

**A Comparison of District and Charter Schools for 4th and 8th Grades in
Newark, New Jersey**

Jason Barr, Ph.D.
Department of Economics
Rutgers University-Newark
jmbarr@andromeda.rutgers.edu

Alan Sadovnik, Ph.D.
Department of Urban Education &
Institute on Education Law and Policy
Rutgers University-Campus at Newark
sadovnik@andromeda.rutgers.edu

Louisa Visconti, Ph.D.
lmv5@columbia.edu

May 2006

Rutgers University Newark Working Paper #2006-002

1. The Proliferation of Charter Schools in the U.S.

In the wake of widespread dissatisfaction with the perceived failures of our nation's public schools, spearheaded by the 1983 publication of *A Nation at Risk*, attention turned to revitalizing America's schools. Alternatives to traditional public schooling based on choice and autonomy became critical to revitalization efforts. As a result, the charter movement vaulted into the spotlight as one of the most controversial and fastest-growing education reform efforts of recent times, with potential to change the course of public schooling in America.

Passage of the first state-legislated charter law in Minnesota in 1991 has spawned enactment of charter laws in a total of 40 states, as well as the District of Columbia and Puerto Rico, and the fledgling movement has produced nearly 2,700 charter schools serving 684,000 students nationwide (The Center for Education Reform website [CER], February 2003).¹

Demand for charter schools remains high, as evidenced by the 70% of charter schools with waiting lists for admission (RPP International, 2000). States are responding to this demand by authorizing more charters and amending charter laws to accommodate the desire for growth, while other states without charter laws consider their enactment (CER, 2003; Finn, Manno, and Vanourek, 2000; RPP International, 2000).²

Charter schools are public schools that are to be freed from many of the regulations applied to traditional public schools, and in return are to be held accountable for student

¹Of the 40 states that have passed charter legislation, Iowa, New Hampshire, and Tennessee currently have no charter schools in operation. Indiana and Mississippi have only one charter school in operation in their states. As of February 2003, there were 2,695 charter schools in operation nationally, serving 684,000 students. As of May 2003, an additional 69 charter schools were approved to open for the 2003-2004 school year around the country. The total number of students in charter schools represents less than 1% of all public school students in the states with open charter schools. Information provided by the website of The Center for Education Reform (CER), February, 2003. CER is a resource site listed by the U.S. Department of Education for charter schools.

² Laws that were significantly amended by the end of the 2002 legislative sessions were California, Colorado, Delaware, Florida, Georgia, Hawaii, Ohio, and Utah. Additionally, Maine, Maryland, and Washington are likely to consider enacting a new charter law in 2003. CER, January 2003.

performance. In essence, they “swap red tape for results” (*The New York Times*, 10/1/89), also referred to as an “autonomy-for-accountability” trade within the movement. The “charter” itself is a performance contract that details the school’s mission, program, goals, students served, methods of assessment, and ways to measure success. It is a formal, legal document between those who establish and run a school (“operators”) and the public body that authorizes and monitors such schools (“authorizers”). Charter schools are, in theory, autonomous. They produce the results as they think best, for charter schools are self-governing institutions with wide control over their own curriculum, instruction, staffing, budget, internal organization, calendar, etc. (Finn et al., 2000).

As a public school, a charter school is paid for with tax dollars (no tuition charges) and must be open to all students in the school district. And while charter schools can be started by virtually anyone (teachers, parents, non-profit agencies, for-profit organizations, community members, etc.), charters are supposed to produce results to their authorizers, the public agencies that review and approve their charter as well as monitor and audit their progress. Authorization may be handled by a single agency, namely the state Department of Education, as is the case in New Jersey. Or a state may have multiple authorizing agencies, including local school boards, community colleges, state colleges and universities (Hill, Lake, Celio, Campbell, Herdman, and Bulkley, 2001). Accountability is a critical component of the charter movement. Unlike most public schools, if a charter school fails to meet the provisions of its charter, it can lose its funding and be forced to shut its doors.

Charter schools are also schools of choice, emulating some of the attributes of private schools (Finn et al., 2000; Ravitch, 1999). Like private schools, charter schools are staffed by educators who choose to be there and they are attended by students whose families choose them,

some of them coming from a district other than the one they reside in. While some charter schools are conversion schools (district school that switch to charter status, but remain housed in the same school building with mostly the same administration and staff), the majority of charter schools have the advantages and challenges of being start-up organizations. As a start-up, a charter school creates its own history as a self-sufficient, self-governing entity with its own philosophy and approach to realizing the provisions of its charter. To succeed, charter schools must not only attract and retain their leadership, their students and their teachers, but most charter schools must provide their own facilities to operate. Currently, only four states (AR, CO, MN, FL) and the District of Columbia grant funding for start-up facilities (National Center of Educational Statistics site [NCES], 2001). Finally, most charter schools depend on private funding or federal/state grants to start or stay in operation. In many states, including New Jersey, per pupil disbursement to charter schools is less than the disbursement of the district's public schools. Because start-up charters require high initial costs, charter schools must win private endowments to cover capital and/or operating expenses (Hill et al., 2001).

2. Evolution of the Charter Movement

The charter movement has its roots in a number of reform ideas, however charter schools can be viewed as evolving from two key reform efforts that took hold in the 1980s: the Excellence Movement and the School Choice Movement (Finn et al., 2000; Ravitch and Viteritti, 1997). Still, most charter researchers agree that the late Albert Shanker, long-time president of the American Federation of Teachers, is responsible for publicizing the term (Finn et al., 2000; Fuller, 2001; U.S. Department of Education Charter School website, 2001). In a 1988 speech

given to the National Press Club, Shanker urged America to develop “a fundamentally different model of schooling that emerges when we rethink age-old assumptions – the kind of rethinking that is necessary to develop schools to reach the up to 80 percent of our youngsters who are failing in one way or another in the current system” (Shanker cited in Finn et al., 2000, p. 18). Albert Shanker envisioned a model that would “enable any school or any group of teachers... within a school to develop a proposal for how they could better educate youngsters and then give them a “charter” to implement that proposal” (Shanker cited in Finn et al., 2000, p. 18-19).

In 1990, John Chubb and Terry Moe’s publication of *Politics, Markets & America’s Schools* ignited interest in school choice, arguing “reformers would do well to entertain the notion that choice *is* a panacea.... It has the capacity *all by itself* to bring about the kind of transformation that, for years, reformers have been seeking to engineer in myriad other ways” (Chubb and Moe, 1990; p. 217, emphasis in the original). School choice was touted as a way of forcing the “dead hand” of the “factory model” to compete for students (Ravitch, 1997; Schneider et al., 2000). The traditional public school system was viewed as an antiquated, bureaucratic, overpriced failure (Chubb and Moe, 1990; Ravitch, 1997; Schneider et al., 1990). Choice advocates argued that competition would “create a more efficient system of public schooling in which financial and human resources would focus on maximizing pupil performance” (Finn et al., 2000, p. 21).

Charter expansion gained speed during the 1990s, with states quickly moving to enact charter laws, even as the nation’s leadership shifted from Republican to Democratic. “The era of big government is over,” declared President Bill Clinton in his 1995 State of the Union Address (*The New York Times*, 1/18/95). As a “New Democrat”, President Clinton tamed the pro-market rhetoric of the 1980s, but retained a vision of reform that restrained overspending and over-

regulation by government. Autonomy-for- accountability became a trademark of the administration's educational policy agenda (Wells, 2002). To encourage charter growth, Clinton appropriated funding for 3,000 charter schools in 1998 and expected the country to reach that number by the year 2000. The year came and went, with less than 2,000 charter schools established. Today, with approximately 2,700 charter schools founded nationally, some researchers speculate that the charter movement is running out of steam and perhaps even stagnating under its own weight (Wells, ed., 2002). Amy Stuart Wells asserts that "... this movement has begun to lose its momentum not because charter schools are stifled by the public education bureaucracy, but rather because of the lack of support these schools have received from the public policies that created them" (Well, 2002, p. 2).

