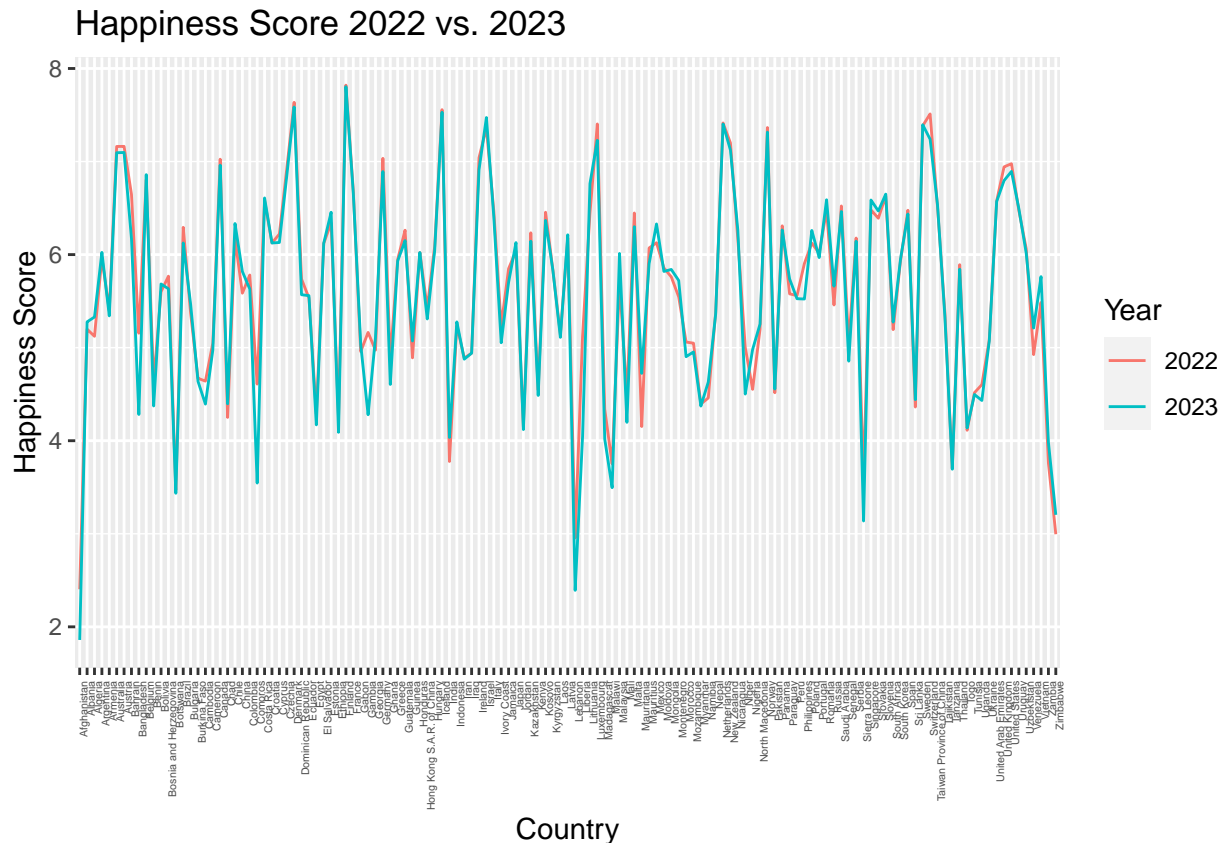
```
## U podatcima za 2023. godinu ima nedostajućih vrijednosti.
```

```
for (col_name in names(WHR_23)) {  
  if (sum(is.na(WHR_23[,col_name])) > 0){  
    cat('Ukupno nedostajućih vrijednosti za varijablu ', col_name, ': ', sum(is.na(WHR_23[,col_name])), '  
  }  
}
```

```
