

DataFest_Analysis

S²LZ₂

```
library(tidyverse)
library(knitr)
library(broom)
library(nnet) # for multinomial logistic regression
```

R Markdown

```
CA <- read_csv("~/df_data/CA/ca.csv")
DE <- read_csv("~/df_data/DE/de.csv")
UK <- read_csv("~/df_data/UK/uk.csv")
US18 <- read_csv("~/df_data/US/us_18.csv")
US19 <- read_csv("~/df_data/US/us_19.csv")
```

```
US18%>%
  count(HEALTH_ROLE)
```

```
## # A tibble: 17 x 2
##   HEALTH_ROLE      n
##         <dbl> <int>
## 1           1    113
## 2           2     52
## 3           3     56
## 4           4    251
## 5           5     12
## 6           6     36
## 7           7     44
## 8           8     51
## 9           9     27
## 10          10     23
## 11          11     16
## 12          12     75
## 13          13      9
## 14          14     50
## 15          15     95
## 16          16    548
## 17          NA 28549
```

```
#BENZ, THC, STIM
```

```
#BENZ_NUM: 5, 7, 14
#STIM_USE: 5, 7, 14
```

Including Plots

```
## # A tibble: 187 x 2
##   names      x
##   <chr>    <dbl>
## 1 DATE      0
## 2 STATUS    0
## 3 DEM_GENDER 0
## 4 DEM_AGE    0
## 5 DEM_STDNT  0
## 6 DEM_VET    0
## 7 DEM_HEALTH 0
## 8 DEM_LOCATION 0
## 9 DEM_POSTAL 0
## 10 DEM_MARITAL 0
## # ... with 177 more rows

## # A tibble: 185 x 2
##   names      x
##   <chr>    <dbl>
## 1 DATE      0
## 2 STATUS    0
## 3 QLANG     0
## 4 DEM_GENDER 0
## 5 DEM_AGE    0
## 6 DEM_ABOR   0
## 7 DEM_ABOR_TYPE 9574
## 8 DEM_STDNT  0
## 9 DEM_VET    0
## 10 DEM_HEALTH 0
## # ... with 175 more rows

## # A tibble: 199 x 2
##   names      x
##   <chr>    <dbl>
## 1 DATE      0
## 2 STATUS    0
## 3 DEM_GENDER 0
## 4 DEM_AGE    0
## 5 DEM_STDNT  0
## 6 DEM_VET    0
## 7 DEM_HEALTH 0
## 8 DEM_POSTAL 0
## 9 DEM_HISPANIC 0
## 10 DEM_RACE   0
## # ... with 189 more rows

## # A tibble: 523 x 2
##   names      x
##   <chr>    <dbl>
## 1 DATE      0
## 2 STATUS    0
## 3 QLANG     0
## 4 DEM_GENDER 0
## 5 DEM_AGE    0
## 6 DEM_POSTAL 0
```

```
## 7 DEM_REGION      0
## 8 DEM_INCOME      0
## 9 DEM_HOME        0
## 10 DEM_GENHEALTH  0
## # ... with 513 more rows

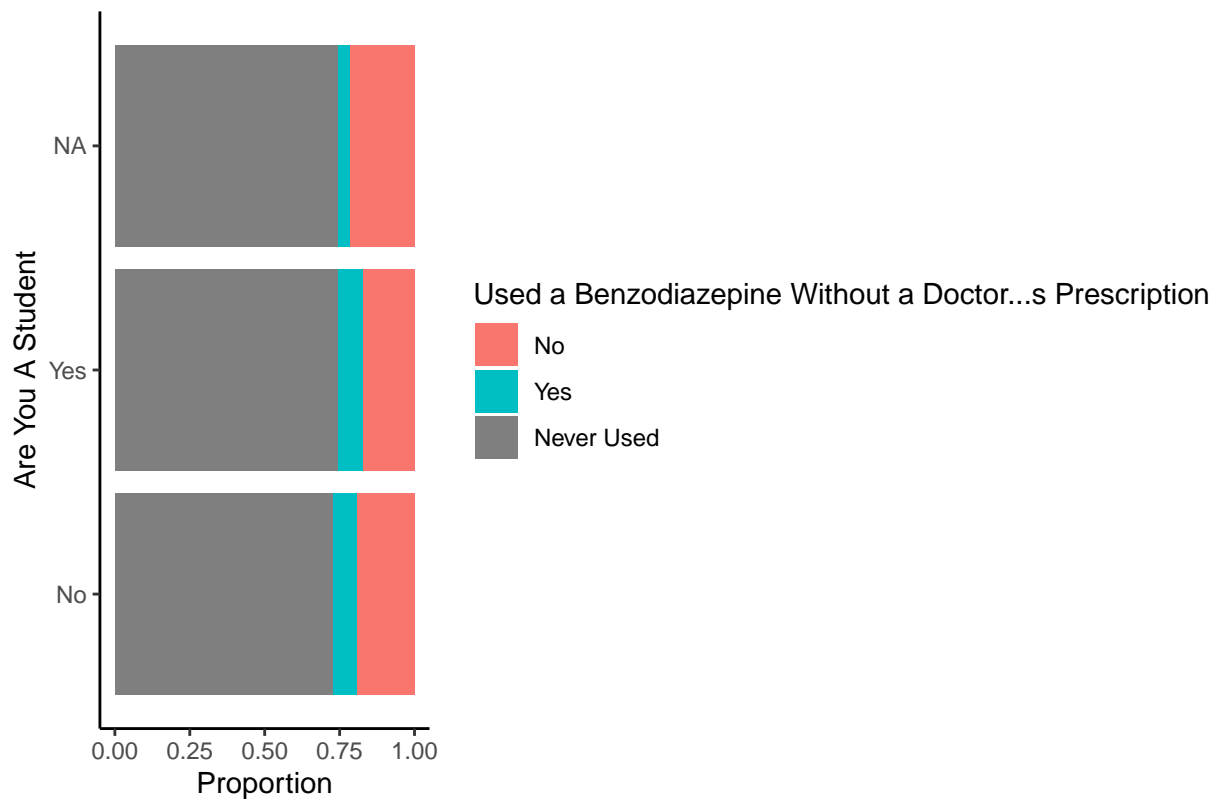
## # A tibble: 523 x 2
##   names      x
##   <chr>    <dbl>
## 1 DATE      0
## 2 STATUS    0
## 3 QLANG     0
## 4 DEM_GENDER 0
## 5 DEM_AGE    0
## 6 DEM_POSTAL 0
## 7 DEM_REGION 0
## 8 DEM_INCOME 0
## 9 DEM_HOME   0
## 10 DEM_GENHEALTH 0
## # ... with 513 more rows

## # A tibble: 156 x 2
##   names      x
##   <chr>    <dbl>
## 1 DATE      0
## 2 STATUS    0
## 3 QLANG     0
## 4 DEM_GENDER 0
## 5 DEM_AGE    0
## 6 DEM_LOCATION 0
## 7 DEM_POSTAL 0
## 8 DEM_STDNT  0
## 9 DEM_VET    0
## 10 DEM_HEALTH 0
## # ... with 146 more rows
```

