lab-07-simpsons.Rmd

salma ali 2201002881

17 March 2021

Packages

```
library(tidyverse)
library(mosaicData)
```

Exercises

1.

```
?Whickham
```

Your answer: observational , Because they notice a person's health state after a period of time

2.

```
nrow(Whickham)
```

```
## [1] 1314
```

Your answer; obs 1314
Each row represents whether the person is alive or dead, is he a smoker or not, and how old he is

3.

```
names(Whickham)
```

```
## [1] "outcome" "smoker"  "age"
```

Your answer:
3 var , "outcome" "smoker" "age"

```
unique(Whickham$outcome)
```

```
## [1] Alive Dead
## Levels: Alive Dead
```

```
unique(Whickham$smoker)
```

```
## [1] Yes No
## Levels: No Yes
```

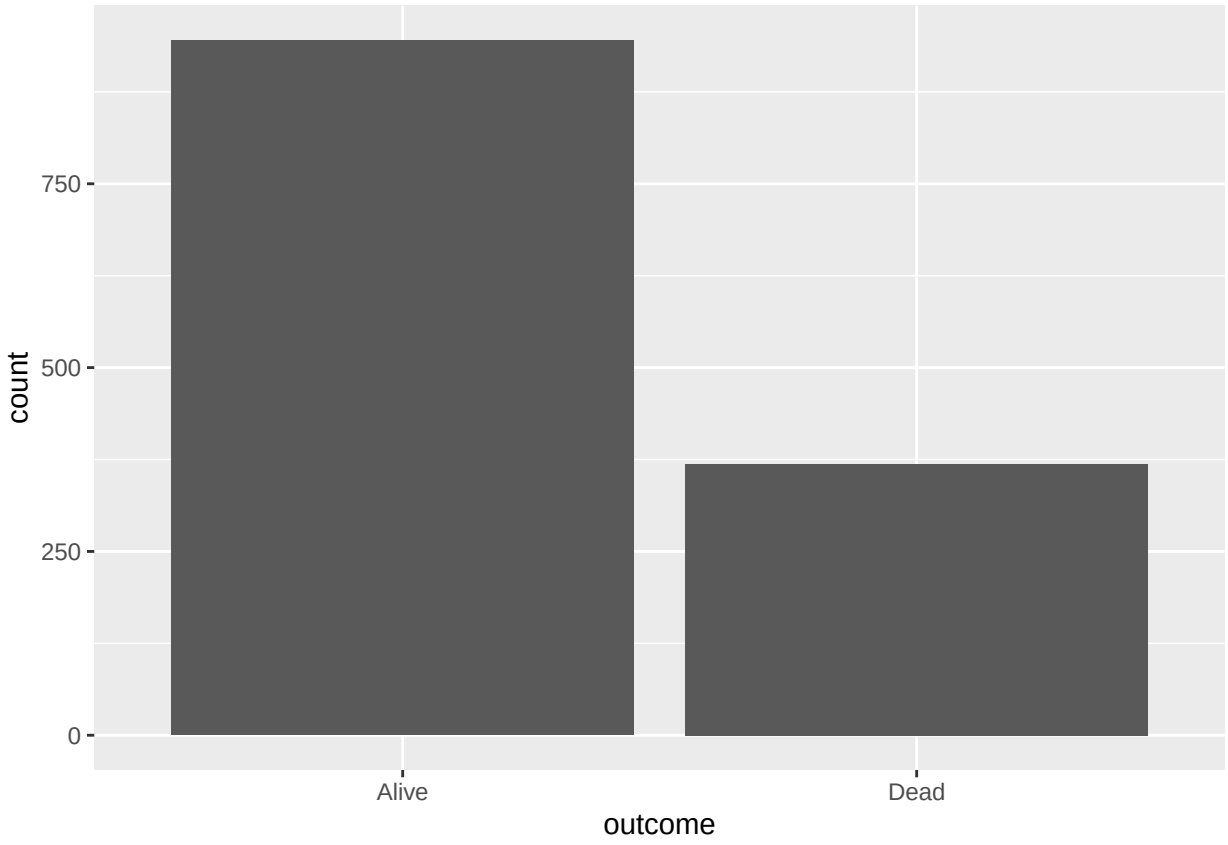
```
unique(Whickham$age)
```

```
##  [1] 23 18 71 67 64 38 45 76 28 27 34 20 72 48 66 30 33 68 61 43 47 22 39 80 59
## [26] 56 62 51 32 60 37 36 50 55 73 52 25 53 31 54 69 79 75 21 29 24 26 49 84 40
## [51] 44 74 46 35 77 57 42 81 19 63 78 83 82 70 58 41 65
```

