

lab_7

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2022-11-03

commit 1 (code hidden)

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```
head(star)
```

```
##   schidkn  sex frl reg_size reg_size_aid small_size white black other totexp
## 1     63 girl  no         0             0           1    1    0    0       7
## 2     20 girl  no         0             0           1    0    1    0      21
## 3     19 boy   yes        0             1           0    0    1    0       0
## 4     69 boy   no         1             0           0    1    0    0      16
## 5     79 boy   yes        0             0           1    1    0    0       5
## 6      5 boy   yes        1             0           0    1    0    0       8
##   tmathss treadss
## 1     473     447
## 2     536     450
## 3     463     439
## 4     559     448
## 5     489     447
## 6     454     431
```

```
star1 <- star %>%
  group_by(sex, frl) %>%
  summarize(math_mean = mean(tmathss),
math_sd = sd(tmathss),
rdg_mean = mean(treadss),
rdg_sd = sd(treadss))
```

```
## 'summarise()' has grouped output by 'sex'. You can override using the '.groups'
## argument.
```

```
as.tibble(star1)
```

```
## Warning: 'as.tibble()' was deprecated in tibble 2.0.0.
## Please use 'as_tibble()' instead.
## The signature and semantics have changed, see '?as_tibble'.
## This warning is displayed once every 8 hours.
## Call 'lifecycle::last_lifecycle_warnings()' to see where this warning was generated.
```

```
## # A tibble: 4 x 6
##   sex   frl   math_mean math_sd rdg_mean rdg_sd
##   <chr> <chr>     <dbl>   <dbl>   <dbl>  <dbl>
## 1 boy   no       493.    46.3    441.   32.3
## 2 boy   yes      470.    46.1    425.   26.6
## 3 girl  no       501.    46.0    449.   34.5
## 4 girl  yes      478.    46.3    431.   27.4
```

The scores 492.8523316, 469.8716312, 501.2057383, 477.5084249 represent (*in order*) the mean math scores for boys *without*, boys *with*, and girls *without*, and girls *with* free or reduced price lunches in this data sample. The standard deviation of the math mean scores 46.338454, 46.0928474, 45.9621047, 46.3045917 represent (*in order*) the standard deviation of math scores for boys *without*, boys *with*, and girls *without*, and girls *with* free or reduced price lunches in this data sample. The scores 441.4553109, 425.3794326, 448.5353394, 430.8029304 represent the mean reading scores for boys *without*, boys *with*, and girls *without*, and girls *with* free or reduced price lunches in this sample. And the standard deviation of reading scores 32.3182782, 26.6293061, 34.5240292, 27.4212547 represent the standard deviation of reading scores for boys *without*, boys *with*, and girls *without*, and girls *with* free or reduced price lunches in this data sample.

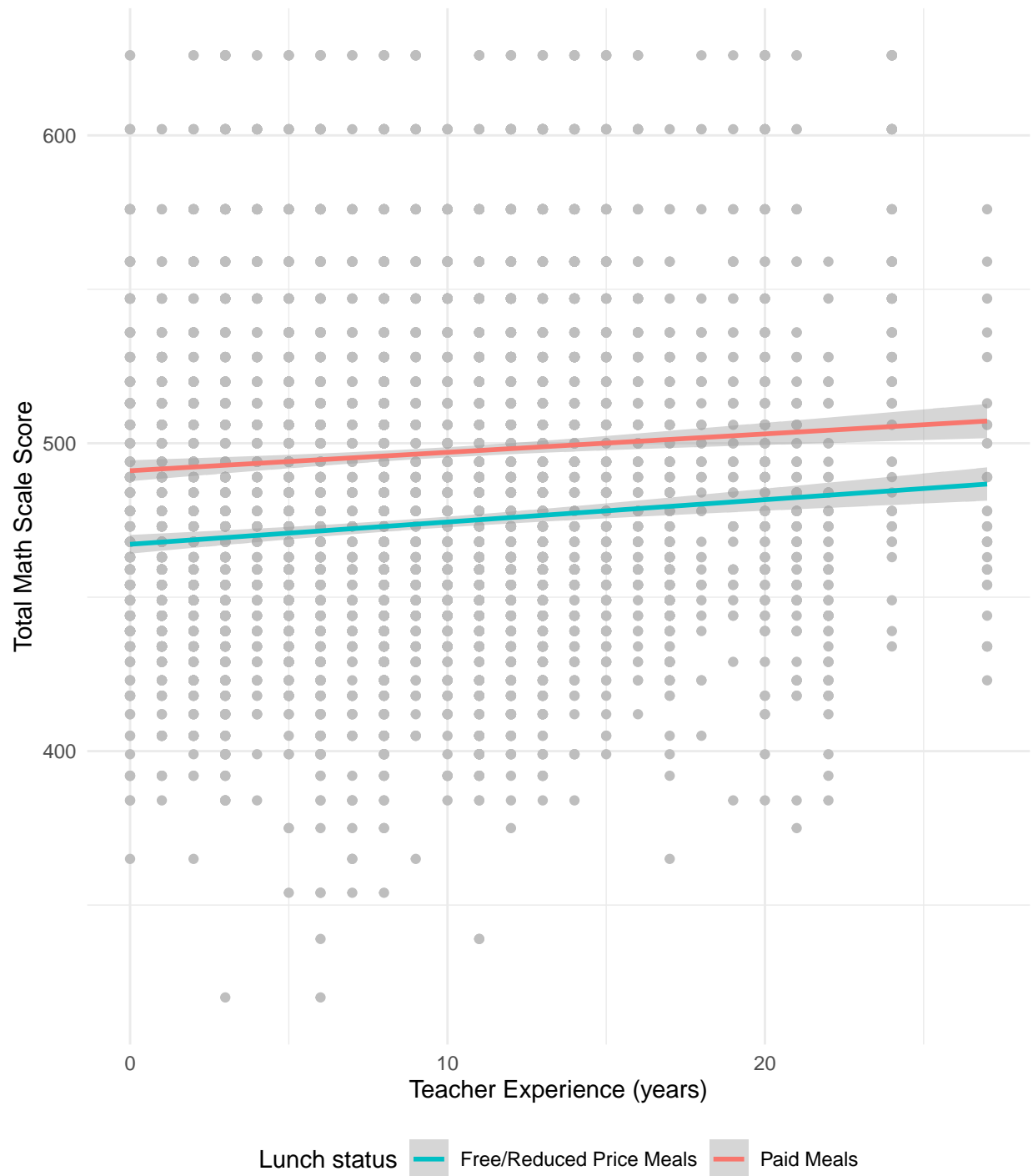
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```
star$frl <- factor(star$frl)
```

```
ggplot(star, aes(x = totexp, y = tmathss)) +
  geom_point(color = "grey") +
  geom_smooth(aes(color = frl), method = "lm")+
  labs(title = "Relation between teacher experience and math scores",
        subtitle = "Separate regression lines displayed by freereduces price lunch status",
        x = "Teacher Experience (years)",
        y = "Total Math Scale Score",
        color = "Lunch status")+
  scale_color_discrete(breaks = c("yes", "no"), labels = c("yes" = "Free/Reduced Price Meals", "no" = "I
#scale_color_discrete(breaks = c("yes", "no"))+
  theme_minimal() +
  theme(legend.position = "bottom")
```

```
## 'geom_smooth()' using formula 'y ~ x'
```

Relation between teacher experience and math scores
 Separate regression lines displayed by freereduces price lunch status



```
#dominiks version
#test
```

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#References