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

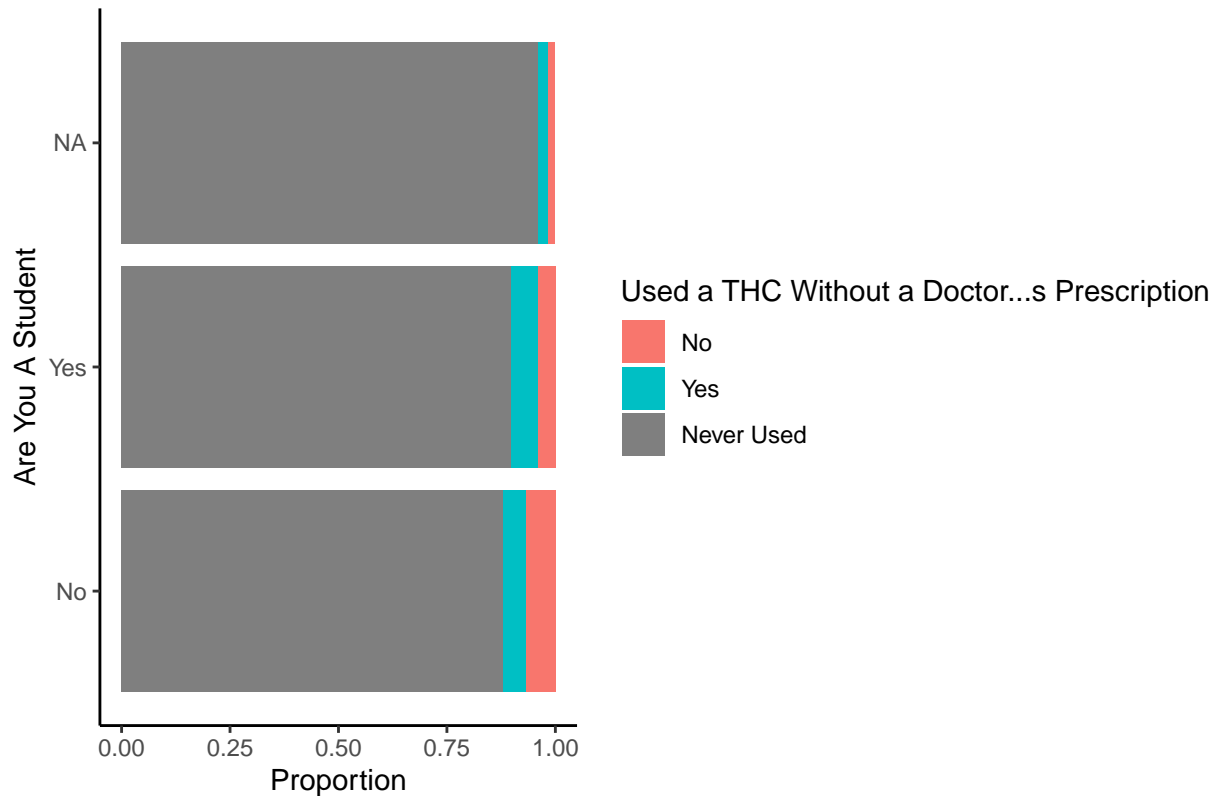
```
ggplot(data = US18, aes(x = factor(DEM_COLLEGE), fill = factor(BENZ_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No",
                            "1" = "Yes",
                            "NA" = "Not a Student in the past 3 months"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "Are You A Student",
       fill = "Used a Benzodiazepine Without a Doctor's Prescription ",
       title = "Proportion of Benzodiazepine Misuse Among College Students")
```

Proportion of Benzodiazepine Misuse Among College Students



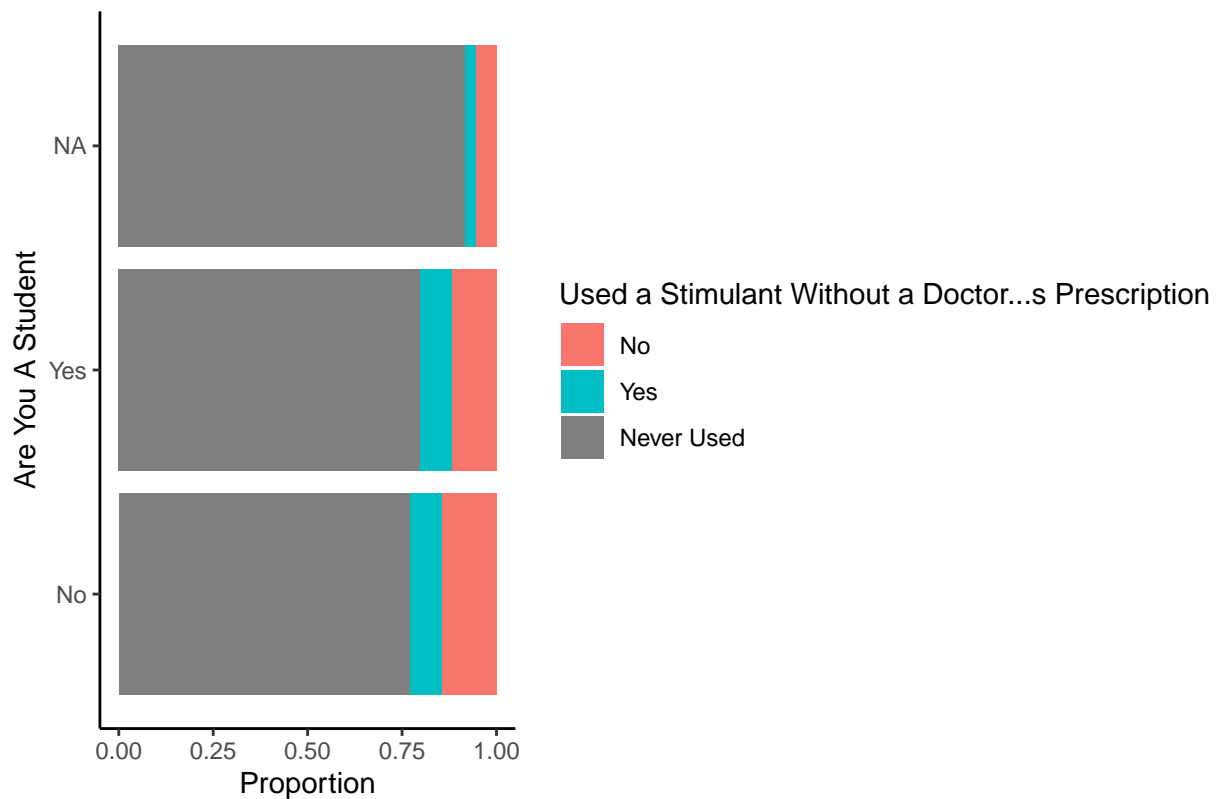
```
ggplot(data = US18, aes(x = factor(DEM_COLLEGE), fill = factor(THC_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No",
                            "1" = "Yes",
                            "NA" = "Not a Student in the past 3 months"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "Are You A Student",
       fill = "Used a THC Without a Doctor's Prescription ",
       title = "Proportion of THC Misuse Among College Students")
```

Proportion of THC Misuse Among College Students



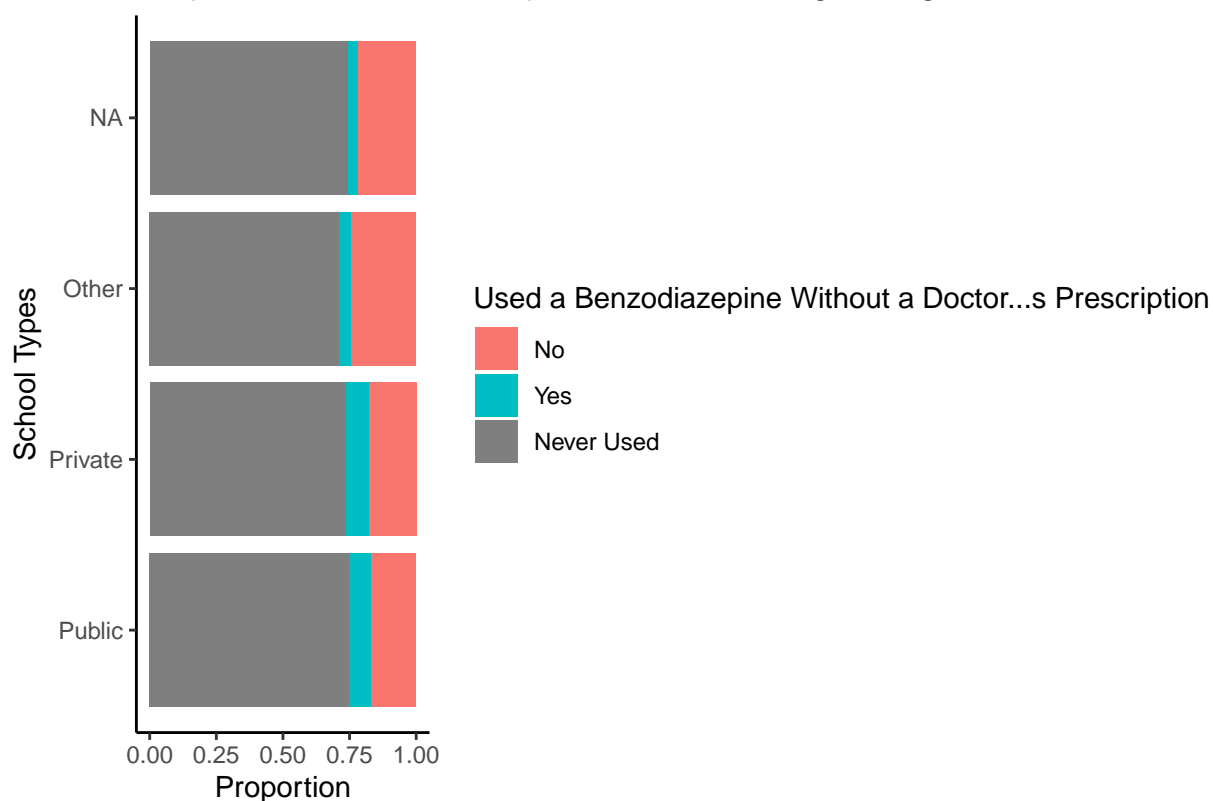
```
ggplot(data = US18, aes(x = factor(DEM_COLLEGE), fill = factor(STIM_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No",
                            "1" = "Yes",
                            "NA" = "Not a Student in the past 3 months"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "Are You A Student",
       fill = "Used a Stimulant Without a Doctor's Prescription ",
       title = "Proportion of Stimulant Misuse Among College Students")
```

