music_analysis

Yulu

12/1/2023

```
palette1=RColorBrewer::brewer.pal(9,"Blues")
library(tidyverse)
```

```
## Warning: package 'tidyverse' was built under R version 4.1.2
```

```
## Warning: package 'tibble' was built under R version 4.1.2
```

```
## Warning: package 'tidyr' was built under R version 4.1.2
```

```
## Warning: package 'readr' was built under R version 4.1.2
```

```
## Warning: package 'forcats' was built under R version 4.1.2
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.4
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.4.4     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.0
## v purrr     1.0.2     -- Conflicts ---------------------------------------- tidyverse_conflicts() -
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(dplyr)
library(lubridate)
library(ggplot2)
```

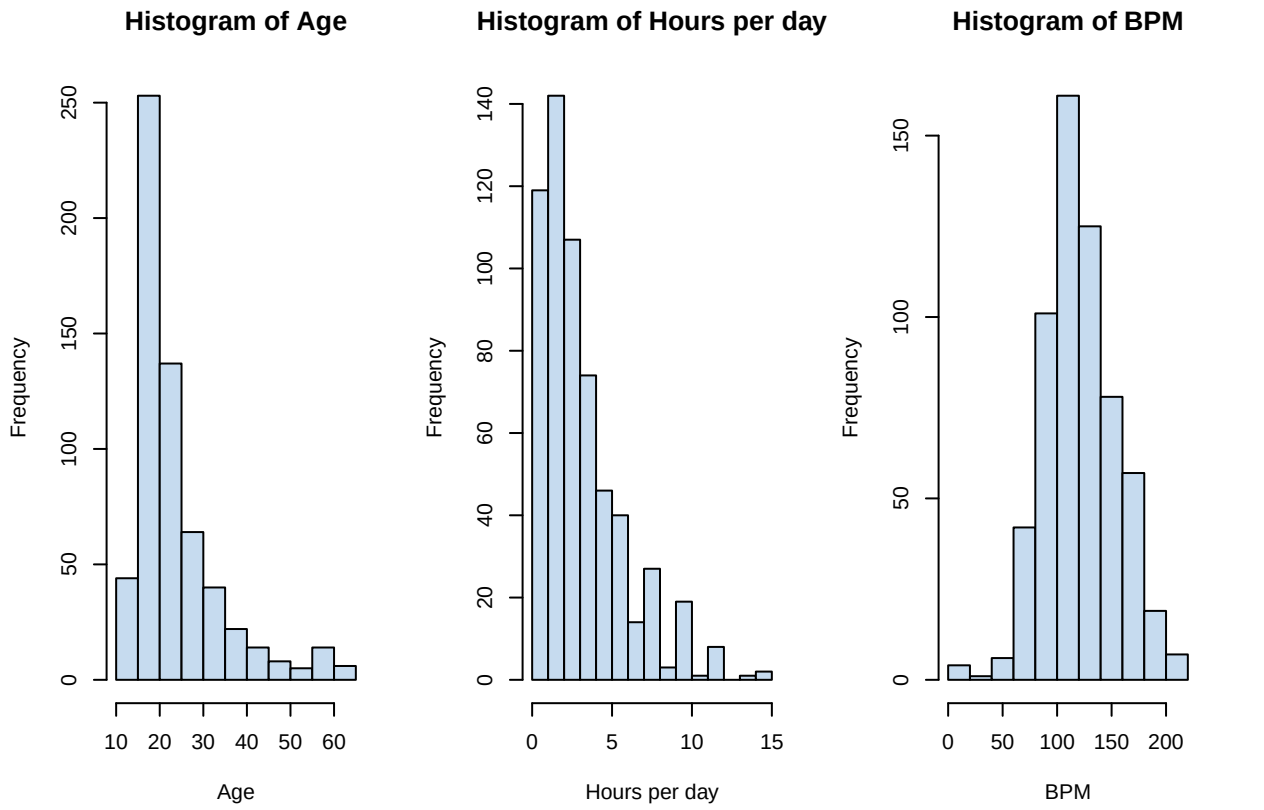
```
music=read.csv("/Users/danny/Desktop/music.csv",header=T,stringsAsFactors = FALSE)

music=na.omit(music)
music=music[apply(music, 1, function(x) !any(x == "")), ]
music=distinct(music)
summary(music)
```

```
##   Timestamp              Age        Primary.streaming.service Hours.per.day
##  Length:616         Min.   :10.00   Length:616                Min.   : 0.000
##  Class :character   1st Qu.:18.00   Class :character          1st Qu.: 2.000
##  Mode  :character   Median :21.00   Mode  :character          Median : 3.000
##                     Mean   :24.79                             Mean   : 3.702
##                     3rd Qu.:27.00                             3rd Qu.: 5.000
##                     Max.   :89.00                             Max.   :24.000
##  While.working      Instrumentalist      Composer          Fav.genre
##  Length:616         Length:616         Length:616         Length:616
##  Class :character   Class :character   Class :character   Class :character
##  Mode  :character   Mode  :character   Mode  :character   Mode  :character
##
```

```
##
##
##  Exploratory        Foreign.languages       BPM
##  Length:616         Length:616         Min.   :        0
##  Class :character   Class :character   1st Qu.:      100
##  Mode  :character   Mode  :character   Median :      120
##                                        Mean   :  1623500
##                                        3rd Qu.:      144
##                                        Max.   :999999999
##  Frequency..Classical. Frequency..Country. Frequency..EDM.
##  Length:616            Length:616          Length:616
##  Class :character      Class :character    Class :character
##  Mode  :character      Mode  :character    Mode  :character
##
##
##
##  Frequency..Folk.   Frequency..Gospel. Frequency..Hip.hop. Frequency..Jazz.
##  Length:616         Length:616         Length:616          Length:616
##  Class :character   Class :character   Class :character    Class :character
##  Mode  :character   Mode  :character   Mode  :character    Mode  :character
##
##
##
##  Frequency..K.pop.  Frequency..Latin.  Frequency..Lofi.   Frequency..Metal.
##  Length:616         Length:616         Length:616         Length:616
##  Class :character   Class :character   Class :character   Class :character
##  Mode  :character   Mode  :character   Mode  :character   Mode  :character
##
##
##
##  Frequency..Pop.    Frequency..R.B.    Frequency..Rap.    Frequency..Rock.
##  Length:616         Length:616         Length:616         Length:616
##  Class :character   Class :character   Class :character   Class :character
##  Mode  :character   Mode  :character   Mode  :character   Mode  :character
##
##
##
##  Frequency..Video.game.music.    Anxiety          Depression
##  Length:616                   Min.   : 0.000   Min.   : 0.000
##  Class :character             1st Qu.: 4.000   1st Qu.: 2.000
##  Mode  :character             Median : 6.000   Median : 5.000
##                               Mean   : 5.884   Mean   : 4.894
##                               3rd Qu.: 8.000   3rd Qu.: 7.000
##                               Max.   :10.000   Max.   :10.000
##     Insomnia           OCD         Music.effects      Permissions
##  Min.   : 0.000   Min.   : 0.000   Length:616         Length:616
##  1st Qu.: 1.000   1st Qu.: 0.000   Class :character   Class :character
##  Median : 3.000   Median : 2.000   Mode  :character   Mode  :character
##  Mean   : 3.801   Mean   : 2.659
##  3rd Qu.: 6.000   3rd Qu.: 5.000
##  Max.   :10.000   Max.   :10.000
```

```
music=music %>% select(-Permissions,Timestamp)
```

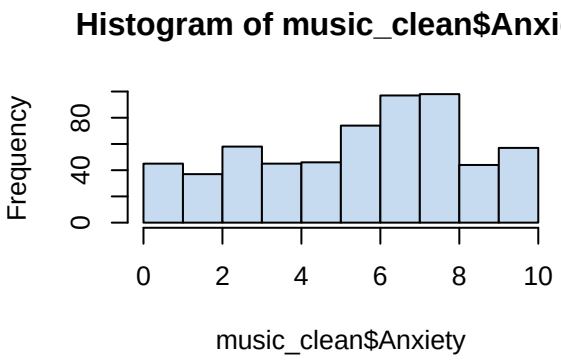
```
par(mfrow = c(1, 3))
music_clean=music[music$Age <= 65,]
hist(music_clean$Age, main="Histogram of Age", xlab="Age",col = palette1[c(3)], border="black")

music_clean=music_clean[music_clean$Hours.per.day <= 15,]
hist(music_clean$Hours.per.day, main="Histogram of Hours per day", xlab="Hours per day",col = palette1[

music_clean=music_clean[music_clean$BPM < 500, ]
hist(music_clean$BPM, main="Histogram of BPM", xlab="BPM",col = palette1[c(3)], border="black")
```

