Exploring Dwell Times for Dynamic Fractals

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Abstract

Our primary research question is whether dwell times systematically differ between growth and decay sequences. We will examine this question both within and across subjects. Additionally, we are possibly interested in several exploratory analyses. For example, do specific fractal images elicit longer dwell times? Do specific levels of complexity elicit longer dwell times? Is there a dwell time pattern when fractal iterations are presented randomly? Does dwell time systematically decrease over time (if so, we may need to normalize dwell times to account for this)?

Keywords: fractals, dwell times, growth and decay sequences

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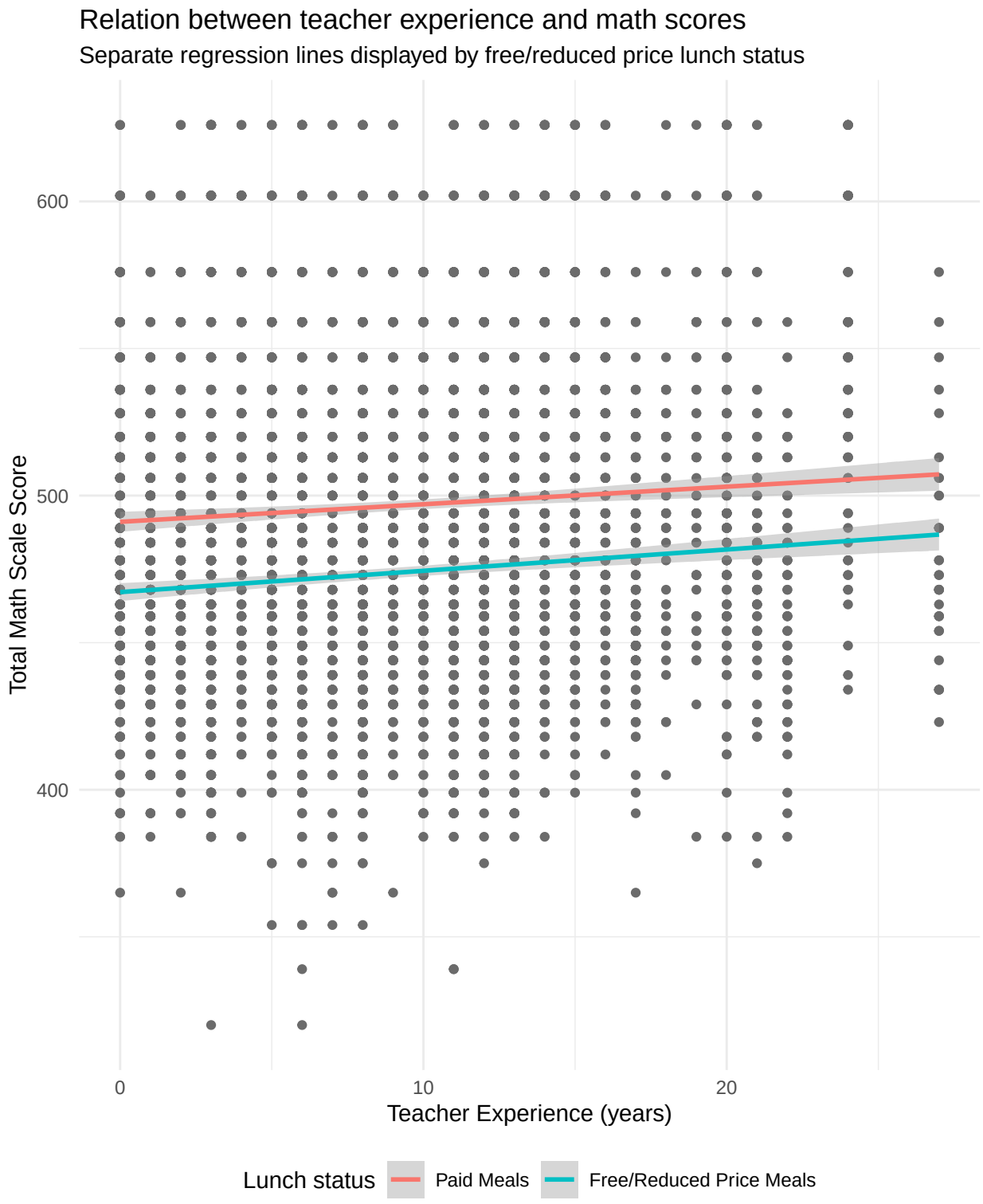
sex	frl	math_mean	math_sd	rdg_mean	rdg_sd
boy	no	492.85	46.34	441.46	32.32
boy	yes	469.87	46.09	425.38	26.63
girl	no	501.21	45.96	448.54	34.52
girl	yes	477.51	46.30	430.80	27.42

Girls who paid for their lunches had the highest reading and math scores on average. In both boys and girls students who get free lunch scored lower in both math and reading.



On average students who paid for their meals had a higher overall total math score. It does not seem that teacher experience has a strong effect on total math score. Perhaps the difference between paid or free meals relates to the students SES which has an effect on

total math score.

Methods

We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study.

Participants

Material

Procedure

Data analysis

We used R (Version 3.6.1; R Core Team, 2020) and the R-packages *dplyr* (Version 1.0.2; Wickham et al., 2020), *forcats* (Version 0.5.0; Wickham, 2020a), *ggplot2* (Version 3.3.2; Wickham, 2016), *here* (Version 0.1; Müller, 2017), *janitor* (Version 2.0.1; Firke, 2020), *papaja* (Version 0.1.0.9997; Aust & Barth, 2020), *purrr* (Version 0.3.4; Henry & Wickham, 2020), *readr* (Version 1.4.0; Wickham & Hester, 2020), *rio* (Version 0.5.16; Chan, Chan, Leeper, & Becker, 2018), *stringr* (Version 1.4.0; Wickham, 2019), *tibble* (Version 3.0.4; Müller & Wickham, 2020), *tidyr* (Version 1.1.2; Wickham, 2020b), and *tidyverse* (Version 1.3.0; Wickham, Averick, et al., 2019) for all our analyses.

Results

Discussion

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