

Depression Versus Education

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```
library(ggplot2)
library(forcats)
library(knitr)
knitr::opts_chunk$set(echo=TRUE, warning = FALSE, message = FALSE)
Depress<-read.table("/Users/katiefox14/Desktop/Math130/Data/depress.txt", header = TRUE, sep = "\t")
```

1.Introduction: For this project I will be using the depression data set.This data set was from a depression study obtained by interviewing 294 adults residing in the Los Angeles County. I am going to explore the variables “cases” and “education”. I first want to address how many people are depressed versus those who are not depressed. I am then going to explore the education variable. I want to analyze and see if school is a huge factor on those that are depressed.

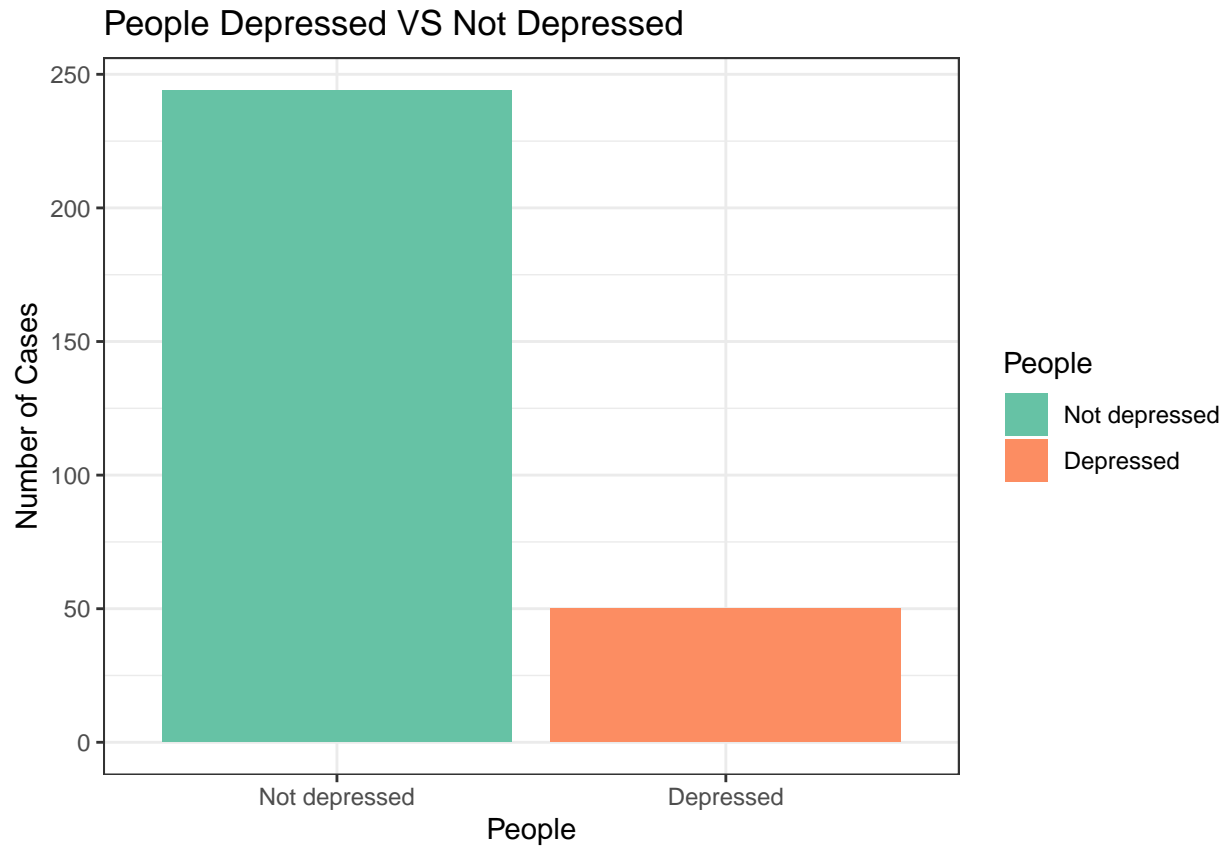
2.Univariate Exploration: Describe Each Variable Independently

A. “cases”

```
Depress$cases <- factor(Depress$cases, labels = c("Not depressed", "Depressed"))
table(Depress$cases, useNA = "always")
```