Proportion of Stimulant Misuse Among College Students



```
ggplot(data = US18, aes(x = factor(COLLEGE_TYPE), fill = factor(BENZ_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "Public",
                            "1" = "Private",
                            "2" = "Other"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "School Types",
       fill = "Used a Benzodiazepine Without a Doctor's Prescription ",
       title = "Proportion of Benzodiazepine Misuse Among College Students")
```

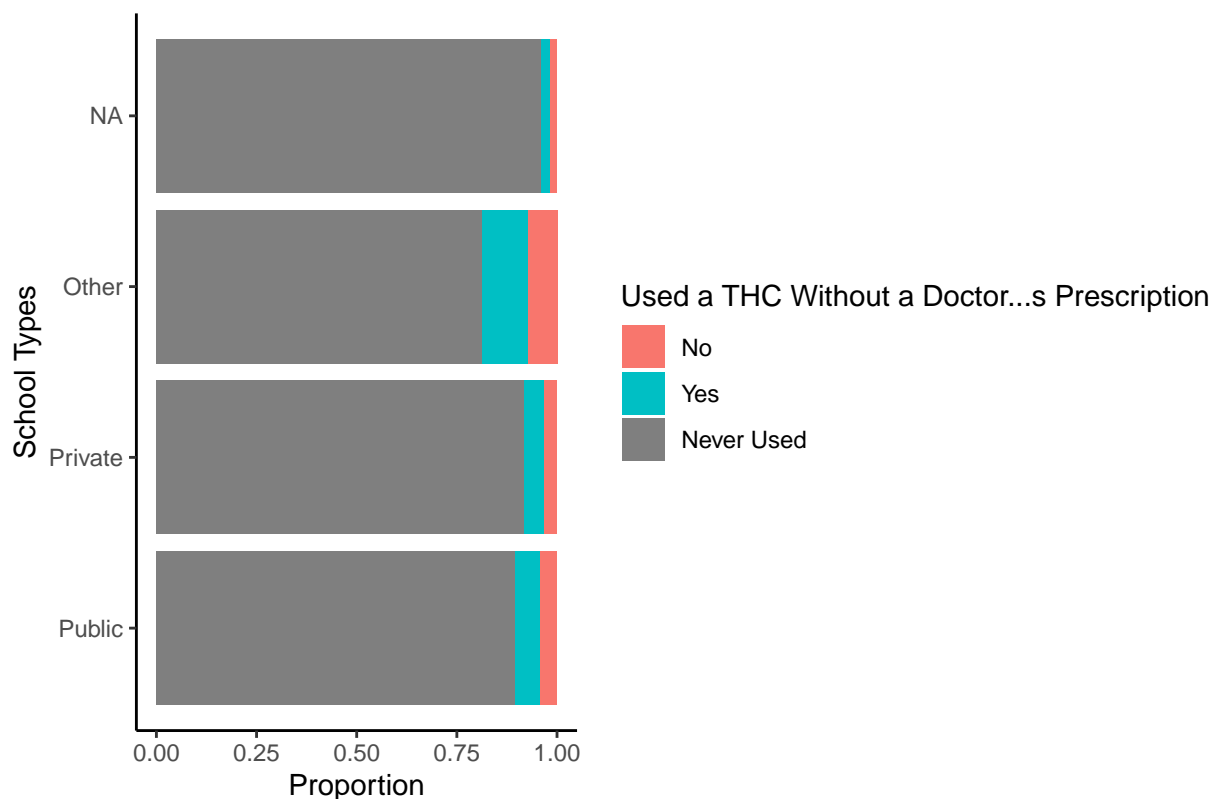
Proportion of Benzodiazepine Misuse Among College Students



```
ggplot(data = US18, aes(x = factor(COLLEGE_TYPE), fill = factor(THC_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "Public",
                            "1" = "Private",
                            "2" = "Other"))+

  theme_classic() +
  labs(y = "Proportion",
       x = "School Types",
       fill = "Used a THC Without a Doctor's Prescription ",
       title = "Proportion of THC Misuse Among College Students")
```

