Camden's "Transformation" Schools: Racial & Experience Disparity in Staff Consequences

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Executive Summary

This brief examines the 2015 "transformation" plan of the Camden City Public Schools, which will transfer five district schools to charter management organizations. When using New Jersey's growth measures, adjusted for student demographics, I find that these are not the "most struggling schools" in Camden, as the district asserts.

Staff at these schools must reapply for their positions, but are not guaranteed employment. I find that this consequence affects Camden's black teachers more than its white teachers, even when controlling for school-wide growth measures and student body characteristics. Using a logistic regression model, black staff are 1.6 times more likely to face an employment consequence than white staff. Similarly, staff with 5 to 24 years of experience are between 2.3 and 3.4 times more likely to face this consequence than staff with less than 5 years of experience.

Previous research suggests the loss of experienced teachers and teachers whose race aligns with students could negatively impact student achievement. At the same time, there is little evidence to suggest the charter management organizations taking over transformed schools will fare any better at improving test-based student outcomes.

CCPS should immediately release its methodology for identifying the transformation schools as the "most struggling" in the district, and justify the potential loss of experienced and black staff under its plan.

Background

On March 25, 2015, the Camden City Public Schools (CCPS) announced a plan for the "transformation" of five schools: Whittier Family, Henry L. Bonsall Family, East Camden Middle, Francis X. McGraw Elementary, and Rafael Cordero Molina Elementary.

CCPS plans to turn over each of these five schools to a charter management organization (CMO): Uncommon Schools, KIPP, or Mastery Charter Schools. These three CMOs currently manage the "Renaissance" charter schools in Camden, a special group of charters established by New Jersey's Urban Hope Act, which receive greater funding than other charter schools in the city.[1]

In its announcement of the transformations, CCPS cites both the inadequate academic progress of the schools and the state of disrepair of their buildings as its reasons for transferring these schools to the CMOs:

"While the District is making progress, in our most struggling schools, not enough students are receiving the education they deserve, and the school buildings are in

[1] http://www.njspotlight.com/stories/14/09/29/explainer-getting-inside-the-urban-hope-act-and-renaissance-schools/

desperate need of repair. Renaissance school partners have funding to renovate our schools, and have a proven history of running successful schools where students graduate ready to succeed in college or life."[2]

Media reports state: "*In the case of the school transitions, existing staff would have opportunities to re-apply for jobs but would not be guaranteed positions.*"[3]

In this brief, I first examine the claim that these five schools are, in fact, the "most struggling schools" in Camden. In particular, I analyze whether school outcome measures are biased by student demographics. If they are and this bias is accounted for using standard statistical techniques, do the outcome measures actually show that CCPS has identified its "most struggling schools"?

Next, I compare the staff members of all of Camden's publicly-funded schools, both charter and district, who face employment consequences under transformation to staff who do not face these consequences. Specifically, I focus on whether race and experience can predict whether a staff member faces a greater chance of a consequence.

Student Demographics and Outcomes

Transformation schools have high percentages of at-risk students. Figure 1 shows the unweighted three year average percentage of free lunch-eligible (FL) students from 2011-12 to 2013-14 for schools in Camden. FL is a more relevant measure than free and reduced-price lunch (FRPL) in this analysis, as Camden has many students in economic disadvantage; therefore, FRPL will not vary as much as FL.[4]

All five transformation schools are at or above the median FL percentage. Bonsall, Whittier, and Molina are well above the median, with over 90% of their students qualifying for FL (which means their families have incomes of 130% or below the poverty line).

The transformation schools also have significant percentages of students classified with a special education need. Figure 2 shows that four of the five schools have had, on average over the last three years, special education populations proportionally above the median. East Camden Middle has the third highest percentage of special needs students in the city.

Among other measures of academic progress, the New Jersey Department of Education (NJDOE) issues Student Growth Percentiles (SGPs) for schools with "tested grades" – Grades 3 through 8, whose students take state tests. As we shall see, these measures are biased; however, they are arguably better measures of school effectiveness than proficiency rates or scale score averages, which are more likely to be influenced by student population characteristics.

Figure 3 shows the three-year averaged SGP for Camden schools in English Language Arts (ELA). While three of the transformation schools show comparatively low growth, they are not the lowest in the city. Two of the schools are actually above the median in this measure.

[2] http://www.camden.k12.nj.us/apps/pages/index.jsp?uREC_ID=262054&type=d

[3] http://www.njspotlight.com/stories/15/03/25/five-of-camden-s-worst-public-schools-will-go-the-charter-route/

[4] For a more detailed discussion, see Appendix A of Weber, M.A. & Rubin, J.S. (2014) "New Jersey Charter Schools: A Data-Driven View, Part I." http://www.saveourschoolsnj.org/save/corefiles/wp-content/uploads/2014/10/NJ-Charter-School-Report_10.29.2014.pdf

