

Shovel More Dirt on Pre-K

Freddie deBoer
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So I would ordinarily shy away from doing an old-school blog post that simply links to something else, but this feels like a study that calls out for an exception. I've just been reading a paper in the journal *Developmental Psychology*¹, thanks to a friend's library access. It's a pre-K study that has many virtues, including

1. Large n (2990 kids)
2. Genuine random assignment
3. Longitudinal design
4. Confirms my priors

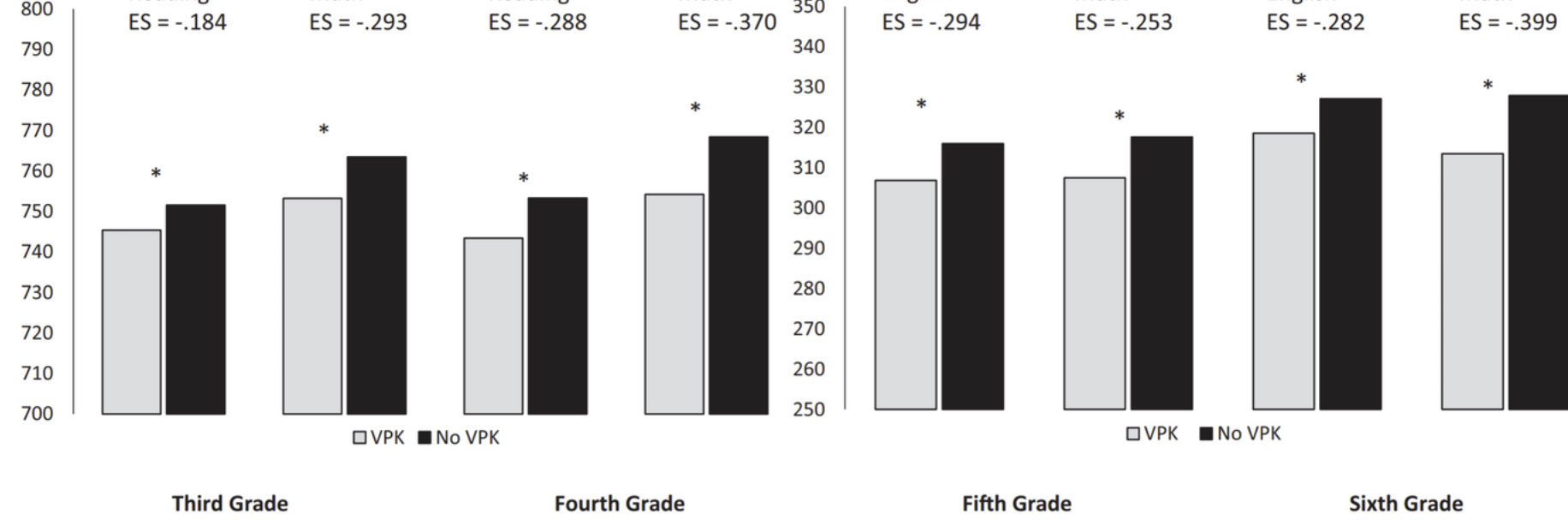
... and it says kids who were assigned to the pre-K condition actually did worse than kids who were not.

Table 3
Effect Sizes for the RCT and ISS Samples for Sixth Grade Outcomes

| Outcome | RCT (N = 2,591–2,700) | | ISS (N = 914–965) | |
|-------------------|-----------------------|-------|-------------------|-------|
| | ITT | TOT | ITT | TOT |
| Achievement tests | | | | |
| English | -.128 | -.240 | -.091 | -.185 |
| Math | -.178 | -.333 | -.113 | -.227 |
| Science | -.132 | -.249 | -.075 | -.156 |
| On grade | -.025 | -.047 | .063 | .125 |
| IEP | -.107 | -.203 | -.135 | -.270 |
| School rules | -.119 | -.222 | -.158 | -.316 |
| Major offenses | -.083 | -.157 | -.073 | -.146 |
| Any offenses | -.090 | -.170 | -.140 | -.278 |

Note. Effect sizes are the coefficient for the treatment-control difference divided by the pooled standard deviation. Negative signs indicate a less favorable outcome for the treatment group. RCT = randomized control trial; ISS = intensive substudy; ITT = intent-to-treat; TOT = treatment-on-treated; IEP = Individualized Education Program.