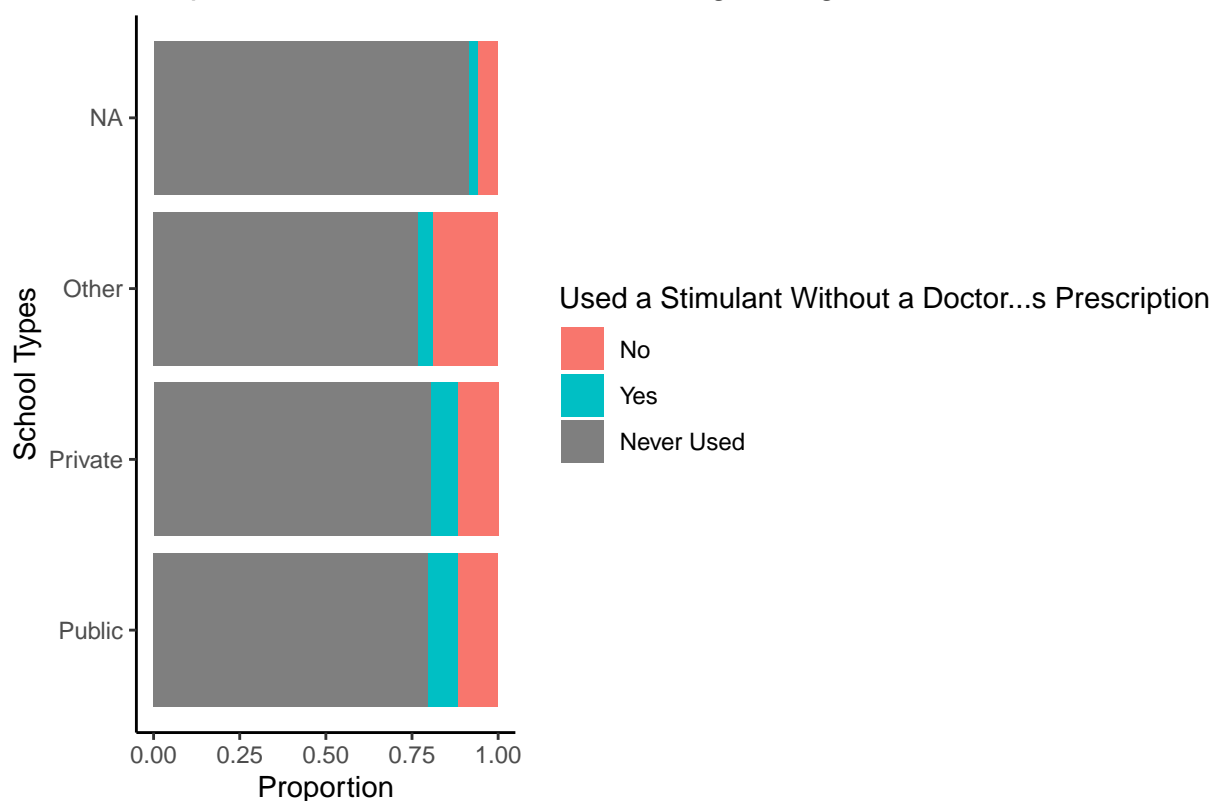
Proportion of THC Misuse Among College Students



```
ggplot(data = US18, aes(x = factor(COLLEGE_TYPE), fill = factor(STIM_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "Public",
                            "1" = "Private",
                            "2" = "Other"))+

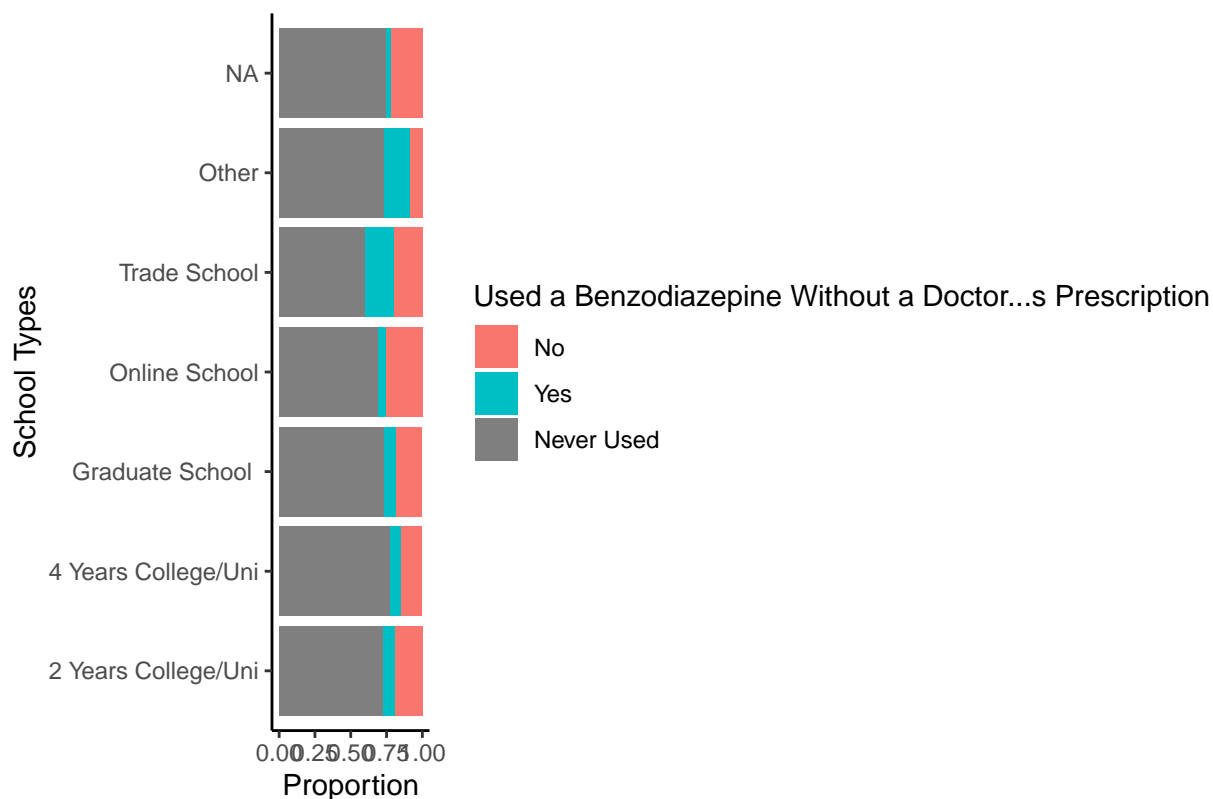
  theme_classic() +
  labs(y = "Proportion",
       x = "School Types",
       fill = "Used a Stimulant Without a Doctor's Prescription ",
       title = "Proportion of Stimulant Misuse Among College Students")
```


Proportion of Stimulant Misuse Among College Students

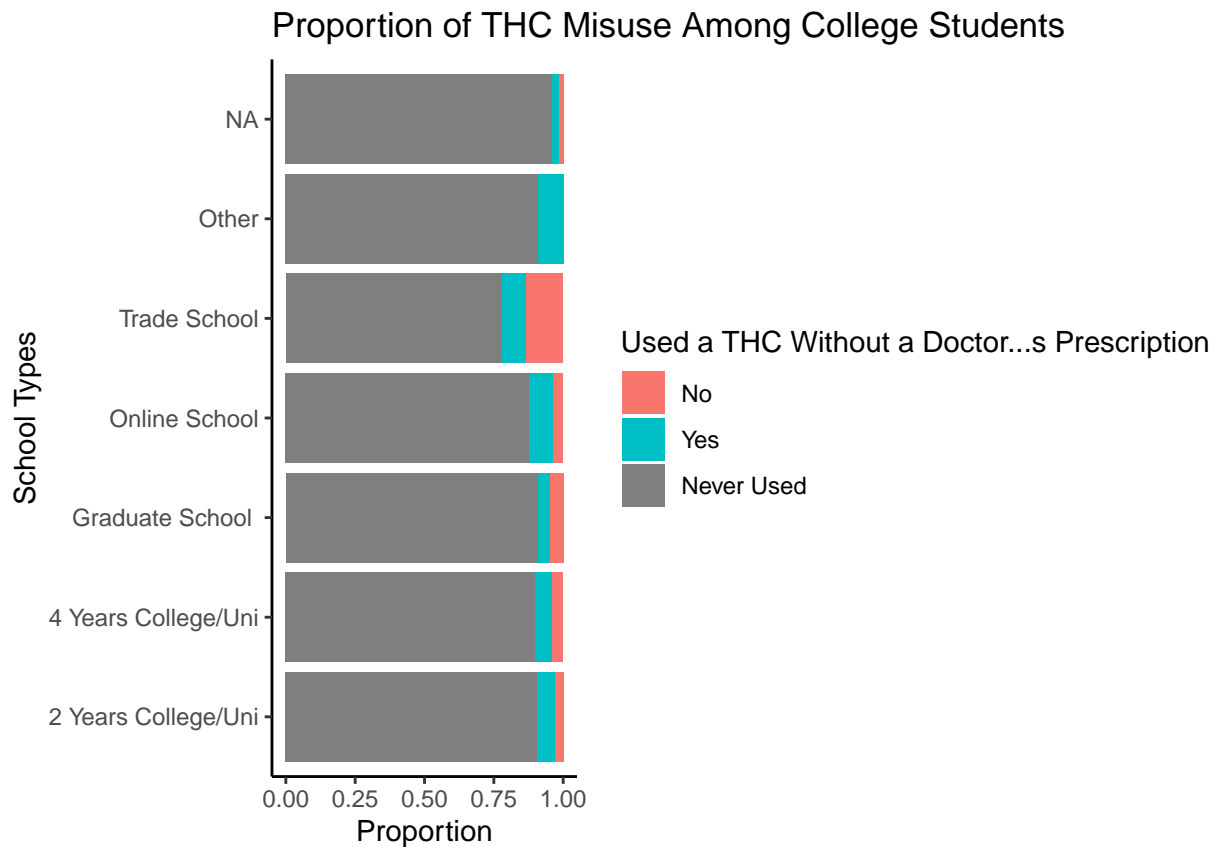


```
ggplot(data = US18, aes(x = factor(COLLEGE_LENGTH), fill = factor(BENZ_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("1" = "2 Years College/Uni",
                           "2" = "4 Years College/Uni",
                           "3" = "Graduate School ",
                           "4" = "Online School",
                           "5" = "Trade School",
                           "6" = "Other",
                           "NA" = "Not A Student"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "School Types",
       fill = "Used a Benzodiazepine Without a Doctor's Prescription ",
       title = "Proportion of Benzodiazepine Misuse Among College Students")
```

