

Very Preliminary
Comments Welcome

The Effect of School Accountability Policies on Children's Health:

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Abstract

Through the No Child Left Behind Act (NCLB), schools face increasing pressure to deliver on standardized tests. Since schools are held accountable for test scores, but not for other student outcomes, such as children's health, schools facing pressure may make decisions designed to increase test scores that may have unintended consequences for children's weight. . There is evidence that since the passage of NCLB, schools have reallocated time toward math and literacy and away from other subjects. Most importantly, in allocating more time to instruction, they are reducing time for physical activity, like recess and physical education classes. Additionally, schools trying to increase test passing rates may use junk food sales to generate profits that can be used on supplemental instruction. These changes may inadvertently increase overweight and obesity. We compare schools who are likely marginal, in the sense that they expect to come very close to failing to make AYP, with those that are inframarginal. We find that schools who were within 5 points of the AYP threshold (in either direction) in year t-1 have a small, but statistically significantly higher rate of overweight and obesity in year t. This short-run impact of about three-quarters of a percentage point (or a 2 percent increase in the rate), approximately doubles in the long run.

I. Introduction

Childhood obesity has increased dramatically over the past three decades, from about 4 percent during the mid-1970s to 16 percent today. There have been many changes in children's lives during the period when children's obesity has been increasing (see Anderson and Butcher 2006a). In particular, there have been changes at home and at school that may contribute to increased obesity. Understanding how the school environment may contribute to obesity is critical as the school environment may be relatively more within the control of public policy makers than the family. In recent years, especially, pressures on schools have changed dramatically. First, over the 1980s, many states passed tax and expenditure limitation laws that fundamentally altered the way schools had traditionally been financed. Second, during the 1990s and 2000s, the emphasis has turned to "accountability," which puts new pressure on schools to improve academic outcomes, without necessarily providing more resources with which to produce these outcomes. In 2002, the Federal No Child Left Behind (NCLB) legislation was passed, requiring states to define and implement stringent accountability standards and prescribing increasing penalties for schools that fail to meet their state's standard.

This paper investigates how these new accountability pressures may affect children's obesity. Children's health is typically not among the outcomes for which schools are held accountable – standard test achievement is the primary area monitored, with secondary emphasis on attendance and graduation rates. Schools facing increased pressures to produce academic outcomes may reallocate their efforts in ways that have unintended consequences for children's health. The new financial pressures due to accountability rules may, for example, induce school administrators to try to raise new funds through outside food and beverage contracts,¹ or time

¹Anderson and Butcher (2006b) find evidence that schools that are under more financial pressure are more likely to give students access to junk food and that students in these schools have higher BMI.

pressures may cause them to cut back on recess and physical education in favor of increased academics.²

We created a unique data set for Arkansas that allows us to test the impact of NCLB rules on students' weight outcomes. These data combine school-level rates of "obesity" and "overweight" for children in all schools in Arkansas with data from the Arkansas Department of Education on standardized test pass rates for all schools, by grade and subgroup.³ The standardized test pass rates are those used for determining whether a school is making adequate yearly progress (AYP) under NCLB. Our working premise is that NCLB-induced behavioral changes are likely to be greatest among schools that are close to the AYP thresholds. That is, schools easily meeting AYP standards are unlikely to feel the need to change their behaviors in the face of NCLB. Similarly, schools very far from making the standards may feel pressure, but will be less likely to think that a small change such as a reduction in recess time will be useful in addressing their deficiencies. Thus, we expect that schools with test scores just above and just below the AYP threshold in year t-1 are the most likely to make changes that might result in more overweight and obese students by year t. By comparing these schools to those far away from the thresholds, as described in more detail below, we can determine if NCLB is having an unintended impact on children's health.

In what follows we provide background on the Arkansas initiative to measure children's obesity rates in schools (Arkansas Assessment of Childhood and Adolescent Obesity) and the

² Center on Education Policy (2007) finds 20% of school districts have decreased recess time since NCLB was enacted, with an average decrease of 50 minutes per week.

³ Obesity is defined as having a body mass index (BMI) greater than the 95th percentile of a distribution of age- and sex-specific BMIs from a baseline population from the 1970s. Overweight is defined analogously, with BMI greater than the 85th percentile. The official Arkansas documentation follows CDC convention and labels these thresholds differently as "overweight" and "at risk of overweight," respectively. We will use the more common terms "obese" and "overweight" instead.

Arkansas School Performance Report. In Section III we describe our data, while in Section IV we detail our methodology. Section V presents our results and Section VI concludes.

