

## Homework: An unnecessary evil? ... Surprising findings from new research

Taken from: <https://www.washingtonpost.com/news/answer-sheet/wp/2012/11/26/homework-an-unnecessary-evil-surprising-findings-from-new-research/>

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By Alfie Kohn

A brand-new [study](#) on the academic effects of homework offers not only some intriguing results but also a lesson on how to read a study — and a reminder of the importance of doing just that: reading studies (carefully) rather than relying on summaries by journalists or even by the researchers themselves.

Let's start by reviewing what we know from earlier investigations. First, no research has ever found a benefit to assigning homework (of any kind or in any amount) in elementary school. In fact, there isn't even a positive *correlation* between, on the one hand, having younger children do some homework (vs. none), or more (vs. less), and, on the other hand, any measure of achievement. If we're making 12-year-olds, much less five-year-olds, do homework, it's either because we're misinformed about what the evidence says or because we think kids ought to have to do homework *despite* what the evidence says.

Second, even at the high school level, the research supporting homework hasn't been particularly persuasive. There does seem to be a correlation between homework and standardized test scores, but (a) it isn't strong, meaning that homework doesn't explain much of the variance in scores, (b) one prominent researcher, Timothy Keith, who did find a solid correlation, returned to the topic a decade later to enter more variables into the equation simultaneously, only to discover that the improved study showed that homework had no effect after all, and (c) at best we're only talking about a correlation — things that go together — without having proved that doing more homework *causes* test scores to go up. (Take 10 seconds to see if you can come up with other variables that might be driving both of these things.)

Third, when homework is related to test scores, the connection tends to be strongest — or, actually, least tenuous — with math. If homework turns out to be unnecessary for students to succeed in that subject, it's probably unnecessary everywhere.

Along comes a new study, then, that focuses on the neighborhood where you'd be most likely to find a positive effect if one was there to be found: math and science homework in high school. Like most recent studies, this one by Adam Maltese and his colleagues doesn't provide rich descriptive analyses of what students and teachers

are doing. Rather, it offers an aerial view, the kind preferred by economists, relying on two large datasets (from the National Education Longitudinal Study [NELS] and the Education Longitudinal Study [ELS]). Thousands of students are asked one question — How much time do you spend on homework? — and statistical tests are then performed to discover if there's a relationship between that number and how they fared in their classes and on standardized tests.

It's easy to miss one interesting result in this study that appears in a one-sentence aside. When kids in these two similar datasets were asked how much time they spent on math homework each day, those in the NELS study said 37 minutes, whereas those in the ELS study said 60 minutes. There's no good reason for such a striking discrepancy, nor do the authors offer any explanation. They just move right along — even though those estimates raise troubling questions about the whole project, and about all homework studies that are based on self-report. Which number is more accurate? Or are both of them way off? There's no way of knowing. And because all the conclusions are tied to that number, all the conclusions may be completely invalid.

But let's pretend that we really do know how much homework students do. Did doing it make any difference? The Maltese et al. study looked at the effect on test scores and on grades. They emphasized the latter, but let's get the former out of the way first.

Was there a correlation between the amount of homework that high school students reported doing and their scores on standardized math and science tests? Yes, and it was statistically significant but “very modest”: Even assuming the existence of a causal relationship, which is by no means clear, one or two hours' worth of homework every day buys you two or three points on a test. Is that really worth the frustration, exhaustion, family conflict, loss of time for other activities, and potential diminution of interest in learning? And how meaningful a measure were those tests in the first place, since, as the authors concede, they're timed measures of mostly mechanical skills? (Thus, a headline that reads “Study finds homework boosts achievement” can be translated as “A relentless regimen of after-school drill-and-skill can raise scores a wee bit on tests of rote learning.”)

But it was grades, not tests, that Maltese and his colleagues really cared about. They were proud of having looked at transcript data in order to figure out “the exact grade a student received in each class [that he or she] completed” so they could compare that to how much homework the student did. Previous research has looked only at students' overall grade-point averages.

And the result of this fine-tuned investigation? There was no relationship whatsoever between time spent on homework and course grade, and “no substantive difference in grades between students who complete homework and those who do not.”

This result clearly caught the researchers off-guard. Frankly, it surprised me, too. When you measure “achievement” in terms of grades, you expect to see a positive result — not because homework is academically beneficial but because the same teacher who gives the assignments evaluates the students who complete them, and the final grade is often based at least partly on whether, and to what extent, students did the homework. Even if homework were a complete waste of time, how could it not be positively related to course grades? And yet it wasn’t. Again. Even in high school. Even in math. The study zeroed in on specific course grades, which represents a methodological improvement, and the moral may be: *The better the research, the less likely one is to find any benefits from homework.* (That’s not a surprising proposition for a careful reader of reports in this field. We got a hint of that from Timothy Keith’s reanalysis and also from the fact that *longer* homework studies tend to find less of an effect.)

Maltese and his colleagues did their best to reframe these results to minimize the stunning implications. Like others in this field, they seem to have approached the topic already convinced that homework is necessary and potentially beneficial, so the only question we should ask is *How* — not whether — to assign it. But if you read the results rather than just the authors’ spin on them — which you really need to do with the work of others working in this field as well — you’ll find that there’s not much to prop up the belief that students must be made to work a second shift after they get home from school. The assumption that teachers are just assigning homework badly, that we’d start to see meaningful results if only it were improved, is harder and harder to justify with each study that’s published.

If experience is any guide, however, many people will respond to these results by repeating platitudes about the importance of practice, or by complaining that anyone who doesn’t think kids need homework is coddling them and failing to prepare them for the “real world” (read: the pointless tasks they’ll be forced to do after they leave school). Those open to evidence, however, have been presented this fall with yet another finding that fails to find any meaningful benefit even when the study is set up to give homework every benefit of the doubt.