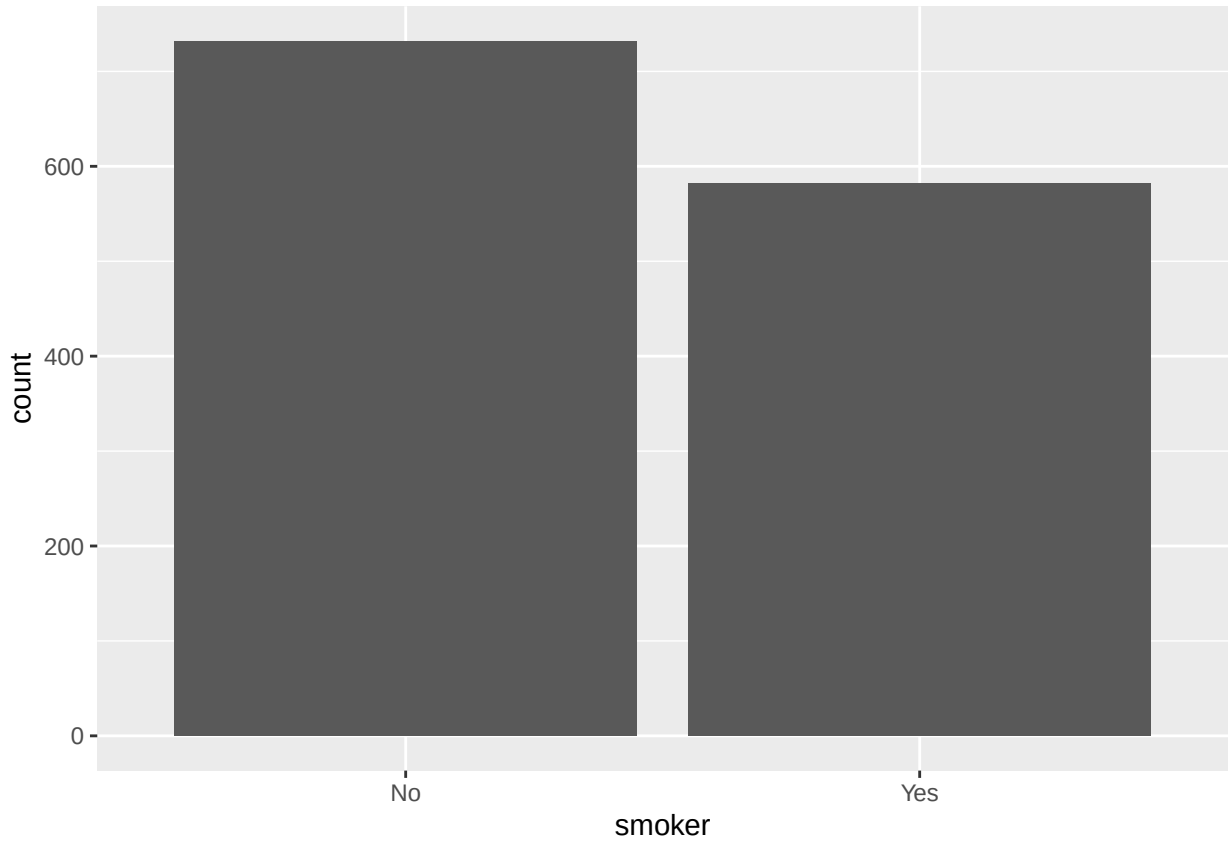
Your answer: Using the " unique() " function on the 3 vairables we could see that "outcome" only takes Alive or Dead value, which makes it categorical non-ordinal. "smoker" only takes Yes or No, which also makes it