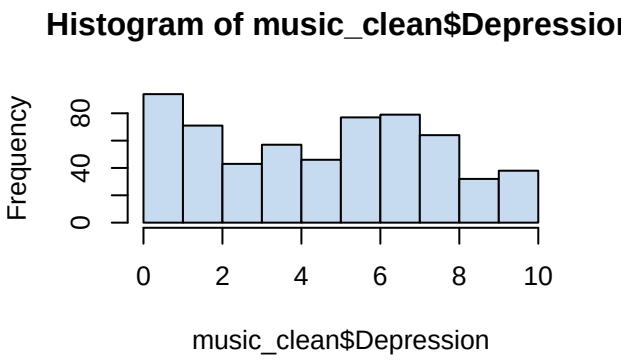


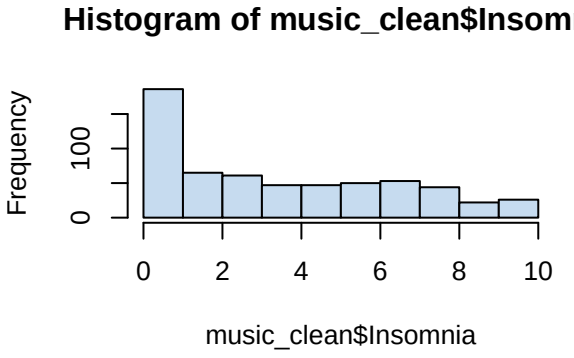

```
nrow(music_clean)
```

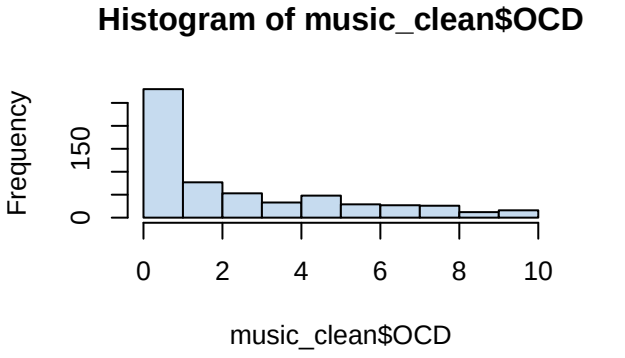
```
## [1] 601
```

```
par(mfrow = c(2, 2))
hist(music_clean$Anxiety,col = palette1[c(3)])
hist(music_clean$Depression,col = palette1[c(3)])
hist(music_clean$Insomnia,col = palette1[c(3)])
hist(music_clean$OCD,col = palette1[c(3)])
```

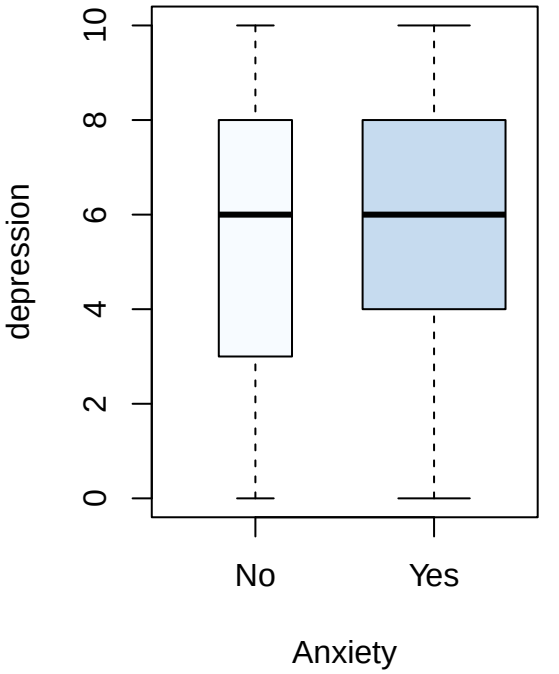


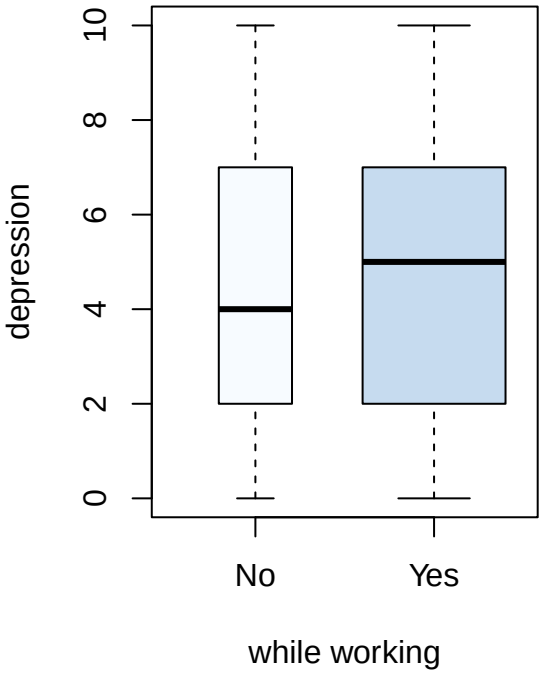







```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$While.working,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Anxiety",ylab = "depression")
boxplot(music_clean$Depression~music_clean$While.working,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "while working",ylab = "depression")
```

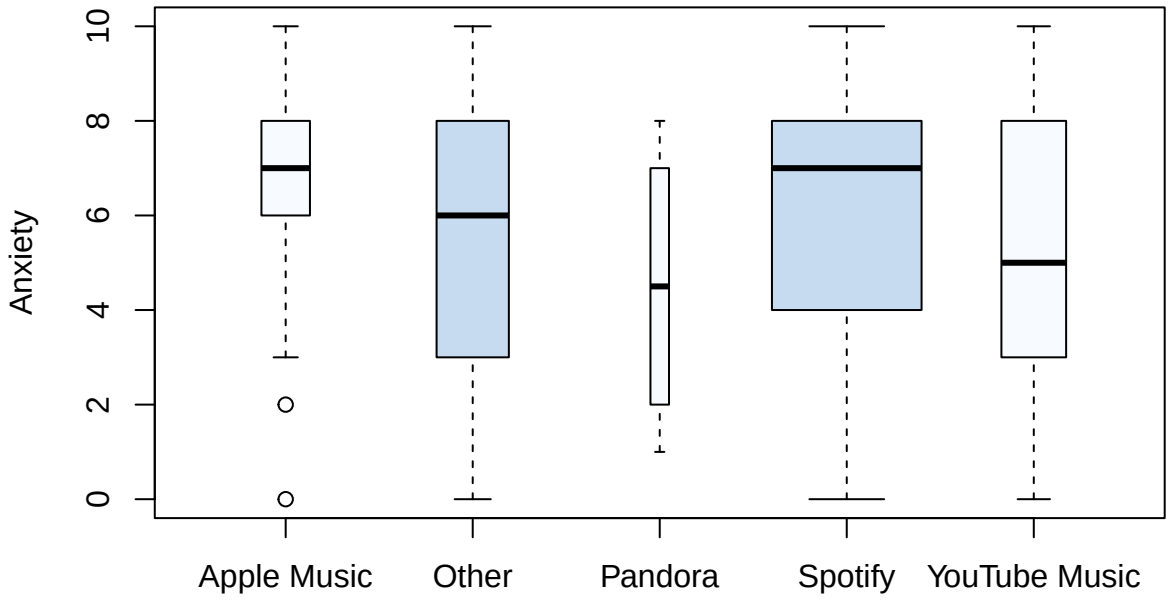




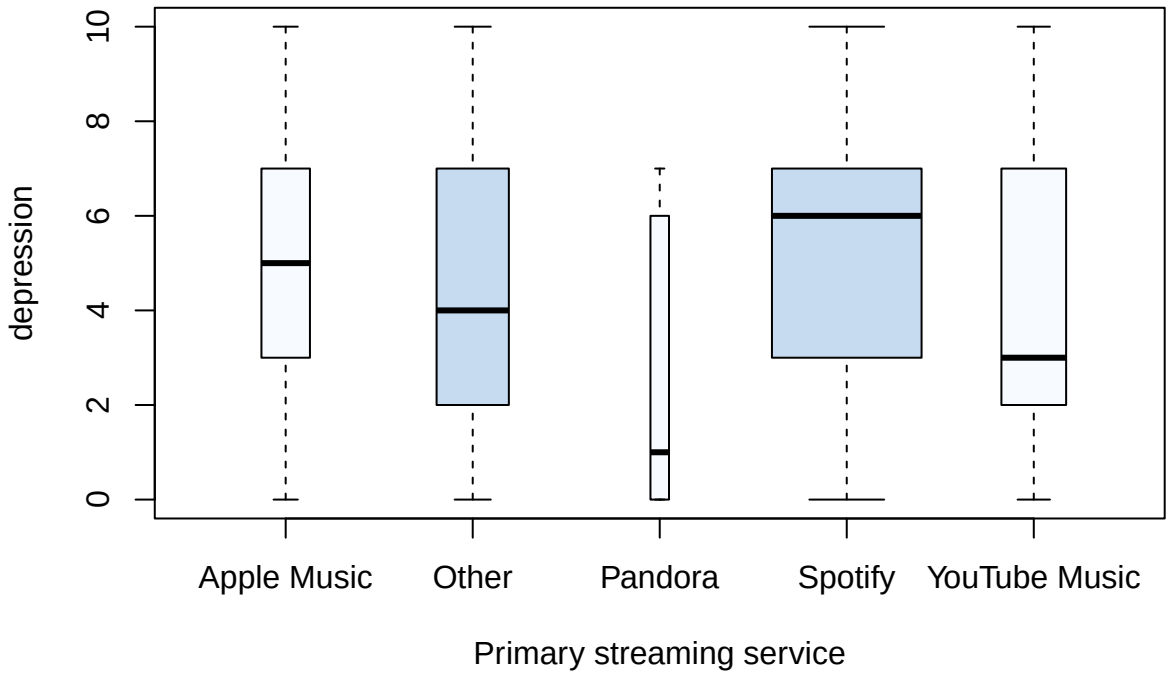
```
unique(music_clean$Primary.streaming.service)
```

```
## [1] "Spotify"                           "YouTube Music"
## [3] "I do not use a streaming service." "Apple Music"
## [5] "Other streaming service"           "Pandora"
```