Proportion of Benzodiazepine Misuse Among College Students

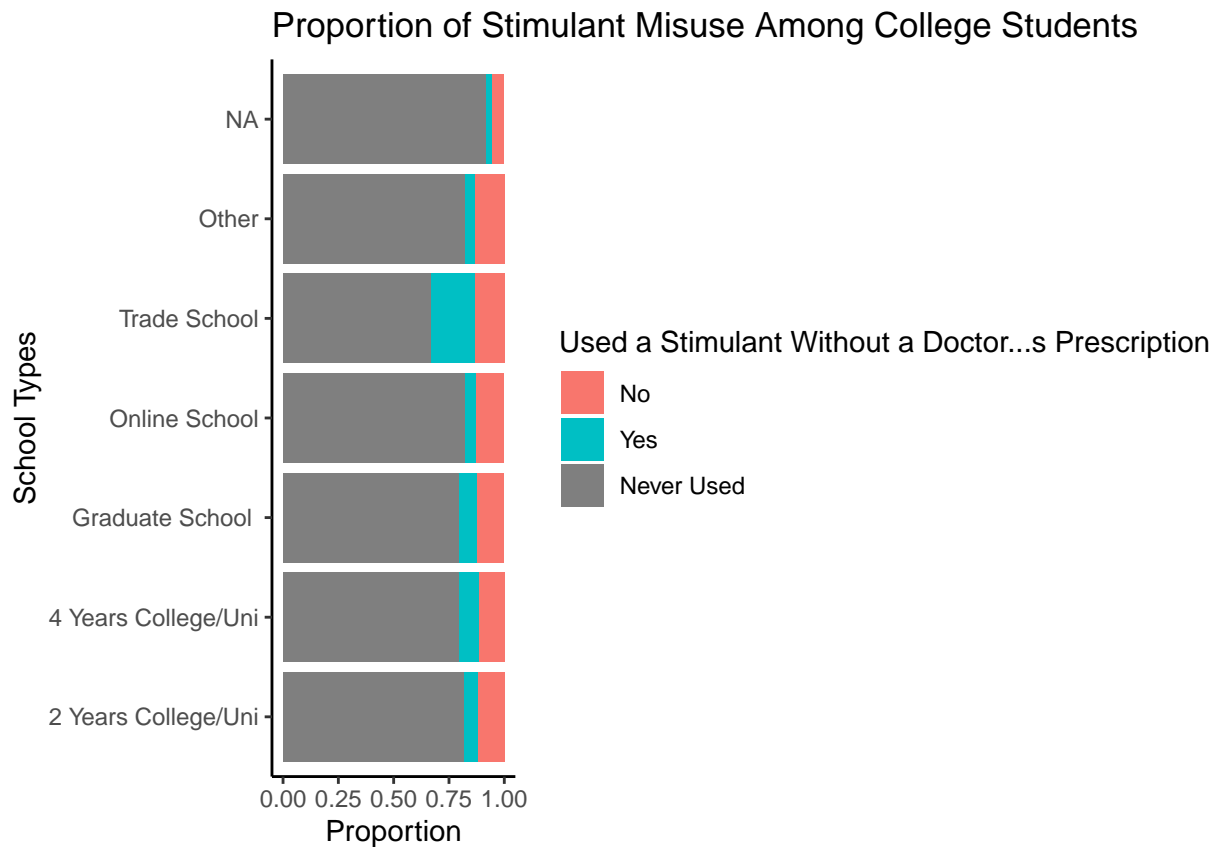


```
ggplot(data = US18, aes(x = factor(COLLEGE_LENGTH), fill = factor(THC_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("1" = "2 Years College/Uni",
                           "2" = "4 Years College/Uni",
                           "3" = "Graduate School ",
                           "4" = "Online School",
                           "5" = "Trade School",
                           "6" = "Other",
                           "NA" = "Not A Student"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "School Types",
       fill = "Used a THC Without a Doctor's Prescription ",
       title = "Proportion of THC Misuse Among College Students")
```



```
ggplot(data = US18, aes(x = factor(COLLEGE_LENGTH), fill = factor(STIM_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("1" = "2 Years College/Uni",
                            "2" = "4 Years College/Uni",
                            "3" = "Graduate School ",
                            "4" = "Online School",
                            "5" = "Trade School",
                            "6" = "Other",
                            "NA" = "Not A Student"))+

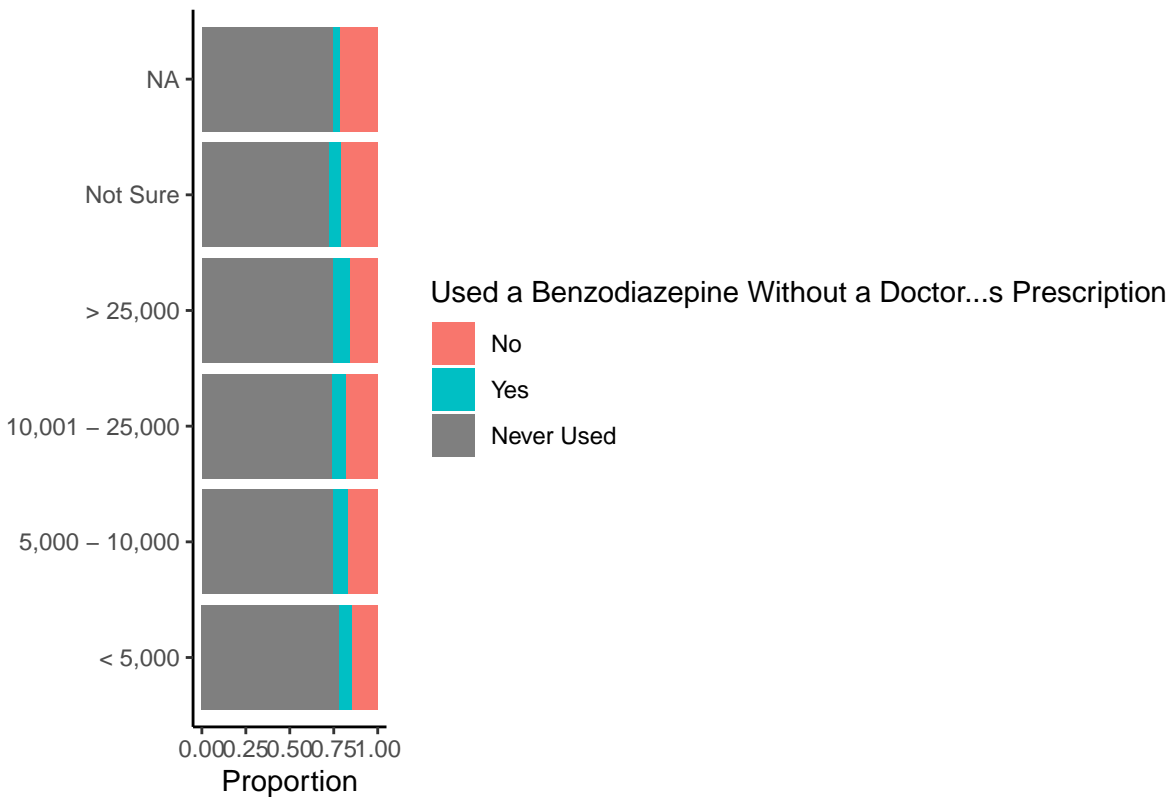
  theme_classic() +
  labs(y = "Proportion",
       x = "School Types",
       fill = "Used a Stimulant Without a Doctor's Prescription ",
       title = "Proportion of Stimulant Misuse Among College Students")
```



```
ggplot(data = US18, aes(x = factor(COLLEGE_SIZE), fill = factor(BENZ_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "< 5,000", "1" = "5,000 - 10,000",
                            "2" = "10,001 - 25,000",
                            "3" = "> 25,000",
                            "4" = "Not Sure",
                            "NA" = "Not A Student"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "How Many Students Are Enrolled in Your Current College/University",
       fill = "Used a Benzodiazepine Without a Doctor's Prescription ",
       title = "Proportion of Benzodiazepine Misuse Among College Students")
```