```
##
## Not depressed    Depressed      <NA>
##           244           50           0
```

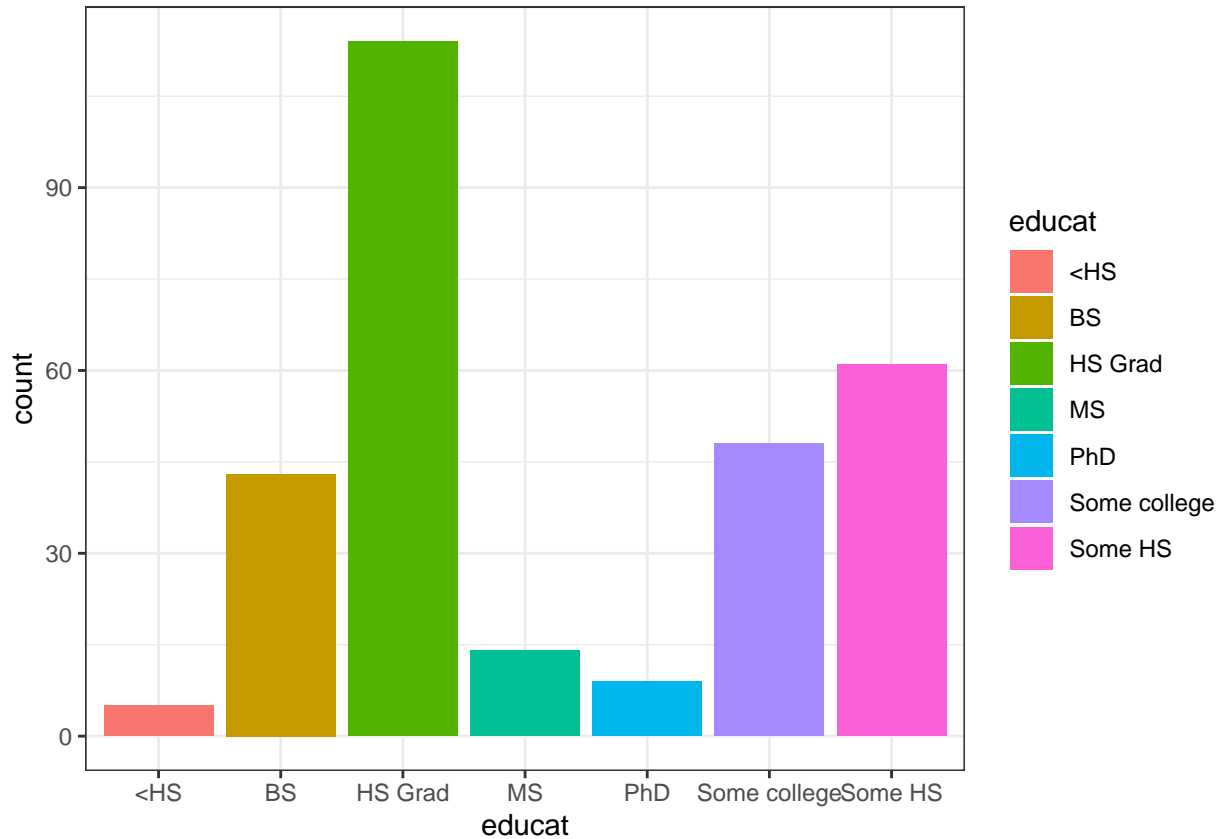
```
ggplot(Depress, aes(x=cases, fill=cases))+ theme_bw()+geom_bar()+scale_fill_brewer(palette="Set2", name=
```



In this study, it shows that there are 244 people who do not have depression and 50 that do have depression. I would have thought that there would be a lot of people who have depression.

B."educat"= education