Responding to the need for greater support, both economic and legislative, states have been slowly amending their charter laws to grant additional financial and technical aid to charter schools (Center for Education Reform website, 2003). And at the national level, President George W. Bush has enacted sweeping changes to the *Elementary and Secondary Education Act of 1965* with the passage of his *No Child Left Behind Act of 2001* (NCLB Act), giving charters and the School Choice Movement more muscle.

3. New Jersey's Charter Movement

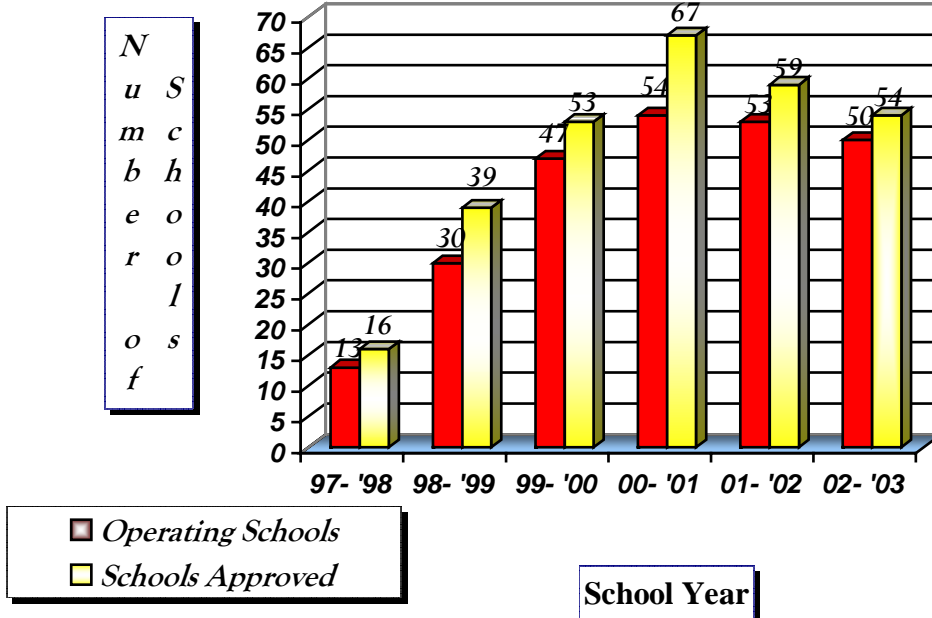
New Jersey's *Charter School Program Act of 1995* was signed into law by Governor C. Todd Whitman and became effective January 1996. The state's first 13 charter schools opened fall 1997. Currently, 50 charter schools are in operation in 15 counties, with a projected enrollment of approximately 13,000 students, and four other charter schools are in planning stages, expected

to open in 2003-2004.³ This represents a drop in the number of charter schools operating during 2001-2002, when 53 charter schools served about 12,000 students in New Jersey. During that year there were more than 5,100 students on waiting lists statewide at the charter schools that year (NJDOE website, June 2002).

As the chart below indicates, the number of charter schools in operation in New Jersey has declined for two years in a row, even while the number of approved applications increased. The slight increase in the number of students attending charter schools means that fewer schools in the movement are educating more students. This makes sense as most of the charters begin by serving one or two grades in their first year of operation, then the schools add on one new grade as each year passes. More important, the disparity between the number of approved charters and those in operation means that the state has witnessed several charter closures.

³ This represents 1% of the 1.3 million public school students in New Jersey. NJDOE website, January 2003.

**Chart 4a:
Growth of Charter Schools in New Jersey**



By February 2002, New Jersey had experienced 16 charter closures, though some charter schools that were never opened are listed as closures by the New Jersey Department of Education (NJDOE). Of the 16 charter schools reported as shutting their doors, three schools were denied final approval of their charters by the NJDOE; four schools voluntarily surrendered their charters; two charter schools never opened after receiving final authorization; and seven schools had their charters revoked by the NJDOE (New Jersey CHARTER Public Schools Association, February 2002). Between February 2002 and March 2003, no other charter schools closed. The original legislation established a maximum of 75 charter schools to be authorized by the state, though the charter law was amended November 2000 and increased the cap to 135 schools (*Charter School Program Act of 1995*, amended November 2000, N.J.S.A.18A:36A-3). This was based on an assumption that the movement would grow more rapidly than is currently the case.

New Jersey's charter schools were created to meet specific goals. According to the amended charter legislation of November 2000, New Jersey's legislature found and declared

[t]hat the establishment of charter schools as part of this State's program of public education can assist in promoting comprehensive educational reform by providing a mechanism for the implementation of a variety of educational approaches which may not be available in the traditional public schools classroom. Specifically, charter schools offer the potential ***to improve pupil learning; increase for students and parents the educational choices available*** when selecting the learning environment which they feel may be the most appropriate; encourage the use of different and innovative learning methods; ***establish a new form of accountability for schools; require the measurement of learning outcomes; make the school the unit for educational improvement***; and establish new professional opportunities for teachers (*Charter School Program Act of 1995*, N.J.S.A. 18A:36A-2; emphasis added).

In October 2001, the first *New Jersey Charter School Evaluation Report* was presented to the Governor, Legislature, and State Board of Education, as mandated by the state's charter law. The state's evaluation found that charter schools enrolled more African-Americans (68%) than their districts of residence (50%); conversely, charters served lower percentages of white, Hispanic, and Asian students than the districts of residents and compared to their school-age community. The percentage of charter students participating in Title I programs was greater than the districts of residence, at 60% and 43% respectively. However, charter schools had considerably fewer students with educational disabilities (7.7%) than the districts of residence (15.6%), averaging less than half the rate of their district counterparts. Additionally, the percentage of students receiving free and reduced-price lunch in charter schools was lower (63%) than students in the districts of residence (70%) (All demographics from the *Executive Highlights, New Jersey Charter School Evaluation Report*, October 2001).

The report, based on public hearings and an independent study by KPMG of the state's charter schools, had three major findings. Charter schools, "on average, have lower class sizes, lower student-faculty ratios, lower student mobility rates, longer school days and academic years, greater instructional time, and higher faculty attendance rates than their districts of residence. Parental and student demand for and satisfaction with charter schools are all

extremely high. And students in charter schools, as a whole, are making substantial progress in *some areas* of the statewide assessment, and in those areas charter schools are outperforming their comparable districts of residence” (NJDOE Commissioner of Education press release, October 2, 2001).

4. The Abbott v. Burke Decisions

As one of New Jersey’s 31 Abbott districts, Newark must implement a variety of State Supreme Court decisions in the 25-year-long Abbott v. Burke litigation. A suit brought by the Education Law Center (ELC) on behalf of all low-income children in New Jersey, the first Abbott decision in 1980 required school financing equity. Based on 7 subsequent Abbott decisions, the most important of which was Abbott V in 1998, the Supreme Court required equity financing for Abbott districts at the average of the highest income districts in the state; mandatory preschool beginning with three-year olds; a facilities program to renovate old schools and to build new ones; the implementation of a research-based, national whole-school reform model or its local equivalent; and supplemental funding for health, psychological, guidance, and other support services. Under the charter school law, however, charter schools in Abbott districts do not receive the Abbott parity funding from the state. They also do not receive any state monies for facilities, which means that charter schools are responsible for raising the funds for buildings and their maintenance. It also means that charter schools in Newark and the other 30 Abbott districts receive approximately \$5,000 less per pupil than their district counterparts. This has been the subject of considerable controversy with the New Jersey Charter School Association lobbying intensively for a change in the law that would provide Abbott funding to students in charter schools in Abbott districts. The ELC has supported their claim arguing that children in charter

schools in the Abbott districts are covered by the Court's mandates and therefore the money should go with the children, whether they are in district or charter schools.