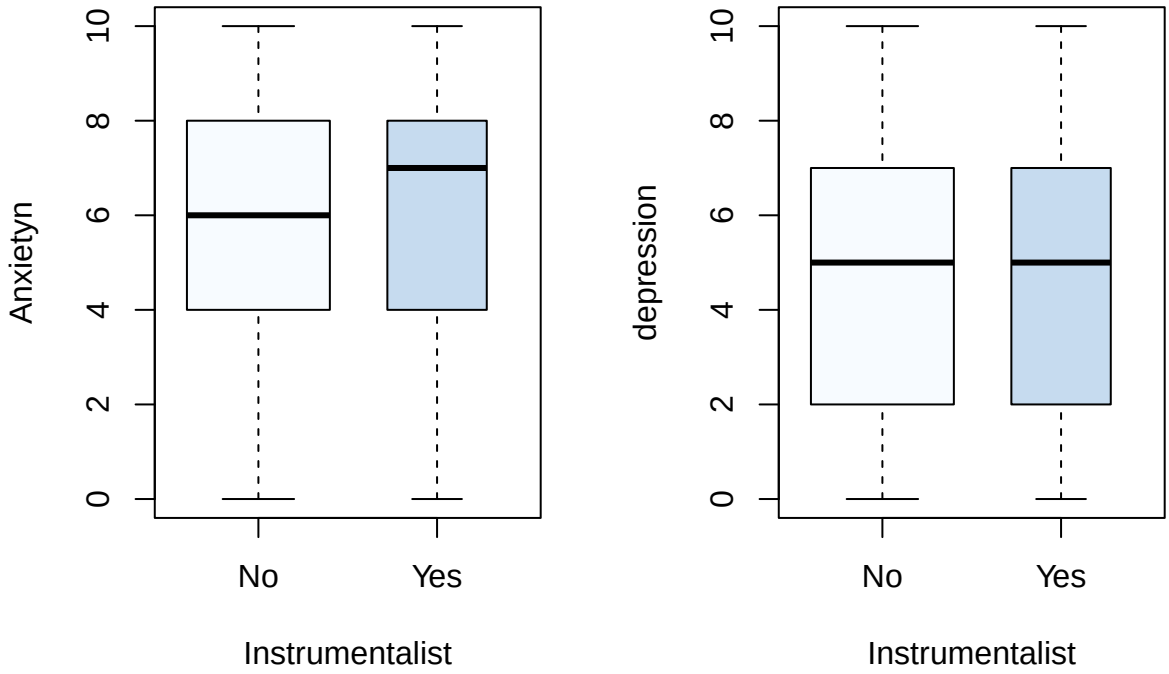
```
music_clean[music_clean$Primary.streaming.service=="I do not use a streaming service."|
              music_clean$Primary.streaming.service=="Other streaming service",]$Primary.streaming.servi

par(mfrow = c(1, 1))
boxplot(music_clean$Anxiety~music_clean$Primary.streaming.service,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Primary streaming service",ylab = "Anxiety")
```




```
boxplot(music_clean$Depression~music_clean$Primary.streaming.service,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Primary streaming service",ylab = "depression")
```

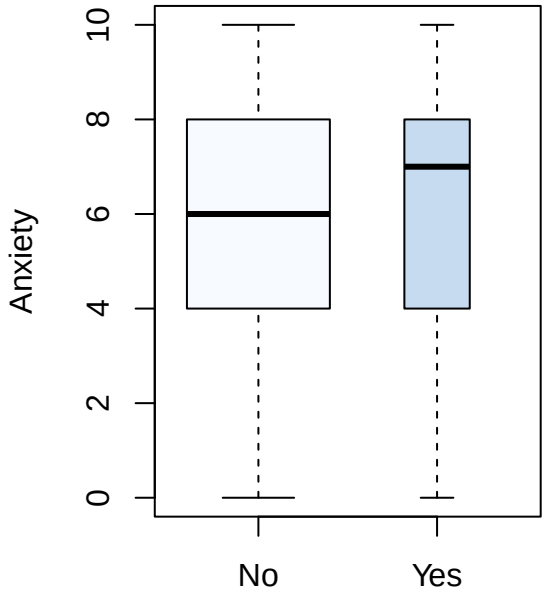


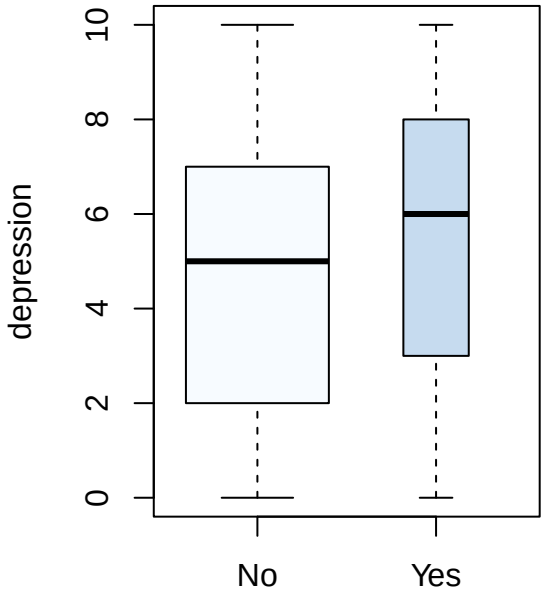

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Instrumentalist,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Instrumentalist",ylab = "Anxietyn")
boxplot(music_clean$Depression~music_clean$Instrumentalist,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Instrumentalist",ylab = "depression")
```




```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Composer,col = palette1[c(1,3)],
        varwidth=T,
```

```
        xlab = "Composer",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Composer,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Composer",ylab = "depression")
```

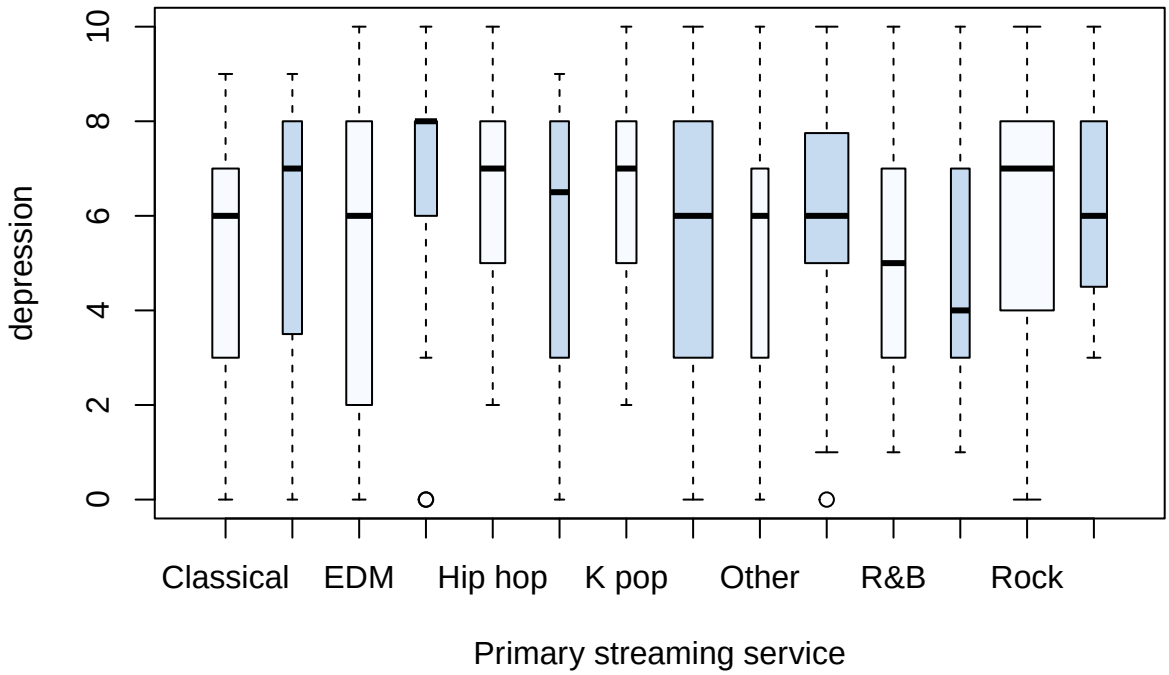




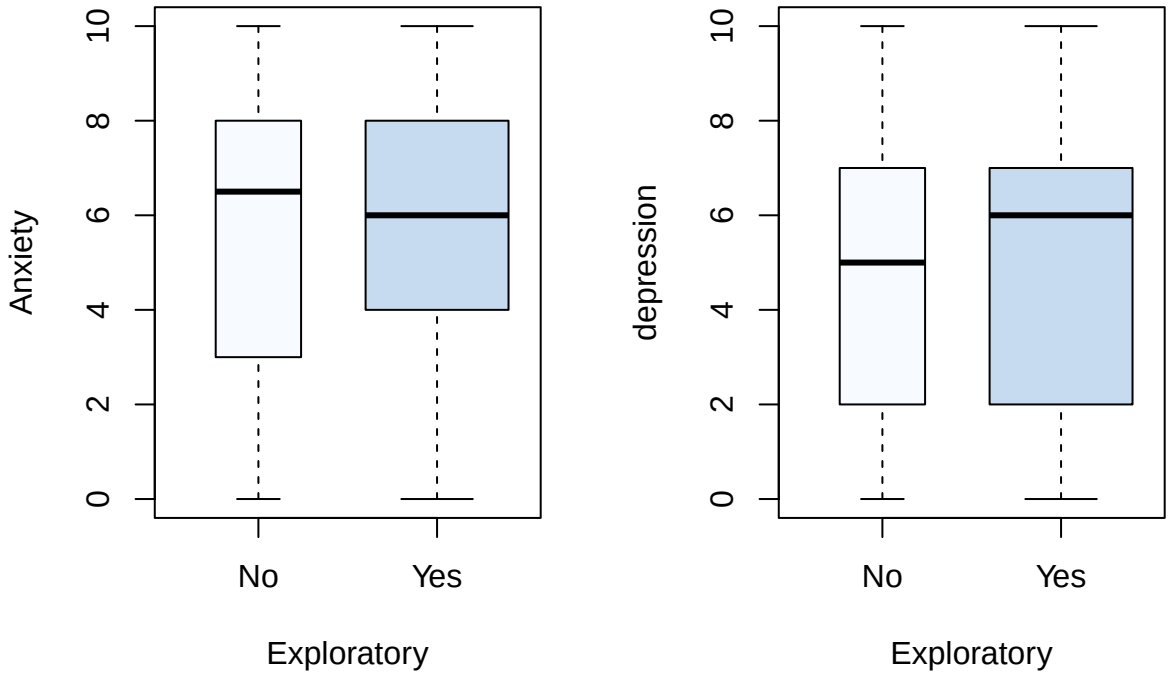

