Lab_8

QRME Cohort!

11/10/2021

Contents

Commit 1

schidkn	sex	frl	reg_size	reg_size_aid	small_size	white	black	other	totexp	tmathss	treadss
63	girl	no	0	0	1	1	0	0	7	473	447
20	girl	no	0	0	1	0	1	0	21	536	450
19	boy	yes	0	1	0	0	1	0	0	463	439
69	boy	no	1	0	0	1	0	0	16	559	448
79	boy	yes	0	0	1	1	0	0	5	489	447
5	boy	yes	1	0	0	1	0	0	8	454	431
16	girl	yes	0	1	0	0	1	0	17	423	395
56	girl	no	1	0	0	1	0	0	3	500	451
11	girl	no	0	0	1	0	1	0	11	439	478
66	girl	no	0	0	1	1	0	0	10	528	455

Commit 2

Prior literature that explores environmental factors that influence academic achievement finds that economic status[1][2] and gender[3][4] significantly influences academic achievement.

This paper utilized here,[5] janitor,[6] rio,[7] knitr,[8] and tidyverse[9] packages from R for data cleaning and analysis.

[1] Barry, "The Effect of Socio-Economic Status on Academic Achievement."

[2] Considine and Zappalà, "The Influence of Social and Economic Disadvantage in the Academic Performance of School Students in Australia."

[3] Hubbard, "The Role of Gender in Academic Achievement."

[4] Kukulu et al., "Self-Confidence, Gender and Academic Achievement of Undergraduate Nursing Students."

[5] Müller, *Here*.

[6] Firke, *Janitor*.

[7] Chan et al., *Rio*.

[8] Xie, "Knitr."

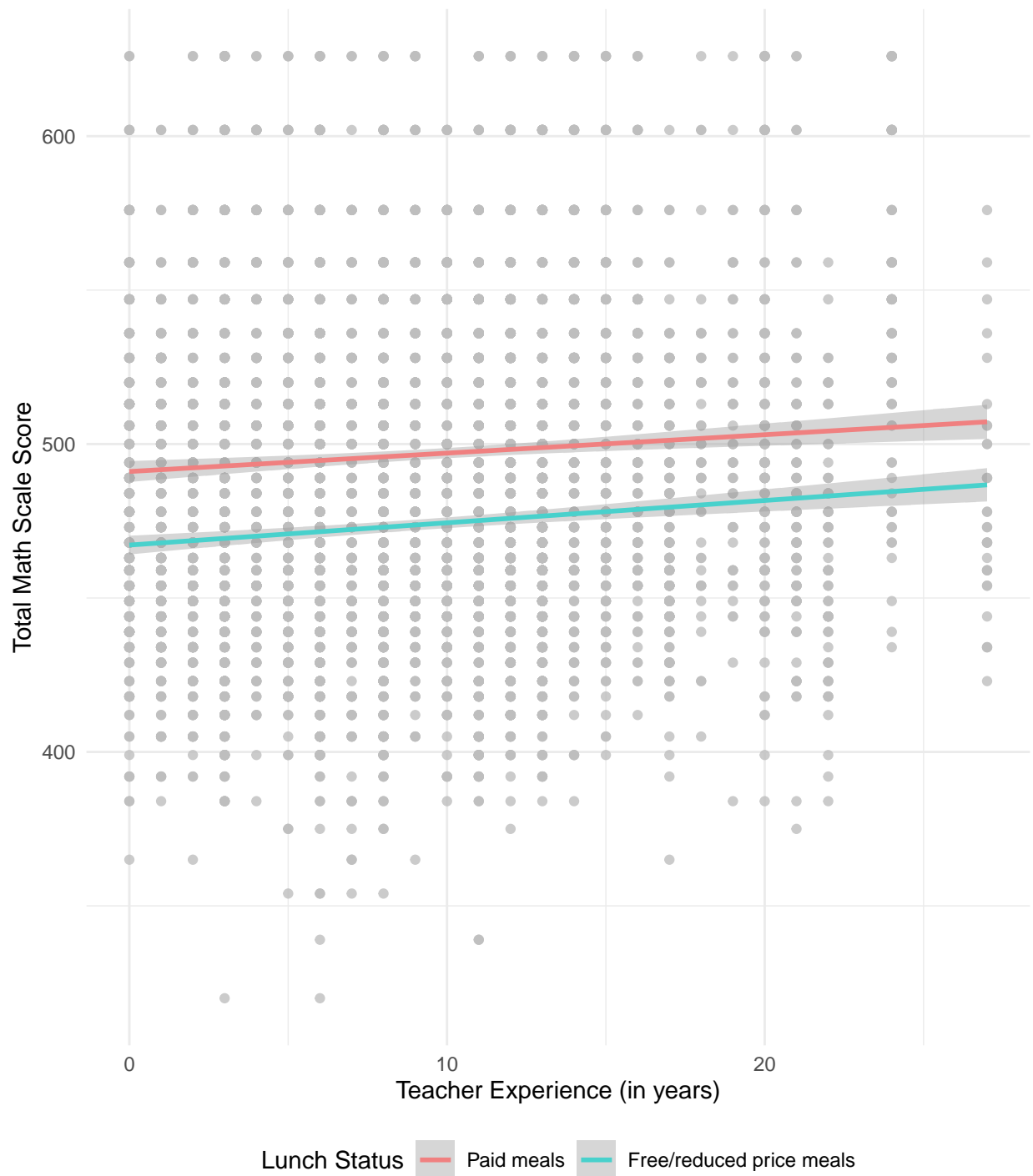[9] Wickham et al., "Welcome to the tidyverse."

Commit 3

Summary statistics for students based on sex and free reduced lunch status

On average, students from low-income families with free/reduced lunch status regardless of their sex scored lower both in Math and Reading tests than their higher-income peers.

sex	frl	math_mean	math_sd	rdg_mean	rdg_sd
boy	no	492.85	46.34	441.46	32.32
boy	yes	469.87	46.09	425.38	26.63
girl	no	501.21	45.96	448.54	34.52
girl	yes	477.51	46.30	430.80	27.42

Commit 4

Relation between teacher experience and math scores
Separate regression lines displayed by free/reduced price lunch status

Description:

1. Though the regression lines have a positive slope, it almost looks flat. We can say that teacher's experience doesn't have much affect on student's math scale scores.

2. Students with a lunch status of "Paid meals" score more than those on "Free/reduced price meals" status.

References

Barry, Jennifer. "The Effect of Socio-Economic Status on Academic Achievement," 2006.

Chan, Chung-hong, Geoffrey CH Chan, Thomas J. Leeper, and Jason Becker. *Rio: A Swiss-Army Knife for Data File i/o*, 2021 R package version 0.5.27.

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Hubbard, Lea. "The Role of Gender in Academic Achievement." *International Journal of Qualitative Studies in Education* 18, no. 5 (2005): 605–23.

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Müller, Kirill. *Here: A Simpler Way to Find Your Files*, 2020. https://CRAN.R-project.org/package=here R package version 1.0.1.

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Xie, Yihui. "Knitr: A Comprehensive Tool for Reproducible Research in R." In *Implementing Reproducible Computational Research*, edited by Victoria Stodden, Friedrich Leisch, and Roger D. Peng. Chapman; Hall/CRC, 2014. http://www.crcpress.com/product/isbn/9781466561595 ISBN 978-1466561595.