From 1980 to 2002, the state and the ELC maintained an adversarial relationship with the ELC consistently bringing litigation for state non-compliance. In January 2002, the new Democratic Governor James McGreevey and his new Commissioner, William Librera, began a collaborative relationship with ELC to implement Abbott more fully. Given a state budget deficit of approximately 5 billion dollars, ELC and the state agreed to a one-year moratorium on new Abbott initiatives and a freeze on Abbott spending at the 2002 allocations. The Supreme Court in Abbott VIII agreed to this moratorium. The Commissioner created statewide advisory groups on all Abbott implementation issues, including K-12 instruction, whole school reform, state takeover districts, and early childhood programs to make recommendations for improving Abbott implementation. By 2005, Governor McGreevey had resigned and Acting Governor Richard Cody continued his predecessor's educational policies. In September 2005, William Librera resigned as Commissioner of Education to head up a new Center on School improvement at Rutgers University. At the time of his departure, the relationship between the State Department of Education and the ELC had grown considerably chillier, with questions of Abbott implementation and charter school financing points of disagreement.

4.1 Newark as a New Jersey State Takeover District

With 75 district public schools that enroll approximately 42,200 students, Newark is comprised of five zones (Zones 1-5) and is the largest school district in New Jersey. However, Newark is also unique because it is an Abbott district and a state takeover district. The Newark Public Schools were taken over by NJDOE, one of three districts to be taken over by the state.

Like the other two districts, Jersey City and Paterson, the state found that the Newark Board of Education lacked the capacity to correct significant problems in fiscal mismanagement, board operation, personnel decisions, and student achievement. Since 1995, the Newark district has been operated by a state-appointed superintendent reporting directly to the Commissioner of Education. In June 2002, State Education Commissioner William Librera announced a plan to begin the process of returning all three districts to local control. Based in part on a report commissioned by the DOE and completed by the Rutgers University Institute on Education Law and Policy (Tractenberg, Holzer, Miller, Sadovnik and Bliss, 2002), the Commissioner called for the creation of an advisory group to recommend a plan for return to local control by October 1, 2002, the appointment of four non-voting representatives from the business, higher education and local communities to the elected advisory boards, who would gain greater advisory authority. In 2005, the state legislature passed and Acting Governor Cody signed NJQSAC, the *NJ Quality Single Accountability Continuum*, a law designed to create a single accountability system for all New Jersey districts and to provide for more meaningful state intervention in struggling districts. Most importantly, based largely on the IELP report, it provides more realistic standards for the return to local control in the three takeover districts.

4.2 Impact of Abbott v. Burke Decisions and the State Takeover on the Charter Movement

Under the Republican-led administration of Governor Whitman, the state's charters enjoyed a certain measure of security as the administration strongly favored charter expansion. The level of comfort charter schools enjoyed was directly linked to Newark's takeover status. As Jack Madison (pseudonym), a former Assistant Commissioner of the NJDOE points out, because Newark's district schools were essentially managed by the NJDOE, any move by the district to thwart charter interests could be intercepted by NJDOE directly. The change of leadership to

Democrat Governor Jim McGreevey in 2001 gave rise to concerns regarding his commitment to the charter movement, as he articulated neither favor nor disfavor for the charter movement during his campaign. Under the McGreevey and Cody administrations, there has been public support for charter schools, but little change in policies. Commissioner Librera consistently argued that New Jersey's charter schools, despite the high performing ones, have far too many low performing ones as well. He has argued for increased efforts to help these schools, but there have been limited efforts at capacity building.

As noted above, charter schools in Newark receive considerably less per pupil funding from the state than their district school counterparts. They receive only 90% of the programmatic funds allotted to district schools (the "thorough and efficient" education costs – or T&E), while the other 10% goes to the district. Additionally, charters are not entitled to whole-school reform funding or the social services funding available as a result of the Abbott V decision; and clearly, they aren't eligible for the facilities funding granted under Abbott V either. Recently there has been a political battle to win the whole-school reform funding for charter schools, as they perceive themselves as an independent reform effort. The New Jersey CHARTER Public Schools Association is leading the battle to win these funds, however it is being assisted by an unlikely ally in the state, the Education Law Center.

Given this environment, or perhaps because of it, Newark's charter movement has flourished. Even while the number of charter schools in New Jersey has declined, Newark has experienced increases each year since the first schools were established in 1997. During the school year of study, 2001-2002, there were nine charter schools in Newark; this school year there are ten schools in operation. It is in Newark that the leadership and main offices of New Jersey's non-profit, non-governmental charter association is located, the New Jersey CHARTER

Public Schools Association (NJCPA). The mission of the NJCPA is to foster networking among charter schools throughout the state, allowing them to share their ideas, interests, and concerns. In attempt to secure the position of and expand the charter movement, the NJCPA lobbies actively for state-funding for charter facilities; increased funding for per pupil expenditures currently unavailable to charter schools, including the set-aside funds for Abbott districts; and amendments to the charter law that would ease administrative burdens and facilitate receipt of federal grant monies for facilities and other capital outlay/operating expenditures.

5. The Charter School Debates: Differing Perspectives on Student Achievement

Proponents of charter schools have long argued that they provide a more effective and efficient venue for low-income children, especially in urban areas. Often tied to the school choice and voucher movement, advocates believe that freed from the bureaucratic constraints of traditional urban public schools, charter schools will provide a better education at a lower cost. However, in 1994 the American Federation of Teachers, long a skeptic if not an opponent of charter schools, issued a statistical report that found that district public schools outperformed charter schools nationally (AFT, 2004). Immediately following its release, a group of education researchers, some long associated with the school choice and voucher movement, were signatories to a full page advertisement in the New York Times, condemning the AFT study for sloppy research, arguing that the study failed to control sufficiently for student background variables, used one year of data rather than multi-year data sets, and did not measure the value-added effects of charter schools on their students, many of whom came to charters far below state proficiency

levels (NY Times, 2004).⁴ In 2005, the United States Department of Education released its report on charter schools, whose study design satisfied some of the criteria for acceptable research outlined in the Times ad and concluded that when controlling for student background data district public schools still had a slightly higher achievement results. Given the lack of statewide student level data, however, the Department of Education study could not examine the value added effects of district and charter schools when controlling for student background factors. Caroline Hoxby (2004), a leading proponent of charter schools and school choice, however, released studies that compared charter schools nationally with their neighboring district schools (as a way for controlling for student background factors and comparing them to the schools where the charter school students would have remained if they did not have choice) and of students on waiting lists for charter schools who remained in the neighboring district schools. Both studies indicated that students in charter schools had higher achievement than those who remained in the neighboring district schools, even after controlling for student background variables.

It is in the context of these research debates, that our study compares student achievement in Newark's district public and charter schools.

6. A Statistical Comparison of Charter and District Public Schools in Newark

This section reports the results of a statistical analysis regarding the performance and characteristics of fourth and eighth grade students in the Newark public and charter schools.⁵ In

⁴ Interestingly, these are the same criticisms that school choice and voucher opponents have used to critique studies that argue for the superiority of performance by low income children in charter and voucher schools.

⁵ Though both charter and district public schools are 'public' in the sense that they receive public funds from the same sources, for ease of exposition we refer to non-charter public schools as 'district public schools.'

particular, this section asks the questions: (1) Are there differences in the composition of charter schools and (2) How are charter schools performing relative to their public school counterparts on New Jersey standardized tests?