```
table(music_clean$Fav.genre)
```

```
##
##        Classical          Country              EDM             Folk
##               36               19               34               25
##           Gospel          Hip hop             Jazz            K pop
##                3               32               18               21
##            Latin             Lofi            Metal              Pop
##                2               10               77               96
##              R&B              Rap             Rock Video game music
##               29               18              146               35
```

```
music_clean[music_clean$Fav.genre=="Gospel"|
            music_clean$Fav.genre=="Latin"|
            music_clean$Fav.genre=="Lofi",]$Fav.genre="Other"

boxplot(music_clean$Anxiety~music_clean$Fav.genre,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Primary streaming service",ylab = "depression")
```

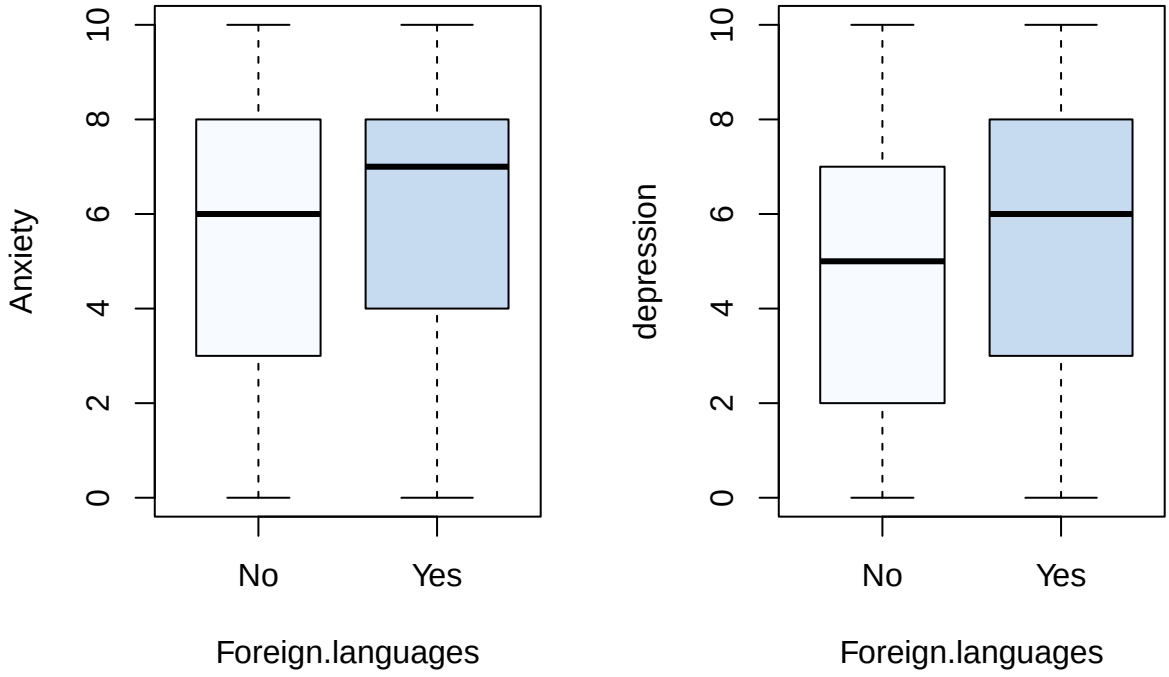



```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Exploratory,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Exploratory",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Exploratory,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Exploratory",ylab = "depression")
```

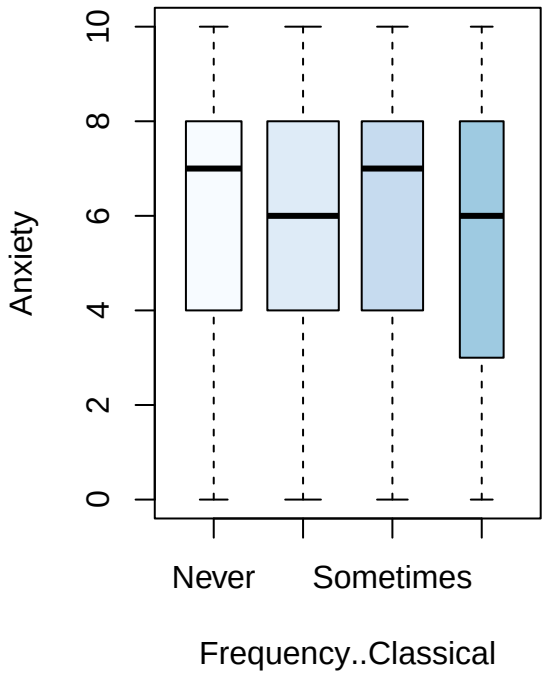


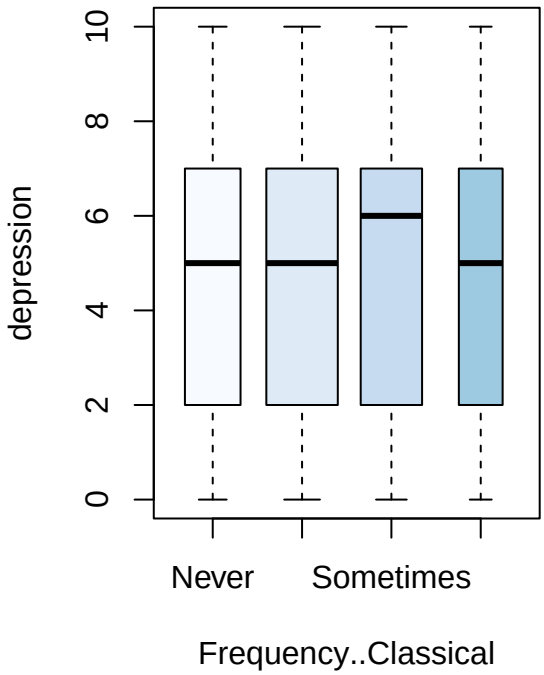

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Foreign.languages,col = palette1[c(1,3)],
        varwidth=T,
```

```
        xlab = "Foreign.languages",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Foreign.languages,col = palette1[c(1,3)],
        varwidth=T,
        xlab = "Foreign.languages",ylab = "depression")
```