## Ukupno nedostajućih vrijednosti za varijablu Healthy.life.expectancy : 1  
## Ukupno nedostajućih vrijednosti za varijablu Alcohol.consumption.Both.Sexes..L.year. : 6  
## Ukupno nedostajućih vrijednosti za varijablu Alcohol.consumption.Male..L.year. : 6  
## Ukupno nedostajućih vrijednosti za varijablu Alcohol.consumption.Female..L.year. : 6  
## Ukupno nedostajućih vrijednosti za varijablu Crime.rate.Crime.Index : 24  
## Ukupno nedostajućih vrijednosti za varijablu Healthcare.Legatum.Prospersity.Index.Health.Score : 2  
## Ukupno nedostajućih vrijednosti za varijablu Gini.Coefficient...World.Bank : 10
```

Vizualizacija podataka

Za usporedbu razine sreće u publikaciji iz 2022. i 2023. godine možemo uzeti presjek zajedničkih država. To nas ostavlja s podatcima za 133 države.



```
library(dplyr)
```

```
##
```

```
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
```

```
##
```

```
## filter, lag
```

```
## The following objects are masked from 'package:base':
```

```
##
```

```
## intersect, setdiff, setequal, union
```

```
# grupiranje po regijama radi preglednije vizualizacije
```

```
presjek_drzava = merge(WHR_23, WHR_22, by.x = "Country.name", by.y = "Country")[c("Country.name", "Region")]