These questions are investigated using New Jersey Report Card data collected by the New Jersey Department of Education (see <http://education.state.nj.us/rc/>). For schools with fourth graders we have two years of data, 2002-03 and 2003-04; for schools with eighth graders we have three years of data, 2001-02, 2002-03, 2003-04.⁶ The Appendix gives some selected data about each of the schools in the samples.

This data set contains school-level information about student performance, racial and economic characteristics, and school characteristics. This section reports four types of statistical analyses:

1. Basic descriptive statistics of fourth and eighth graders across schools to demonstrate the composition of the “average” school in Newark, and how schools vary from this average;
2. A comparison of the means of several variables for charter and district public schools to investigate whether charter schools are qualitatively different than district public schools;
3. Regression analysis to investigate which variables determine student performance on standardized tests, and to see if charter schools are performing differently; and
4. A comparison of performance measures listing (1) how the schools perform on standardized exams, and (2) how they over- or under-achieve relative to a prediction based on the regression analysis. These predictions help to identify those schools that might be excelling (or failing) due to better organizational and/or institutional characteristics.

⁶ Fourth graders take the Assessment of Skills and Knowledge (ASK 4) exams, which has been administered since the 2002-03 school year. Eighth graders take the Grade Eight Proficiency Assessment (GEPA) exams, which have been administered since the 2001-02 school year.

Clearly, a statistical snapshot of a school district does not tell the whole story, but this type of investigation can shed light on larger patterns and overall outcomes. The main focus of this section is to *identify how charter schools are performing relative to their public school counterparts*. Given the nature of the data—school level data with relatively general variables—we cannot account for many of the underlying causes of this performance. As discussed below, we can identify major factors such as student-faculty ratios, general racial and demographic differences, but to gain better insight into those variables that determine student performance we need to use student level data, preferably those that track particular students over time. In addition, to better investigate charter school performance, a study would need to be designed that compares similar types of students who attend charter schools to those that do not to see how performance differs over time for the same set of students.

6.1 The Newark District Public and Charter Schools

The Newark school district is the largest school system in New Jersey. There are 76 district public schools; 59 have elementary and/or intermediate grades, 12 have high school grades, and 5 are special education schools. In addition, there are currently 10 charter schools. During the 2003-04 school year, total student enrollment in public and charter schools was 45,295, of which 2,493 students (5.5%) were enrolled in Newark's ten charter schools.

Newark's school performance has historically lagged behind the state of New Jersey, and this continues to be the case. For example, for the Newark school district for the 2003-04 school year, only 70.9% of general education students scored at or above proficiency on their standardized exams, while across the state the number was 90.3%. For math, 59.3% of Newark students were at or above proficiency, while for the state as a whole, 78.4% of students were at

or above proficiency. Newark’s school district median household income is roughly half that of New Jersey’s.⁷

7. Analysis of Fourth Grade Students

7.1 Descriptive Statistics

Table 1 presents the descriptive statistics for schools in Newark with 4th grades. There are a total of 55 schools that have fourth grade students, including six charter schools (the schools are listed in table 4) The table presents the averages, the standard deviations, and the minimum and maximum values for each of the schools. The averages give a measure of central tendency, and the standard deviation, minimum and maximum are measures of variation across schools.

<TABLE 1 HERE>

The table is divided into five main sections: test scores, student data, faculty data, school data, and data specifically about charter schools. The first section gives the descriptive statistics for each school’s performance on the language and mathematics test scores for general education students (the ASK 4 exams). The variables are the percentage of students that fall into one of three categories: above proficiency level, at proficiency level, or below proficiency level.⁸ The NJDOE administers the statewide exam and determines the scores for each category.⁹

The average school in Newark (both charter and public) has 70.8% of it students at or above proficiency level for language arts, but only 59.6% at or above proficiency for mathematics.

⁷As of the 2000 Census, New Jersey has the highest median household income in the country (source: <http://www.courierpostonline.com/census2000/m080601d.htm>)

⁸The state refers to this category as “partially proficient.”

⁹For a historical overview of standardized testing in New Jersey see <http://www.nj.gov/njded/assessment/history.shtml>.

Interestingly, for percent above proficient, the average school only has 1.6% of its students above proficiency in Language Arts, while for Math, the average is 21.2%.

In terms of faculty composition, the average school has 70.5% of its faculty having only a Bachelor's degree, and 24.8% also having a Master's degree. In the average school, 43.1% of its teachers are Black, and roughly 58.5% are minority, in general.¹⁰

For student characteristics, we see that in the average school 64.3% of its students are Black and 29.0% are Hispanic; 67.9% of students qualify for the federal government's Free Lunch program, which is based on economic need.

In terms of school characteristics, 49% of schools are classified as a "Predominantly Black School." A school is given this designation (by the authors) if at least 50% of the students and at least 50% of the teachers are Black. Student mobility is the percentage of students who either entered or left during the school year. The average school had a mobility of 27.1%.

7.2 Comparison of Means for District Public and Charter Schools

In this section, we ask the question: How are the characteristics of 4th graders in charter schools different than in district public schools? In order to make this comparison, we perform a statistical test that compares the averages of variables for the two groups. In statistical parlance, we perform a two-sided t-test with the assumption that the two groups have different variances. If the difference of the averages is large relative to how the variable varies, then we conclude that there is a statistically significant difference.

Table 2 presents the results of this analysis. The right-most column gives the probability value for the t-statistic. Probability values less than 0.1, generally indicate a statistically

¹⁰The NJDOE designates five racial categories: Asian, Black, Hispanic, Native American and White.

significant difference. Since we have no priors about the signs of the differences we perform a two-sided test. Note that a one-sided test cuts the p-value in half.

Based on the tests, we can conclude that, on average, charter schools with 4th grades have smaller total enrollments, larger minority populations, fewer free lunch students, fewer male students, lower student mobility and fewer Limited English Proficient students. There does not appear to be any significant differences between test scores or test score growth, on average. Below, section 3 will explore this more fully using regression analysis, since we need to take into account the differing variables across schools that affect performance. On average, charter schools have longer school days and school years.

<TABLE 2 HERE>

The rest of the variables do not have statistically significant differences, but a caveat in order. If a variable is not statistically different it may be due to one of two factors: one is due to a small sample (and hence there is a higher measured variance) or there is, in fact, no true difference. Thus, when looking at mean differences, if we see a large difference that is not statistically significant, common sense should also provide some guidance.

7.3 Regressions

In this section, we attempt to answer the question: What are the determinants of standardized test performance across schools? The average school for the Language Arts exam has 70.8% of its students at or above proficiency level. Yet the standard deviation is 18.1% and the range is roughly 73.3%; thus there is quite a bit of variation in student performance across schools in Newark.

Regression analysis is a statistical procedure that accounts for this variation by looking at the variables that determine student performance. Table 3 presents the results. For each of the two exams, the dependent variable (the variable to be explained) is the percentage of general education students in each school that are at or above proficiency. The first regression for each subject looks only at socio-economic variables for the 2003-04 school year; the second regression includes not only student information, but also faculty and school characteristics. Furthermore, for the second regression we use two years of data; this let's us look at performance growth over time, and if it is different for charters and district public schools. Below each coefficient estimate, we present the probability value, which is the level of significance at which one can just reject the null hypothesis of no effect for the coefficient.

<TABLE 3 HERE>

7.3.1 Discussion of Results

Race, poverty and native tongue can account for about half of the variation in student performance across schools, based on R^2 . The variable *Year 2004* shows that, controlling for the other factors, there was an across-the-board increase in test performance in Newark of 9.1% for Language, and 13% for Math. Since this was the second year that the ASK 4 exam was administered, the over-all improvement may reflect a better awareness of how to prepare for the exam.

