

HW1_RosairEstevez

2024-01-30

Rosairi Estevez - Homework 1

PSY V0500

1. Currently my study group is only me, I am hoping by next class to find 2 people who I can be in a study group with.

Lecture 1 Notes Replication

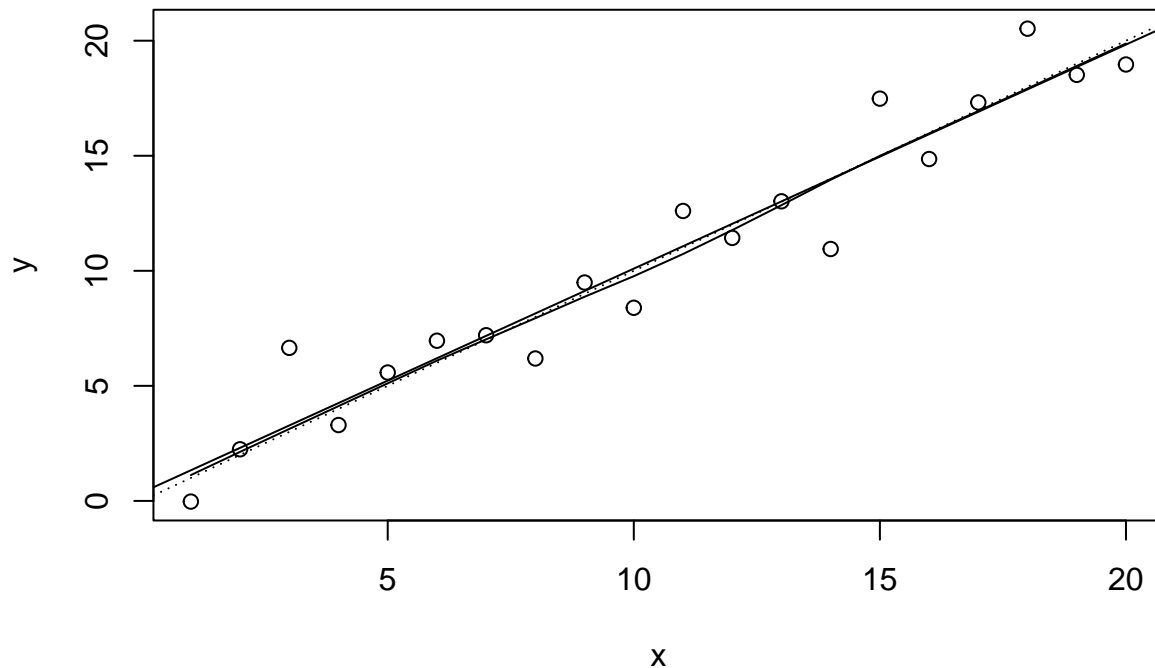
```
x <- 1:20
w <- 1 + sqrt(x)/5
example1 <- data.frame(x=x, y= x + rnorm(x)*w)
attach(example1)

## The following object is masked _by_ .GlobalEnv:
##
##      x

fm <- lm(y ~ x)
summary(fm)

##
## Call:
## lm(formula = y ~ x)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -3.0424 -0.9861 -0.0298  0.4952  3.3719
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.3584     0.7679   0.467   0.646
## x             0.9737     0.0641  15.189 1.05e-11 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.653 on 18 degrees of freedom
## Multiple R-squared:  0.9276, Adjusted R-squared:  0.9236
## F-statistic: 230.7 on 1 and 18 DF,  p-value: 1.045e-11

lrf <- lowess(x, y)
plot(x, y)
lines(x, lrf$y)
abline(0, 1, lty=3)
abline(coef(fm))
```



```
detach()
```

```
load("BRFSS2022_rev.RData")
brfss22[1:10,1:6]
```

```
##      X_STATE      X_METSTAT      X_URBSTAT
## 1 Alabama Metropolitan counties urban counties
## 2 Alabama nonmetropolitan counties urban counties
## 3 Alabama Metropolitan counties urban counties
## 4 Alabama Metropolitan counties urban counties
## 5 Alabama Metropolitan counties urban counties
## 6 Alabama Metropolitan counties urban counties
## 7 Alabama Metropolitan counties urban counties
## 8 Alabama Metropolitan counties urban counties
## 9 Alabama Metropolitan counties urban counties
## 10 Alabama nonmetropolitan counties rural counties
##
##      MSCODE CHILDREN MARITAL
## 1 in county containing central city      0 Married
## 2 outside MSA      0 Widowed
## 3 in county containing central city      0 Married
## 4 in central city      0 Married
## 5 in central city      0 Married
## 6 in county containing central city      0 Married
## 7 in central city      0 Divorced
## 8 in central city      0 Widowed
## 9 in central city      0 Married
## 10 in central city      0 Married
```

```
attach(brfss22)
```

```
summary(brfss22)
```

```
##      X_STATE      X_METSTAT      X_URBSTAT
## Washington: 26152 Metropolitan counties :318082 urban counties:380732
```

```

## New York : 17800 nonmetropolitan counties:117642 rural counties: 54992
## Minnesota : 16821 NA's : 9408 NA's : 9408
## Ohio : 16487
## Maryland : 16418
## Texas : 14245
## (Other) :337209

## MSCODE CHILDREN
## in central city : 29393 Min. : 0.00
## in county containing central city: 16030 1st Qu.: 0.00
## in suburb near city : 16068 Median : 0.00
## outside MSA : 32395 Mean : 0.49
## NA's :351246 3rd Qu.: 1.00
## Max. :82.00
## NA's :14464

## MARITAL
## Married :227424
## Never married : 80001
## Divorced : 57516
## Widowed : 48019
## A member of an unmarried couple: 18668
## (Other) : 13496
## NA's : 8

## EDUCA
## College 4 years or more (College graduate) :187496
## College 1 year to 3 years (Some college or technical school):120252
## Grade 12 or GED (High school graduate) :108990
## Grades 9 through 11 (Some high school) : 16954
## Grades 1 through 8 (Elementary) : 8381
## (Other) : 3054
## NA's : 5

## VETERAN3 X_PRACE2
## Yes a veteran: 53211 White :351032
## No :386272 Black or African American : 41522
## NA's : 5649 Asian : 14836
## American Indian or Alaskan Native: 10147
## Refused : 8593
## (Other) : 18989
## NA's : 13

## X_HISPANC X_AGE5YR RENTHOM1
## yes Hispanic : 42917 Age 65 to 69 : 47099 own home:310708
## no :396631 Age 60 to 64 : 44511 rent :108332
## dont know refused missing: 5584 Age 70 to 74 : 43472 other : 21463
## Age 55 to 59 : 36821 NA's : 4629
## Age 80 or older: 36251
## Age 50 to 54 : 33644
## (Other) :203334

## EMPLOY1
## Employed for wages:186004
## Retired :137083
## Self-employed : 38768
## Unable to work : 26737
## A homemaker : 17477
## (Other) : 27823
## NA's : 11240