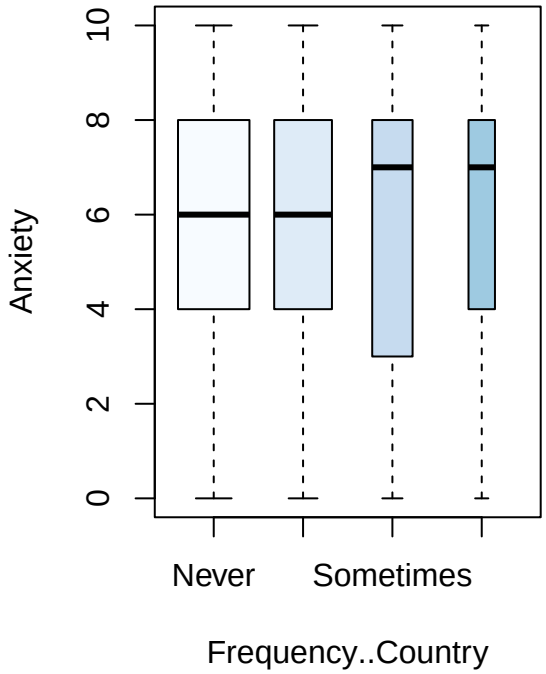


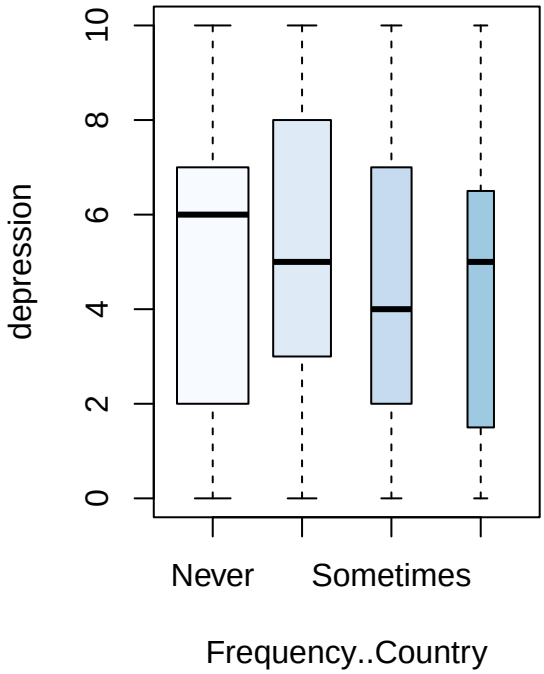

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Classical.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Classical",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Classical,col = palette1,
        varwidth=T,
        xlab = "Frequency..Classical",ylab = "depression")
```





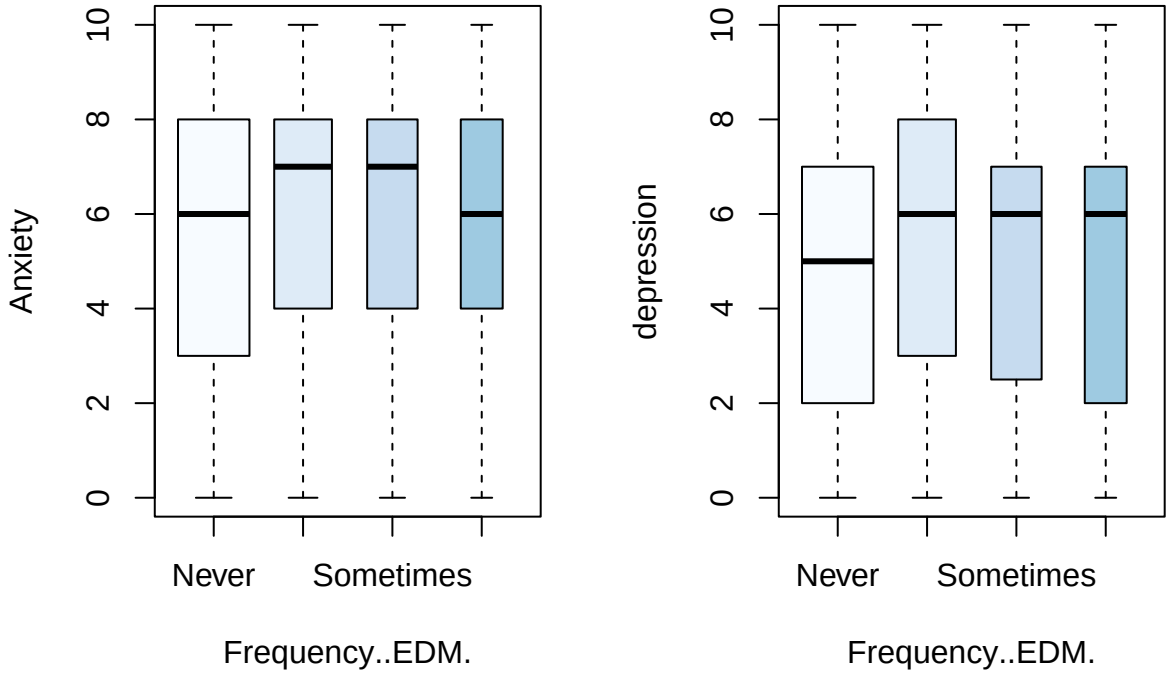

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Country.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Country",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Country,col = palette1,
        varwidth=T,
        xlab = "Frequency..Country",ylab = "depression")
```



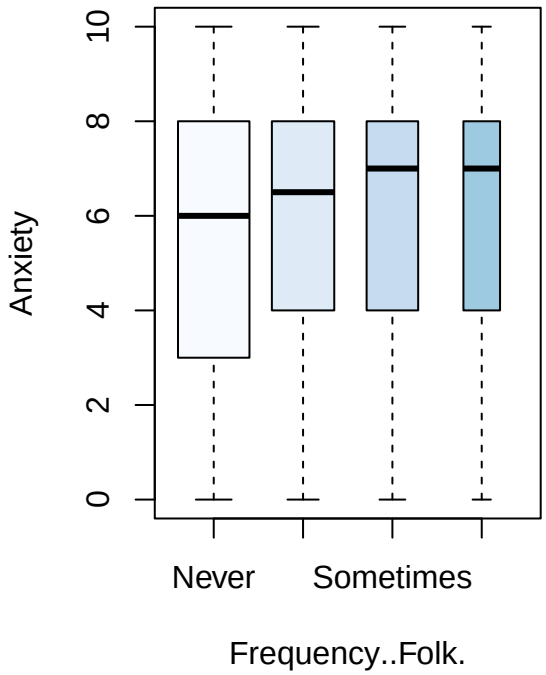


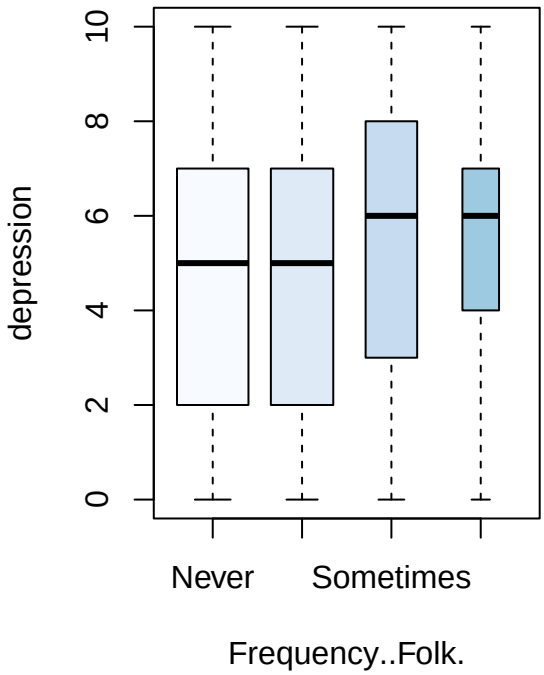

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..EDM.,col = palette1,
        varwidth=T,
```

```
        xlab = "Frequency..EDM.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..EDM.,col = palette1,
        varwidth=T,
        xlab = "Frequency..EDM.",ylab = "depression")
```

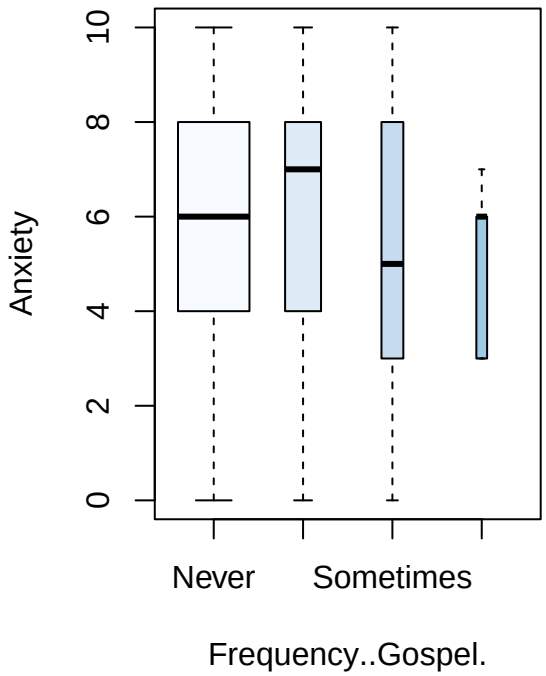


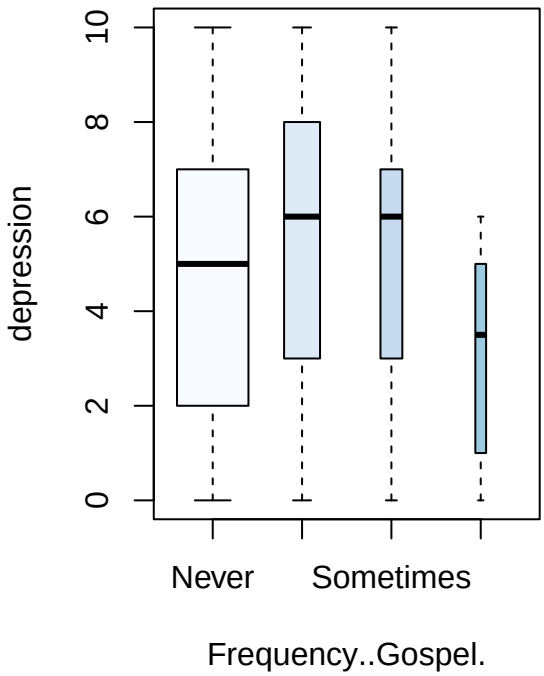

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Folk.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Folk.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Folk.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Folk.",ylab = "depression")
```