The variable *Charter School* measures the performance of charter schools *controlling for other factors that determine performance*. In general, charter schools show lower performance on test scores. Interestingly, the regressions show that charter schools perform worse on the Language Arts exam relative to math. In addition the variable *Year2004*Charter* looks at charter school performance during the 2003-04 school year, as compared to the 2002-03 year. The

coefficients are positive (but not statistically significant). This indicates that charter performance in the second year improved slightly, if at all.

Though the coefficient for charter schools is negative, there are some mitigating circumstances. Charter schools tend to have longer school days and school years than district public schools, and these have positive effects on performance. For example, the coefficient for *Length of School Day*, shows that, on average, all else equal, an increase in the school day by one hour increases student performance by 10.25% (though this coefficient is not statistically significant). The effect of a longer school year is also positive. For example, for the Language exam, an increase in the school year by one-day (above the 180 school day for district public schools) is associated with a 1.35% improvement in performance, on average.

So what is the net effect of being a charter school on student performance? If we take the mean difference in *School Day* and *School Year* for charter versus public school (1.3 and 14.7, respectively), then we would predict that for Language, charter schools in 2003-04 only have a -3.9% difference as compared to district public schools. For Math, we predict a -14.6% difference for the 2003-04 school year.

While an increase in the number of Black students (relative to White students) is associated with a decline in performance, there is evidence that Black students in predominantly Black schools perform better in schools when a majority of the teachers are also Black. This finding lends evidence to the fact that there are perhaps cultural differences that are better understood by teachers of a similar race.

7.4 Measures of Performance

There are clearly many different ways to assess the performance of a school. The most visible way is by looking at the percent of students that achieve proficiency or above on their standardized exams. But another way to measure performance can be based on the regression results. The regressions show how we can explain the variation in test performance across schools, and each coefficient can be seen as a type of “debit” or “credit.” For example, having longer school hours is a “credit,” i.e., improves student performance, while a larger student-faculty ratio is a debit.

Based on the regression, we can generate for each school a “predicted value,” which is the prediction of a school’s score given the information we have about the school. By looking at different predicted values we can compare how schools are performing based on their student, faculty and school characteristics.

In addition we can compare the predicted performance to the actual performance. The difference, called the *residual*, is that part of actual performance that is unaccounted for by the regression. Those schools with large positive residuals, for example, are performing above expectations. The reason for this can be due to better curricula and other unmeasured organizational factors. By definition, though, the residual is that part of performance that we do not have information about and thus why it might be positive or negative requires further investigation.

For example, in the case of Abington Avenue school in 2003-04, 100% of its general education students scored at or above proficiency for Language, yet given its student demographics we would predict a score of 81.8%; and given the student, faculty and school characteristics, we predict that they would have achieved a level of only 88.7%. Thus they

achieve proficiency roughly 18% greater than what we would have predicted given student demographics, and roughly 11% given school and faculty information. This indicates that there are unmeasured qualities to Abington Avenue that makes it excel; these might include such variables as better organizational structure, curriculum and perhaps better general student preparedness.

In Tables 4 and 5 we present information about each school's performance measures for the 2003-04 school year. The first column on the left gives the percent of students in each school that are at or above proficiency. The second column from the left gives the predicted value for the percent at or above proficiency only based on student demographic characteristics (called PRED. SES). The next column (PRED. FULL) gives the predicted scores based on data on students, faculty and the school, including whether the school is a charter or not. The next columns present the residuals for each of the two regressions. The columns, as discussed above, show the degree to which a school is achieving above or below expectations.¹¹

There are two reasons why we present two types of regressions (SES and FULL). The first is simply due to the strong influence that student demographics play in student performance (Sadovnik, et al, 2005). Whether students have high income, whether their parents have good educations, etc., all play a role in students' preparedness. Thus we look at how student characteristics affect school performance.

Secondly, the dummy variable *Charter* in the FULL regression is meant to capture some features that are common to charter schools that affect performance. It a summary variable, meant to ask whether charter schools in general are performing better or worse than their public school counter parts. But since we don't know what is driving this negative result, we can't say

¹¹ For each of the FULL regressions, we have two years of predicted values and residuals, but we only show the latest year for brevity.

more without additional information. Thus by presenting two regressions we show how robust the results are.

<TABLES 4 AND 5 HERE>

Based on the SES regression, we see that the Harriet Tubman school has the largest residual for Language, which means it's performing above expectations given its students racial and economic characteristics (21.2% points above). For Math, Fourteenth Avenue has the largest SES residual (45%) While looking at the FULL regression, shows that Sussex Avenue has the highest residual of 21.1% for Language, and Fifteenth Avenue is highest for Math (33.2%).

As for charter schools, the table demonstrates that performance based on standardized test scores is decidedly mixed. Some schools perform towards to the top in Newark, including Robert Treat and Gray, while some perform toward the bottom, such as New Horizons and Marion P. Thomas.

Looking at the residuals shows that for Language for both SES and FULL, four of six charter schools have negative residuals. Only Gray Charter School has positive residuals for both regressions. A similar picture holds for the Math exam. Thus in general charter schools are not performing above predicted.

8. Analysis of Eighth Grade Students

8.1 Descriptive Statistics

Here we present the descriptive statistics for schools that have eighth grade students. Including charter schools, there were 44 schools that have eighth graders during the 2003-04 school year. However, we only have complete test score data for 43 schools. For test score growth rates we

have data only on 41 schools.¹² From Table 6, highlighting some findings, we see that the average school has 44.7% proficiency in science, 53.3% in language, and 34.7% in math. The average school has 67.4% Black students and 25.1% Hispanic, with 65.5% of its students receiving free lunches. In the average school, 46.0% of its teachers are Black, 12.0% Hispanic and 40% White. On average, faculty members with a Master's degree make up 26.5% of the faculty. 52% of the schools are predominantly Black schools and 14% are charters.

<TABLE 6 HERE>

8.2 Comparison of Means for District Public and Charter Schools

In this section we perform a similar analysis as in section 2.2 by comparing the means of charter and district public schools for various statistics. We seek to determine if charter schools are qualitatively different than district public schools, for schools with eighth graders.

<TABLE 7 HERE>

Looking at Table 7, we see a similar pattern as compared to schools with fourth graders. Except for the one year change for language test score performance, there is no significant difference between the two types of schools. Though, looking at the differences, we see that in general the average public school is outperforming the average charter school.

In terms of student characteristics, charter schools have higher Black populations, but lower Hispanic populations. Charters have relatively fewer male students, and they have lower student mobility rates.

In terms of faculty and school variables, we see the following results. There is some weak evidence (from a statistically point of view) that charter schools have fewer Black teachers and

¹² There is no test score data for the Samule L. Berliner school, nor is there test score data for 2001-02 and 2002-03 for Lady Liberty Academy and Newark Charter School.

more White teachers. Except for the percent of faculty members with a Doctorate, there are no statistically significant differences in the faculty composition, on average, though in some cases the mean differences are relatively large. Looking at school-related variables, we see that charter schools tend to have lower enrollments, have longer school days and school years. There appears to be no major differences in class size or student-faculty ratios.

8.3 Regressions

Similar to the regressions in section 2.3, this section reports the results of regressions for 8th grade exam performance. The dependent variable is the percentage of students in each school who score at or above proficiency level. For each exam—language, math and science—two regressions are presented: the first looks at test performance as a function of just socio-economic variables for the 2003-04 school year, the second includes the relevant school and faculty characteristics. Unlike the 4th grade regressions, data are available for three years for the GEPA (Grade Eight Proficiency Assessments) for each school. We can use the data set to see if charter schools have had overall improvement over time or not.