```

```

##                                     INCOME3
## Less than $75,000 ($50,000 to less than $75,000) : 59148
## Less than $150,000 ($100,000 to less than $150,000): 50330
## Less than $100,000 ($75,000 to less than $100,000) : 48436
## Refused : 47001
## Less than $50,000 ($35,000 to less than $50,000) : 46831
## (Other) :180454
## NA's : 12932

```

```

##                                FOODSTMP
## got food stamps SNAP: 25323
## no :226638
## NA's :193171

```

```

##
##
##
##

```

```

## Never :2
## Rarely :
## Sometimes :
## Always the food that you bought not last, and you didn't have money to get more, in last 12 mo:
## Usually :
## (Other) :
## NA's :1

```

```

## SEXVAR BIRTHSEX
## Male :209239 male sex at birth : 37441
## Female:235893 female sex at birth: 41456
## NA's :366235

```

```

##
##
##

```

```

## SOMALE SOFEMALE
## Gay : 2939 Lesbian or Gay : 2318
## Straight, that is, not gay:112679 Straight, that is, not gay:123813
## Bisexual : 2570 Bisexual : 5507
## Something else : 1974 Something else : 2789
## I dont know the answer : 1057 I dont know the answer : 1760
## Refused : 2813 Refused : 3443
## NA's :321100 NA's :305502