```

```
colnames(presjek_drzava) = c("Country", "Region", "2022", "2023")
```

```
grouped_by_regions <- presjek_drzava %>%
```

```
  group_by(Region) %>%
```

```
  group_split()
```

```
num_of_regions = 10
```

```
for (i in 1:10) {
```

```
  region = levels(grouped_by_regions[[i]]$Region)[i]
```

```
  title = paste("Happiness Score 2022 vs. 2023 for", region)
```

```
  data = grouped_by_regions[[i]][c("Country", "2022", "2023")]
```

```
  df_long <- melt(data, id.var = "Country")
```

```
  line_plot = ggplot(df_long, aes(x = Country, y = value, color = variable)) +
```

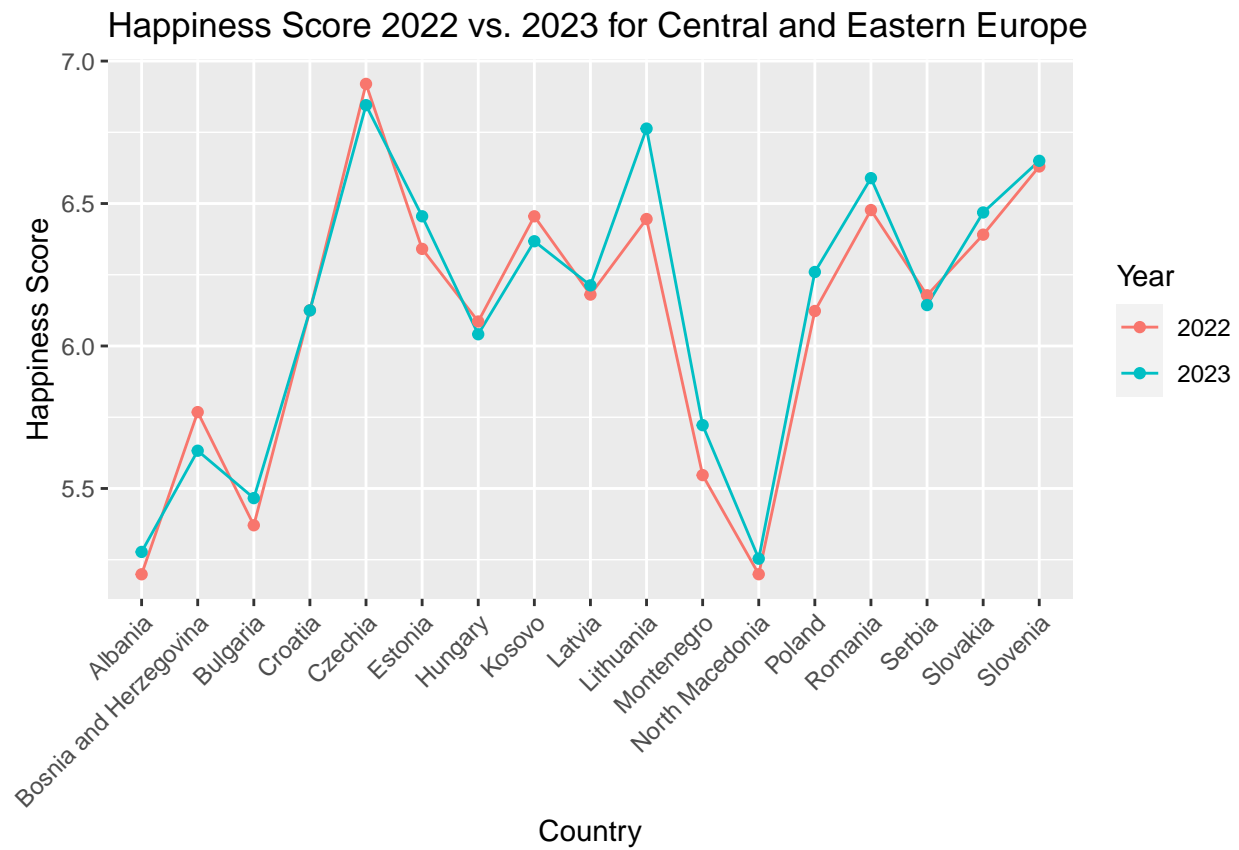
```
    geom_line(aes(group = variable)) +
```

```

