Untitled

Oscar Monroy

3/9/2021

```
library(readr)
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
```

```
library(ggplot2)
library(scales)
```

```
##
## Attaching package: 'scales'

## The following object is masked from 'package:readr':
##
##     col_factor
```

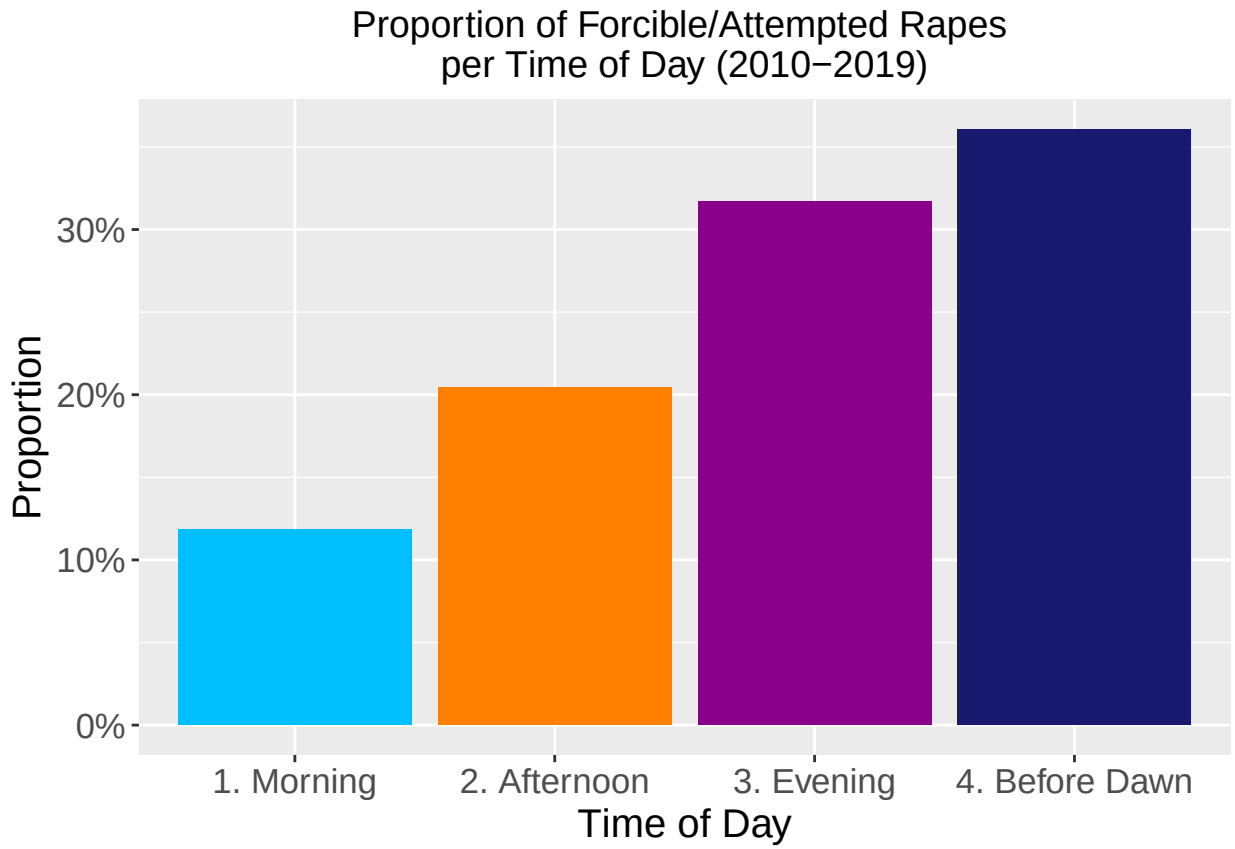
```
library(ggeasy)
crime <- read_csv("cleaned_crime_data.csv")
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   .default = col_character(),
##   DR_NO = col_double(),
##   TIME.OCC = col_double(),
##   AREA = col_double(),
##   Rpt.Dist.No = col_double(),
##   Part.1.2 = col_double(),
##   Crm.Cd = col_double(),
##   Vict.Age = col_double(),
##   Premis.Cd = col_double(),
```