Standardized Tests TOT Weighted Covariate-Adjusted Means in Third through Sixth Grades (RCT Analytic Sample)



Note. TOT = treatment-on-treated; RCT = randomized control trial; ITT = intent-to-treat. Asterisks indicate significant differences (p < .05). These graphs include students who have been promoted or retained. The grades noted above refer to students' expected grade levels. More detailed ITT and TOT results for each grade with observed and weighted data are provided in Supplemental Table S6. Analyses were also performed including only students who were at or above expected grade level with similar results (Supplemental Table S7).

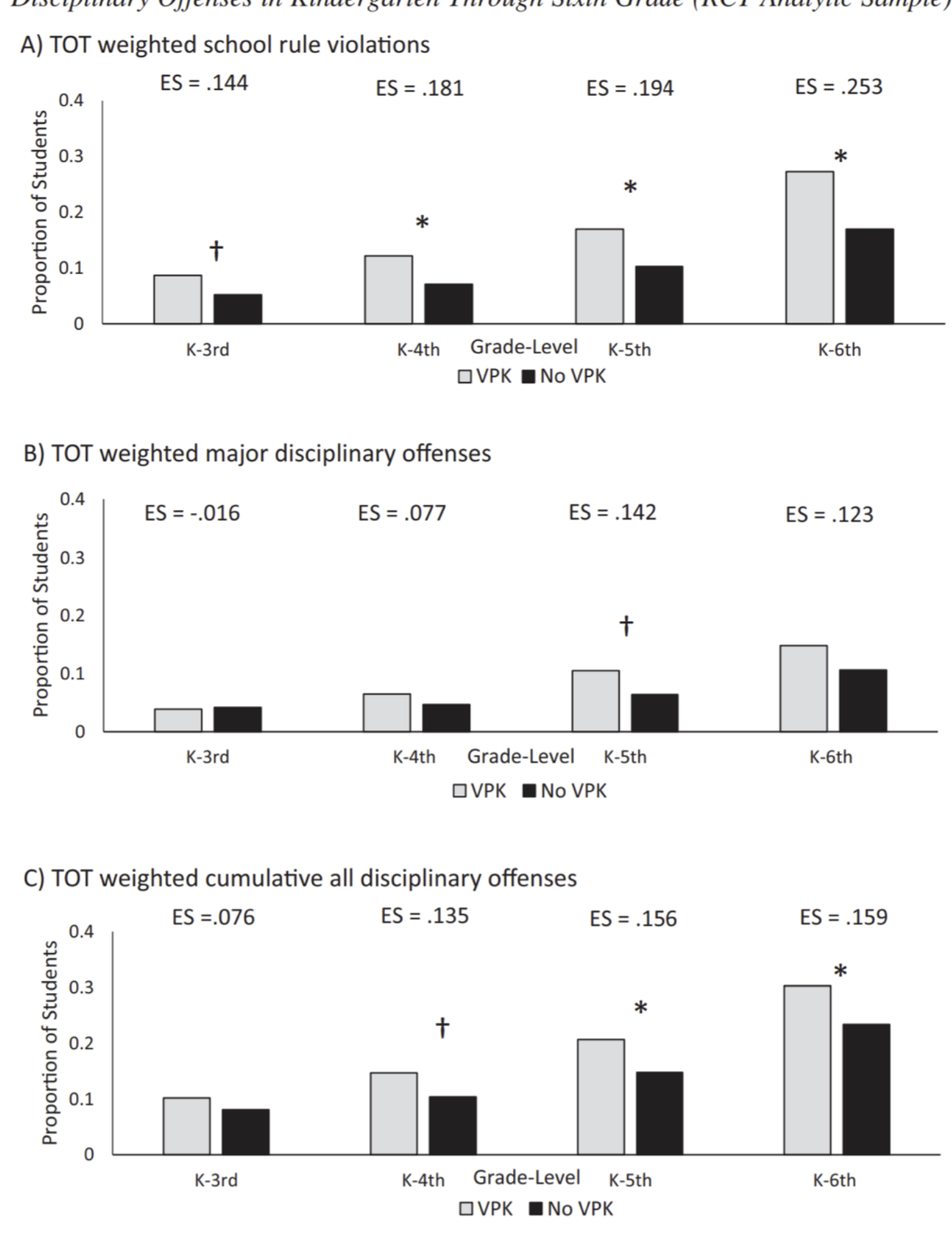
VPK = Tennessee Voluntary Pre-K

Pre-K advocates tend to fixate on non-academic indicators as a way to justify pre-K programs. But attendance was mildly worse for the pre-K group:

Attendance rates in sixth grade (proportion of instructional days without a recorded absence) were high for both TN-VPK participants and nonparticipants. Nonetheless, the difference between groups was statistically significant with a slightly higher rate for nonparticipants (97.5% vs. 97.1%, p = .013 for the ITT analysis with observed values). Supplemental Table S11 provides model details for each year (see also Supplemental Figure S3). Sixth grade was the first academic year with a significant attendance difference between conditions, although there were marginally significant effects in kindergarten and first grade.

Nor can we find any solace in disciplinary action:

Figure 3
Disciplinary Offenses in Kindergarten Through Sixth Grade (RCT Analytic Sample)