categorical non-ordinal. Age is numerical continous data

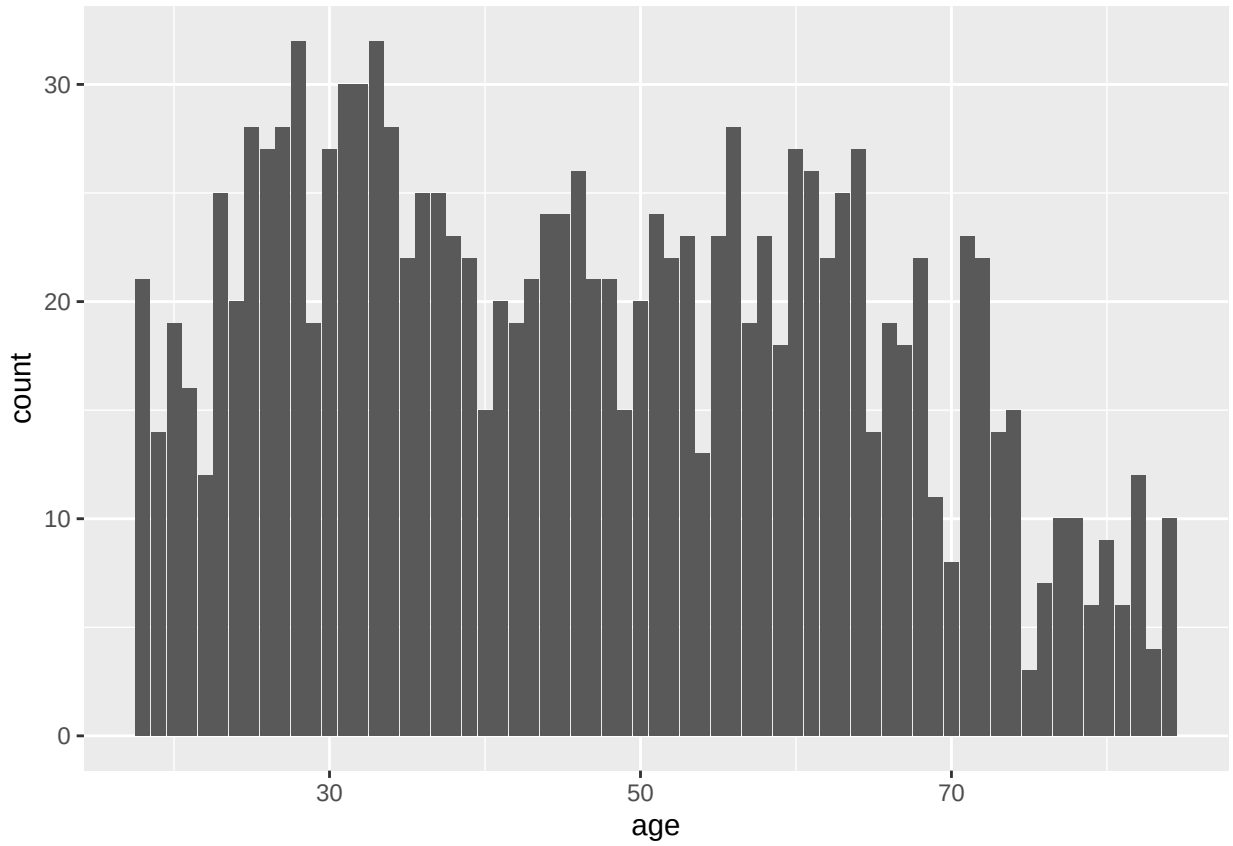
```
ggplot(Whickham, aes(x = outcome)) +  geom_bar()
```




```
ggplot(Whickham, aes(x = smoker)) +
  geom_bar()
```