II. Background

A. Arkansas Assessment of Childhood and Adolescent Obesity⁴

In 2003 the state of Arkansas passed a sweeping act intended to help combat childhood and adolescent obesity. Although obesity has been increasing nationwide, obesity levels were particularly high in Arkansas. In 2003, about 21 percent of school aged children in Arkansas were obese or overweight, while this figure was about 18 percent for the nation as a whole.⁵ A multifaceted coalition came together to address the challenge of childhood obesity, and passed Act 1220 of the 2003 Arkansas General Assembly.⁶ Reporting health risk information, in particular a child's BMI and whether that BMI indicated the child was underweight, normal weight, overweight, or obese, to each parent was a central component of this initiative (ACHI 2004).

The Arkansas Center for Health Improvement spearheaded the effort to collect height and weight information for each school child in the state of Arkansas. This effort included ensuring that each school had the equipment and trained personnel necessary to accurately weigh and measure each child.⁷ A letter then went home to each parent describing the child's BMI, where this fit in the BMI distribution, and the type of health risks that might be associated with the child's BMI. Parents with children with an unhealthy weight were urged to consult a physician.

⁴ This section draws heavily from the yearly reports on the Arkansas Assessment of Childhood and Adolescent Obesity released by the Arkansas Center for Health Improvement. Reports are available online at: www.achi.net

⁵ Comparison of Table 1 in ACHI (2004) to NHANES 2003-2004 calculations (<http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/prevalence.htm>).

⁶ The coalition included parents, school nurses, teachers, and administrators, private foundations (including Robert Wood Johnson), physicians, hospitals, universities, Governor Mike Huckabee, the Arkansas Departments of Education and Health, among many others.

⁷ Training included taking each measure a number of times to ensure accuracy.

An implicit assumption of this effort was that if better information was in the hands of parents, they could make, or help their children make, better informed, more healthful, choices that would improve their weight outcomes.

This research is not an evaluation of the success of Arkansas' effort to combat childhood obesity. Rather, we take advantage of the fact that Arkansas is the only state with virtually complete records on childhood obesity⁸ over a number of years. Data are publicly available at the school level for nearly every school in Arkansas. We will go into more detail about the data in the following sections. However, due to the Arkansas Assessment of Childhood and Adolescent Obesity, for each public school in Arkansas we have information on the percent of students who are underweight, normal weight, overweight, and obese, between 2004 and 2007.

B. Arkansas Department of Education: Arkansas School Performance Report

At the same time that Arkansas was making efforts to improve children's health outcomes, the Federal government began its nationwide effort to improve children's academic outcomes through the NCLB school accountability policies. These efforts have something in common: a central tenet of both is that hard data are needed in order to establish an accurate baseline and assess progress. Although the details of NCLB as it is implemented in Arkansas are quite complicated, the basics of the policy can be described fairly straightforwardly. Students in selected grades take state-wide standardized tests in reading and math that are appropriate to their grade. The state sets the passing score on the test and creates a schedule showing what fraction of students must pass each test in each year to be considered meeting

⁸ There was a 94% response rate for all public school students in the first year of the data collection effort (ACHI 2004, p. 3). That figure reached 99% in 2006-2007 (ACHI 2007, p. 5).

Adequate Yearly Progress (AYP). The passing rate increases over time until 100 percent of students are required to meet the standard by 2014.

A school's AYP designation is determined by the average passing rate of its students overall. In addition, the passing rate of all designated sub-groups that have an enrollment of 40 or more students must also meet the goal. Student sub-groups are defined by race (for whites, African Americans, Hispanics, etc.), and as low socio-economic status, English language learners, migrants, and students with disabilities. If any one of the student subgroups fails to attain AYP, then the entire school is designated as failing to meet AYP.⁹

While these basic rules are straightforward enough, in practice a school can be deemed to meet or fail to meet AYP for several other reasons. For example, even if a school (or subgroup) has a lower fraction of students meeting AYP than the passing standard requires, it still might make AYP through the "Safe Harbor" provision, which allows a school to be deemed as passing if the percentage of failing students (within subject and subgroup) declines by ten percent relative to the prior year. On the other hand, a school will be deemed as failing despite its passing rate if too low a fraction of its students participate in the test, or if attendance or graduation rates are below the target threshold.¹⁰ Because of the many details involved in determining AYP status, in order to perfectly predict a school's status it is necessary to use micro-data on student level performance. Since only aggregate data are available to us, we cannot perfectly predict AYP status. Nonetheless, the aggregate data should be sufficient to identify schools that should think that they are just marginally making or missing AYP.

⁹ We refer to these as "failing" schools, though the official nomenclature is that these schools are in "School Improvement Status."