Figure 1

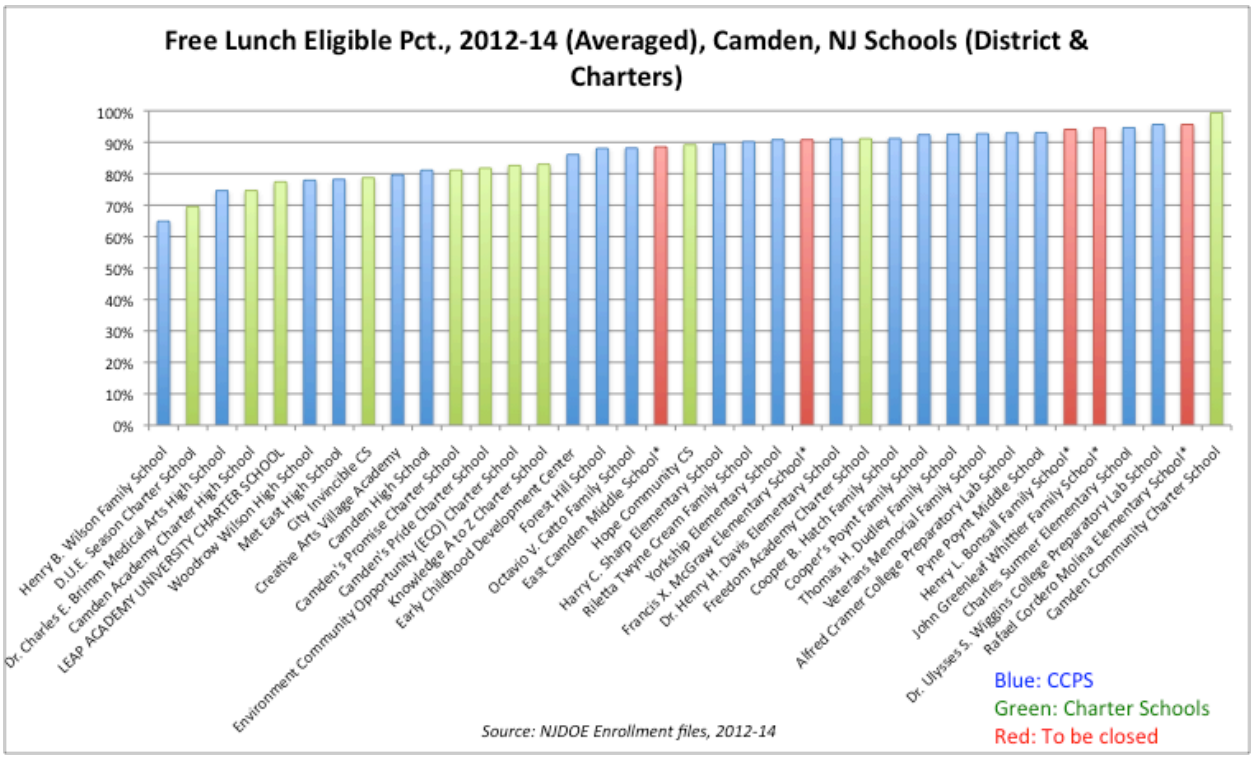


Figure 2

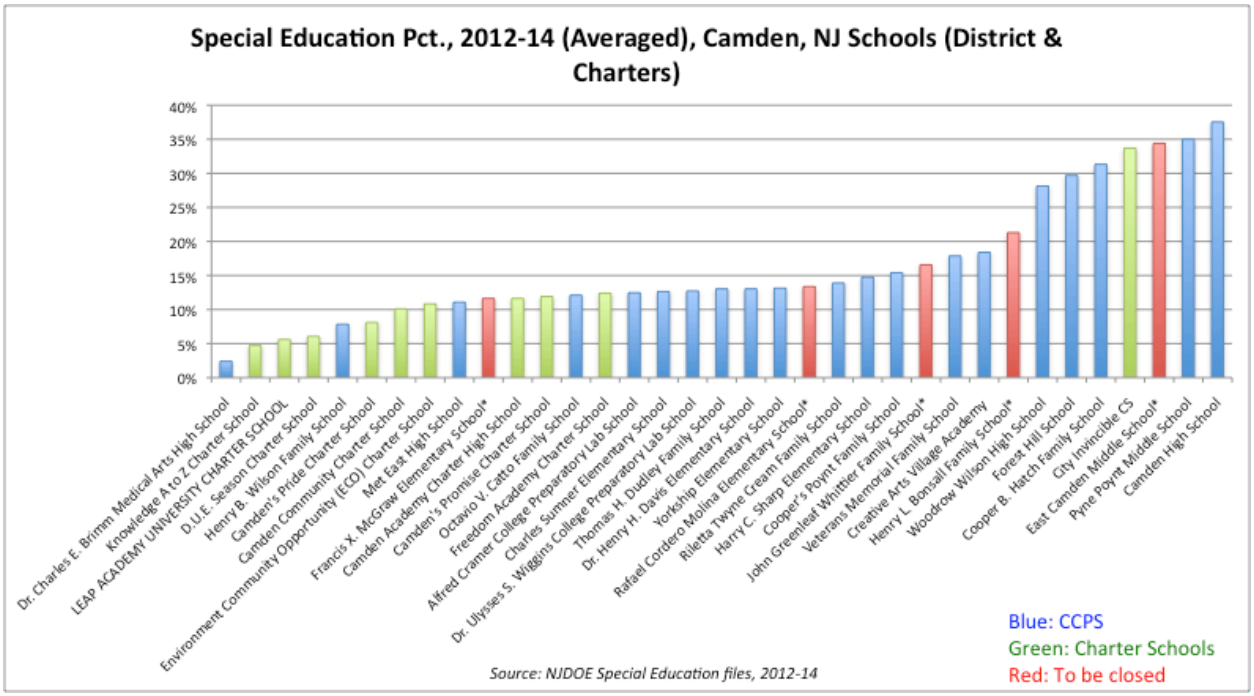


Figure 3

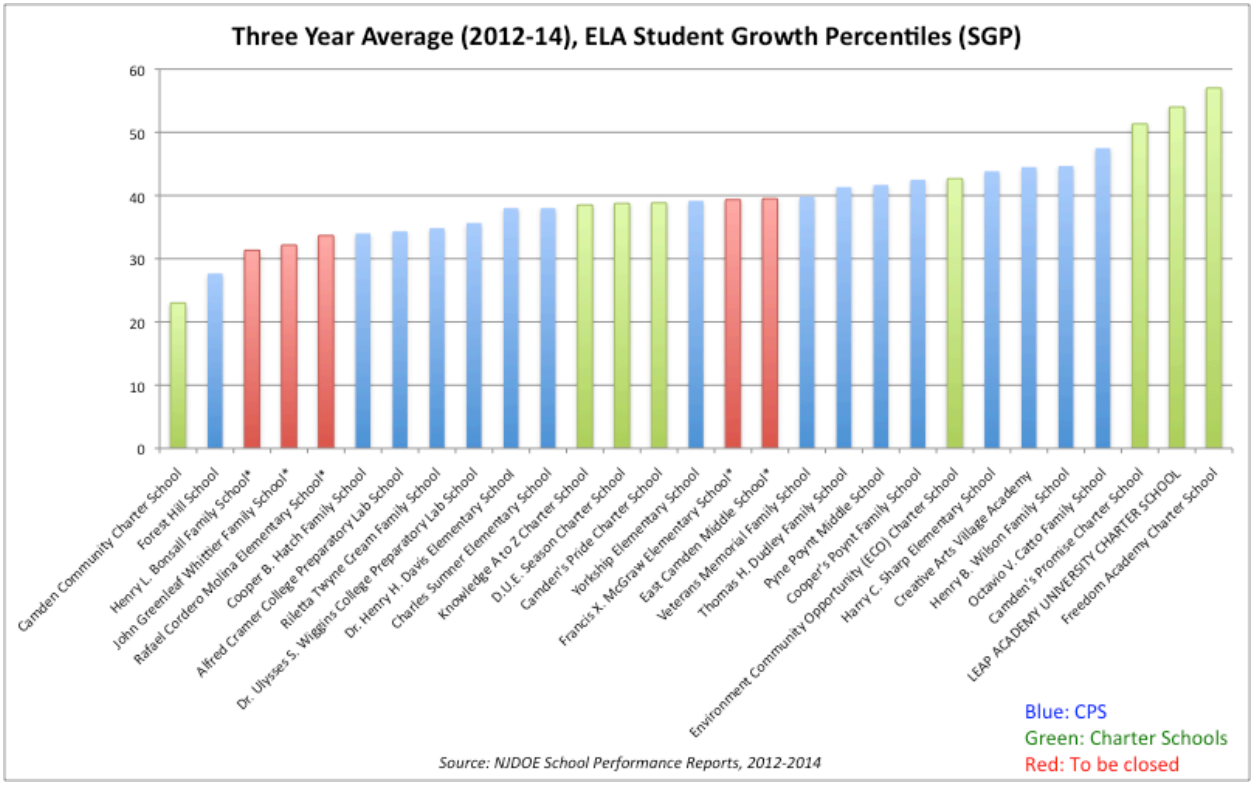


Figure 4

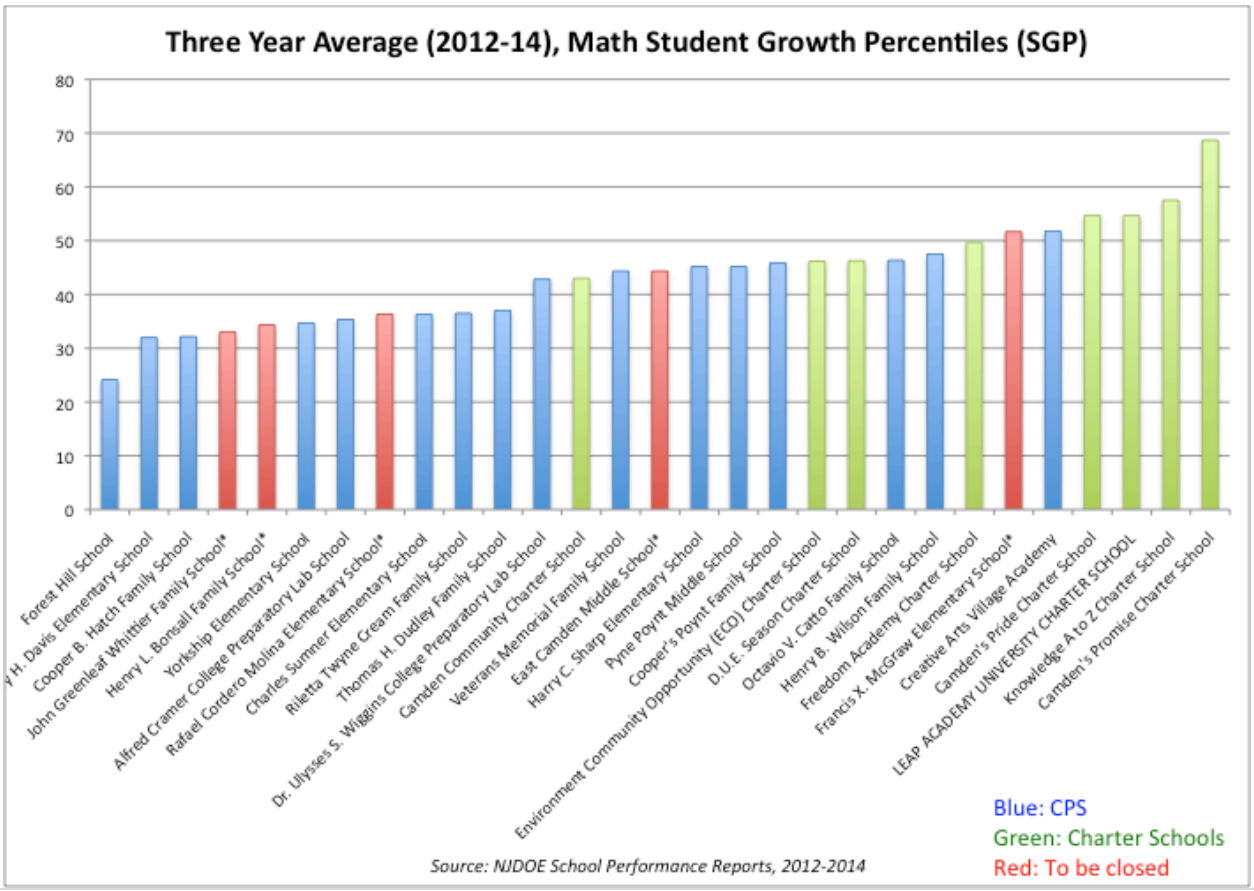


Figure 4 shows the SGP average in math. The transformation schools actually fare better in this measure, with McGraw showing the second-highest growth in the CCPS district. Even by these unadjusted measures, then, there is reason to question the claim that the transformation schools are the "most struggling" schools in the district.

While the NJDOE has claimed that SGPs account for differences in student populations, subsequent research has shown that they are, in fact, biased measures.[5] Statewide, there is a clear correlation between FRPL percentages and SGPs, suggesting these measures do not, in fact, account for variations in student charcteristics.

Figures 5 and 6 show this bias is evident even if we narrow our analysis frame to Camden. In both ELA and math, SGPs rise as FL percentages drop; in other words, schools with more FL students are likely to have lower SGPs. Between 20 and 24 percent of the variation in SGPs in Camden's schools can be explained by the proportion of FL students served at those schools.