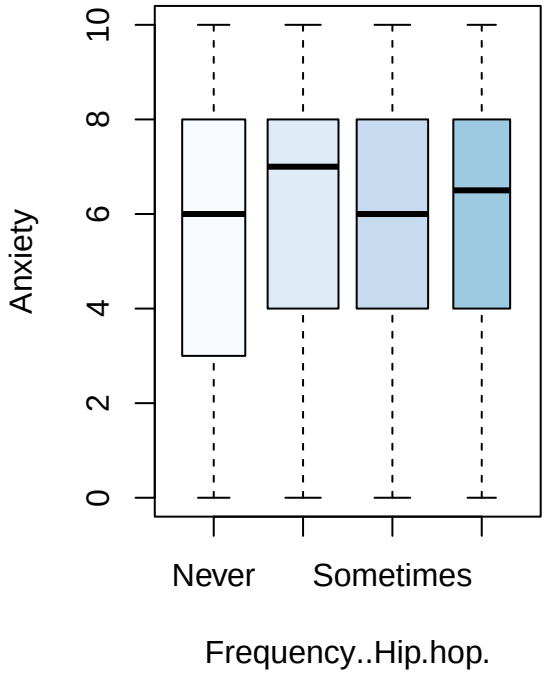

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Gospel.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Gospel.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Gospel.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Gospel.",ylab = "depression")
```

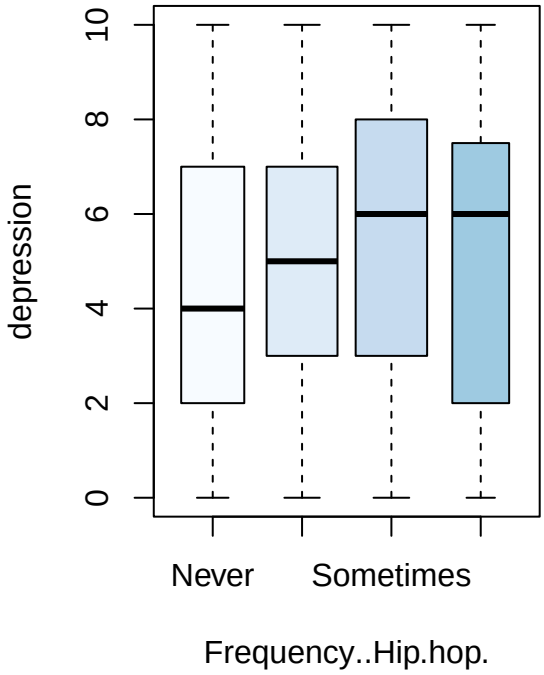




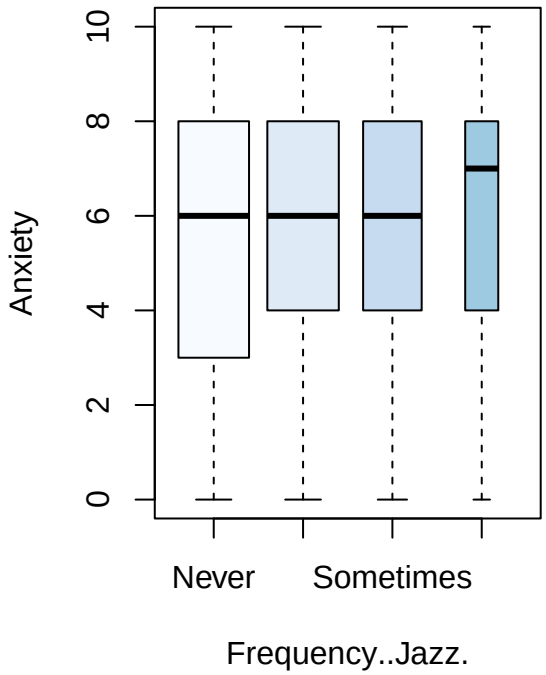

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Hip.hop.,col = palette1,
        varwidth=T,
```

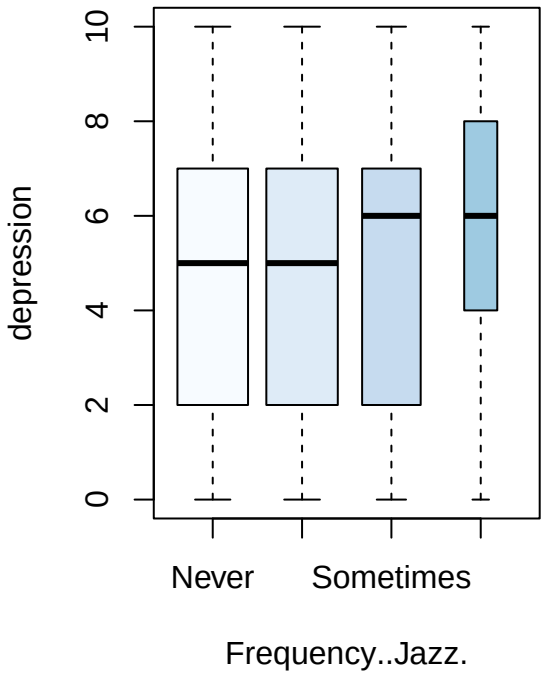
```
        xlab = "Frequency..Hip.hop.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Hip.hop.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Hip.hop.",ylab = "depression")
```



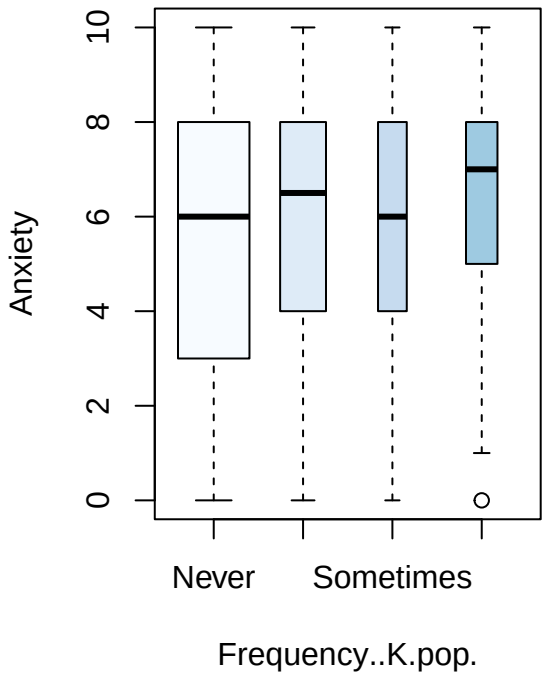


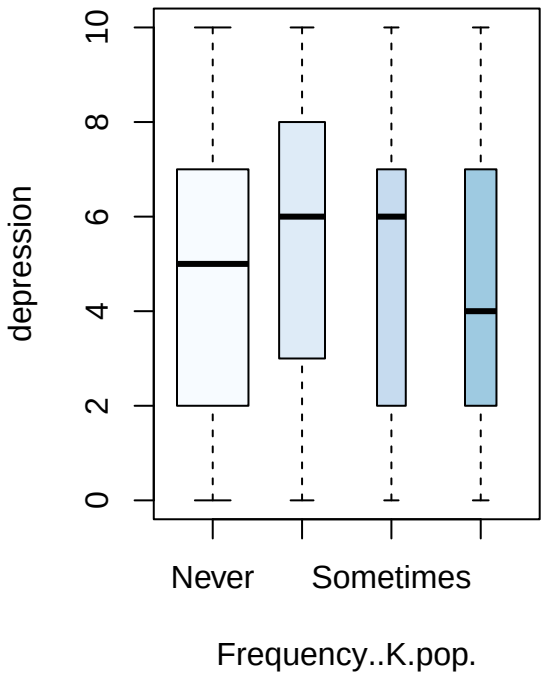

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Jazz.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Jazz.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Jazz.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Jazz.",ylab = "depression")
```





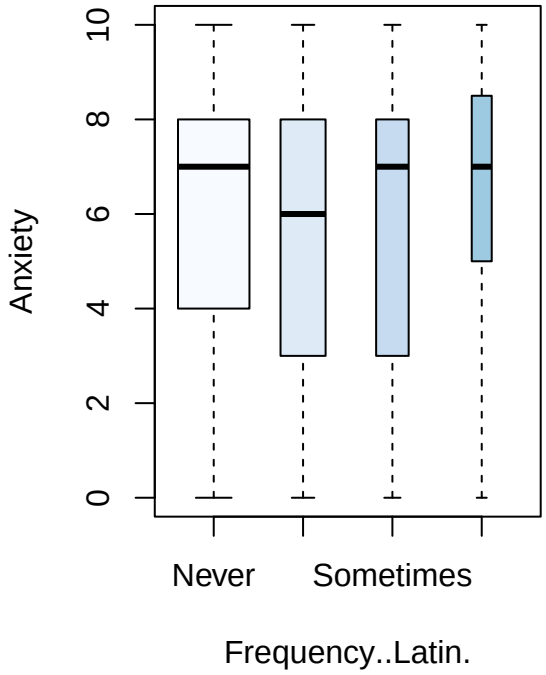

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..K.pop.,col = palette1,
        varwidth=T,
        xlab = "Frequency..K.pop.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..K.pop.,col = palette1,
        varwidth=T,
        xlab = "Frequency..K.pop.",ylab = "depression")
```