<TABLE 8 HERE>

Most of the variables in the 8th grade regressions are the same as the 4th grade regressions. Here we note the differences. The variables *Year 2003* and *Year 2004* measure performance in the 2002-03 and 2003-04 school year relative to the 2001-02 , holding constant the other variables. Looking at the eq. (2) for the three exams, we can conclude that, in general, there was an across-the-board increase in test scores each year. The variables *Charter*Year 2003* and *Charter*Year 2004* measure whether charter schools have shown improvements or not relative to district public schools in those years. One other variable included is the dummy variable

Elementary School (non-charter), which takes on the value of 1 if a public school is an elementary school, and 0 if it is a secondary or comprehensive school.

3.3.1 Discussion of Results

As with 4th graders, race and socio-economic characteristics explains roughly half of the performance across schools. Furthermore, Black and Hispanic students consistently perform worse than schools with large White student populations, however, there is a positive “predominantly Black school” effect, which means that all else equal, schools that have large Black student populations, perform relatively better when the teaching staff is also primarily Black.

Across regressions, charter schools tend to show worse performance across years, with large negative differences in the latest year of the sample. The reason for this large coefficient is most likely due to the inclusion in 2003-04 of two charter schools, Lady Liberty Academy and Newark Charter School, both of which have relatively low performance.¹³ The effects of longer school years and school days in this case are mixed. Longer school days appear beneficial, while a longer school year appears not to be beneficial.

8.4 Measures of Performance

Tables 9 through 11 present the performance measures for the 44 schools with eighth graders. Looking at test score performance shows a very large variation in the performance of charters, some such as North Star Academy consistently perform towards the top, while others, such as Lady Liberty Academy perform towards the bottom.

<TABLES 9 – 11 HERE>

¹³ For 2003-04 for Language, at or above proficiency for Lady Liberty is 19.1% and for Newark Charter is 46.3%

In terms of residuals, we see that there is also a wide variation: some charter schools have large positive residuals, others have ones close to zero, and yet others have large negative ones. Interestingly, the residuals for charter schools for Math for the FULL regression for 2003-04 are either clustered toward the top or toward the bottom, which shows some schools appear to be “getting it right” while others are not succeeding, despite their student, faculty and school characteristics. In general, charter schools show a wide variation in performance, both in actual and predicted performance.

9. Conclusion

We found that Newark’s and New Jersey’s (see Barr, 2004a) charter schools mirror the educational inequalities of the state as a whole, as well as its Abbott Districts. Although charter school student achievement is the lowest of all groups of district public schools in New Jersey, below the average of the Abbott Districts, New Jersey and Newark’s charter schools have among the highest and lowest achieving schools in the state. The data indicate that charter schools are similar to district urban public schools, with pockets of excellence and mediocrity. Visconti’s (2003) study of four Newark charter schools supports these findings with two, among the highest performing in the state among district and charter schools, one in the second quartile, and the fourth among the lowest performing in the state. Most importantly, our findings suggest that charter schools are not the panacea or magic bullet that many of their proponents argue that they are and that the NJDOE needs to develop a more effective accountability system and capacity building system to ensure that urban charter schools have the opportunity to succeed and, if they cannot in a reasonable period of time, that they are closed down.

Finally, our data adds to the debates about the differences between charter and district public schools. Although charter schools in Newark perform slightly lower than the Newark

district public schools at both the fourth and eighth grade levels, these differences are not statistically significant. Moreover, student demographic data is are the strongest predictors of academic achievement, which supports decades of sociological research on the importance of factors outside of schools.¹⁴ Given the wide disparities in achievement across both charter and district public schools, it is imperative that we learn from successful schools such as Abington and Ann Street (public) and North Star and Robert Treat (charter) in order to replicate these models of success. The ideological character of the charter debates can only detract from this goal: learning from the best district and charter schools to improve all schools and the education of all students.

¹⁴ See A.R. Sadovnik, P.W. Cookson, Jr. and S.F. Semel, *Exploring Education: An Introduction to the Social Foundations of Education* (Third Edition). Boston: Allyn and Bacon, 2005, Chapter 9.

REFERENCES

- Barr, J. (2004a). "A Statistical Comparison of Charter and Public Schools in New Jersey." mimeo.
- Barr, J. (2004b). "A Statistical Portrait of Newark's Schools." Newark, New Jersey: Cornwall Center for Metropolitan Studies.
- Callahan, K., Sadovnik, A.R. & Visconti, L.M. (2002). *Performance-Based Accountability: Newark's Charter School Experience*. Newark, N.J.: Cornwall Center for Metropolitan Studies.
- Chubb, J. E. and Moe, T. M. 1990. *Politics, Markets, & America's Schools*. Washington, DC: The Brookings Institution.
- Finn, C. E., Manno, B. V., and Vanourek, G. 2000. *Charter Schools in Action*. Princeton, NJ: Princeton University Press.
- Fuller, B. (Ed.) 2000. *Inside Charter Schools: The Paradox of Radical Decentralization*. Cambridge, MA: Harvard University Press.
- Hill, P., Lake, R., Celio, M.B., Campbell, C., Herdman, P. and Bulkley, K. June 2001. "A Study of Charter School Accountability." (U.S. Department of Education, Office of Educational Research and Improvement) Jessup, MD: U.S. Department of Education, ED Pubs.
- Kane, P. R. 1998. "New Jersey Charter Schools: *the first year*." Prepared for the New Jersey Institute for School Innovation. New York, NY: Teachers College, Columbia University.
- Miron, G. and Nelson, C. July 2001. "Student Academic Achievement in Charter Schools: What We Know and Why We Know So Little." MI: Western Michigan University, The Evaluation Center.
- Miron, G. and Nelson, C. 2002. *What's Public About Charter Schools? Lessons Learned About Choice and Accountability*. Thousand Oaks, CA: Corwin Press, Inc.
- Ravitch, D. and Viteritti, J. P. (Eds.) 2000. *City Schools: Lessons from New York*. Baltimore, MD: The Johns Hopkins University Press.
- RPP International. January 1998. "The State of Charter Schools 1998." (U.S. Department of Education, Office of Educational Research and Improvement) Washington, DC: U.S. Government Printing Office.
- RPP International. January 1999. "The State of Charter Schools 1999." (U.S. Department of Education, Office of Educational Research and Improvement) Washington, DC: U.S. Government Printing Office.

RPP International. January 2000. "The State of Charter Schools 2000." (U.S. Department of Education, Office of Educational Research and Improvement) Washington, DC: U.S. Government Printing Office.

RPP International. June 2001. "Challenge and Opportunity: The Impact of Charter Schools on School Districts." (U.S. Department of Education, Office of Educational Research and Improvement) Washington, DC: U.S. Government Printing Office.

Sadovnik, A. R., Cookson, P. W., and Semel, S. F. 2005. *Exploring Education: An Introduction to The Foundations of Education, Third Edition*. Boston: Allyn and Bacon.

Schneider, M., Teske, P., and Marschall, M. 2000. *Choosing Schools: Consumer Choice and the Quality of American Schools*. Princeton, NJ: Princeton University Press.

Tractenberg, P., Holzer, M., Miller, G., Sadovnik, A. and Liss, B. (2002). "Developing a Plan for Reestablishing Local Control in the State-Operated School Districts: A Final Report to the New Jersey Department of Education," (2 Volumes with Appendices). Newark, N.J.: Institute on Education Law and Policy, Rutgers University. www.ielp/rutgers.edu.

Tractenberg, P., Sadovnik, A., & Liss, B. (2004). *Tough Choices: An Informed Discussion of School Choice*. Newark, NJ: Institute on Education Law and Policy, Rutgers University, www.ielp/rutgers.edu.