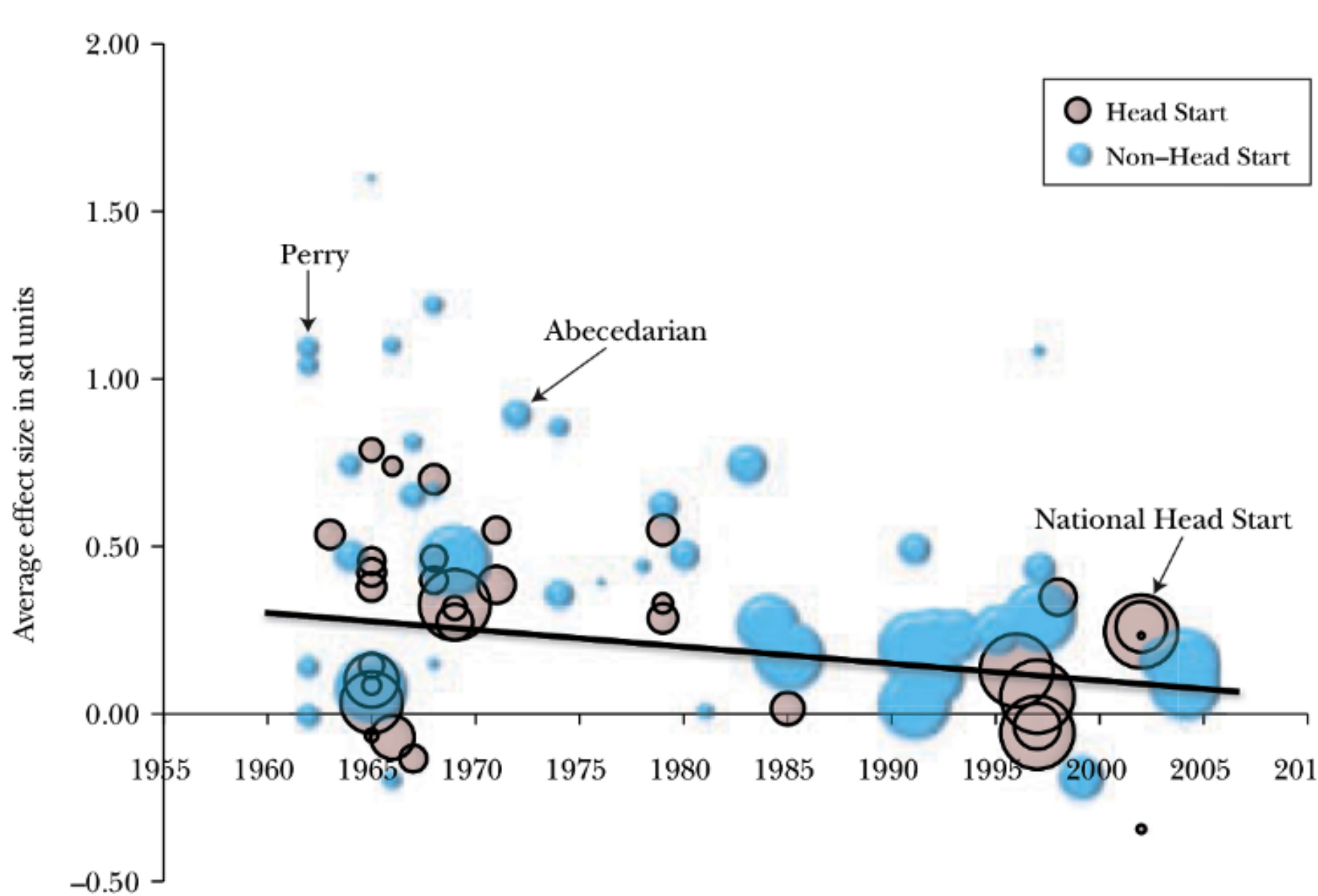


Note. RCT = randomized control trial; TOT = treatment-on-treated. Percentage of students with (A) one or more school rule violation disciplinary offenses, (B) one or more major disciplinary offenses, and (C) any type of disciplinary offense across grades. Asterisks indicate p < .05 and obelisks indicate p < .10. Cumulative disciplinary analyses are located in Supplemental Table S13.

So, yeah. Looks bad! Random assignment to condition for a large and representative n studied longitudinally shows kids who got pre-K do meaningfully worse than those who didn't.

"Beware the man of one study!" you might say. But, well, we have many more studies than one showing this outcome, now. I just wrote about it not that long ago: the pre-K research record is most optimistically described as mixed and most realistically described as discouraging. I've been writing about it for a long time, actually, and the song remains the same. This chart is out of date at this point, but the overall trend is still informative.

Figure 2
Average Impact of Early Child Care Programs at End of Treatment
(standard deviation units)



Source: Authors.
Notes: Figure 2 shows the distribution of 84 program-average treatment effect sizes for cognitive and achievement outcomes, measured at the end of each program's treatment period, by the calendar year in which the program began. Reflecting their approximate contributions to weighted results, "bubble" sizes are proportional to the inverse of the squared standard error of the estimated program impact. There is a weighted regression line of effect size by calendar year.