¹⁰ More information on the Arkansas accountability plan is available at http://arkansased.org/nclb/pdf/accountability_wkbk_021208b.pdf.

III. Data

For our dependent variable, we use rates of overweight and obesity at the school-by-year level. These data come from the Arkansas Center for Health Improvement, which collects BMI data on essentially all public school students state-wide, and has made school-level rates of overweight and obesity publicly available from 2004-2007. To measure the school's performance under NCLB, we use information from the state school report cards from the Department of Education of the State of Arkansas. They provide information from 2002-2007 on the school-by-grade-level percent of students attaining proficiency in math and reading for the grade overall and for each NCLB-defined subgroup. We do not have access to microdata on test scores.

Because student test scores are publicly reported on the school report cards if there are at least 10 students in the school-by-grade-by-subgroup cell, but the scores only count toward AYP calculations if there are at least 40 students in the cell, we needed to obtain measures of subgroup sample sizes. Although perfect data on this are not publicly available, we are able to estimate population from the Common Core of Data (CCD) for the years 2002-2006.¹¹ The CCD data report annual school-by-grade enrollment overall and for several subgroups of interest (whites, African Americans and Hispanics). In addition, we were able to proxy for the number of low-income students in each grade by multiplying the school-level fraction of students on free- or reduced-priced lunch by the grade-specific enrollment. We used the information on enrollment from the CCD to omit test scores from accountability calculations if they were based on a population of less than 40 students in the school and grade.

¹¹ Because the BMI and test score data extend to 2007 but CCD data are not yet available for that year, we assign 2007 CCD data to be the same as the 2006 data.

Since a school will fail to make AYP if any subgroup fails to meet the passing threshold, we are especially interested in the worst-performing subgroup. For each school-grade year, for each test, for each subgroup with an acceptable group size, we standardize the passing rates around the AYP threshold. For example, for the 4th grade math test, the initial passing threshold is 40 percent. If a subgroup had a 45 percent passing rate, their standardized rate for 4th grade math in the initial year is 5. Similarly if a subgroup had a passing rate of 30, their standardized rate for 4th grade math in the initial year is -10. Thus, positive standardized rates represent meeting AYP, while negative ones represent failure to meet AYP. Since AYP is determined at the school-level, not grade-level, we then aggregate the data to the school-year level. We use the worst performing grade overall and for each subgroup to be representative of the school. We then choose the worst performing subgroup upon which to base our assessment of AYP performance. We also maintain the overall math and literacy rates, as they reflect more generally on the school's academic performance. Additionally, based on the CCD, we calculate the percentage of the school's students who are nonwhite, and the percent poor to control for observable demographics.

IV. Methodology

An important concern in determining if NCLB has an effect on child health is the fact that the types of schools doing better or worse in terms of AYP are likely to be very different in terms of the characteristics of their students and neighborhoods. At the same time, we have very limited access to background characteristics. However, while it is likely that very poor performing schools are more likely to have students with low socioeconomic (SES) characteristics that are positively correlated with overweight in the US, the opposite is most

likely true of very high performing schools. By comparing the “middle-performing” schools that are close to the AYP thresholds to the pooled extreme groups, we are less likely to simply be estimating a low SES effect.¹² This concern is also one reason why a simple focus on failing schools may give misleading results. However, Center on Education Policy (2007) found that among districts with at least one failing school, 22 percent reduced recess time (and by 60 minutes per week), compared to 19 percent (and by 47 minutes) for those with no failing schools. A reasonable approach to evaluating NCLB, then, might be to implement a regression discontinuity (RD) design, comparing those just failing to those just passing. The idea here would be that being placed on the failure list elicited changes in school policy. Assuming that SES characteristics changed smoothly with test passing rates, controlling flexibly for these passing rates would allow the RD design to estimate the causal impact of being placed on the failure list, despite the positive correlation between low test scores and low SES.

As expected, an observable marker of SES such as percent of students who are nonwhite declines smoothly with the standardized test score for the minimum scoring subgroup (see Figure 1), making an RD approach seem promising. Unfortunately, as noted earlier, the aggregate data make it difficult to pinpoint exactly which schools get placed on the failing list, leading to the lack of an actual discontinuity in failure rates. Thus, as seen in Figure 2, the probability of being placed on the school failure list declines smoothly across the negative standardized scores through to the positive scores, before it asymptotes to zero, with no discontinuity at the zero standardized test threshold. If we restrict the sample to schools where the running variable exactly predicts failure, we now observe a discontinuity in observable characteristics (see

¹² In fact, in the raw data being “close” to the threshold is negatively related to the percent of the students who are poor and the percent who are nonwhite.