Still, there are many schools that "beat prediction": they perform over the trendline (in green), meaning their SGPs are better than their FL percentage would predict. Figures 7 and 8 plot these "residuals," which show how much better a school's average SGP is than what we would predict based on its FL percentage.[6]

In this model, when evaluating adjusted ELA SGPs, Bonsall and Whittier are, in fact, well below prediction; however, they are, once again, not the "most struggling schools" in Camden. Further, both Molina and East Camden Middle are close to or at prediction, while McGraw is *above* prediction.

Once again, math SGPs are even more favorable to the transformation schools. While Whittier and Bonsall are still below prediction, they outscore several other district schools not slated for transformation. Molina and East Camden Middle are near prediction, and McGraw is very significantly above prediction. In this model, McGraw is the highest performing school in the CCPS district.

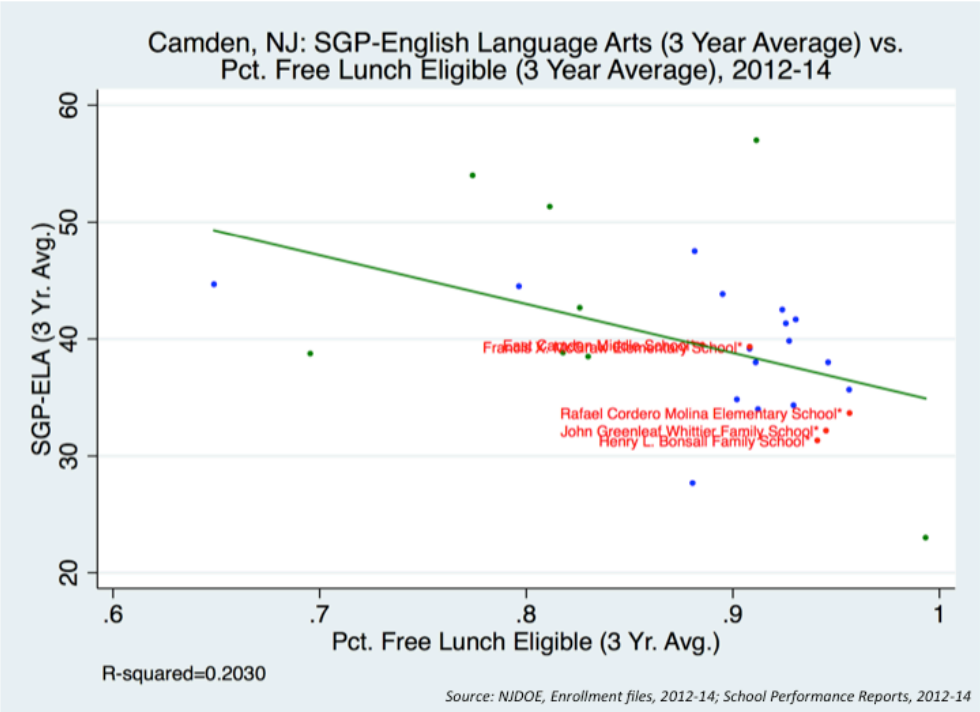
It is important to understand that this is merely one analysis, and this model does not take into account other variations in student populations that may impact test-based outcomes. It is also possible that this model doesn't fully explain the advantages of having a lower percentage of FL eligible students enrolled.

Nonetheless, there is ample evidence here to at least raise the question: how did CCPS determine which schools were the "most struggling" and, therefore, candidates for transformation?

[5] Baker and Oluwole (2013). "Deconstructing Disinformation on Student Growth Percentiles & Teacher Evaluation in New Jersey." *NJ Eduction Policy Forum*. https://njedpolicy.wordpress.com/2013/05/02/deconstructing-disinformation-on-student-growth-percentiles-teacher-evaluation-in-new-jersey/

[6] Special education was not found to be a statistically significant predictor in this model; however, special education does correlate with math SGPs (r-sq = 0.170). One possible difficulty with using special education percentage as an independent variable is that the data does not disaggregate different classifications of disabilities; instead, all disabilities, no matter how profound, are treated equally.