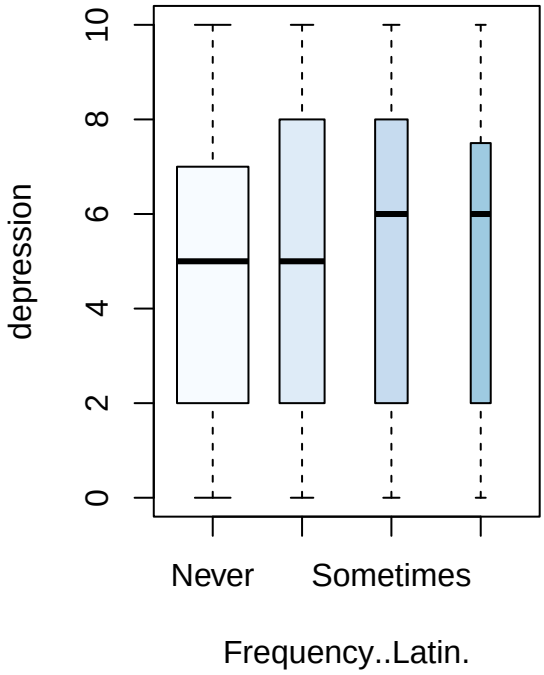




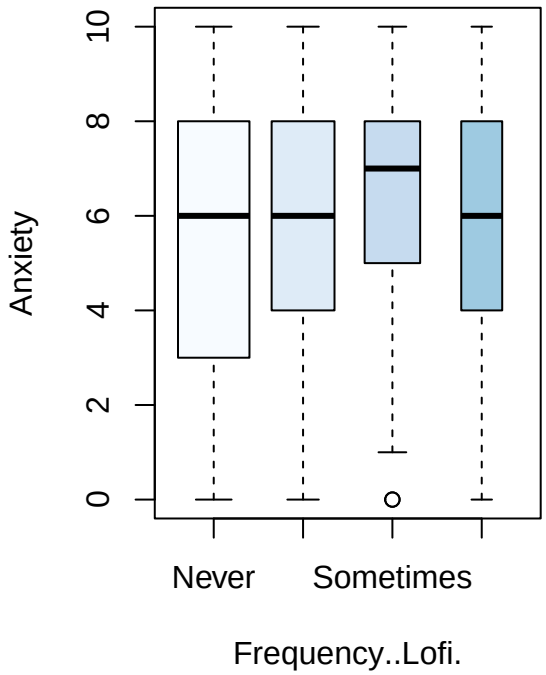

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Latin.,col = palette1,
        varwidth=T,
```

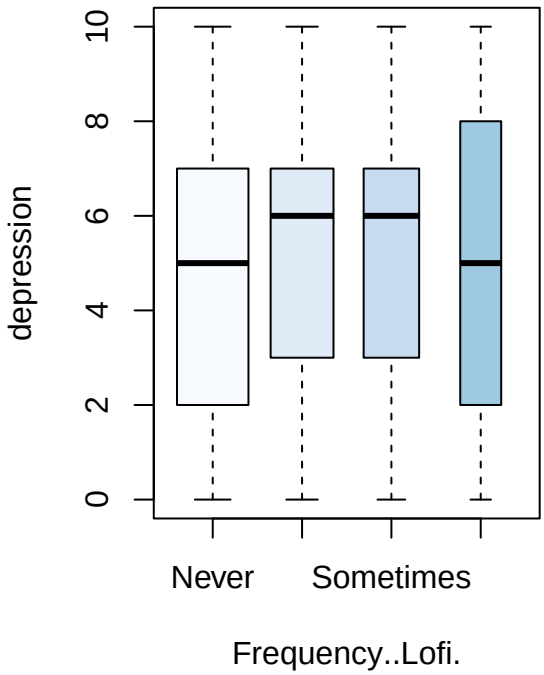
```
        xlab = "Frequency..Latin.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Latin.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Latin.",ylab = "depression")
```



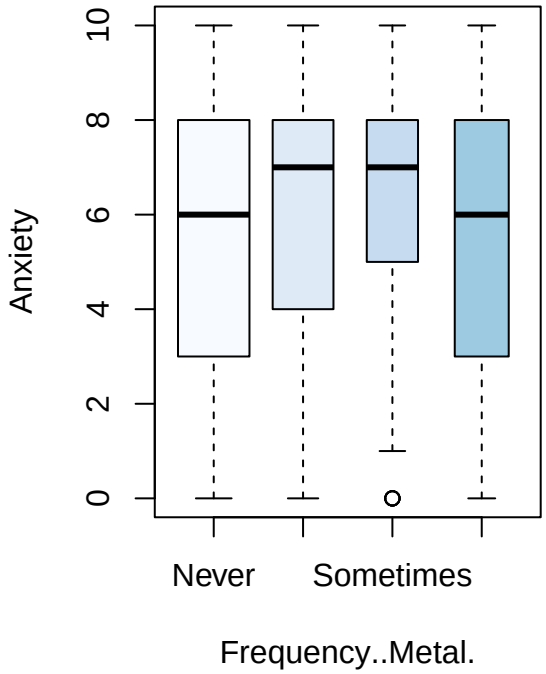


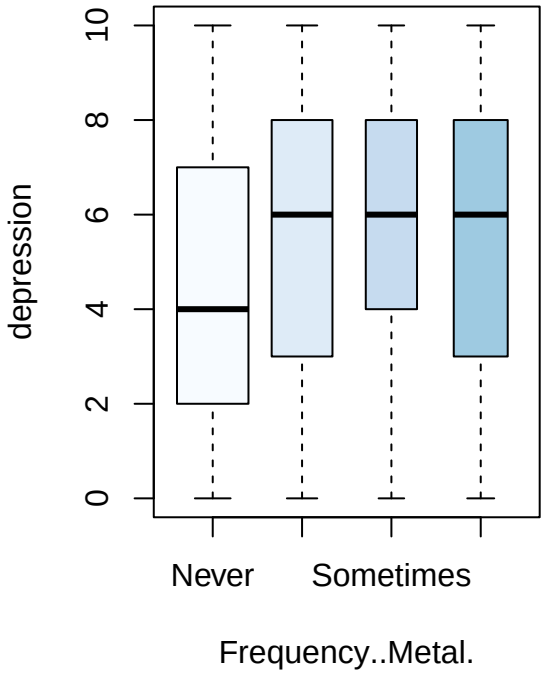

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Lofi.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Lofi.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Lofi.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Lofi.",ylab = "depression")
```





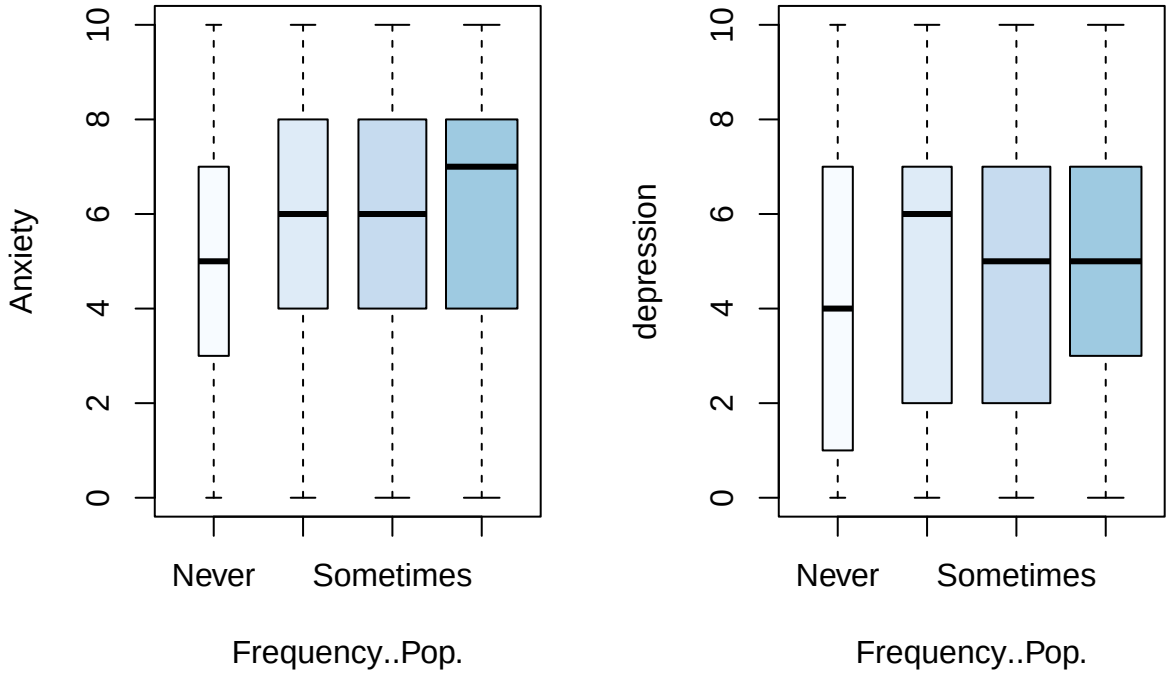

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Metal.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Metal.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Metal.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Metal.",ylab = "depression")
```



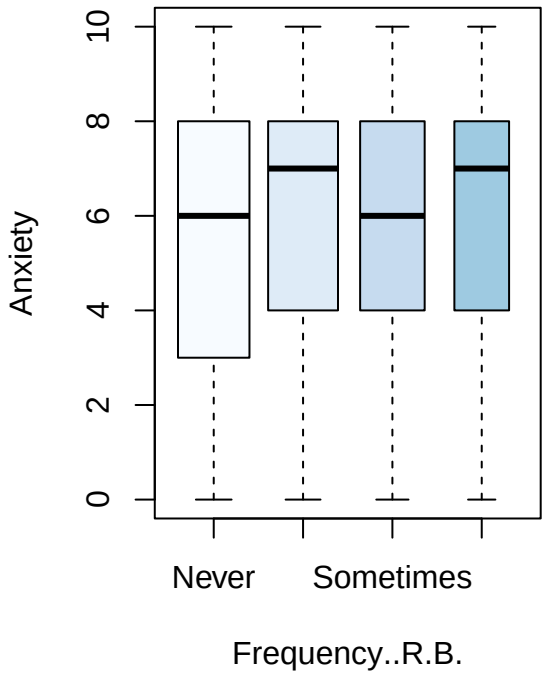


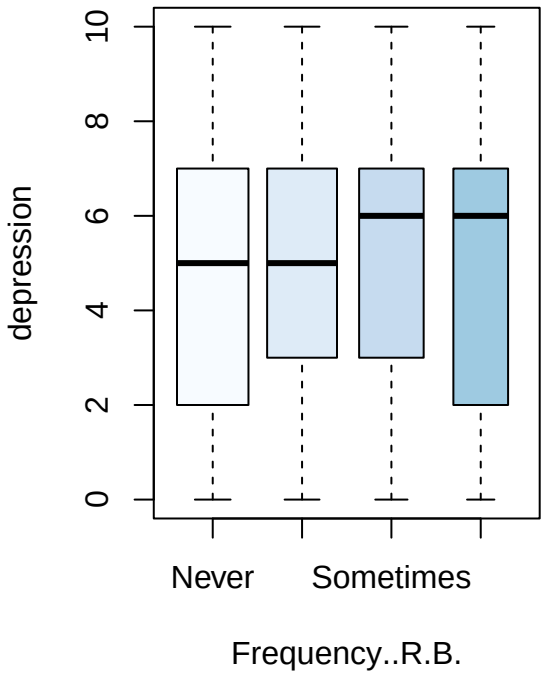

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Pop.,col = palette1,
        varwidth=T,
```

```
        xlab = "Frequency..Pop.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Pop.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Pop.",ylab = "depression")
```