```

```

## TRNSGNDR
## Yes, Transgender, male-to-female : 499
## Yes, Transgender, female to male : 515
## Yes, Transgender, gender nonconforming: 589
## No :258106
## Dont know/Not Sure : 811
## Refused : 3041
## NA's :181571

```

```

## HADSEX GENHLTH PHYSHLTH
## yes had sex in last 6 mo: 14744 Very good:148444 Min. : 0.000
## no : 4231 Good :143598 1st Qu.: 0.000
## dont know not sure : 66 Excellent: 71878 Median : 0.000
## refused : 835 Fair : 60273 Mean : 4.348
## NA's :425256 Poor : 19741 3rd Qu.: 3.000

```

```

##                                (Other) : 1195    Max.    :30.000
##                                NA's      :      3    NA's    :10927
##      MENTHLTH                    LSATISFY
## Min.      : 0.000    Very satisfied with life:114252
## 1st Qu.: 0.000    Satisfied                    :123445
## Median : 0.000    Dissatisfied                  : 10758
## Mean    : 4.383    Very dissatisfied           : 3062
## 3rd Qu.: 5.000    Dont know/Not sure           : 1864
## Max.     :30.000    Refused                      : 1107
## NA's     :9067     NA's                        :190644
##                                EMTSUPRT
## Always get social and emotional support:118012
## Usually                                     : 77907
## Sometimes                                 : 33813
## Rarely                                   : 10835
## Never                                    : 9379
## (Other)                                  : 4195
## NA's                                     :190991
##                                SDHISOLT
## Never                                    :106160
## Rarely                                   : 70617
## Sometimes                               : 53072
## Usually                                 : 13178
## Always feel socially isolated from others: 8098
## (Other)                                  : 2665
## NA's                                     :191342
##
## Never
## Rarely
## Sometimes
## Usually
## Always feels tense, restless, nervous, or anxious, or is unable to sleep at night because his/her m
## (Other)
## NA's
##                                ADDEPEV3
## Yes ever told had depressive disorder: 91410
## No                                       :350910
## NA's                                   : 2812
##
##
##                                PRIMINSR
## health ins thr employer or union:161388
## Medicare                               :135848
## private plan                           : 36931
## Medicaid                               : 29072
## no coverage of any type                 : 23018
## (Other)                                : 58871
## NA's                                   :      4
##
##                                CHECKUP1
## last routine checkup within past year (anytime less than 12 months ago):350944
## Within past 2 years (1 year but less than 2 years ago) : 41919
## Within past 5 years (2 years but less than 5 years ago) : 24882

```

```

## 5 or more years ago : 19079
## Dont know Not sure : 5063
## (Other) : 3242
## NA's : 3
##
## FLUSHOT7
## Yes got flu shot in last 12 mo:209256
## No :188755
## NA's : 47121
##
##
##
## COVIDPOS
## Yes had med prof tell positive test:110877
## No :270055
## tested positive at home wo med prof: 13436
## NA's : 50764
##
##
## COVIDSMP
## Yes had covid symptoms for more than 3 months: 26783
## No : 94596
## NA's :323753
##
##
##
## Tiredness or fatigue
## Difficulty breathing or shortness of breath
## Loss of taste or smell
## Difficulty thinking or concentrating or forgetfulness/memory problems (sometimes referred to as brain fog)
## Some other symptom
## (Other)
## NA's
##
## COVIDVA1 COVIDNU1
## Yes had at least 1 covid vax:124818 had 1 covid vax: 6712
## No : 27011 2 covid vax : 36926
## NA's :293303 3 covid vax : 57488
## 4 covid vax : 23051
## NA's :320955
##
##
## EXERANY2 SLEPTIM1 Height_inches
## Yes exercised in past month:337559 Min. : 1.000 Min. :24.00
## No :106480 1st Qu.: 6.000 1st Qu.:64.00
## NA's : 1093 Median : 7.000 Median :67.00
## Mean : 7.023 Mean :67.06
## 3rd Qu.: 8.000 3rd Qu.:70.00
## Max. :24.000 Max. :97.00
## NA's :5453 NA's :32468
##
## WEIGHT2 X_BMI5 X_BMI5CAT
## Min. : 32.0 Min. :12.02 Underweight : 6778