How Many Students Are Enrolled in Your Current College/University

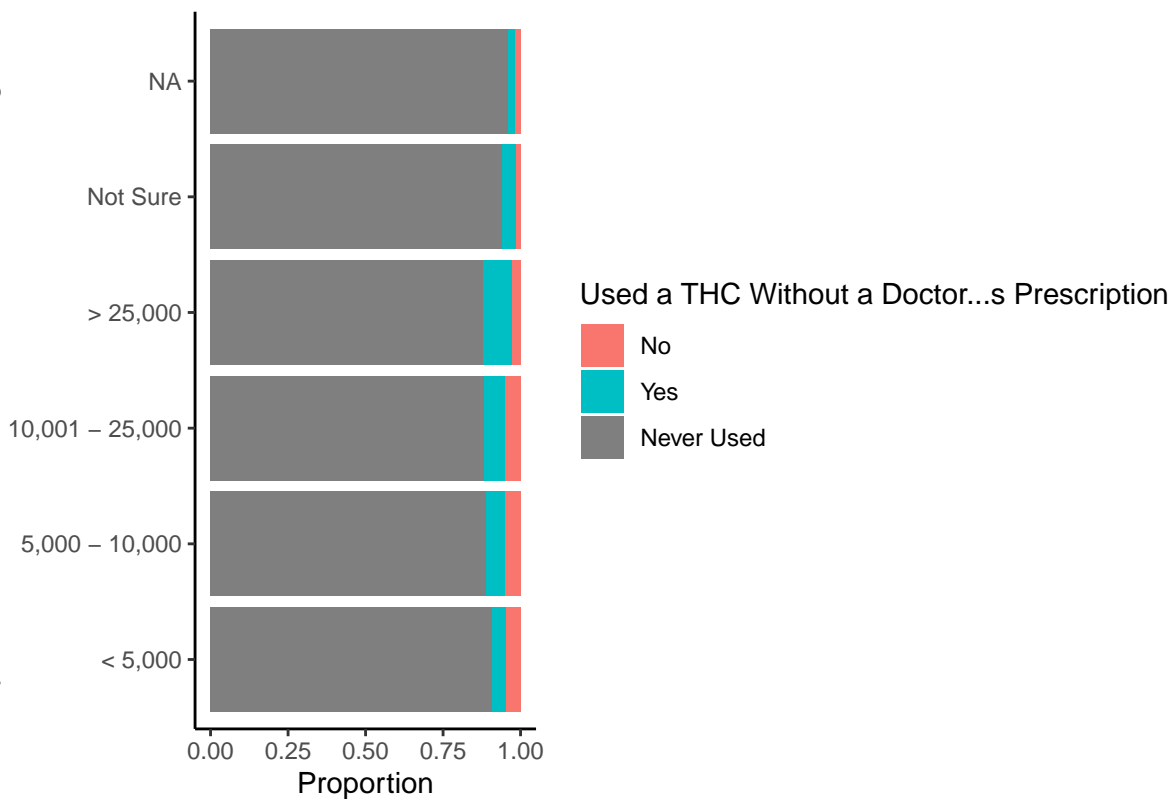
Proportion of Benzodiazepine Misuse Among College Students



```
ggplot(data = US18, aes(x = factor(COLLEGE_SIZE), fill = factor(THC_NMU))) +
  geom_bar(position = "fill") +
  coord_flip() +
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "< 5,000", "1" = "5,000 - 10,000",
                            "2" = "10,001 - 25,000",
                            "3" = "> 25,000",
                            "4" = "Not Sure",
                            "NA" = "Not A Student")) +
  theme_classic() +
  labs(y = "Proportion",
       x = "How Many Students Are Enrolled in Your Current College/University",
       fill = "Used a THC Without a Doctor's Prescription ",
       title = "Proportion of THC Misuse Among College Students")
```

How Many Students Are Enrolled in Your Current College/University

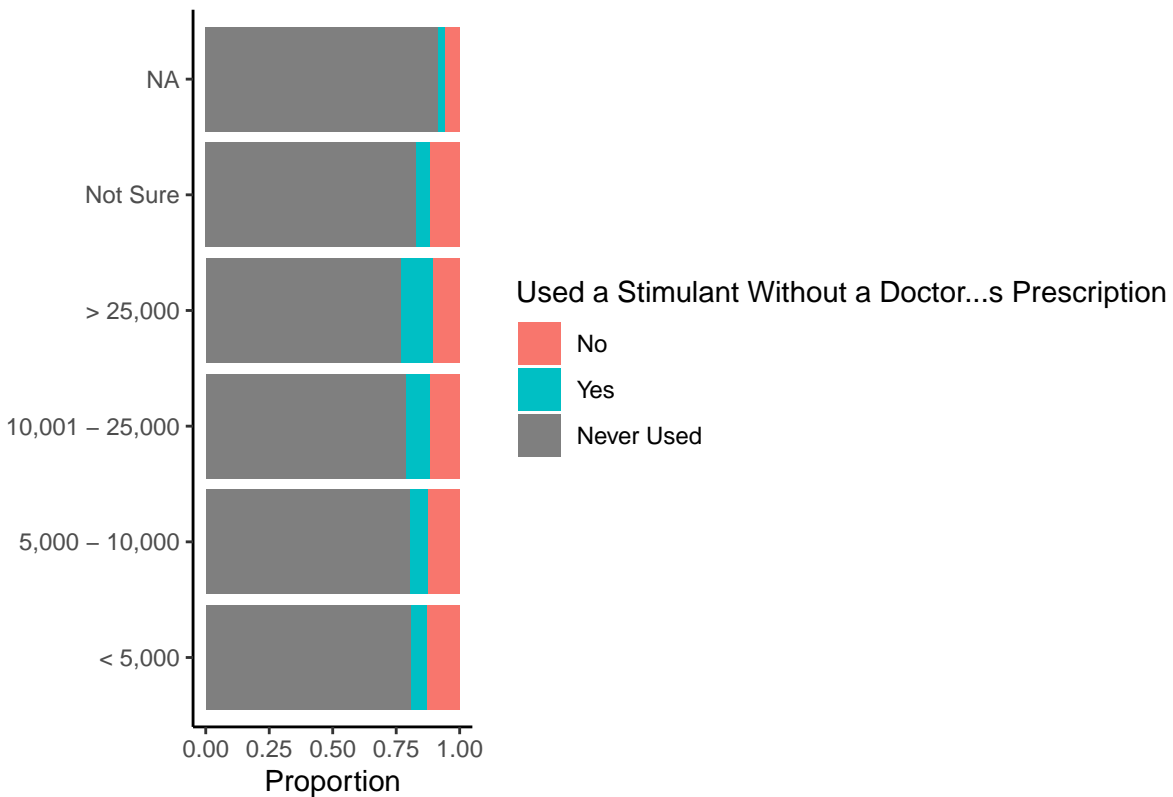
Proportion of THC Misuse Among College Students



```
ggplot(data = US18, aes(x = factor(COLLEGE_SIZE), fill = factor(STIM_NMU)))+
  geom_bar(position = "fill")+
  coord_flip()+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "< 5,000", "1" = "5,000 - 10,000",
                            "2" = "10,001 - 25,000",
                            "3" = "> 25,000",
                            "4" = "Not Sure",
                            "NA" = "Not A Student"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "How Many Students Are Enrolled in Your Current College/University",
       fill = "Used a Stimulant Without a Doctor's Prescription ",
       title = "Proportion of Stimulant Misuse Among College Students")
```

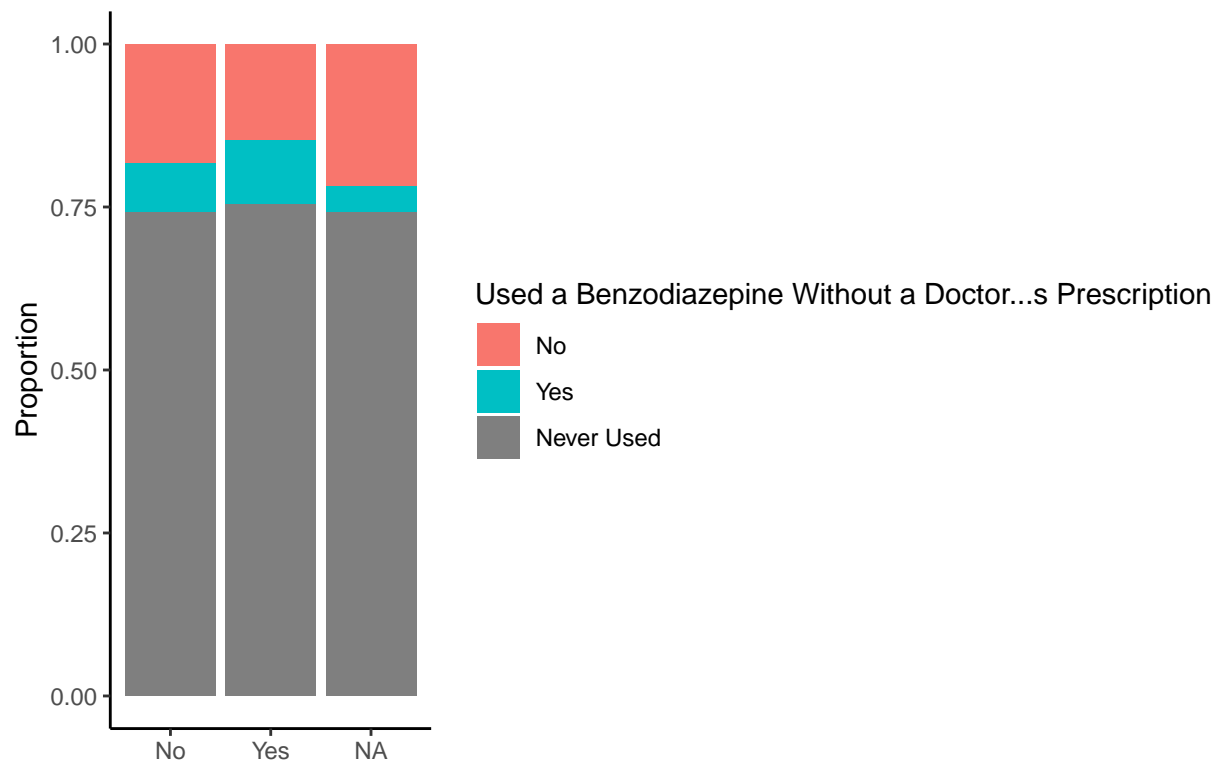
How Many Students Are Enrolled in Your Current College/University?