Figures 3 and 4). Thus, we would worry that any positive effect of failure evident in an RD model would be spurious.¹³

Our approach, then, is to consider “marginal” schools with a minimum subgroup passing rate that is close to the AYP threshold. We define close as being 5 percentage points above or below the threshold.¹⁴ While schools may have some idea that they are going to be close to making or missing the AYP threshold and change behaviors contemporaneously, we will nonetheless estimate current rates of overweight or obese based on the previous year’s test results to ensure that the school has had time to react to being close to the AYP threshold.

V. Results

We start by examining some basic descriptive statistics on the final data set. Looking at the top panel of Table 1, we see that almost a fifth of schools are classified as being “close” to the AYP threshold, with the remaining schools being almost evenly split between being more clearly in failing territory and passing territory. Turning to the second panel, we see that at the average school, about 38 percent of students are classified as overweight or obese, while the other 62% are classified as healthy or underweight. Some schools further break out students’ weight status into just underweight, just healthy weight, and most separate out the obese from the overweight and obese, as can be seen in the bottom panel. Note that at the average school, while the majority of students are of healthy weight, about 21 percent are obese.

Moving across columns in Table 1, we can compare the schools that are close to the AYP threshold with those that are not. First, as seen in the second panel, in these raw data the close schools have a slightly higher percentage of overweight and obese students. In the third panel, it

¹³ Note that a model controlling for quartics of the minimum group pass rate, percent nonwhite and percent poor implies that failing schools have a 1.2 percentage point higher rate of overweight.

¹⁴ We have also experimented with 3 and 8 points above and below with qualitatively similar results.

is clear that the overall test performance of these close schools is just a tiny bit worse than the non-close schools. Recall that the sample is very slightly tilted toward schools well above the AYP threshold (42 percent) versus those well below (40 percent), so this slight difference is not surprising. The difference in the fraction of students who are poor is also relatively small, as the average close school has about 50 percent of its students being poor, and the average non-close school has 52 percent. Bigger differences are seen in the percent nonwhite, as the average non-close school has 26 percent of its students being nonwhite, while the average close school has only about 18 percent. In all of our models, though, we will control flexibly for all of these observable background variables. Finally, it is important to note that this sample is a panel, covering the years 2004 to 2007. All of our models will include a time trend.

Our main model is estimated in the first column of the top panel of Table 2. Here we see that compared to schools that were well above or below the AYP threshold in the previous year, schools that were within 5 points of that threshold have a student overweight and obese rate that is three-quarters of one percentage point higher. While, this effect is quite small, it is statistically significantly different from zero. Similarly, moving down to the second panel, we see that there is also a significant effect on just the obese, with this rate being about one half of one percentage point higher for the schools that are close to the AYP threshold. Reassuringly, the bottom panel shows that there is no significant effect on the rate of being underweight. Recall that our theorized mechanism for NCLB impacting student weight is mainly via reductions in recess and physical education, changes that are unlikely to affect underweight status.¹⁵

Theoretically, these close schools should be changing behaviors in a way that is detrimental to their students' health in a manner that neither those well below the AYP threshold

¹⁵ Another possible mechanism is increased sale of junk food to raise funds to replace those being spent on academic pursuits. While theoretically, this could lift individuals into the healthy weight status, it seems relatively unlikely.

nor well above it will do. Thus, we further investigate whether the positive effect seen in the first column is driven entirely by a comparison with one end or the other. The second column, then, includes an indicator for being well below the AYP threshold, so that the close indicator is now in comparison only to those well above the threshold. Alternatively, the third column includes an indicator for being well above the AYP threshold, so that the close indicator is in comparison only to those well below the threshold.¹⁶ First, it is important that in both of these columns, the point estimate for being close to the AYP threshold is positive. That said, it is clear that more of the significant overall effect is being driven by the comparison with the higher group. Compared to schools scoring well above the AYP thresholds, close schools' student overweight rate is more than a full percentage point higher. When compared to schools scoring well below the AYP thresholds, though, close schools' student overweight rate is only about one half of one percentage point higher. Additionally, only the former comparison is significantly statistically different from zero. The results in panel two show a similar panel, while there remains no significant effect on underweight (although as with the upper panels, the signs of the point estimates are the same across columns).

It seems reasonable to conclude that “marginal” schools under NCLB, that is, those who realistically expect to be close to just making AYP, are those making changes that are adversely affecting their students' health. The impact is very small, increasing obesity rates by about 2 percent.¹⁷ Note however, that this number represents a one-year impact. Table 3 further investigates the timing of the effect, estimating models with additional lags.¹⁸ The first column

¹⁶ Obviously, the point estimates in this third column could be obtained from the estimates in the second column. We estimate this model in order to present the standard errors of all the coefficients.