```
ggplot(Depress, aes(x=educat, fill=educat))+ theme_bw()+geom_bar()
```



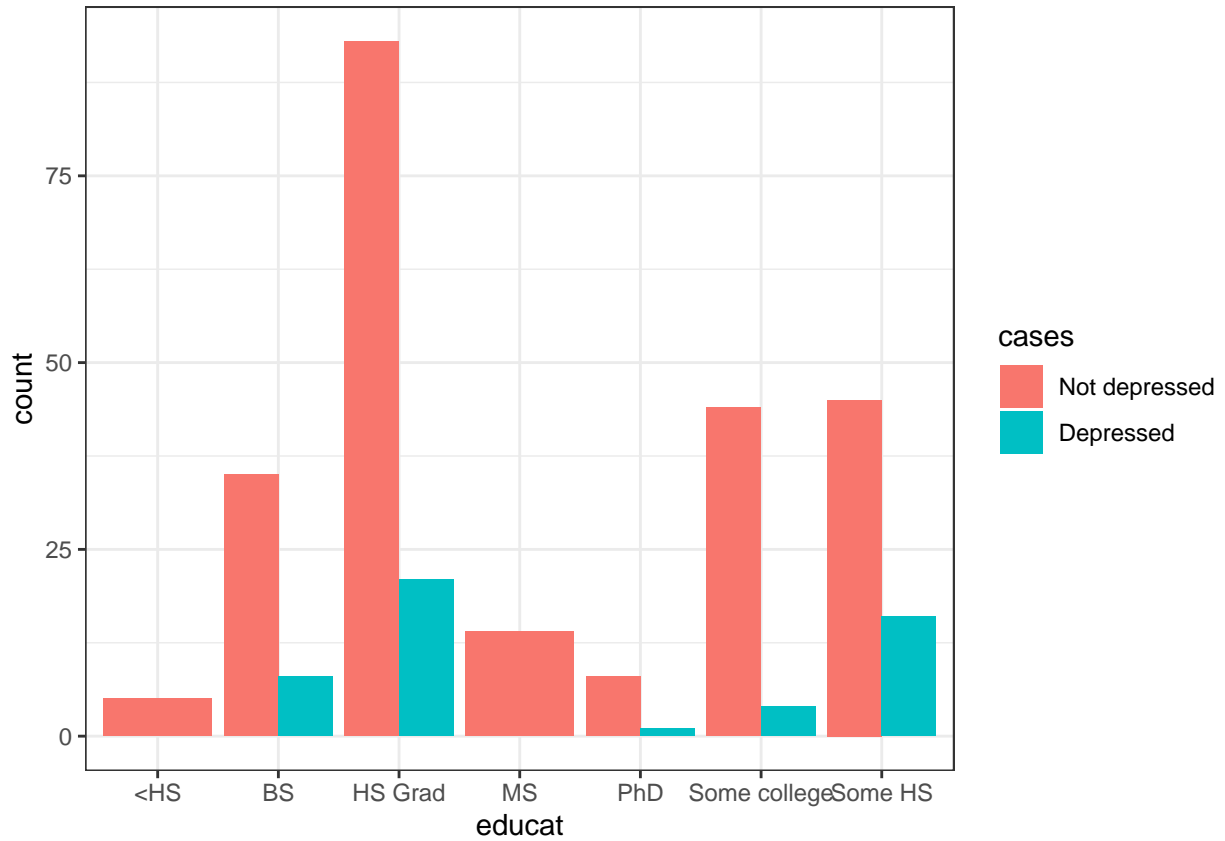
```
table(Depress$educat, Depress$cases, useNA = "always")
```

```
##
##           Not depressed Depressed <NA>
## <HS                5           0     0
## BS                 35           8     0
## HS Grad            93          21     0
## MS                 14           0     0
## PhD                 8           1     0
## Some college       44           4     0
## Some HS            45          16     0
## <NA>                0           0     0
```

The bar graph is a good way to visualize how many people got what specific level of education. It shows that there are 5 people with a less than a High school degree, 61 with some High school, 114 High school graduates, 48 with some college, 43 with a Bachelor’s degree, 14 with a Masters, 9 with a PhD. I would have thought there would be more people with higher degrees than with some college or some High school.

3.Bivariate Exploration: A Comparison of the Two Variables “educat” and “Depress”

```
ggplot(Depress, aes(x=educat, fill=cases))+ theme_bw()+geom_bar(position = "dodge")
```



```
table(Depress$educat, Depress$cases, useNA = "always")
```

```
##
##           Not depressed Depressed <NA>
## <HS                5         0     0
## BS                 35         8     0
## HS Grad            93        21     0
## MS                 14         0     0
## PhD                 8         1     0
## Some college       44         4     0
## Some HS            45        16     0
## <NA>                0         0     0
```

```
5+93+45
```

```
## [1] 143
```

```
4+93+45/180
```

```
## [1] 97.25
```

```
35+44
```

```
## [1] 79
```

35+44/104

[1] 35.42308

14+8

[1] 22

14+8/46

[1] 14.17391

In the above graph I compared each level of education versus if they had depression or not. I added those who were not depressed by three different categories such as High school, undergraduate and graduate. In each of the next line following I kept each category and divided by both those who were depressed and not depressed. It shows that high school has 97%, undergraduate has 35% and graduate has 14% who are not depressed. This percentage of those not being depressed goes with my hypothesis that the higher the education the more likely an individual will be depressed.

4. Conclusion I wanted to compare these two variables to see if there was a correlation between those with a certain amount of educational experience and being depressed. I found it surprising that there are more people not depressed than being depressed. I believe this may have to do with other factors in a person's life. The bar graph shows that my hypothesis is wrong. I thought those with higher levels of education would be more depressed, but in this case it was partially the opposite. There is an outlier in the graph such as those with a master's degree.