Proportion of Stimulant Misuse Among College Students



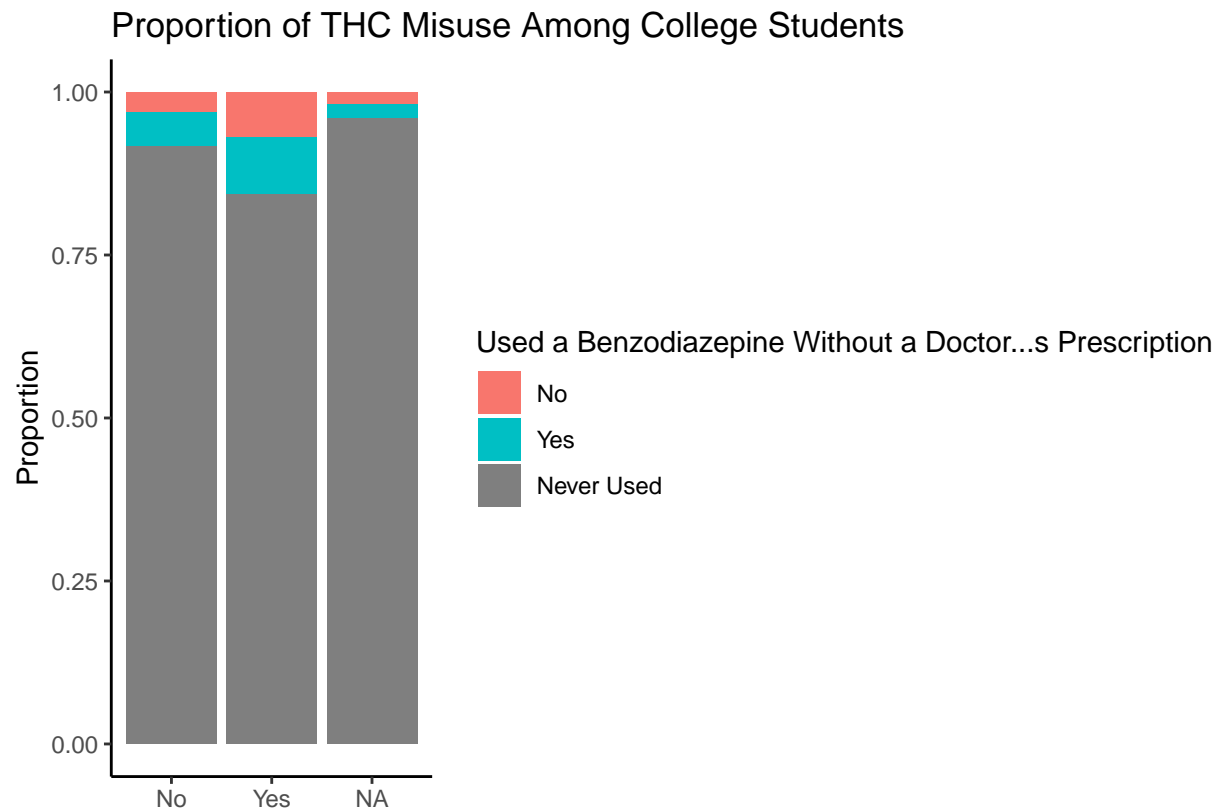
```
ggplot(data = US18, aes(x = factor(COLLEGE_HOUSING), fill = factor(BENZ_NMU))) +
  geom_bar(position = "fill") +
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No", "1" = "Yes",
                           "NA" = "Not A Student")) +
  theme_classic() +
  labs(y = "Proportion",
       x = "Do you currently live in on-campus housing",
       fill = "Used a Benzodiazepine Without a Doctor's Prescription ",
       title = "Proportion of Benzodiazepine Misuse Among College Students")
```

Proportion of Benzodiazepine Misuse Among College Students



Do you currently live in on-campus housing

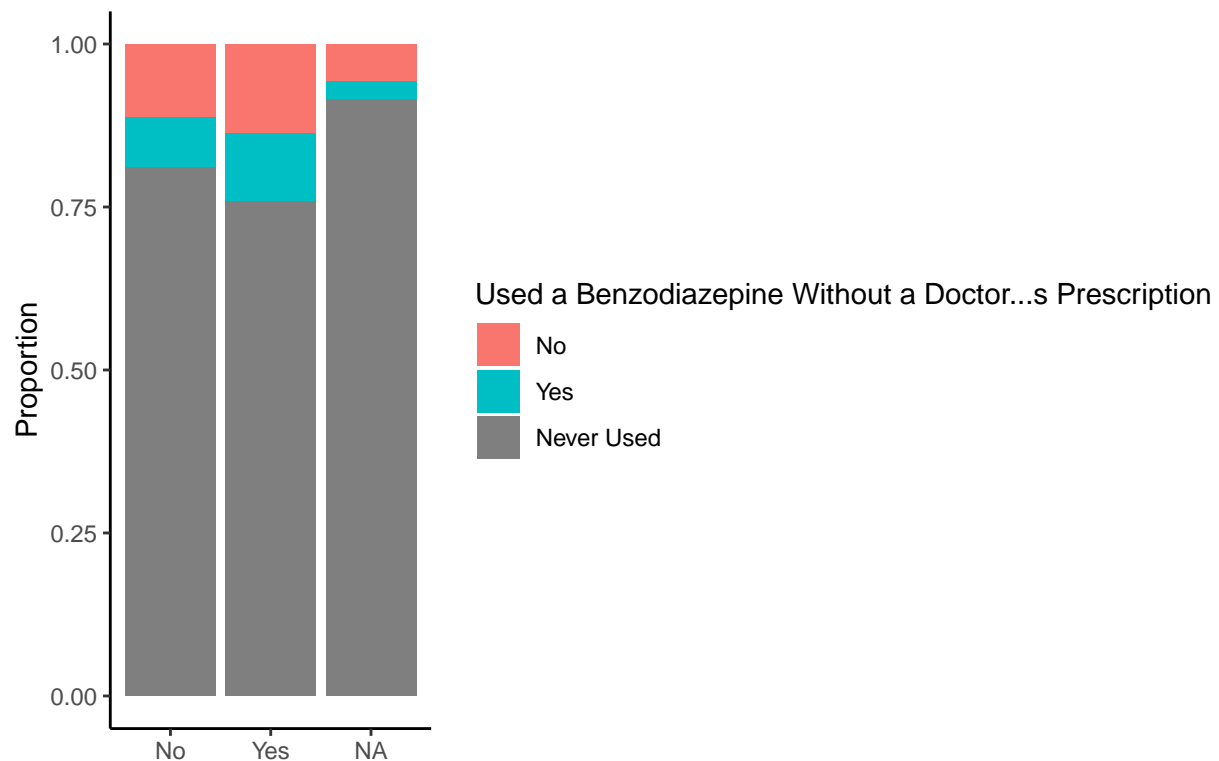
```
ggplot(data = US18, aes(x = factor(COLLEGE_HOUSING), fill = factor(THC_NMU)))+
  geom_bar(position = "fill")+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No", "1" = "Yes",
                            "NA" = "Not A Student"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "Do you currently live in on-campus housing",
       fill = "Used a Benzodiazepine Without a Doctor's Prescription ",
       title = "Proportion of THC Misuse Among College Students")
```