¹⁷ For overweight and obesity, a .753 increase on a base of 38.24 is a 1.97% increase, while for obesity only, a .465 increase on a base of 21.04 is a 2.21% increase.

¹⁸ Note that because we have data on test scores for more years than we have data on obesity rates, adding additional lags does not appreciably reduce our sample until a lag for year t-3 is included.

is simply that from the main model in Table 2, presented here for convenience. In the second column we see that the additional lag is significant, and slightly bigger than the original model. At the same time, the first lag also remains significant and only slightly smaller than before. The resulting long run impact is significant and almost twice the size of the original model, implying an increase in the rate of overweight and obesity of 1.4 percentage points (or a 3.7 percent increase on the base of 38). The final column adds one more lag, although this now reduces the sample by a full year's worth of data. With three lags included, the significance of each lag drops, but all remain significant at the 10 percent level and the long run impact is very significant, at 1.687. That said, this effect is not significantly different from that using two lags, and the price in terms of data reduction is steep. Thus, it seems safe to conclude that the long run impact of being a marginal school under NCLB is about twice that of the short run impact, and is in the range of a 1.5 percentage point (4 percent) increase in the share of students who are overweight or obese.

VI. Conclusions and Further Avenues for Research

Through the No Child Left Behind Act, schools face increasing pressure to deliver on standardized tests. Since schools are held accountable for test scores, but not for other student outcomes, such as children's health, schools facing pressure may make decisions designed to increase test scores that may have unintended consequences for children's weight. Previous research by Figlio and Winicki (2005) has found that schools serve higher calorie meals on the days of high-stakes exams, for example. More broadly, schools trying to increase test passing rates may change the sort of foods available because food sales may generate profits that can be used on supplemental instruction. Additionally, there is evidence that since the passage of

NCLB, schools have reallocated time toward math and literacy and away from other subjects. Most importantly, in allocating more time to instruction, they are reducing time for physical activity, like recess and physical education classes. These changes may inadvertently increase overweight and obesity.

Because it is clear that schools with lower test scores also have students with worse socioeconomic outcomes and thus tend to have worse weight outcomes, one cannot simply comparing poor performing schools to top performers. Instead, we compare schools who are likely marginal, in the sense that they expect to come very close to failing to make AYP, with those that are inframarginal. These inframarginal schools expect either to easily make AYP or to have very little chance of doing so. Thus, it is the marginal schools that would be most likely to try changing their behavior in these small ways that might affect both their students' test scores and weight outcomes. In fact, we find that schools who were within 5 points of the AYP threshold (in either direction) in year t-1 have a small, but statistically significantly higher rate of overweight and obesity in year t. This short-run impact of about three-quarters of a percentage point (or a 2 percent increase in the rate), approximately doubles in the long run, though.

These results present prima facie evidence that there may be unintended adverse consequences for student health of the NCLB accountability rules. While these results are perhaps too preliminary to indict accountability in the childhood obesity epidemic, they do suggest that parents and school administrators should keep in mind the potential for impacts on children's health as they consider how to reallocate school resources in pursuit of test score gains.

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Figure 1: Percent of Students Who Are Nonwhite for Full Sample