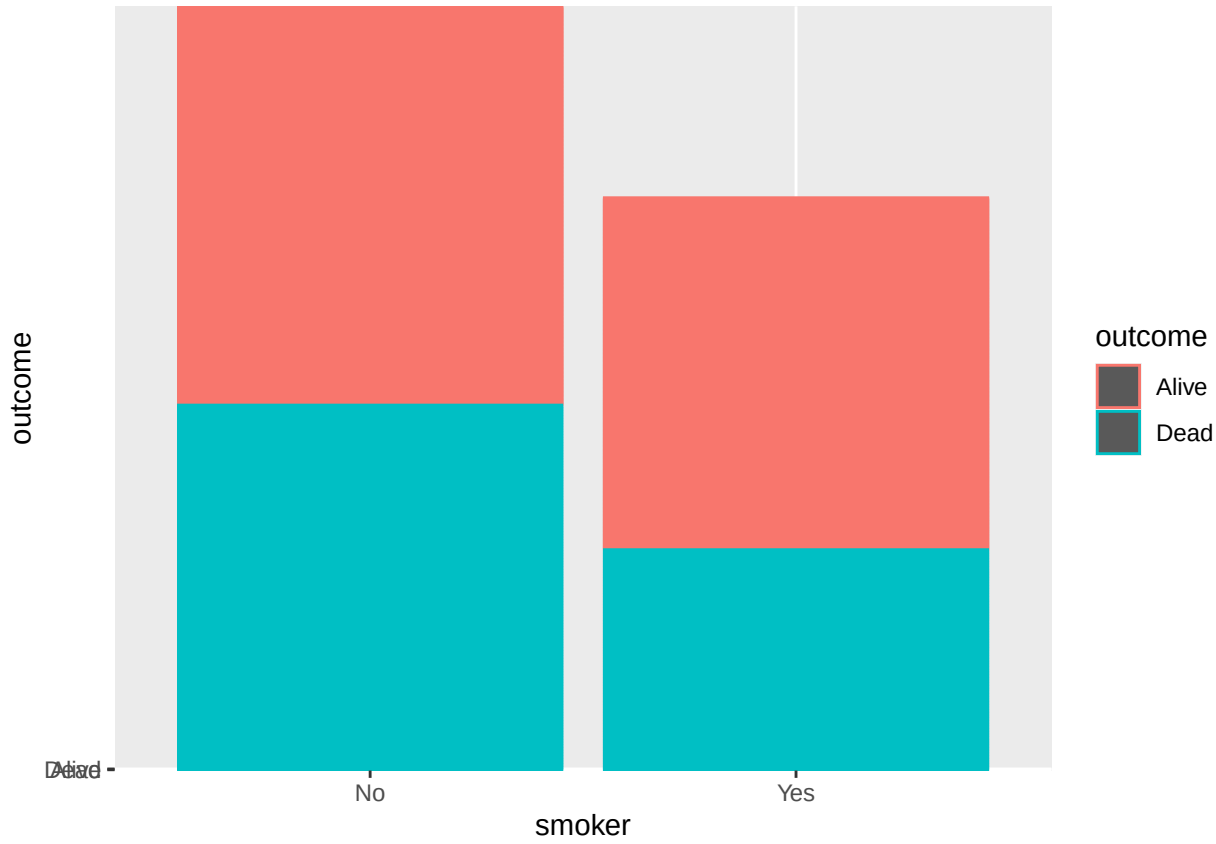



```
ggplot(Whickham, aes(x = age)) +
  geom_bar()
```



4.

```
ggplot(data=Whickham, aes(x=smoker, y=outcome, color=outcome)) + geom_bar(stat="identity")
```



smokers die if they continue to smoke

Knit, commit, and push to github.

