Project 2 – Women's Inactivity and Women's Diabetes levels

MTH 161 – Fall 2024

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Part 1: choose a dataset and propose a question

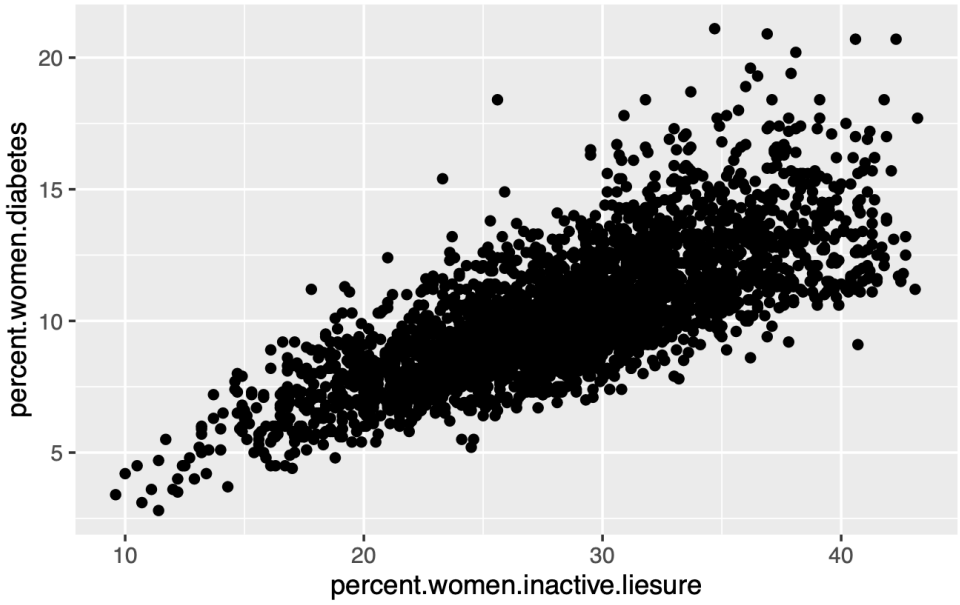
Due Nov. 15th

```
file1 <- "diabetes.prev.csv"
#Reading CSV files
df1<-read.csv(file1)



# Printing summaries
glimpse(df1)
```

```
Rows: 3,143
Columns: 14
$ State                    <chr> "Alabama", "Alabama", "Alabama", "Alaba~
$ FIPS.Codes               <int> 1001, 1003, 1005, 1007, 1009, 1011, 101~
$ County                   <chr> "Autauga County", "Baldwin County", "Ba~
$ num.men.diabetes         <int> 2224, 8181, 1440, 1013, 2865, 693, 1064~
$ percent.men.diabetes     <dbl> 12.1, 12.4, 12.9, 11.0, 14.0, 15.3, 15.~
$ num.women.diabetes       <int> 2336, 8017, 1505, 893, 2975, 743, 1400,~
$ percent.women.diabetes   <dbl> 11.6, 11.3, 15.7, 11.3, 13.9, 20.2, 16.~
$ num.men.obese            <int> 5910, 19990, 4265, 3738, 6954, 1822, 23~
$ percent.men.obese        <dbl> 31.3, 29.0, 37.7, 40.2, 33.5, 39.9, 33.~
$ num.women.obese          <int> 6274, 18255, 4217, 3188, 6834, 1829, 31~
$ percent.women.obese      <dbl> 30.5, 24.5, 44.5, 40.0, 31.3, 50.2, 37.~
```

```
$ num.men.inactive.leisure       <int> 4902, 15650, 3242, 2853, 5177, 1331, 20~
$ num.women.inactive.leisure     <int> 6406, 20450, 3587, 2877, 6952, 1387, 31~
$ percent.women.inactive.liesure <dbl> 31.1, 27.5, 37.9, 36.1, 31.8, 38.1, 37.~
```

```
ggplot(
  data = df1,
  mapping = aes(x = percent.women.inactive.liesure, y = percent.women.diabetes)) +
  geom_point(mapping = aes())
```



:::PART ONE

I am choosing to investigate diabetes and how inactivity increases the likelihood of having diabetes. THe sample I found comes from a study done by the CDC with 3143 observations and 14 variables. My focus for this specific question is on women, which provides as a limitation because I cannot test for all people, but merely for one gender. I used a scatterplot to represent the association and based on this there appears to a be a strong positive association between Level of inactivity and percent of women who have diabetes. This suggests that within this study there is good chance that the more inactive women the more likely they are to have diabetes. My question would be is there significant evidence to suggest that there is a positive association between overall womens inactivity and levels of diabetes in women.

https://www.openintro.org/data/index.php?data=diabetes.prev :::

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