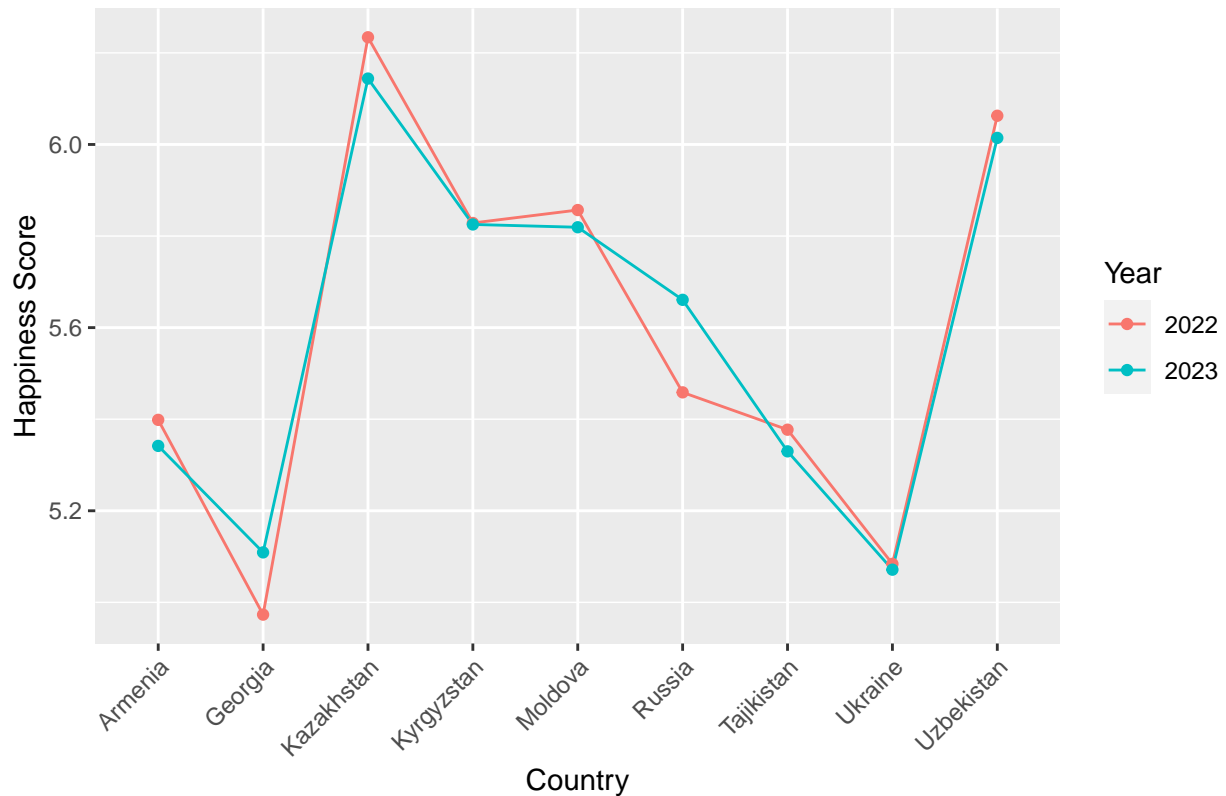
geom_point() +
labs(title = title,
      y = "Happiness Score",
      color = "Year") +
theme(axis.text.x = element_text(angle = 45, hjust = 1))

print(line_plot)
}

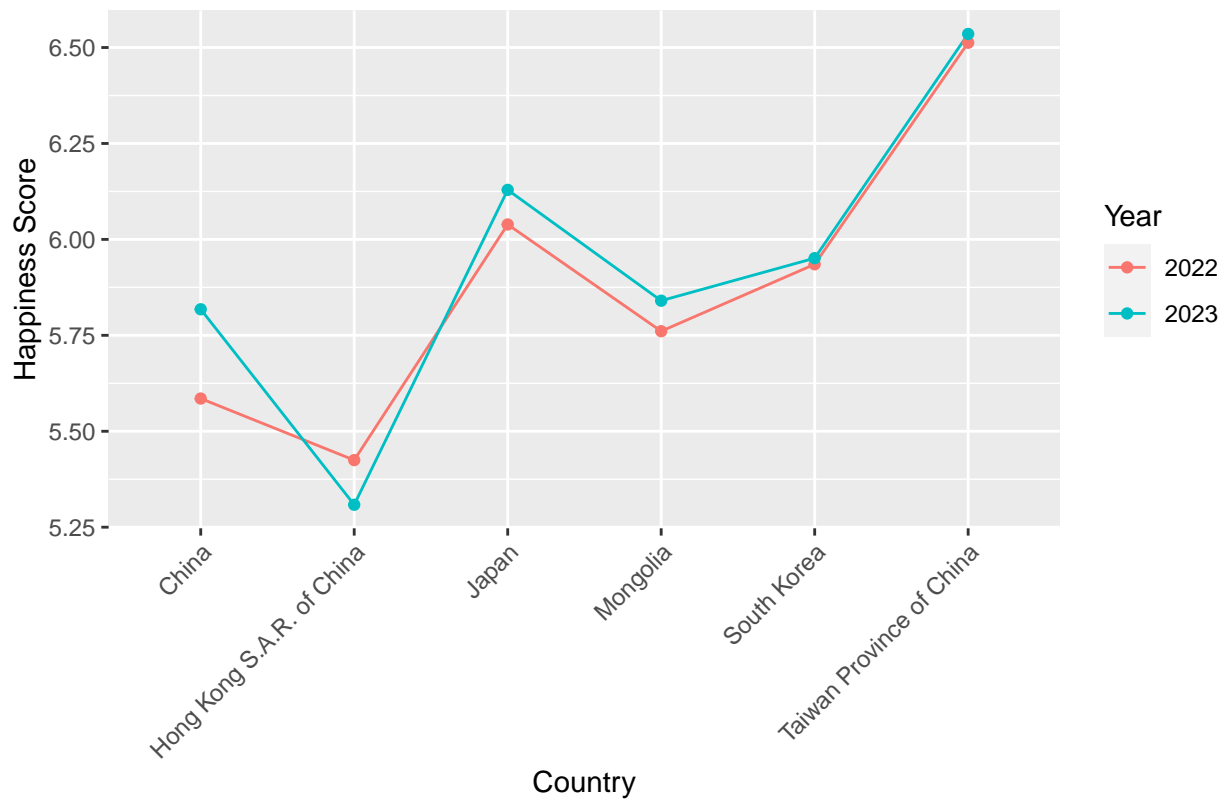
```



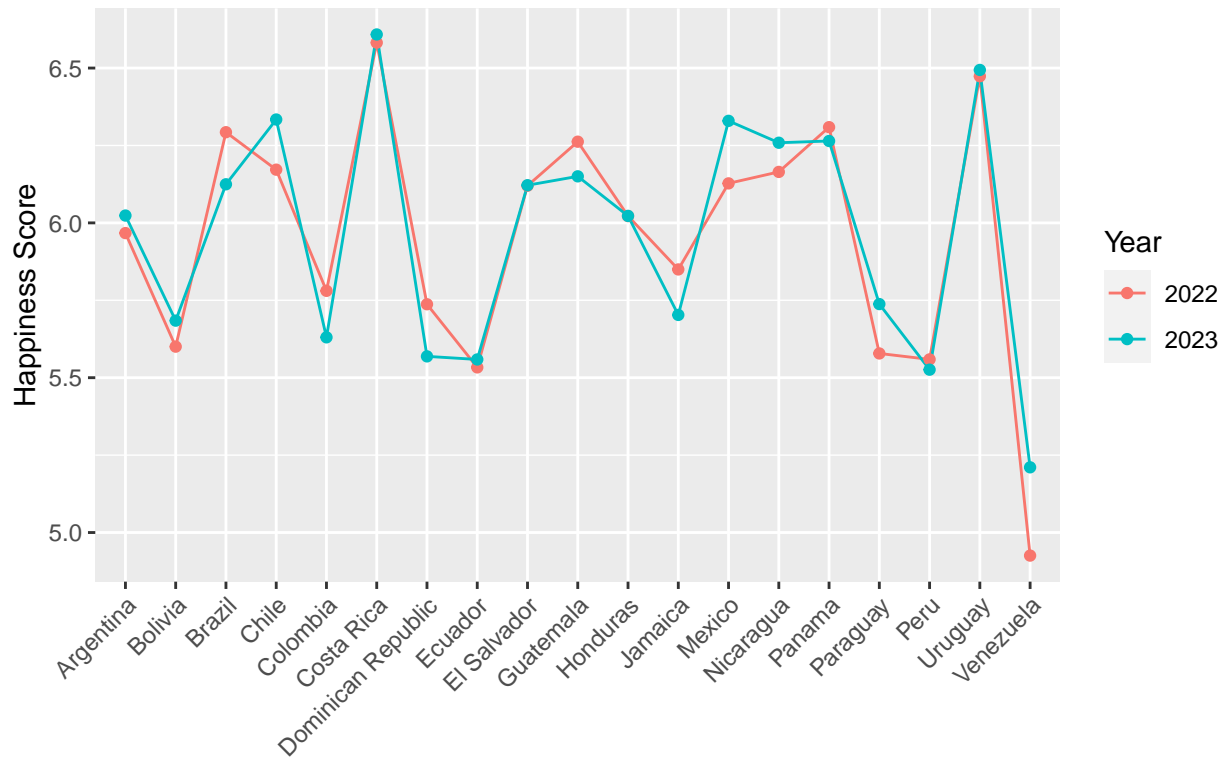
Happiness Score 2022 vs. 2023 for Commonwealth of Independent States



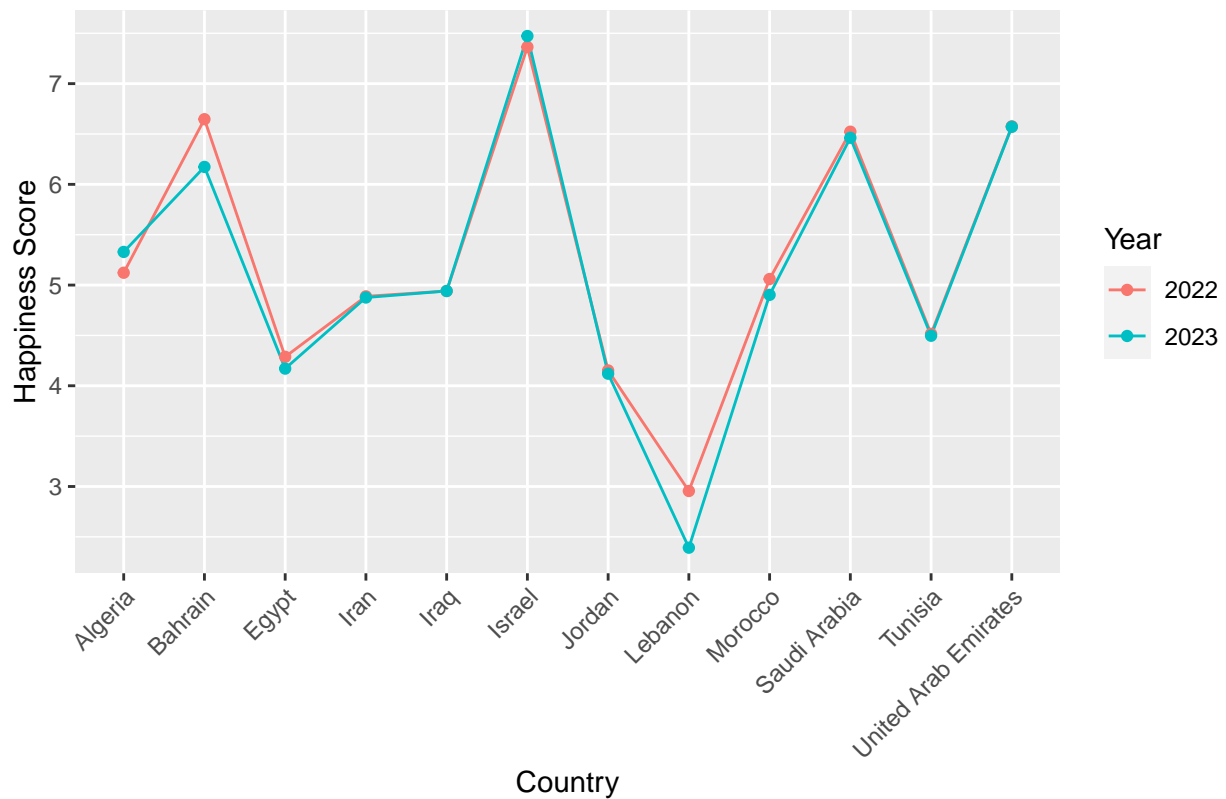