Figure 5



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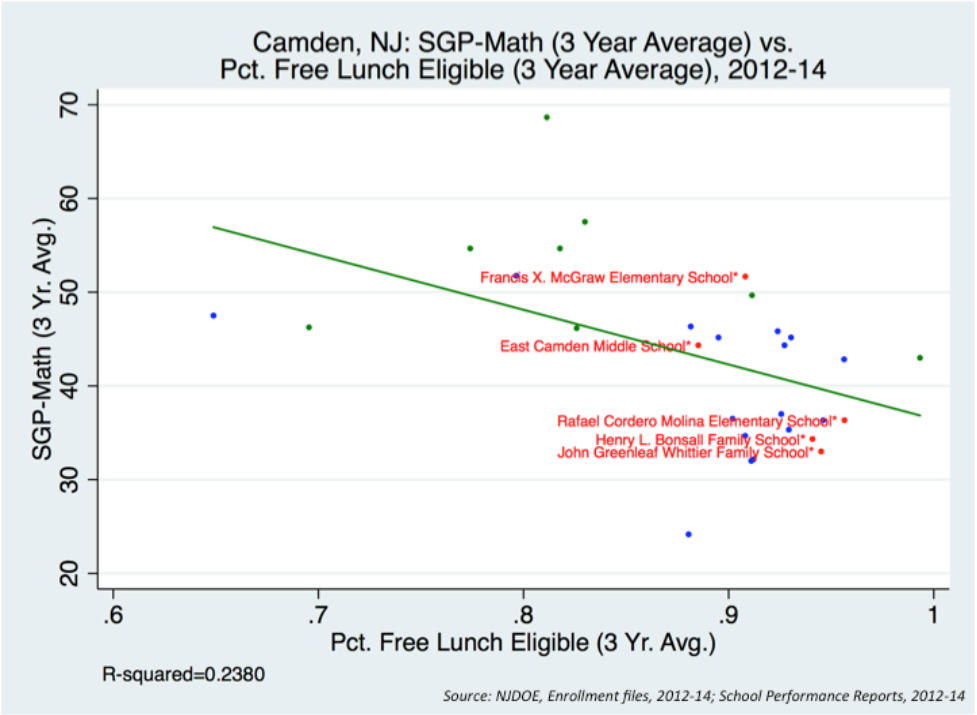
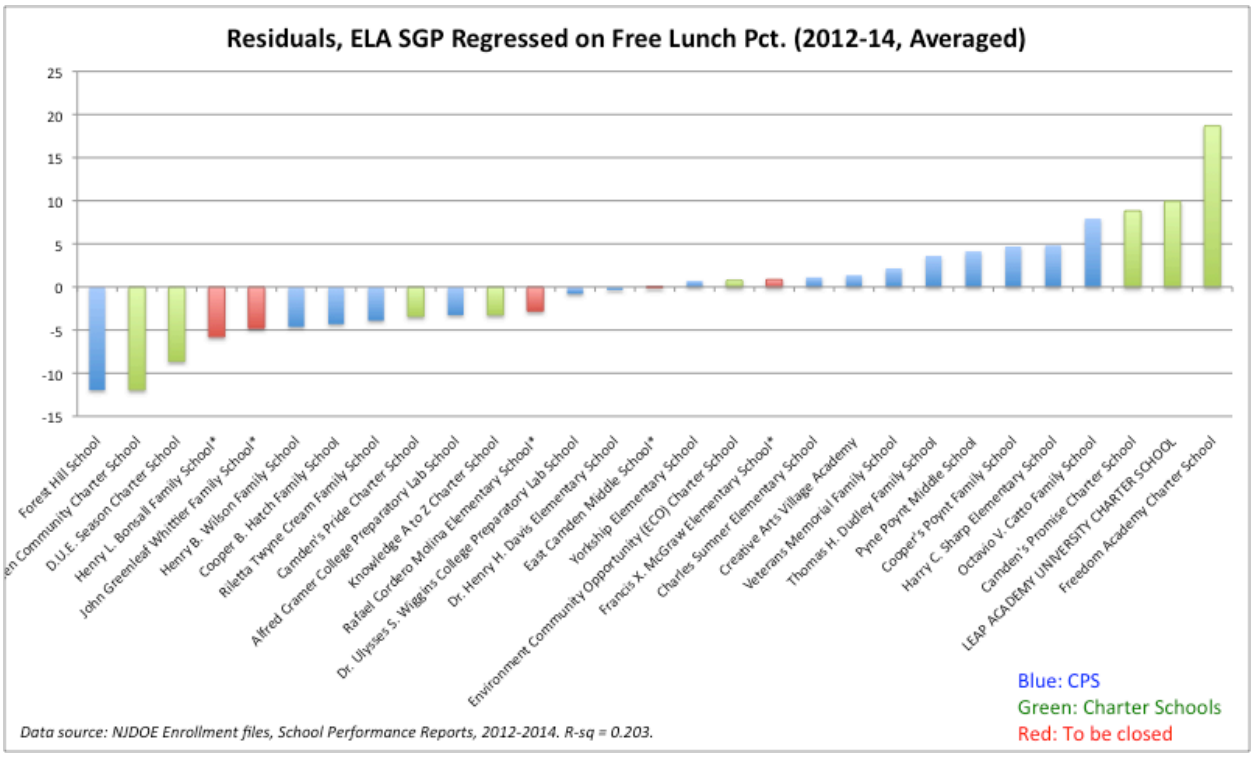


Figure 7



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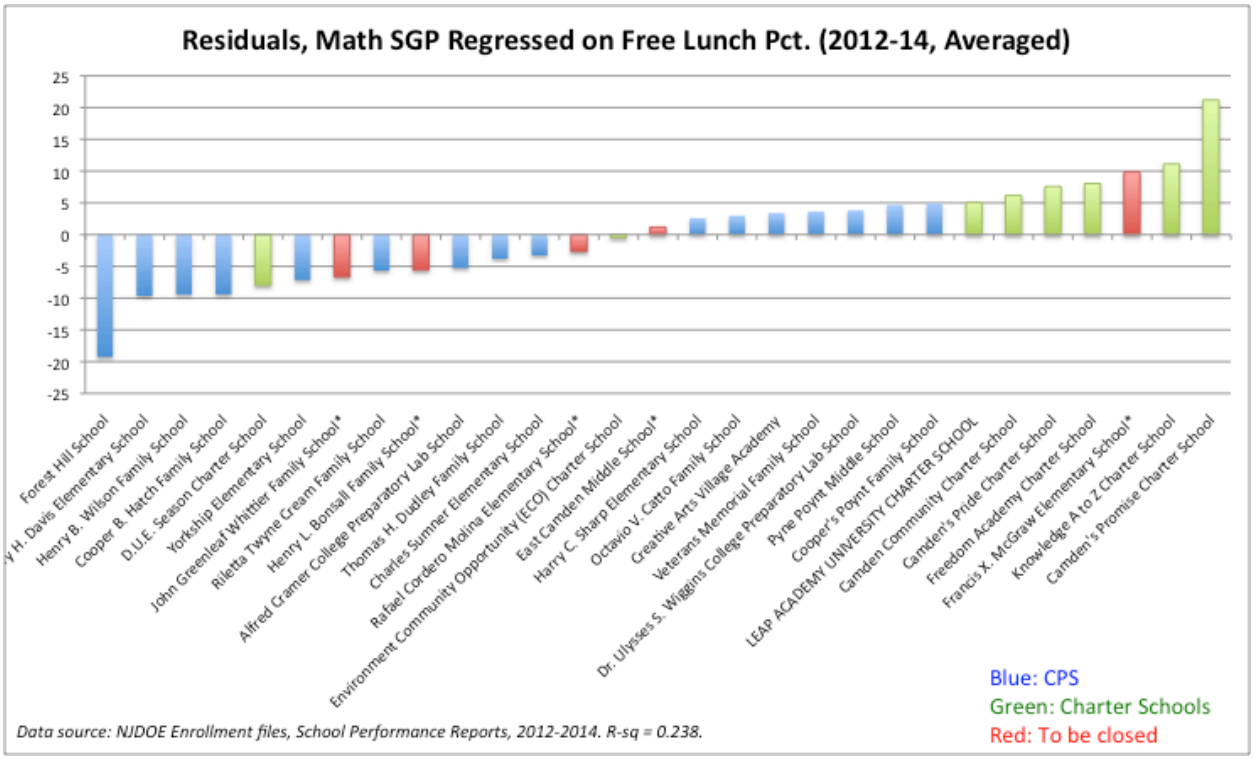


Staff Demographics and Consequences

Perhaps the most controversial aspect of this plan is the employment consequences of transformation. There is little evidence to suggest that large-scale turnover of staff produces positive academic outcomes.[7] To the contrary, my previous research in Newark suggests large-scale staff changes may produce negative test-based outcomes.[8]

There is, however, a clear research consensus on the value of teacher experience: teachers show significant gains in effectiveness in their first several years, and continued growth well into their second decade of teaching.[9]

Figure 9 shows the average years of prior experience for certificated staff at each Camden school for the 2013-14 year. The staff at the transformed schools has significant experience, ranging from an average of 13.3 years (Bonsall) to 15.0 years (East Camden Middle).