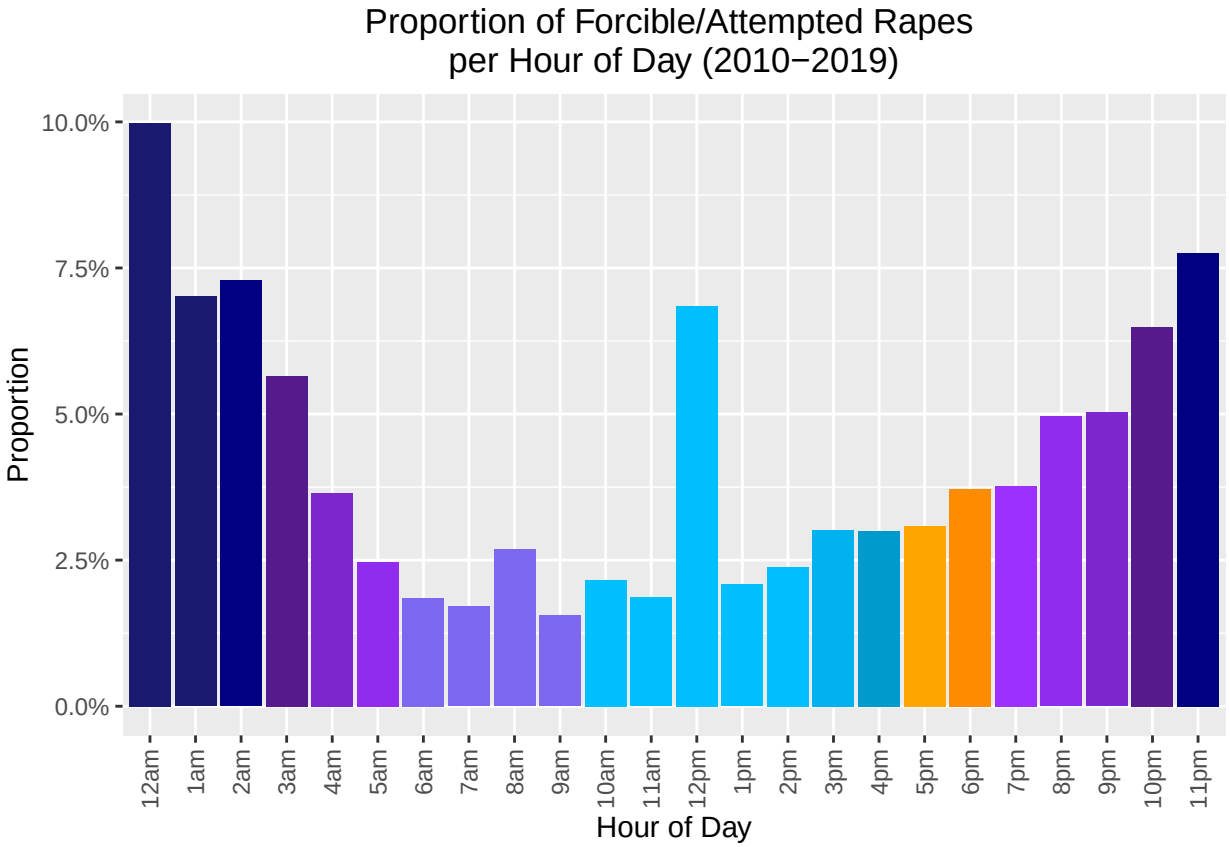
```
##   Crm.Cd.1 = col_double(),
##   LAT = col_double(),
##   LON = col_double()
## )
## i Use `spec()` for the full column specifications.
```

```
crime$Vict.Descent <- factor(crime$Vict.Descent)
crime$Vict.Sex <- factor(crime$Vict.Sex)
```

```
ind <- which(crime$Crm.Cd.Desc == "RAPE, ATTEMPTED" | crime$Crm.Cd.Desc == "RAPE, FORCIBLE")
crime2 <- crime[ind, ]
c_r <- crime2 %>%
  group_by(Vict.Sex = "F")
n <- dim(c_r)[1]
m <- rep(0, n)
for(i in 1:n) {
  if(c_r$TIME.OCC[i] >= 1 & c_r$TIME.OCC[i] < 600) {
    m[i] <- "4. Before Dawn"
  }else if(c_r$TIME.OCC[i] >= 600 & c_r$TIME.OCC[i] < 1200) {
    m[i] <- "1. Morning"
  }else if(c_r$TIME.OCC[i] >= 1200 & c_r$TIME.OCC[i] < 1800) {
    m[i] <- "2. Afternoon"
  }else if(c_r$TIME.OCC[i] >= 1800) {
    m[i] <- "3. Evening"
  }
}
c_r2 <- cbind(c_r, "time.of.day" = m)
ggplot(c_r2, aes(time.of.day)) +
  geom_bar(aes(y = ..count../sum(..count..)),
           fill = c("deepskyblue", "darkorange1", "magenta4", "midnightblue")) +
  scale_y_continuous(labels=percent_format()) +
  xlab("Time of Day") +
  ylab("Proportion") +
  ggtitle("Proportion of Forcible/Attempted Rapes \nper Time of Day (2010-2019)") +
  ggeasy::easy_center_title() +
  theme(axis.text.x = element_text(size = rel(1.45)), axis.text.y = element_text(size = rel(1.45)),
        axis.title.x = element_text(size = rel(1.32)), axis.title.y = element_text(size = rel(1.32)),
        plot.title = element_text(size = rel(1.25)))
```




```
hr <- cut(c_r2$TIME.OCC, seq(-1, 2399, by = 100),
          labels = c("12am", "1am", "2am", "3am", "4am", "5am", "6am",
                     "7am", "8am", "9am", "10am", "11am", "12pm", "1pm",
                     "2pm", "3pm", "4pm", "5pm", "6pm", "7pm", "8pm",
                     "9pm", "10pm", "11pm"))
c_r3 <- cbind(c_r2, "hour" = hr)
day <- c(rep("midnightblue",2), "navyblue", "purple4", "purple3", "purple2", rep("mediumslateblue", 4),
         rep("deepskyblue", 4), "deepskyblue1", "deepskyblue2", "deepskyblue3",
         "orange", "darkorange", "purple1", "purple2", "purple3", "purple4", "navyblue")
ggplot(c_r3, aes(hour)) +
  geom_bar(aes(y = ..count../sum(..count..)), fill = day) +
  scale_y_continuous(labels=percent_format()) +
  xlab("Hour of Day") +
  ylab("Proportion") +
  theme(axis.text.x = element_text(angle = 90, vjust = 0.5, hjust=1)) +
  ggtitle("Proportion of Forcible/Attempted Rapes \nper Hour of Day (2010-2019)") +
  ggeasy::easy_center_title()
```


Proportion of Forcible/Attempted Rapes
per Hour of Day (2010−2019)
Proportion
10.0%
7.5%
5.0%
2.5%
0.0%
12am
1am
2am
3am
4am
5am
6am
7am
8am
9am
10am
11am
12pm
1pm
2pm
3pm
4pm
5pm
6pm
7pm
8pm
9pm
10pm
11pm
Hour of Day