```



```

##
## Yes, Adverse Childhood Exper, lived with someone who used illegal street drugs or who abused prescri
## No
## dont know not sure
## refused
## NA's
##
##
##
## Yes, Adverse Childhood Exper, lived with someone who served time or was sentenced to serve time in a
## No
## dont know not sure
## refused
## NA's
##
##
##
##
## ACEDIVRC
## Yes, Adverse Childhood Exper, parents separated or divorced: 12107
## No : 34367
## dont know not sure : 269
## parents never married : 632
## refused : 797
## NA's :396960
##
##
##
## Adverse Childhood Exper, never: How often did your parents or adults in your home ever slap, hit, k
## once
## more than once
## dont know not sure
## refused
## NA's
##
##
##
## Adverse Childhood Exper, never: Not including spanking, (before age 18), how often did a parent or a
## once
## more than once
## dont know not sure
## refused
## NA's
##
##
##
## Adverse Childhood Exper, never: How often did a parent or adult in your home ever swear at you, insu
## once
## more than once
## dont know not sure
## refused
## NA's
##
##
##
## Adverse Childhood Exper, never: How often did anyone at least 5 years older than you or an adult, c
## once
## more than once
## dont know not sure
## refused

```



```

## NA's
##
## CIMEMLLOS
## experienced confusion memory loss in last 12 mo : 7003
## no : 56945
## NA's :381184
##
##
##
##
## Never
## Sometimes
## Rarely
## Usually
## Always, as a result of confusion or memory loss, how often have you given up day-to-day household a
## (Other)
## NA's
## CDASSIST
## Never : 3954
## Rarely : 1447
## Sometimes : 1354
## Always need assist because confusion or memory loss: 304
## Usually : 281
## (Other) : 91
## NA's :437701
## CDSOCIAL
## Never : 3726
## Rarely : 1387
## Sometimes : 1313
## Always confusion or memory loss interfere with work or social activities: 458
## Usually : 410
## (Other) : 121
## NA's :437717
## CAREGIV1
## provided care to family or friend with disability or health condition: 19662
## no : 78174
## caregiving recipient died in past 30 days : 177
## NA's :347119
##
##
## CRGVREL4
## Mother : 3986
## Non-relative/Family friend: 3002
## Husband : 2243
## Child : 1968
## Wife : 1904
## (Other) : 6531
## NA's :425498

```

```
summary(SLEPTIM1[X_STATE == "New York"])
```

```

## Min. 1st Qu. Median Mean 3rd Qu. Max. NA's
## 1.000 6.000 7.000 6.905 8.000 24.000 226

