

## lab\_7

Tian Walker, Dominik Grätz, Amber Somarriba, Brittany Spinner, Rachel Miller-Moudgil

2022-11-03

### commit 1 (code hidden)

### commit 3

```
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.

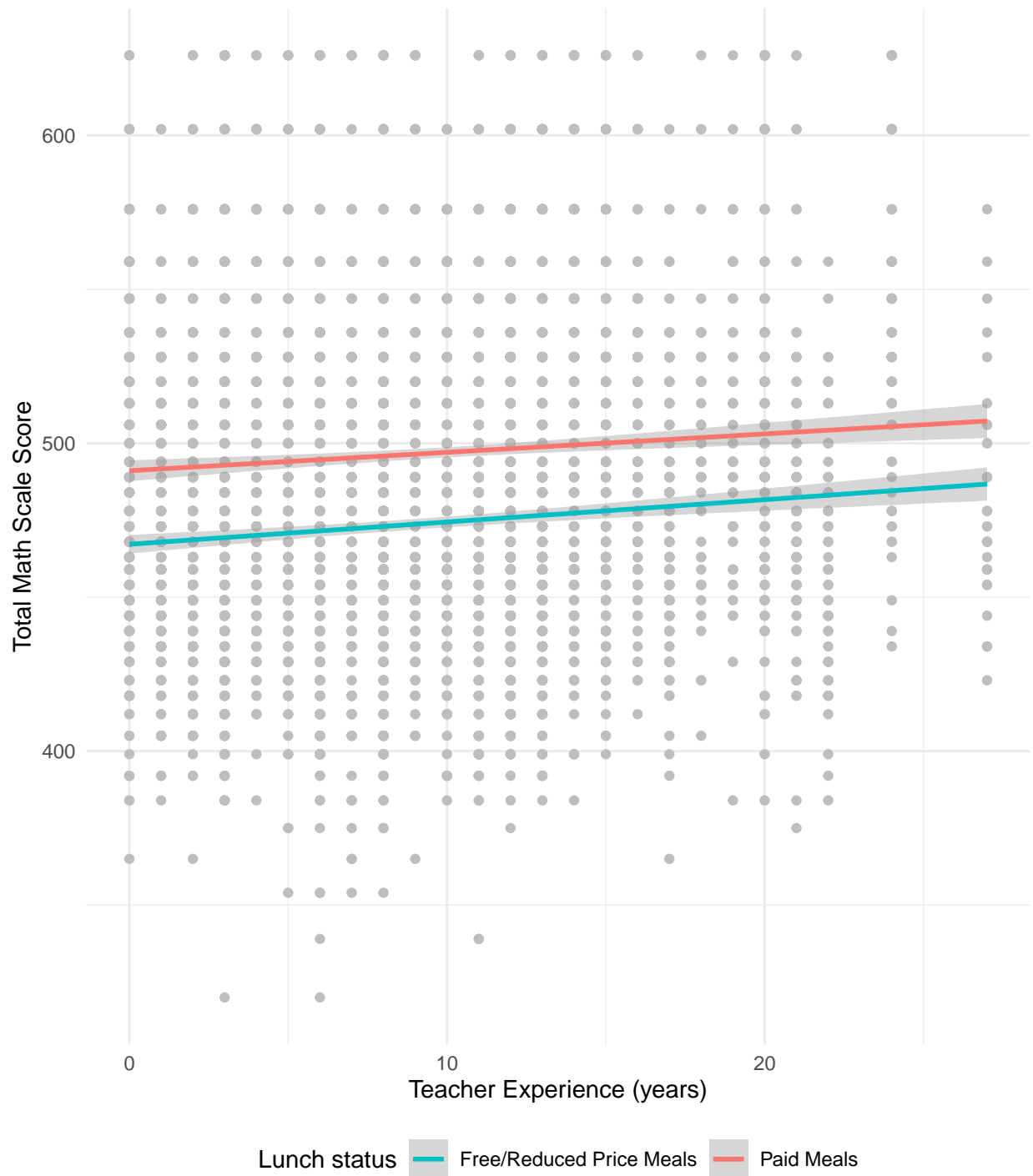
## commit 4

```
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
```

## #References

Buddin and Zamarro (2009)

Clotfelter, Ladd, and Vigdor (2007)

Kukla-Acevedo (2009)

Kane, Rockoff, and Staiger (2008)

Buddin, Richard, and Gema Zamarro. 2009. "Teacher Qualifications and Student Achievement in Urban Elementary Schools." *Journal of Urban Economics* 66 (2): 103–15. <https://doi.org/https://doi.org/10.1016/j.jue.2009.05.001>.

Clotfelter, Charles T., Helen F. Ladd, and Jacob L. Vigdor. 2007. "Teacher Credentials and Student Achievement: Longitudinal Analysis with Student Fixed Effects." *Economics of Education Review* 26 (6): 673–82. <https://doi.org/https://doi.org/10.1016/j.econedurev.2007.10.002>.

Kane, Thomas J., Jonah E. Rockoff, and Douglas O. Staiger. 2008. "What Does Certification Tell Us about Teacher Effectiveness? Evidence from New York City." *Economics of Education Review* 27 (6): 615–31. <https://doi.org/https://doi.org/10.1016/j.econedurev.2007.05.005>.

Kukla-Acevedo, Sharon. 2009. "Do Teacher Characteristics Matter? New Results on the Effects of Teacher Preparation on Student Achievement." *Economics of Education Review* 28 (1): 49–57. <https://doi.org/https://doi.org/10.1016/j.econedurev.2007.10.007>.