Visconti (2003). *Charter Schools and the Common Good: A Qualitative Study of Accountability, Association and Cooperation*. Unpublished doctoral dissertation, Teachers College, Columbia University.

Viteritti, J.P. 1999. *Choosing Equality: School Choice, the Constitution, and Civil Society*. Washington, DC: The Brookings Institution.

Wells, A. S. 1998. "Beyond the Rhetoric of Charter School Reform: A Study of Ten California School Districts." Los Angeles, UCLA Charter School Study.

Wells, A. S. 2000. "In Search of Uncommon Schools: Charter School Reform in Historical Perspective." Speech delivered at the Julius and Rosa Sachs Lecture at Teachers College, Columbia University. Online Journal of the TC Record.

Wells, A.S. (Ed.) 2002. *Where Charter School Policy Fails: The Problems of Accountability and Equity*. New York, NY: Teachers College Press, Columbia University.

Appendix

Here we present data for some selected variables for the schools in Newark that have 4th and 8th grades, respectively.

<TABLES FOR APPENDIX HERE>

Table 1: Descriptive Statistics Newark District Public and Charter Schools with 4 th Graders, 2004				
Variable	Mean	St. Dev.	Min.	Max.
Exam Performance				
ASK 4 Language Arts (General Education Students)				
# Tested	46.7	20.0	13.0	94.0
% Above Proficient	1.6	3.5	0.0	15.4
% Proficient	69.2	16.5	26.3	97.1
% Below Proficient	29.2	18.1	0.0	73.7
One year change (%P+AP)	9.1	13.2	-25.0	43.9
ASK 4 Mathematics (General Education Students)				
# Tested	46.6	20.0	13.0	94.0
% Above Proficient	21.2	20.7	0.0	81.3
% Proficient	38.4	13.4	10.5	66.7
% Below Proficient	40.4	24.7	0.0	89.5
One year change (%P+AP)	13.8	16.4	-11.2	65.2
Student Variables				
% Asian	0.8	1.8	0.0	9.3
% Black	64.3	35.5	0.5	98.7
% Hispanic	29.0	29.4	1.3	88.1
% Native American	0.1	0.2	0.0	1.2
% White	5.9	15.4	0.0	69.9
% Male	51.4	3.4	43.5	61.2
% Free Lunch	67.9	13.3	30.9	88.8
% Limited English Proficient	8.1	9.7	0.0	37.6
% Student Mobility	27.1	11.6	0.0	50.0
Faculty Variables				
% Teachers Asian	1.8	2.7	0.0	12.5
% Teachers Black	43.1	25.3	0.0	92.3
% Teachers Hispanic	13.5	12.2	0.0	51.1
% Teachers Native American	0.1	0.5	0.0	3.4
% Teachers White	41.5	20.4	0.0	86.6
% Administrators Minority	63.0	35.2	0.0	100.0
% Faculty with Bachelor's only	70.5	7.6	47.6	86.2
% Faculty with Master's	24.8	7.1	11.9	45.2
% Faculty with PhD/Ed's	4.8	3.6	0.0	14.1
# Teachers	42.5	17.1	5.0	80.0
School Variables				
Enrollment	523.2	244.7	75.0	1067.0
Average Grade 4 Class Size	18.2	4.6	8.7	29.7
Student-Faculty Ratio	10.9	2.6	5.5	18.6
% Average Student Attendance	92.7	1.6	87.8	97.1
Predominantly Black School	0.49			
Charter School Variables (n=6)				
Charter School	0.11			
School Year	194.7	11.3	182.0	210.0
School Day	7.7	0.7	7.0	9.0

Table 2: Fourth Grades Comparisons of Means, 2004				
Variable	Public (n=49)	Charter (n=6)	Diff	P-value
ASK4 Exam Performance				
Lang. %P + AP	70.6	73.1	-2.5	0.81
Math %P+AP	60.8	50.3	10.5	0.47
Lang. 1-year growth	8.8	11.6	-2.8	0.71
Math 1-year growth	13.3	18.3	-5.0	0.65
Student Variables				
% Asian	0.6	1.8	-1.2	0.41
% Black	62.6	78.9	-16.4	0.26
% Hispanic	30.3	18.1	12.2	0.36
% Native American	0.0	0.2	-0.1	0.48
% White	6.5	0.6	5.5	0.04**
% Male	51.9	47.7	4.2	0.01***
% Free Lunch	69.4	55.9	13.5	0.01***
% Limited English Proficient	9.0	0.5	8.5	0.00***
% Student Mobility	28.8	13.0	15.9	0.02**
Faculty Variables				
% Teachers Asian	1.6	3.1	-1.4	0.51
% Teachers Black	43.1	43.6	-0.5	0.97
% Teachers Hispanic	14.0	9.5	4.5	0.20
% Teachers Native American	0.1	0.0	0.1	0.32
% Teachers White	41.2	43.9	-2.7	0.85
% Administrators Minority	63.6	58.3	5.3	0.81
% Faculty with Master's	25.0	22.6	2.4	0.56
% Faculty with PhD/Eds	5.0	2.6	2.4	0.14
School Variables				
Enrollment	548.5	316.5	232.0	0.011**
Average Grade 4 Class Size	18.1	18.4	-0.2	0.90
Student-Faculty Ratio	10.6	13.2	-2.6	0.12
% Average Student Attendance	92.8	92.7	0.1	0.97
Predominantly Black School	0.5	0.5	0.0	0.97
School Year	180.0	194.7	-14.7	0.025**
School Day	6.3	7.7	-1.3	0.005***

Note: *=p-val.<.1, **=p-val<.05, ***=p-value<.01

Table 3: Regressions. Dependant Variable: % At or Above Proficiency ASK4				
Variable	Language		Math	
	SES	FULL	SES	FULL
% Students Black	-0.31 <i>0.18</i>	-0.44 <i>0.02***</i>	-0.65 <i>0.06*</i>	-0.66 <i>0.01***</i>
% Students Hispanic	-0.21 <i>0.28</i>	-0.32 <i>0.07*</i>	-0.38 <i>0.20</i>	-0.11 <i>0.65</i>
% Students Nat. Am.	-17.77 <i>0.11</i>	8.75 <i>0.17</i>	-8.96 <i>0.59</i>	1.84 <i>0.85</i>
% Students Asian	3.01 <i>0.01***</i>	2.17 <i>0.00***</i>	2.23 <i>0.22</i>	1.70 <i>0.01***</i>
% Students Male	0.60 <i>0.40</i>	-0.59 <i>0.13</i>	0.87 <i>0.42</i>	-0.11 <i>0.85</i>
% Free Lunch	-0.56 <i>0.04***</i>	-0.07 <i>0.64</i>	-0.31 <i>0.46</i>	-0.06 <i>0.78</i>
% LEP	-0.24 <i>0.55</i>	-0.78 <i>0.02**</i>	-0.35 <i>0.56</i>	-0.38 <i>0.37</i>
% Student Mobility	0.04 <i>0.86</i>	0.01 <i>0.94</i>	0.04 <i>0.90</i>	0.00 <i>1.00</i>
Charter School		-42.22 <i>0.02**</i>		-33.33 <i>0.218</i>
Year 2004		9.11 <i>0.00</i>		12.99 <i>0.00</i>
Year2004*Charter		5.14 <i>0.53</i>		6.26 <i>0.61</i>
Enrollment (000)		-0.19 <i>0.82</i>		-1.53 <i>0.25</i>
Avg. % Attendance		1.49 <i>0.12</i>		1.93 <i>0.16</i>
Student-Faculty Ratio		-1.80 <i>0.02**</i>		-0.85 <i>0.41</i>
% Faculty w. Master's		0.30 <i>0.22</i>		0.14 <i>0.68</i>
% Faculty w. PhD/Eds		-0.13 <i>0.77</i>		-0.13 <i>0.84</i>
Length of School Day		10.25 <i>0.23</i>		0.92 <i>0.94</i>
Length of School Year		1.35 <i>0.01***</i>		0.77 <i>0.25</i>
% Teachers Black		-0.36 <i>0.04</i>		0.06 <i>0.80</i>
% Teachers Hispanic		0.11 <i>0.70</i>		-0.59 <i>0.12</i>
% Teachers Native Am.		-6.71 <i>0.00***</i>		-6.63 <i>0.03**</i>
% Teachers Asian		-0.07 <i>0.92</i>		1.15 <i>0.22</i>
% Administration Minority		-0.11 <i>0.03**</i>		-0.16 <i>0.03**</i>
Predom. Black School		8.36 <i>0.19</i>		-2.38 <i>0.78</i>
Constant	103.73 <i>0.01***</i>	-275.89 <i>0.05**</i>	88.68 <i>0.10*</i>	-188.49 <i>0.34</i>
# Obs.	36	55	55	110
R ²	0.498	0.67	0.385	0.646