```

```
summary(SLEPTIM1[X_STATE == "Alabama"])

##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.     NA's
##      1.000   6.000   7.000   7.008   8.000  23.000      81

round(mean(SLEPTIM1[X_STATE == "New York"], na.rm = TRUE), digits = 2)

## [1] 6.9

round(mean(SLEPTIM1[X_STATE == "Alabama"], na.rm = TRUE), digits = 2)

## [1] 7.01

mean(MENTHLTH[X_STATE == "New York"], na.rm = TRUE)

## [1] 4.368626

sd(MENTHLTH[X_STATE == "New York"], na.rm = TRUE)

## [1] 8.325809

mean(MENTHLTH[X_STATE == "Ohio"], na.rm = TRUE)

## [1] 5.033375

sd(MENTHLTH[X_STATE == "Ohio"], na.rm = TRUE)

## [1] 9.063605

mean(PHYSHLTH[X_STATE == "New York"], na.rm = TRUE)

## [1] 4.149033

sd(PHYSHLTH[X_STATE == "New York"], na.rm = TRUE)

## [1] 8.39018

mean(PHYSHLTH[X_STATE == "Ohio"], na.rm = TRUE)

## [1] 4.832269

sd(PHYSHLTH[X_STATE == "Ohio"], na.rm = TRUE)

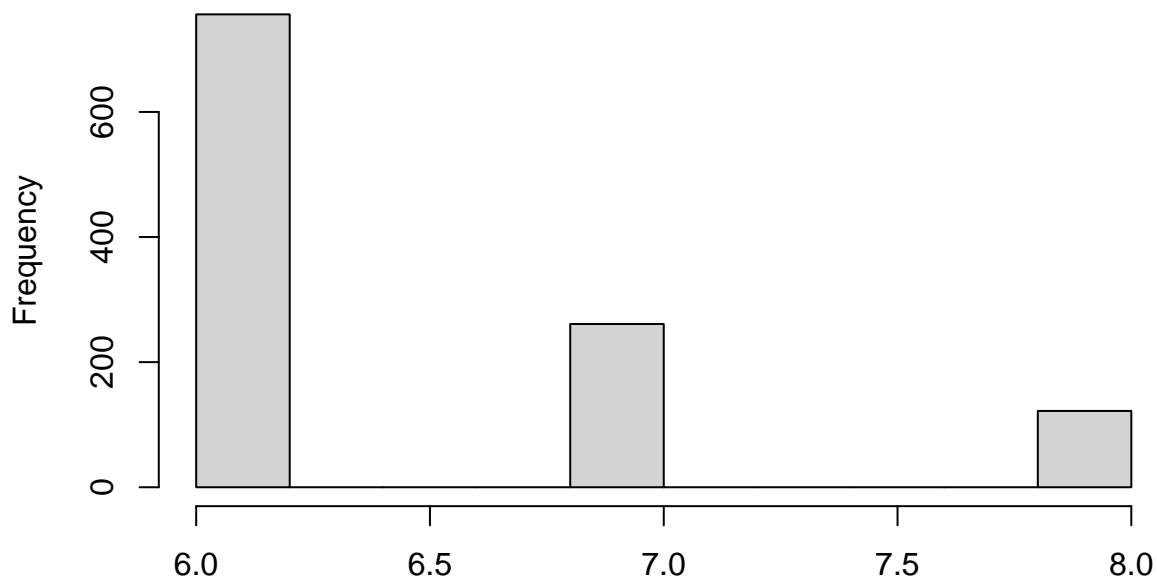
## [1] 9.175946
```

Lecture 1A Notes Replication

1. Variable Coding

```
hist(CHILDREN[(CHILDREN > 5) & (CHILDREN < 9)])
```

Histogram of CHILDREN[(CHILDREN > 5) & (CHILDREN < 9)]



CHILDREN[(CHILDREN > 5) & (CHILDREN < 9)]

`summary(GENHLTH)`

```
##           Excellent           Very good           Good
##           71878           148444           143598
##           Fair           Poor Dont know - Not Sure
##           60273           19741           810
##           Refused           NA's
##           385           3
```

`summary(CHILDREN)`

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.   NA's
##      0.00   0.00   0.00   0.49   1.00   82.00  14464
```

`summary(INCOME3)`

```
##           Household income less than $10,000
##           10341
##           Less than $15,000 ($10,000 to less than $15,000)
##           11031
##           Less than $20,000 ($15,000 to less than $20,000)
##           14300
##           Less than $25,000 ($20,000 to less than $25,000)
##           20343
##           Less than $35,000 ($25,000 to less than $35,000)
##           42294
##           Less than $50,000 ($35,000 to less than $50,000)
##           46831
##           Less than $75,000 ($50,000 to less than $75,000)
##           59148
##           Less than $100,000 ($75,000 to less than $100,000)
```

```
##                                     48436
## Less than $150,000 ($100,000 to less than $150,000)
##                                     50330
## Less than $200,000 ($150,000 to less than $200,000)
##                                     22553
##                                     $200,000 or more
##                                     23478
##                                     Dont know/Not sure
##                                     36114
##                                     Refused
##                                     47001
##                                     NA's
##                                     12932
```