Do you currently live in on-campus housing

```
ggplot(data = US18, aes(x = factor(COLLEGE_HOUSING), fill = factor(STIM_NMU)))+
  geom_bar(position = "fill")+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No", "1" = "Yes",
                            "NA" = "Not A Student"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "Do you currently live in on-campus housing",
       fill = "Used a Benzodiazepine Without a Doctor's Prescription ",
       title = "Proportion of Stimulant Misuse Among College Students")
```

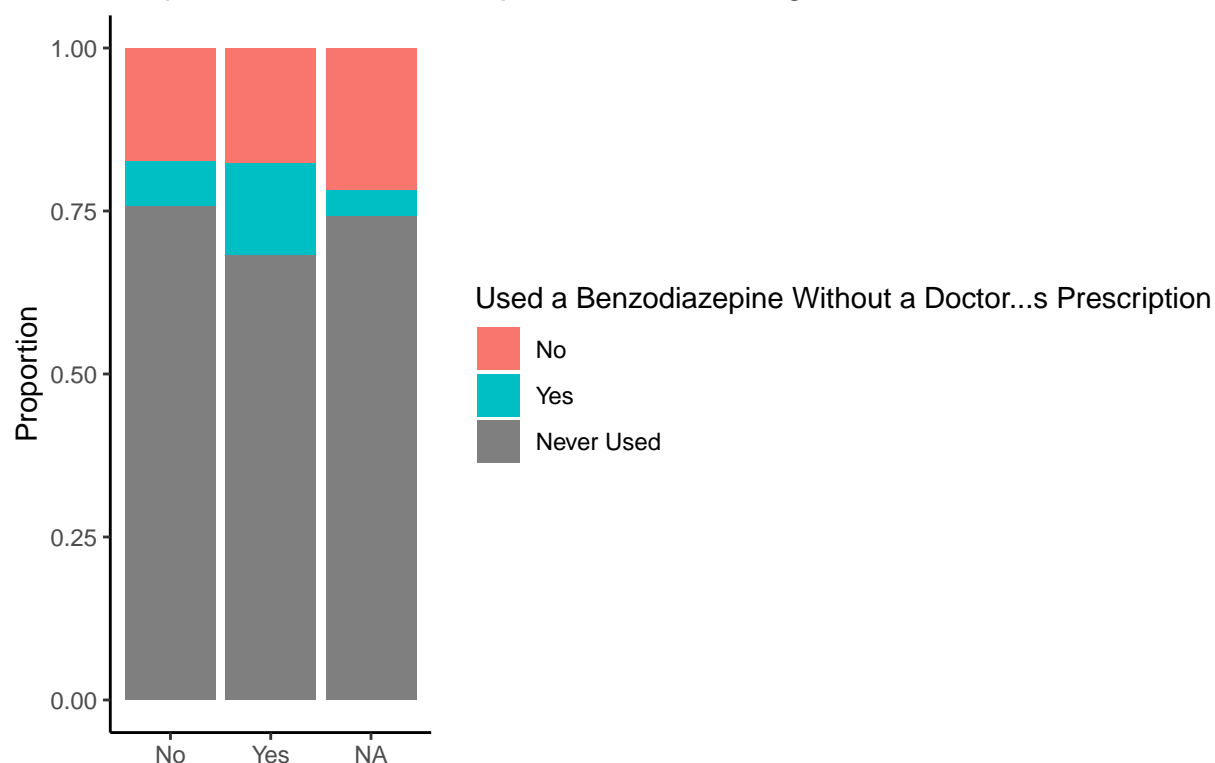
Proportion of Stimulant Misuse Among College Students



Do you currently live in on-campus housing

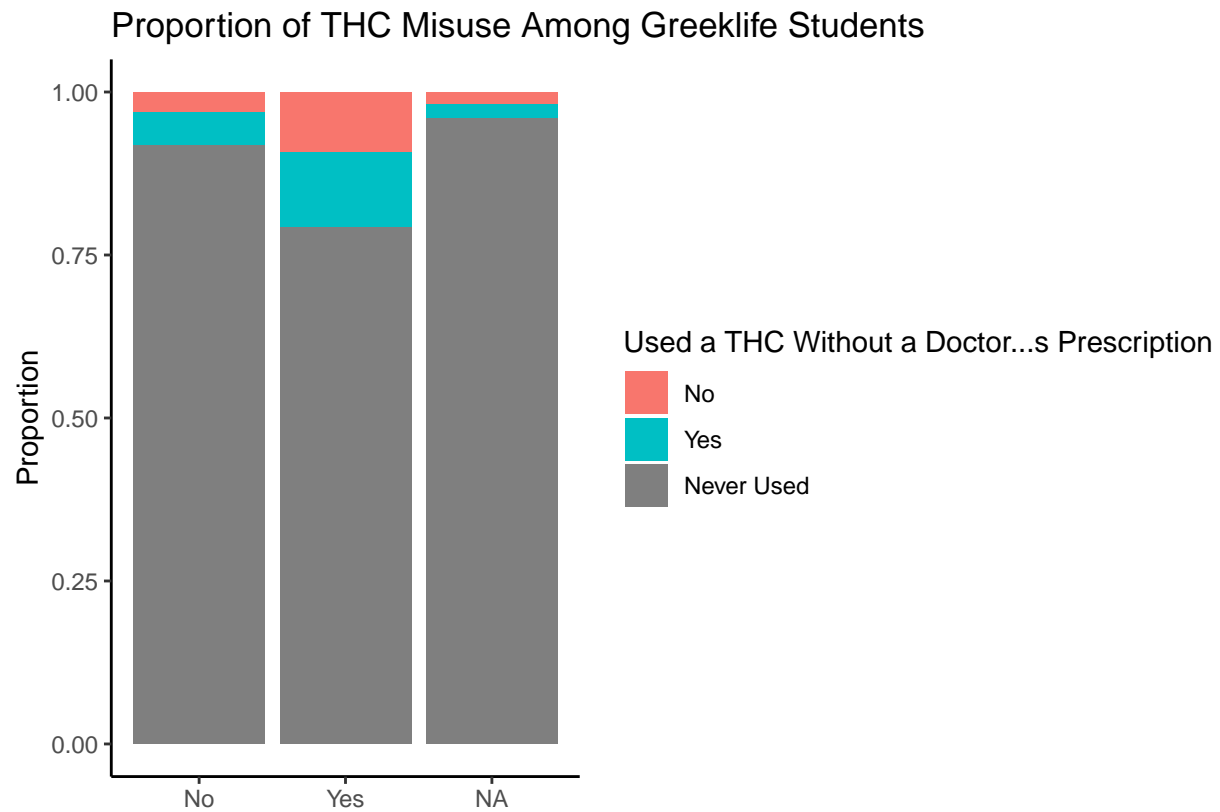
```
ggplot(data = US18, aes(x = factor(COLLEGE_GREEK), fill = factor(BENZ_NMU)))+
  geom_bar(position = "fill")+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No", "1" = "Yes",
                            "NA" = "Not A Student"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "Are You A Member of A College Greeklife Organization",
       fill = "Used a Benzodiazepine Without a Doctor's Prescription ",
       title = "Proportion of Benzodiazepine Misuse Among Greeklife Students")
```

Proportion of Benzodiazepine Misuse Among Greeklife Students



u A Member of A College Greeklife Organization

```
ggplot(data = US18, aes(x = factor(COLLEGE_GREEK), fill = factor(THC_NMU))) +
  geom_bar(position = "fill") +
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No", "1" = "Yes",
                            "NA" = "Not A Student")) +
  theme_classic() +
  labs(y = "Proportion",
       x = "Are You A Member of A College Greeklife Organization",
       fill = "Used a THC Without a Doctor's Prescription ",
       title = "Proportion of THC Misuse Among Greeklife Students")
```



Are You A Member of A College Greeklife Organization

```
ggplot(data = US18, aes(x = factor(COLLEGE_GREEK), fill = factor(STIM_NMU)))+
  geom_bar(position = "fill")+
  scale_fill_discrete(labels = c("No", "Yes",
                                "Never Used")) +
  scale_x_discrete(labels=c("0" = "No", "1" = "Yes",
                             "NA" = "Not A Student"))+
  theme_classic() +
  labs(y = "Proportion",
       x = "Are You A Member of A College Greeklife Organization",
       fill = "Used a Stimulant Without a Doctor's Prescription ",
       title = "Proportion of Stimulant Misuse Among Greeklife Students")
```

Proportion of Stimulant Misuse Among Greeklife Students