5.

```
Whickham %>%
  count(smoker, outcome)
```

```
##   smoker outcome   n
## 1     No   Alive 502
## 2     No    Dead 230
## 3    Yes   Alive 443
## 4    Yes    Dead 139
```

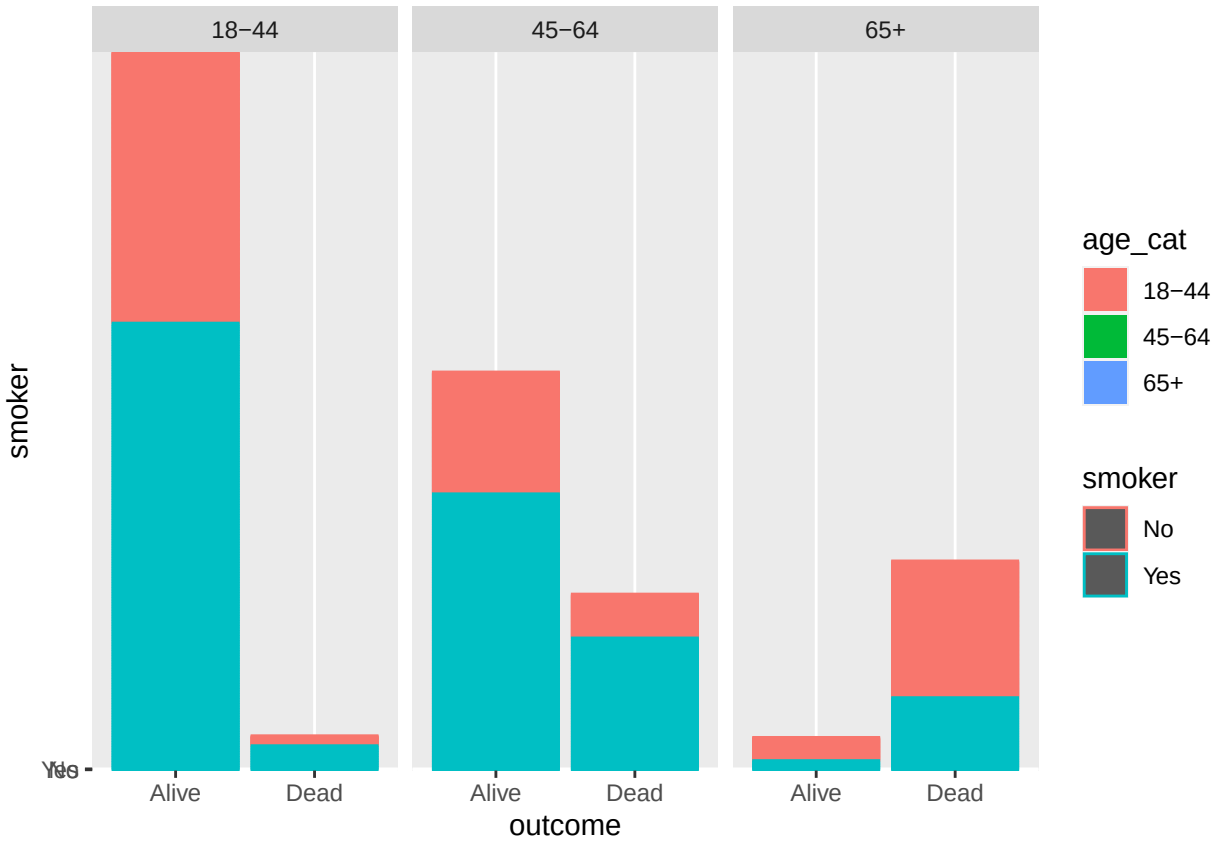
the death of non-smokers is more

6.

```
Whickham <- Whickham%>% mutate (age_cat = case_when (age <= 44 ~ "18-44", age > 44. & age <= 64 ~ "45-64
```

7.

```
ggplot(data=Whickham, aes(x=outcome, y=smoker,color=smoker, fill=age_cat)) + geom_bar(stat="identity") +
```



what changes> the category of the age it's appear to us and we see the most of dead people not smoker in age (65+) but in age (45-64) and (18-44) the most dead pepole are smoker that is relationship between the smoking and helath not clearly but can say that your helath will be change to worst if you be smoker

Knit, commit, and push to github.