```
summary(EDUCA)
```

```
##                                     Never attended school or only kindergarten
##                                     676
##                                     Grades 1 through 8 (Elementary)
##                                     8381
##                                     Grades 9 through 11 (Some high school)
##                                     16954
##                                     Grade 12 or GED (High school graduate)
##                                     108990
## College 1 year to 3 years (Some college or technical school)
##                                     120252
##                                     College 4 years or more (College graduate)
##                                     187496
##                                     Refused
##                                     2378
##                                     NA's
##                                     5
```

```
summary(X_HISPANC)
```

```
##          yes Hispanic          no dont know refused missing
##          42917          396631          5584
```

2. Packages

```
install.packages("tidyverse")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.3'
## (as 'lib' is unspecified)
```

```
install.packages("plyr")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.3'
## (as 'lib' is unspecified)
```

```
library(plyr)
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v dplyr      1.1.4      v readr      2.1.5
## 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     1.3.1
```

```
## v purrr      1.0.2
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::arrange() masks plyr::arrange()
## x purrr::compact() masks plyr::compact()
## x dplyr::count() masks plyr::count()
## x dplyr::desc() masks plyr::desc()
## x dplyr::failwith() masks plyr::failwith()
## x dplyr::filter() masks stats::filter()
## x dplyr::id() masks plyr::id()
## x dplyr::lag() masks stats::lag()
## x dplyr::mutate() masks plyr::mutate()
## x dplyr::rename() masks plyr::rename()
## x dplyr::summarise() masks plyr::summarise()
## x dplyr::summarize() masks plyr::summarize()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

3. Factors

```
summary(X_AGE5YR)
```

##	Age 18 to 24	Age 25 to 29	Age 30 to 34
##	26941	21990	25807
##	Age 35 to 39	Age 40 to 44	Age 45 to 49
##	28526	29942	28531
##	Age 50 to 54	Age 55 to 59	Age 60 to 64
##	33644	36821	44511
##	Age 65 to 69	Age 70 to 74	Age 75 to 79
##	47099	43472	32518
##	Age 80 or older Dont know/Refused/Missing		
##	36251	9079	

```
summary(INCOME3)
```