This contrasts sharply with the experience in the city's charter schools. Staff data was not available for Uncommon, Mastery, or KIPP schools in Camden as 2014-15 is their first year of operation. State staffing files, however, show that the staff in Uncommon and KIPP schools in Newark have less experience than their district counterparts.[10]

There is also a significant body of research that suggests that the race of a teacher matters, particularly for at-risk students. Cann's (2015) summary of the literature on the effect of race alignment between teachers and students found it positively affects student achievement.[11] Egalite et. al. (2015) found that "*…lower-performing black and white students appear to particularly benefit from being assigned to a race-congruent teacher*."[12]

Figure 10 shows the percentage of black staff in Camden's schools (keep in mind that Camden's total student body is 48% black). There is a striking difference between the charter sector and CCPS in the proportion of their staffs that are black.

This evidence suggests that the transition of the five transformation schools to control by the CMOs will likely result in staffs that have less experience, on average, and fewer black teachers. While transformation may have other benefits, there is little reason to believe that this staff change, by itself, will lead to better educational outcomes.

The racial and experience imbalances between the charter and district staffs begs a question: are black and/or experienced staff more likely to face an employment consequence as a result of transformation?

[7] Trujillo, T. & Rénee, M. (2012). "Democratic School Turnarounds: Pursuing Equity and Learning from Evidence." Boulder, CO: National Education Policy Center. http://nepc.colorado.edu/publication/democratic-school-turnarounds

[8] Weber, M. A. (2015). "Empirical Critique of 'One Newark': First Year Update" *NJ Eduction Policy Forum*. https://njedpolicy.wordpress.com/2015/03/12/empirical-critique-of-one-newark-first-year-update/

[9] Haimson, L. "How Teaching Experience Makes a Difference." http://parentsacrossamerica.org/how-teaching-experience-makes-a-difference/

[10] Weber, M. A. & Rubin, J.S. (in production). "New Jersey Charter Schools: A Data-Driven View, Part II."

[11] Cann, C.N. (2015). "What School Movies and TFA Teach Us About Who Should Teach Urban Youth: Dominant Narratives as Public Pedagogy." *Urban Education, 50(*3) 288–315.

[12] Egalite, A.J., Kisida, B. & Winters, M.A. (2015). "Representation in the classroom: The effect of own-race teachers on student achievement." *Economics of Education Review, 45*, 44–52.

Figure 9

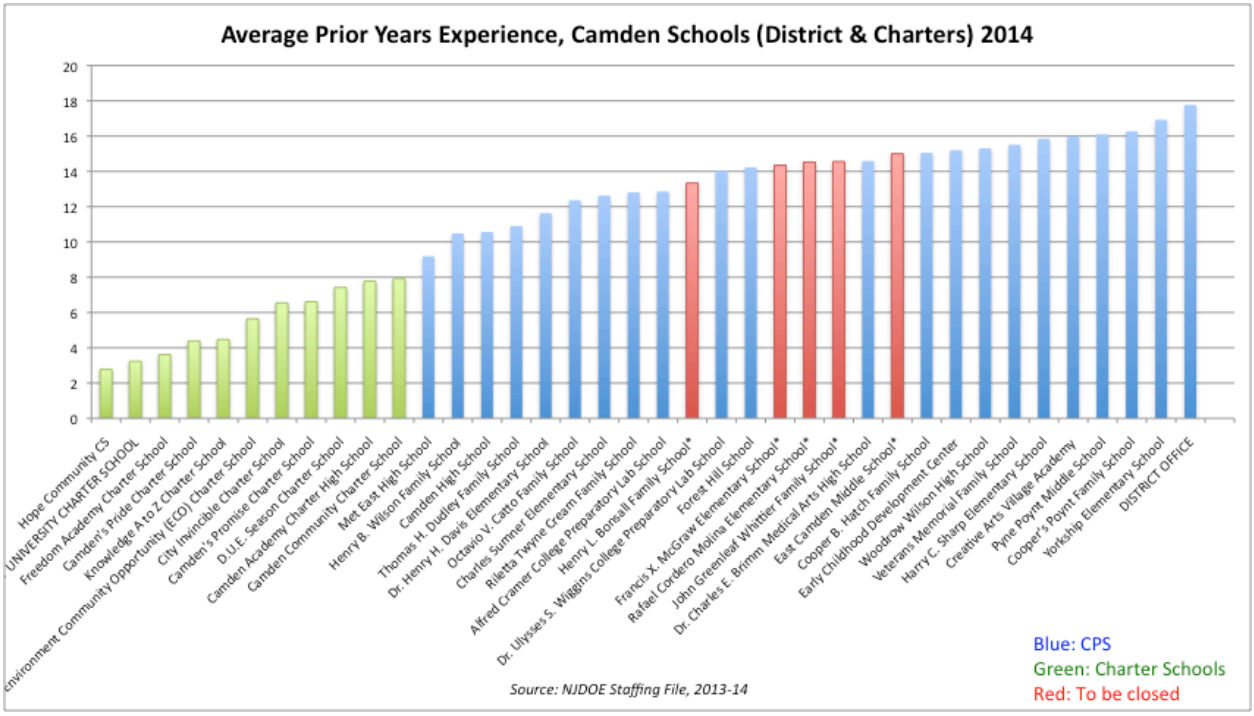
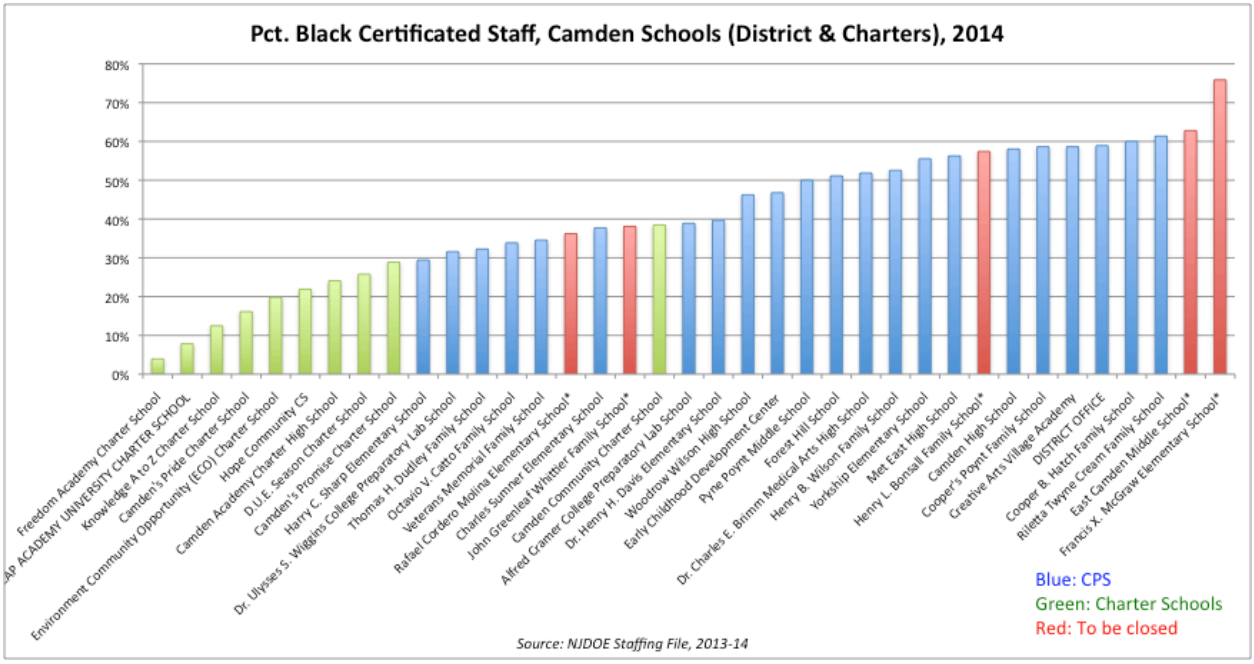