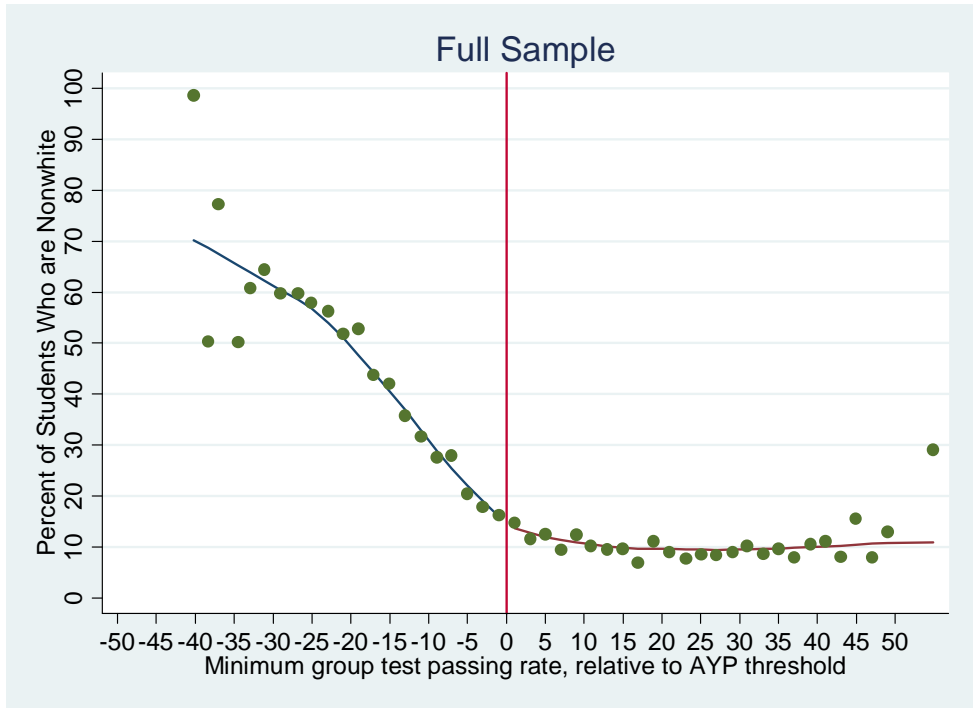
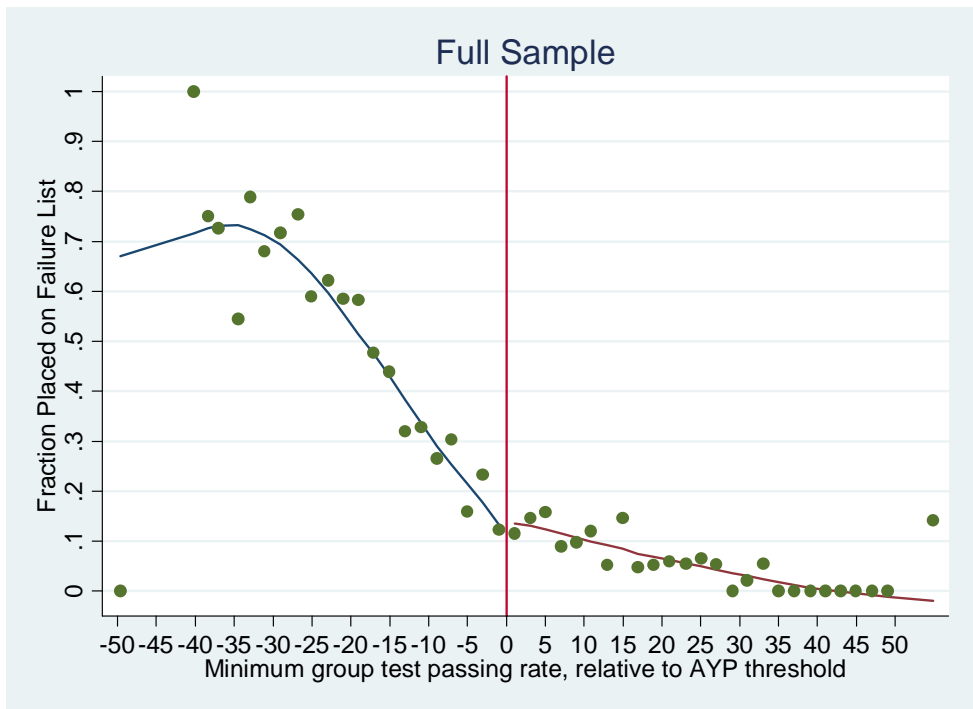


Figure 2: Failure Rate for Full Sample



Notes: In both Figures, the line represents the lowest estimator from the full sample, estimated separately for each side of the graph. Points are averages for schools grouped into two-point bins between -50 and 50.