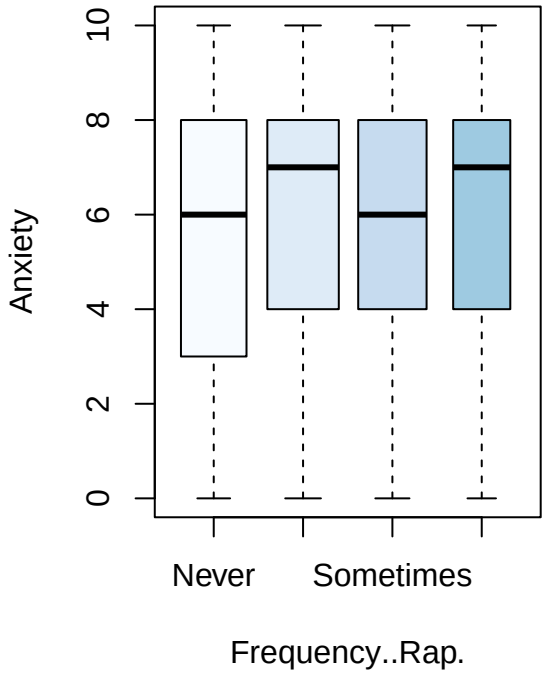


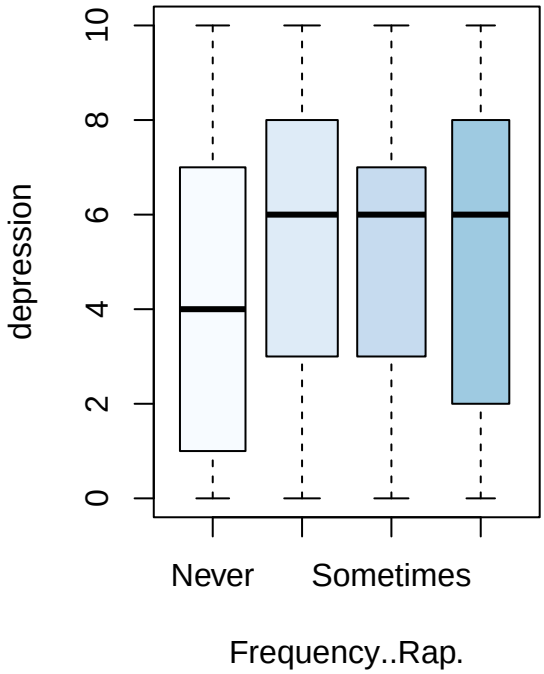

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..R.B.,col = palette1,
        varwidth=T,
        xlab = "Frequency..R.B.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..R.B.,col = palette1,
        varwidth=T,
        xlab = "Frequency..R.B.",ylab = "depression")
```





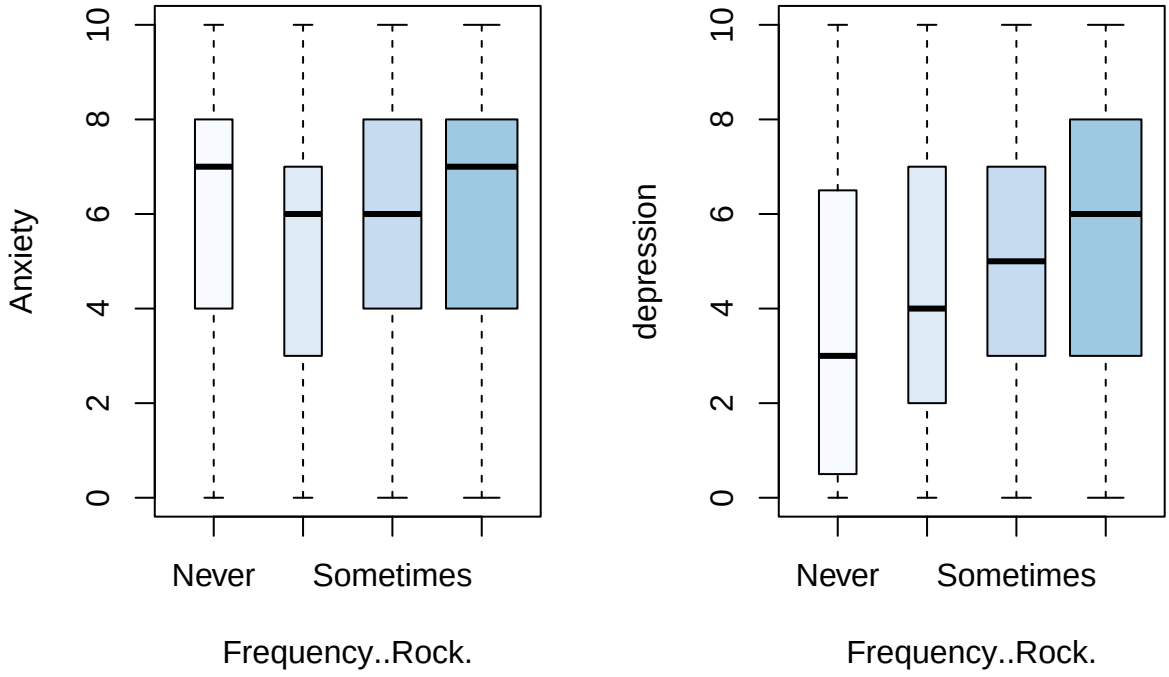

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Rap.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Rap.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Rap.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Rap.",ylab = "depression")
```



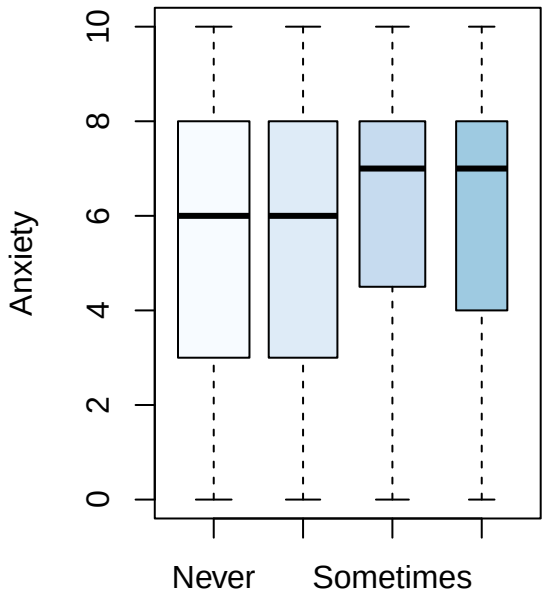


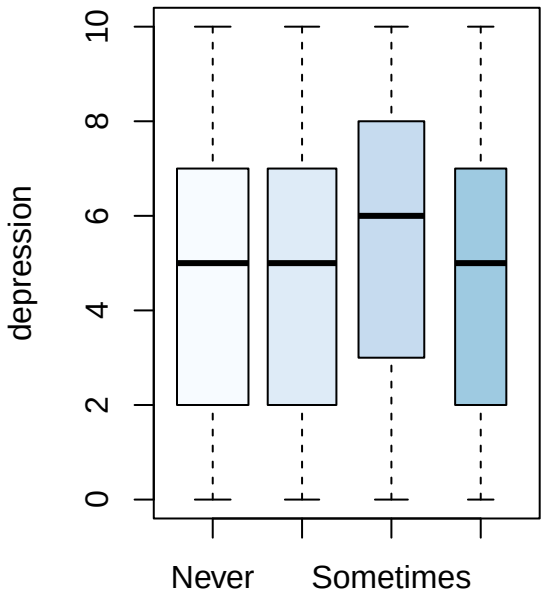

```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Rock.,col = palette1,
        varwidth=T,
```

```
        xlab = "Frequency..Rock.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Rock.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Rock.",ylab = "depression")
```




```
par(mfrow = c(1, 2))
boxplot(music_clean$Anxiety~music_clean$Frequency..Video.game.music.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Video.game.musi.",ylab = "Anxiety")
boxplot(music_clean$Depression~music_clean$Frequency..Video.game.music.,col = palette1,
        varwidth=T,
        xlab = "Frequency..Video.game.music.",ylab = "depression")
```


Anxiety
0
2
4
6
8
10
Never
Sometimes
Frequency..Video.game.musi.


depression
0
2
4
6
8
10
Never
Sometimes
Frequency..Video.game.music.