Figure 10



To explore this question, I use logistic regression models, which estimate the log odds of a particular outcome given a set of variables. Using the 2013-14 staffing file from the NJDOE[13], I assign an employment consequence to every certificated staff member working in a Camden school, district or charter. All staff listed as working at one of the five transformation schools are designated as facing an employment consequence; all other staff are not. I use two models; one to determine the effect of race:

EMPLOYMENT_CONSEQUENCE = ƒ(race 3YrAvgELASGP 3YrAvgMathSGP 3YrAvgPctFL)

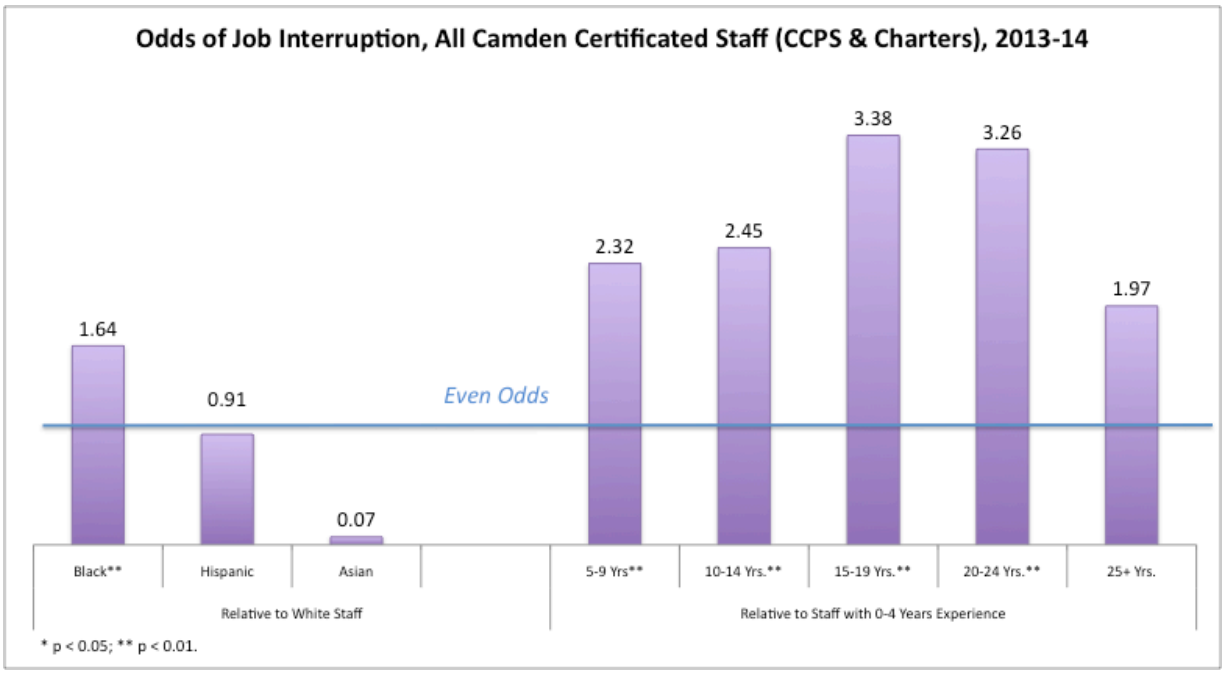
And one to determine the effect of experience:

EMPLOYMENT_CONSEQUENCE = ƒ(YrsTotalExperince 3YrAvgELASGP 3YrAvgMathSGP 3YrAvgPctFL)

The three-year average school-wide SGP in math and ELA are included in the model, along with the percentage of FL students at a teacher's school. This allows us to "hold constant" both growth scores and student economic disadvantage when comparing the chances of an employment consequence for teachers of different races or different experience levels.