Figure 3: Failure Rate for Correctly Predicted Sample

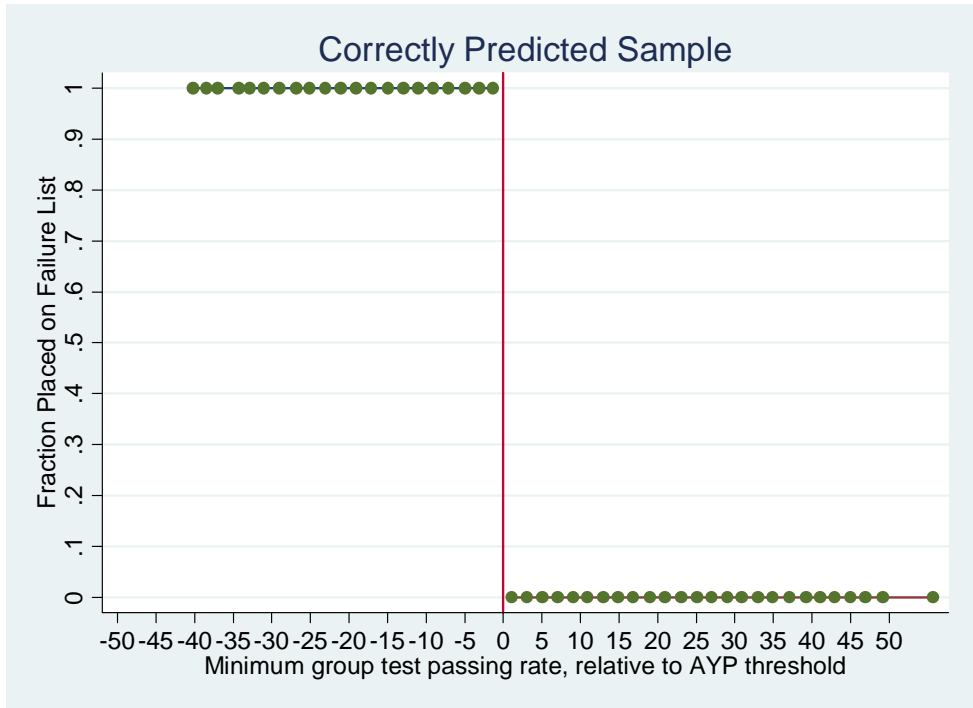
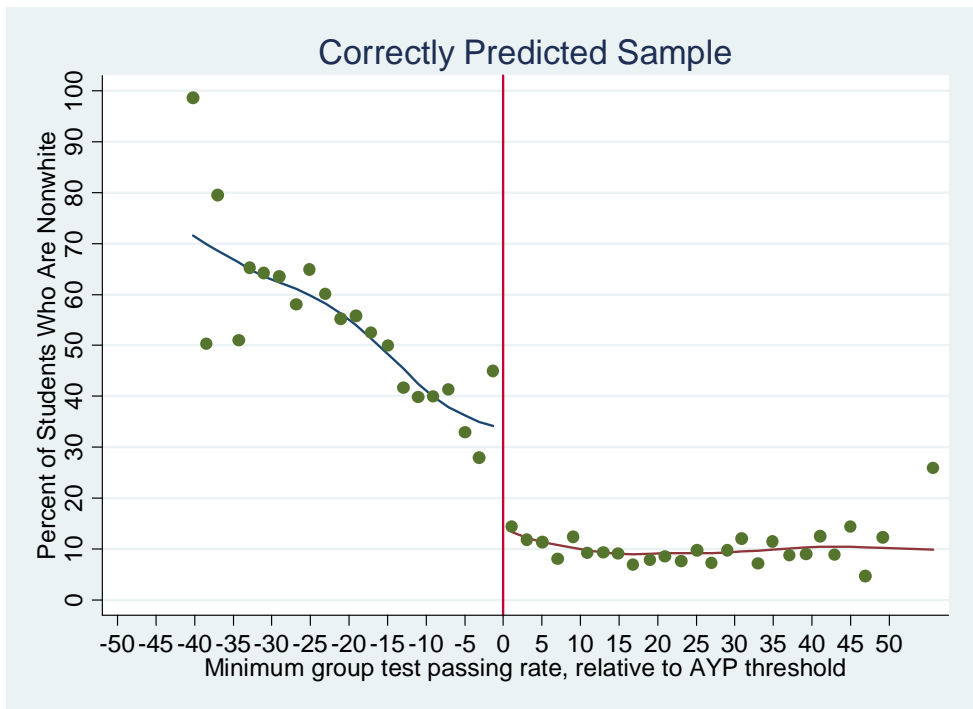


Figure 4: Percent of Students Who Are Nonwhite for Correctly Predicted Sample



Notes: In both Figures, the line represents the lowess estimator from the full sample, estimated separately for each side of the graph. Points are averages for schools grouped into two-point bins between -50 and 50.