##	Household income less than \$10,000
##	10341
##	Less than \$15,000 (\$10,000 to less than \$15,000)
##	11031
##	Less than \$20,000 (\$15,000 to less than \$20,000)
##	14300
##	Less than \$25,000 (\$20,000 to less than \$25,000)
##	20343
##	Less than \$35,000 (\$25,000 to less than \$35,000)
##	42294
##	Less than \$50,000 (\$35,000 to less than \$50,000)
##	46831
##	Less than \$75,000 (\$50,000 to less than \$75,000)
##	59148
##	Less than \$100,000 (\$75,000 to less than \$100,000)
##	48436
##	Less than \$150,000 (\$100,000 to less than \$150,000)
##	50330
##	Less than \$200,000 (\$150,000 to less than \$200,000)
##	22553
##	\$200,000 or more
##	23478
##	Dont know/Not sure

```
##          36114
##          Refused
##          47001
##          NA's
##          12932
```

```
summary(RENTHOM1)
```

```
## own home    rent    other    NA's
##   310708   108332   21463   4629
```

```
summary(EMPLOY1)
```

```
##          Employed for wages          Self-employed
##          186004          38768
## Out of work for 1 year or more Out of work for less than 1 year
##          8668          8044
##          A homemaker          A student
##          17477          11111
##          Retired          Unable to work
##          137083          26737
##          NA's
##          11240
```

```
ddply(brfss22, .(PHYSHLTH), summarize, mean = round(mean(MENTHLTH, na.rm = TRUE), 2), sd = round(sd(MEN
```

```
## PHYSHLTH mean sd n_obsv
## 1 0 2.62 6.46 267819
## 2 1 3.80 6.90 17250
## 3 2 4.52 7.52 25256
## 4 3 5.32 8.34 15948
## 5 4 5.68 8.60 8462
## 6 5 5.75 8.61 15315
## 7 6 6.14 8.92 2538
## 8 7 6.55 9.56 9348
## 9 8 6.28 9.12 1761
## 10 9 7.44 10.07 411
## 11 10 7.32 9.65 10589
## 12 11 6.91 9.37 161
## 13 12 8.00 9.96 1111
## 14 13 9.18 10.15 162
## 15 14 6.66 10.01 5029
## 16 15 9.65 10.61 8787
## 17 16 9.56 10.85 255
## 18 17 12.29 11.45 185
## 19 18 12.55 11.40 271
## 20 19 12.98 12.32 48
## 21 20 11.22 11.19 5421
## 22 21 7.80 10.61 1038
## 23 22 11.76 11.87 140
## 24 23 12.82 12.38 99
## 25 24 11.52 11.61 125
## 26 25 12.23 11.69 2181
## 27 26 13.17 11.94 109
## 28 27 12.90 11.29 188
## 29 28 12.91 12.45 751
```

```
## 30      29 13.28 12.59    365
## 31      30 11.23 12.73  33082
## 32      NA  5.37  9.64 10927
```

```
ddply(brfss22, .(PHYSHLTH), summarize, mental90th = quantile(MENTHLTH, probs = 0.9, na.rm = TRUE), mental10th = quantile(MENTHLTH, probs = 0.1, na.rm = TRUE), n_obs)
```

```
##      PHYSHLTH mental90th mental10th  n_obs
## 1          0         10.0          0 267819
## 2          1         13.0          0 17250
## 3          2         15.0          0 25256
## 4          3         20.0          0 15948
## 5          4         20.0          0  8462
## 6          5         20.0          0 15315
## 7          6         20.0          0  2538
## 8          7         25.0          0  9348
## 9          8         20.0          0  1761
## 10         9         30.0          0   411
## 11        10         25.0          0 10589
## 12        11         20.0          0   161
## 13        12         28.4          0  1111
## 14        13         27.4          0   162
## 15        14         30.0          0  5029
## 16        15         30.0          0  8787
## 17        16         30.0          0   255
## 18        17         30.0          0   185
## 19        18         30.0          0   271
## 20        19         30.0          0    48
## 21        20         30.0          0  5421
## 22        21         30.0          0  1038
## 23        22         30.0          0   140
## 24        23         30.0          0    99
## 25        24         30.0          0   125
## 26        25         30.0          0  2181
## 27        26         30.0          0   109
## 28        27         30.0          0   188
## 29        28         30.0          0   751
## 30        29         30.0          0   365
## 31        30         30.0          0 33082
## 32        NA         28.0          0 10927
```

```
table(GENHLTH, EMTSUPRT)
```

```
##      EMTSUPRT
## GENHLTH Always get social and emotional support Usually
## Excellent 24552 10143
## Very good 41952 29917
## Good 34401 26417
## Fair 12822 9189
## Poor 4027 2113
## Dont know - Not Sure 171 83
## Refused 87 45
##      EMTSUPRT
## GENHLTH Sometimes Rarely Never Dont know/Not sure Refused
## Excellent 2874 883 1210 364 196
## Very good 8495 2131 1888 749 383
```

##	Good	12512	3616	3118	946	473
##	Fair	7377	2842	1940	504	210
##	Poor	2454	1328	1160	200	78
##	Dont know - Not Sure	79	25	43	50	9
##	Refused	22	9	20	7	26

```
xtabs(~GENHLTH + EMTSUPRT)
```

##		EMTSUPRT				
##	GENHLTH	Always get social and emotional support Usually				
##	Excellent				24552	10143
##	Very good				41952	29917
##	Good				34401	26417
##	Fair				12822	9189
##	Poor				4027	2113
##	Dont know - Not Sure				171	83
##	Refused				87	45

##		EMTSUPRT					
##	GENHLTH	Sometimes	Rarely	Never	Dont know/Not sure	Refused	
##	Excellent	2874	883	1210	364	196	
##	Very good	8495	2131	1888	749	383	
##	Good	12512	3616	3118	946	473	
##	Fair	7377	2842	1940	504	210	
##	Poor	2454	1328	1160	200	78	
##	Dont know - Not Sure	79	25	43	50	9	
##	Refused	22	9	20	7	26	

```
prop.table(table(GENHLTH,EMTSUPRT))
```