Happiness Score 2022 vs. 2023 for East Asia

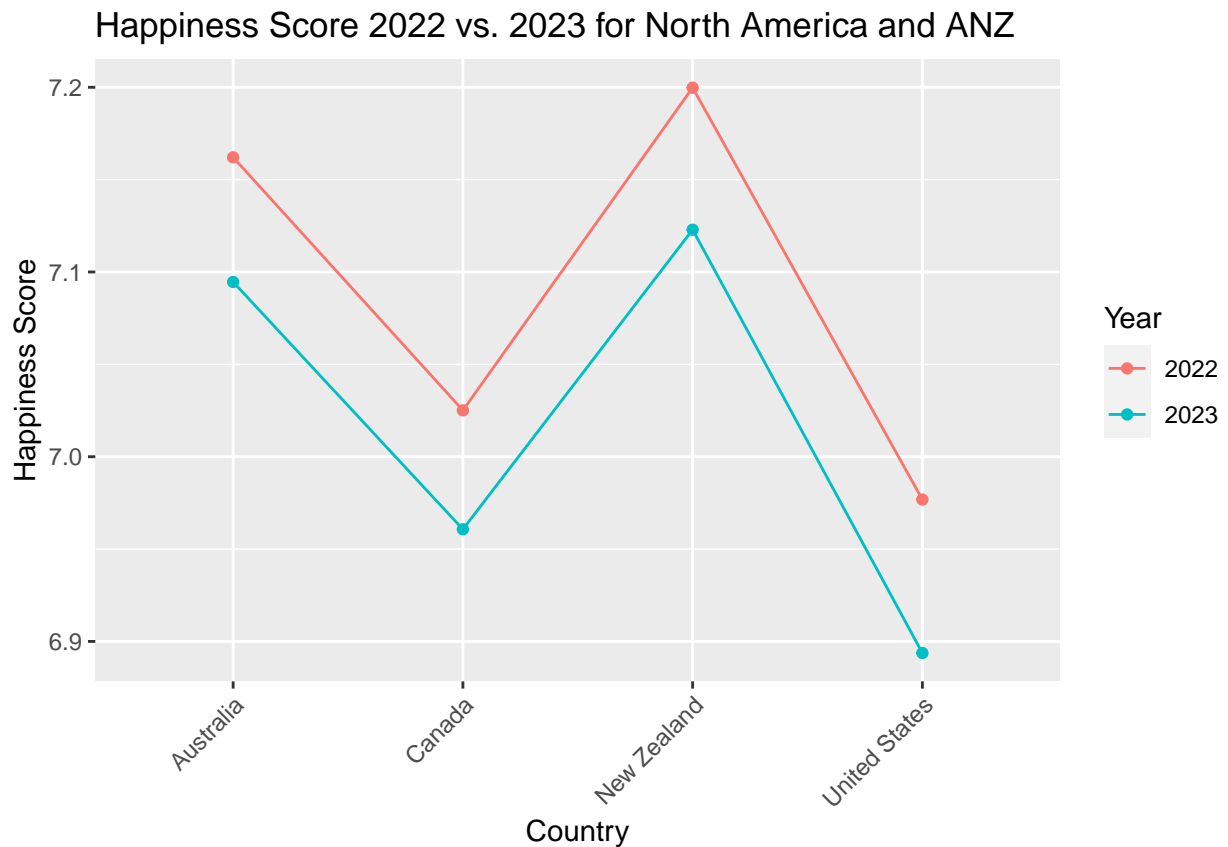


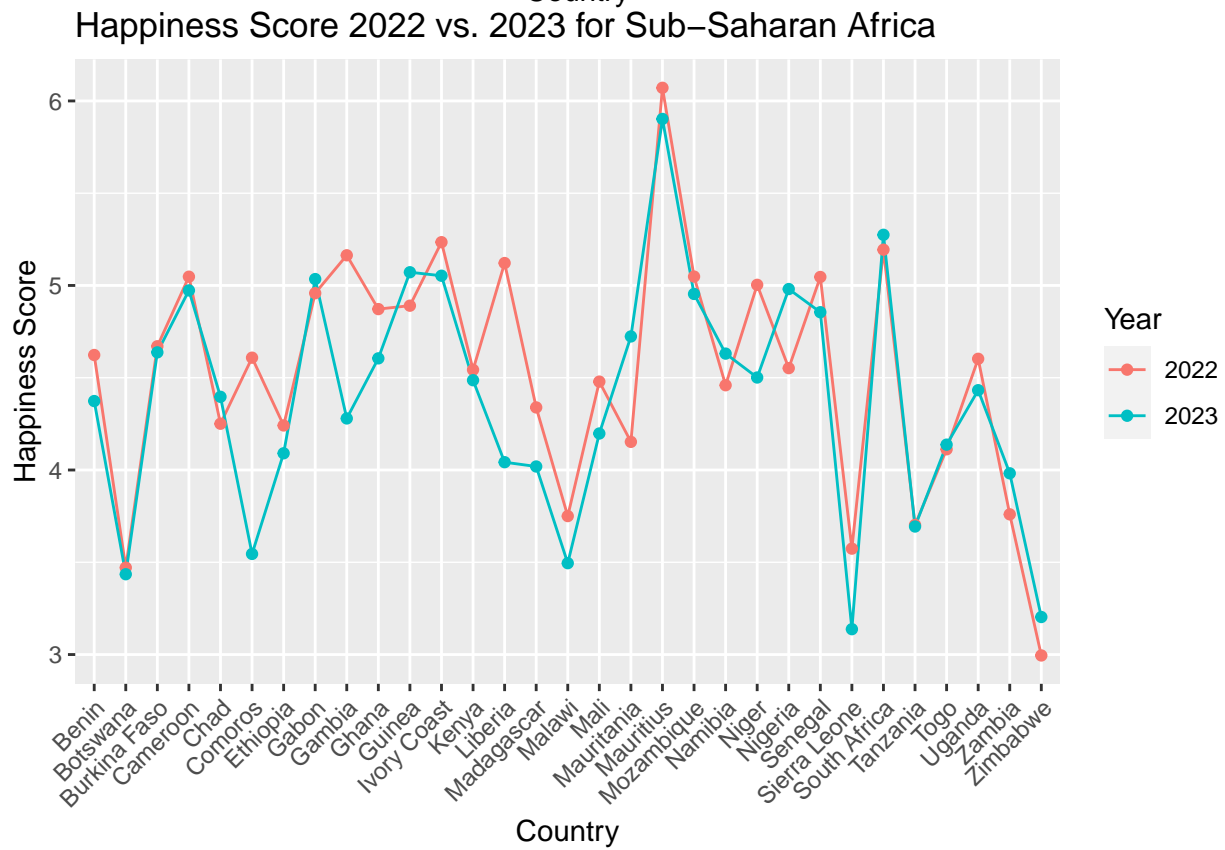
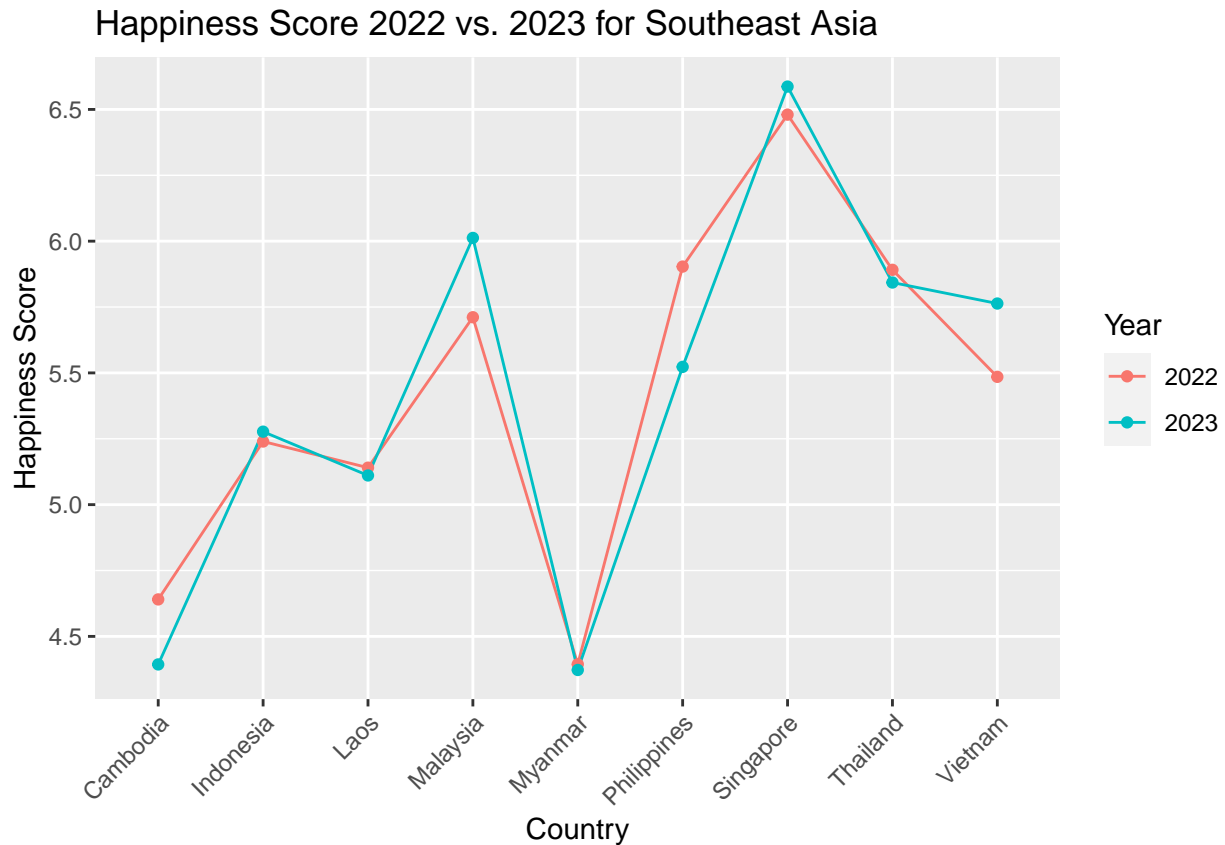
Happiness Score 2022 vs. 2023 for Latin America and Caribbean



Happiness Score 2022 vs. 2023 for Middle East and North Africa







Happiness Score 2022 vs. 2023 for Western Europe