Results are shown in Figure 11 (the full regression output is given in Table 1). These results show the odds ratio for different racial classifications and experience levels, compared to a baseline that represents "even odds."[14]

Figure 1



[13] Obtained from the Education Law Center by an Open Public Records Act request.

[14] City Invincible Charter School is not included in this analysis; the school reported very high rates of staff who were "Two or More Races," indicating a likely data error. CICS was closed in the spring of 2014.

In the racial comparison, for example, the baseline is white teachers. The results show that a black teacher, even if he comes from a school with the same SGPs and FL percentage as a white teacher, is still 1.64 times more likely to face an employment consequence under the transformation plan. The differences between a white and a Hispanic or an Asian teacher in these odds are not statistically significant.

In the same way, a teacher with between 5 and 9 years of experience is 2.32 times more likely to face an employment consequence than a teacher with between 0 and 4 years of experience. Camden teachers with between 15 and 24 years of experience are more than 3 times as likely to face an employment consequence than teachers with less than 5 years of experience.

Conclusions and Policy Implications

This analysis provides ample evidence to question the contention that the transformation schools are the "most struggling schools" in Camden. Even without accounting for differences in student populations, McGraw and East Camden Middle show comparatively good growth when judged against the schools that are not included in this plan.

When adjusted for differences in FL populations, Molina performs nearly where we would expect on growth measures. And while Bonsall and Whittier are relatively low performers, they are not at the absolute bottom on growth measures.

It is important to note that this is a limited analysis, based solely on test-based outcomes. Certainly, there are many other ways to judge the relative effectiveness of a school. The question, then, is how exactly CCPS came to the conclusion that these particular five schools were the most in need of intervention. CCPS should immediately disclose its methods to the public, allowing all stakeholders to determine whether the district has, in fact, targeted the "most struggling schools."

The disparities in employment consequences for staff of different races and experience levels is a further cause for concern. As Oluwole, Baker, & I noted in our analysis of the "One Newark" school transformation plan, racial disparity in the treatment of staff could potentially be challenged under a claim of *disparate impact*, where staff of a certain race were not intentionally targeted yet were still disproportionately affected.[15]

In addition to any legal concerns, students may also be affected by a significant change in the demographics of their teachers. Given the positive effects of increased teaching experience and alignment of race between students and teachers, CCPS should have to provide evidence that transformation schools will show greater academic progress after they have been turned over to CMOs, particularly if the new schools have staffs with differing racial profiles.

The current evidence in favor of this plan, however, is not especially strong. In a recent analysis that accounts for variations in student populations and spending on staff per pupil, Baker[16] found that KIPP's (TEAM) Newark schools have *"…performance [that] is consistently around average (slightly above or slightly below)*." The same analysis finds Uncommon's Newark schools, North Star Academy, to be *"…consistently slightly to modestly above average*"; however, my

[15] Weber, M.A., Baker, B.D., & Oluwole, J. O. (2014). "'One Newark's' Racially Disparate Impact on Teachers." *NJ Education Policy Forum.* https://njedpolicy.wordpress.com/2014/03/09/one-newarks-racially-disparate-impact-on-teachers/

[16] Baker, B.D. (2015) "Research Note: Resource Equity & Student Sorting Across Newark District & Charter Schools" *NJ Education Policy Forum.* https://njedpolicy.wordpress.com/2015/01/13/research-note-resource-equity-student-sorting-across-newark-district-charter-schools/

previous analysis of "One Newark" with Baker also found North Star has high rates of student attrition, which may positively affect test scores.[17]

There is little cause to believe, therefore, that the likely negative effects of a disruptive change in staff and school management, leading to a teaching corps with fewer black members and fewer experienced educators, would be worth the limited potential gains these CMOs' performances in Newark suggest.

State Superintendent Paymon Rouhanifard has stated that another potential positive impact of transformation would be the ability of the CMOs to secure financing for school building rehabilitation. While that may be attractive to CCPS, tying such funding to the loss of black and experienced staff is a highly questionable proposition. In addition, any savings from turning over school facilities financing to private hands may well be mitigated by having multiple, separate, redundant school systems.[18]

In short: the justification for this transformation plan, with racially disparate impacts on staff, is currently quite weak. CCPS needs to provide stakeholders in Camden's school system with a much stronger justification for proceeding with this transformation proposal.

Table 1

Logistic Regression Analysis: Odds of an Employment Consequence on Race and Experience with SGPs and FL Pct.

Model 1: Race			
Predictor (relative to White)	Odds Ratio	Std. Error	p-value
Black	1.641	0.290	0.005
Hispanic	0.911	0.289	0.769
Asian	0.065	0.111	0.107
American Indian	*Excluded*		
Two Or More Races	*Excluded*		
3 Year Avg. ELA SGP	0.754	0.023	0.000
3 Year Avg. Math SGP	1.115	0.019	0.000
3 Year Avg. FL Pct. (x10, unweighted)	6.707	1.672	0.000
Constant	0.000	0.000	0.000
Model 2: Experience			
Predictor (relative to 0-4 Years)	Odds Ratio	Std. Error	p-value
5-9 Years	2.320	0.714	0.006
10-14 Years	2.449	0.741	0.003
15-19 Years	3.376	1.100	0.000
20-24 Years	3.263	1.043	0.000
25 or More Years	1.969	0.688	0.052
3 Year Avg. ELA SGP	0.760	0.023	0.000
3 Year Avg. Math SGP	1.113	0.019	0.000
3 Year Avg. FL Pct. (x10, unweighted)	5.583	1.384	0.000
Constant	0.000	0.000	0.000

[17] Weber, M.A. & Baker, B.D. (2014) "An Empirical Critique of 'One Newark'" https://njedpolicy.wordpress.com/2014/01/24/new-report-an-empirical-critique-of-one-newark/

[18] Bifulco, R. & Reback, R. (2014). "Fiscal Impacts of Charter Schools: Lessons From New York." http://ww.ncspe.org/publications_files/OP213.pdf