##		EMTSUPRT		
##	GENHLTH	Always get social and emotional support Usually		
##	Excellent			9.660817e-02 3.991107e-02
##	Very good			1.650744e-01 1.177186e-01
##	Good			1.353624e-01 1.039466e-01
##	Fair			5.045251e-02 3.615724e-02
##	Poor			1.584560e-02 8.314315e-03
##	Dont know - Not Sure			6.728575e-04 3.265916e-04
##	Refused			3.423310e-04 1.770678e-04

##		EMTSUPRT		
##	GENHLTH	Sometimes	Rarely	Never
##	Excellent	1.130873e-02	3.474463e-03	4.761155e-03
##	Very good	3.342646e-02	8.385142e-03	7.428976e-03
##	Good	4.923271e-02	1.422838e-02	1.226883e-02
##	Fair	2.902731e-02	1.118281e-02	7.633588e-03
##	Poor	9.656095e-03	5.225466e-03	4.564413e-03
##	Dont know - Not Sure	3.108523e-04	9.837098e-05	1.691981e-04
##	Refused	8.656646e-05	3.541355e-05	7.869678e-05

##		EMTSUPRT	
##	GENHLTH	Dont know/Not sure	Refused
##	Excellent	1.432281e-03	7.712285e-04
##	Very good	2.947194e-03	1.507043e-03
##	Good	3.722358e-03	1.861179e-03
##	Fair	1.983159e-03	8.263162e-04
##	Poor	7.869678e-04	3.069174e-04
##	Dont know - Not Sure	1.967420e-04	3.541355e-05


```
##      Refused                2.754387e-05 1.023058e-04
mean(MENTHLTH[(EDUCA == "College 4 years or more (College graduate)"), na.rm = TRUE])

## [1] 3.510618

4. Alternatives

restrict1 <- as.logical(EDUCA == "College 4 years or more (College graduate)")

dat_subset1 <- subset(brfss22, restrict1)

mean(MENTHLTH, na.rm = TRUE)

## [1] 4.382649

mean(MENTHLTH[(EDUCA == "College 4 years or more (College graduate)"), na.rm = TRUE])

## [1] 3.510618

restrict1 <- as.logical(EDUCA == "College 4 years or more (College graduate)")
dat_subset1 <- subset(brfss22, restrict1)

detach()
attach(dat_subset1)

## The following objects are masked from brfss22:
##
##      ACEDEPRS, ACEDIVRC, ACEDRINK, ACEDRUGS, ACEHURT1, ACEPRISN,
##      ACEPUNCH, ACESWEAR, ACETOUGH, ADDEPEV3, ALCDAY4, AVEDRNK3,
##      BIRTHSEX, CAREGIV1, CDASSIST, CDHOUSE, CDSOCIAL, CHECKUP1,
##      CHILDREN, CIMEMLOS, COVIDNU1, COVIDPOS, COVIDPRM, COVIDSMP,
##      COVIDVA1, CRGVREL4, DRNK3GE5, ECIGNOW2, EDUCA, EMPLOY1, EMTSUPRT,
##      EXERANY2, FIREARM5, FLUSHOT7, FOODSTMP, GENHLTH, HADSEX,
##      Height_inches, INCOME3, LSATISFY, MARIJAN1, MARITAL, MENTHLTH,
##      MSCODE, PHYSHLTH, PRIMINSR, RENTHOM1, SDHFOOD1, SDHISOLT, SDHSTRE1,
##      SEXVAR, SLEPTIM1, SMOKDAY2, SMOKE100, SOFEMALE, SOMALE, TRNSGNDR,
##      VETERAN3, WEIGHT2, X_AGE5YR, X_BMI5, X_BMI5CAT, X_HISPANC,
##      X_METSTAT, X_PRACE2, X_STATE, X_URBSTAT
mean(SLEPTIM1, na.rm = TRUE)

## [1] 7.070843

detach()
```

Interests & Surprises

There were a few surprises for me in the data, I didn't realize how much information it really has, and it was interesting to look into the variables of mental and physical health which are interests I want to further look into. When comparing physical and mental health with states such as New York and Alabama, further comparing sleep time, it was interesting to see those differing means and sd.