There are always exceptions and there are examples touted as proof that pre-K works. But the drift from the initial positive studies to more pessimistic later studies seems clear, from where I'm sitting, and the most compelling and parsimonious explanation is that we've gotten better at doing this research over time, with better study designs and higher data quality. The results are what they are. But liberals are forever looking for magic bullets in education, and a lot of them got very professionally, politically, and emotionally invested in pre-K, and it's just really hard to get them to confront all the bad news.

I've said before, and others have said before, that we should absolutely fund universal child care in this country, which many other developed countries do. But the worst way to fund these things is to look at them as moving the needle on quantitative academic indicators, which (as I will not stop saying) tend to move very little, in relative terms, over the course of the average student's life. It's the same with afterschool programs - the educational benefits appear low, but the social benefits are potentially great, in terms of freeing up adults to go to jobs and make money with which to keep their kids secure and comfortable. Say it with me: universal child care now!

1 I'm afraid the article itself is paywalled, and I couldn't even find it on Sci-Hub, but if you know someone with academic library access you might be able to scare it up. In completely unrelated news, my email is freddie7 AT gmail DOT com. [Edit: This was an artful attempt to say that I have the study if you want to email me and ask for it because academic paywalls are a travesty. However I was too artful and it made it sound like I was asking for the study myself. I have it and have read it, and yes, you can email me and ask for it.]

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