Table 1: Summary Statistics

	Overall Sample		W/in 5 points of AYP Sample		Outside 5 points of AYP Sample	
Groups	Obs	Mean (Std. Dev.)				
W/in 5 points of AYP threshold last year	2661	0.18 (0.38)				
Below 5 points of AYP threshold last year	2661	0.40 (0.49)				
Above 5 points of AYP threshold last year	2661	0.42 (0.49)				
Outcome Variables	Obs	Mean (Std. Dev.)	Obs	Mean (Std. Dev.)	Obs	Mean (Std. Dev.)
Percent Students Who Are Overweight or Obese	2661	38.24 (5.74)	472	38.82 (4.97)	2189	38.12 (5.88)
Percent Students Who Are Healthy or Under Weight	2661	61.73 (5.81)	472	61.18 (4.97)	2189	61.84 (5.97)
Explanatory Variables	Obs	Mean (Std. Dev.)	Obs	Mean (Std. Dev.)	Obs	Mean (Std. Dev.)
Overall literacy rate relative to AYP (last year)	2661	14.92 (17.07)	472	14.02 (12.33)	2189	15.11 (17.92)
Overall math rate relative to AYP (last year)	2661	12.26 (19.09)	472	11.47 (11.77)	2189	12.44 (20.32)
Percent Students Who Are Nonwhite (last year)	2661	24.87 (28.32)	472	17.92 (24.06)	2189	26.37 (28.94)
Percent Students Who Are Poor (last year)	2661	51.86 (18.97)	472	50.35 (16.87)	2189	52.19 (19.38)
Alternate Outcomes	Obs	Mean (Std. Dev.)	Obs	Mean (Std. Dev.)	Obs	Mean (Std. Dev.)
Percent Students Who Are Obese	2658	21.04 (4.65)	471	21.42 (3.80)	2187	20.96 (4.81)
Percent Students Who Are Under Weight	1778	3.94 (12.08)	315	3.13 (8.98)	1463	4.12 (12.65)
Percent Students Who Are Healthy Weight	1778	60.41 (5.21)	315	59.32 (4.27)	1463	60.64 (5.36)

Notes: The main regressions are based on the 2661 observations in the overall sample, while a few robustness checks use the smaller number of observations available for alternate outcomes. The w/in and outside 5 points of AYP samples are for descriptive purposes only. Observations are at the school-year level with approximately 25% coming from each of years 2004 to 2007.

Table 2: Effect of a School Being “Close” to Meeting AYP on Student Weight Status

	Pct of Students Who Are Obese or Overweight	Pct of Students Who Are Obese or Overweight	Pct of Students Who Are Obese or Overweight
W/in 5 points of AYP threshold last year (t-1)	0.753 (0.278)	1.024 (0.323)	0.450 (0.363)
Below 5 points of AYP threshold last year (t-1)	--	0.573 (0.405)	--
Above 5 points of AYP threshold last year (t-1)	--	--	-0.573 (0.405)
Observations	2661	2661	2661
R-Square	0.2976	0.2984	0.2984
	Pct of Students Who Are Obese	Pct of Students Who Are Obese	Pct of Students Who Are Obese
W/in 5 points of AYP threshold last year (t-1)	0.465 (0.215)	0.666 (0.250)	0.241 (0.291)
Below 5 points of AYP threshold last year (t-1)	--	0.425 (0.331)	--
Above 5 points of AYP threshold last year (t-1)	--	--	-0.425 (0.331)
Observations	2658	2658	2658
R-Square	0.3342	0.3349	0.3349
	Pct of Students Who Are Under Weight	Pct of Students Who Are Under Weight	Pct of Students Who Are Under Weight
W/in 5 points of AYP threshold last year (t-1)	-0.547 (0.619)	-0.459 (0.672)	-0.643 (0.784)
Below 5 points of AYP threshold last year (t-1)	--	0.184 (0.767)	--
Above 5 points of AYP threshold last year (t-1)	--	--	-0.184 (0.767)
Observations	1778	1778	1778
R-Square	0.0328	0.0328	0.0328

Notes: Standard errors (in parentheses) are corrected for within school correlation. All models include a time trend and for year t-1: four powers of the overall literacy rate relative to AYP, four powers of the overall math rate relative to AYP, four powers of the percent of students who are nonwhite, and four powers of the percent of students who are poor.

Table 3: Long Run Effect of a School Being “Close” to Meeting AYP on Student Weight Status

	Pct of Students Who Are Obese or Overweight	Pct of Students Who Are Obese or Overweight	Pct of Students Who Are Obese or Overweight
W/in 5 points of AYP threshold last year (t-1)	0.753 (0.278)	0.635 (0.273)	0.531 (0.318)
W/in 5 points of AYP threshold year t-2	--	0.786 (0.291)	0.569 (0.323)
W/in 5 points of AYP threshold year t-3	--	--	0.586 (0.301)
Long Run Effect	0.753 (0.278)	1.421 (0.486)	1.687 (0.682)
Observations	2661	2512	1815
R-Square	0.2976	0.3098	0.3129

Notes: Standard errors (in parentheses) are corrected for within school correlation. All models include a time trend and for year t-1: four powers of the overall literacy rate relative to AYP, four powers of the overall math rate relative to AYP, four powers of the percent of students who are nonwhite, and four powers of the percent of students who are poor.