Note: probability values below estimates. * = p-val. < .1, ** = p-val < .05, *** = p-value < .01

Table 4: ASK4 Language 2004

% A + AP	Pred. SES	Pred. Full	Resid. SES	Resid. Full	Charter	School
100.0	97.6	90.4	2.4	9.6		OLIVER ST
100.0	81.8	88.7	18.3	11.4		ABINGTON AVE
98.7	92.9	86.2	5.8	12.5		MT VERNON
98.6	98.9	95.8	-0.3	2.8		FIRST AVENUE
98.5	98.7	100.4	-0.2	-1.9		ANN ST%
98.0	89.9	99.8	8.1	-1.8	Yes	ROBERT TREAT ACADEMY CS
93.9	75.4	80.6	18.5	13.3	Yes	GRAY CS
93.8	99.9	111.3	-6.1	-17.5		WILSON AVE%
93.2	72.0	77.8	21.2	15.4		HARRIET TUBMAN
91.7	88.0	89.2	3.7	2.5		RIDGE ST
89.6	70.3	68.5	19.3	21.1		SUSSEX AVE
86.1	90.6	94.8	-4.5	-8.7		LAFAYETTE ST
84.6	102.5	88.1	-17.9	-3.5	Yes	DISCOVERY CS%
83.7	63.6	73.6	20.1	10.1		THIRTEENTH AVE
83.3	75.0	83.2	8.3	0.1		BRANCH BROOK
82.9	77.1	81.2	5.8	1.7		HAWKINS ST
78.4	60.1	61.4	18.3	17.0		CLEVELAND
77.8	63.8	69.1	14.0	8.7		SOUTH ST
77.0	61.6	66.8	15.4	10.2		ALEXANDER ST
76.3	71.1	67.8	5.2	8.5		CAMDEN ST
73.8	65.2	61.7	8.6	12.1		SOUTH SEVENTEENTH ST
73.7	61.6	59.2	12.1	14.5		FIFTEENTH AVE
73.4	74.2	81.3	-0.8	-7.9		ELLIOTT ST
73.3	58.8	70.6	14.5	2.7		QUITMAN COMMUNITY SCHOOL
73.2	74.4	76.1	-1.2	-2.9		MCKINLEY
72.7	66.8	72.8	5.9	-0.1		MAPLE AVE SCHOOL
72.7	64.8	71.5	7.9	1.2		FRANKLIN
72.4	64.9	82.3	7.5	-9.9		ROSEVILLE AVE SCHOOL
72.1	60.8	65.5	11.3	6.6		CHANCELLOR AVE
71.4	68.8	73.6	2.6	-2.2		LOUISE A. SPENCER
68.2	59.9	56.3	8.3	11.9		BURNET ST
67.8	57.7	66.2	10.1	1.6		NEWTON ST
67.6	79.1	67.8	-11.5	-0.2		RAFAEL HERNANDEZ SCHOOL
66.7	71.3	69.3	-4.6	-2.6	Yes	LADY LIBERTY ACADEMY CS
65.6	62.3	66.6	3.3	-1.0		EIGHTEENTH AVE
64.3	63.6	57.0	0.7	7.3		SPEEDWAY AVE
62.9	66.1	62.2	-3.2	0.7		LINCOLN
62.5	58.9	71.2	3.6	-8.7		FOURTEENTH AVENUE
62.5	69.4	68.8	-6.9	-6.3		WARREN ST
62.3	70.4	66.6	-8.1	-4.3		ROBERTO CLEMENTE
61.8	68.1	59.0	-6.3	2.8		PESHINE AVE
61.4	72.9	57.6	-11.5	3.8		DR E ALMA FLAGG
61.2	59.0	54.0	2.2	7.2		MARTIN LUTHER KING JR
57.6	64.1	72.1	-6.5	-14.5	Yes	NEW HORIZONS COMM. CS
57.6	69.7	53.9	-12.1	3.7		GEORGE WASHINGTON CARVER
57.1	69.7	71.0	-12.6	-13.9		DR WILLIAM H HORTON

53.1	54.5	62.6	-1.4	-9.5		BELMONT RUNYON
48.4	67.5	64.1	-19.1	-15.7		AVON AVE
46.2	62.6	45.3	-16.4	0.9		HAWTHORNE AVE
44.8	64.9	60.2	-20.1	-15.4		DAYTON ST
42.4	63.1	64.7	-20.7	-22.3		BROADWAY
42.4	64.4	55.7	-22.0	-13.3		MADISON ELEM.
37.5	47.9	28.3	-10.4	9.2	Yes	MARION P. THOMAS CS
33.3	57.4	52.8	-24.1	-19.5		MILLER ST
26.3	60.7	53.7	-34.4	-27.4		BRAGAW AVE

*A linear regression model does not preclude having predicted values greater than 100% or less than 0. But since there are relatively few schools with an "out-of-bounds" predicted value we do not employ other estimation techniques that restrict the predicted values to lie in the proper intervals.

% A + AP	Pred. SES	Pred. Full	Resid. SES	Resid. Full	Charter	School
100.0	77.7	80.1	22.4	20.0		ABINGTON AVE
100.0	90.7	93.8	9.3	6.2		FIRST AVENUE
98.6	100.9	94.8	-2.3	3.8		ANN ST [%]
98.0	78.5	100.9	19.5	-2.9	Yes	ROBERT TREAT ACADEMY CS
94.5	90.7	94.6	3.8	-0.1		LAFAYETTE ST
94.1	90.1	87.9	4.0	6.2		OLIVER ST
93.8	48.8	74.0	45.0	19.8		FOURTEENTH AVENUE
88.9	71.1	90.3	17.8	-1.4		BRANCH BROOK
88.7	49.9	66.2	38.8	22.5		HARRIET TUBMAN
87.5	79.8	78.6	7.7	8.9		RIDGE ST
87.4	77.3	80.9	10.1	6.5		MT VERNON
86.0	101.7	110.7	-15.7	-24.7		WILSON AVE [%]
83.3	51.8	51.7	31.5	31.6		SOUTH SEVENTEENTH ST
81.8	55.3	62.7	26.5	19.1	Yes	GRAY CS
79.3	53.4	82.6	25.9	-3.3		ROSEVILLE AVE SCHOOL
78.1	68.8	86.0	9.3	-7.9		HAWKINS ST
76.4	60.3	54.9	16.1	21.5		CAMDEN ST
76.3	49.0	43.1	27.3	33.2		FIFTEENTH AVE
74.6	69.0	71.2	5.6	3.4		MCKINLEY
71.4	47.2	48.0	24.2	23.4		SPEEDWAY AVE
70.3	50.2	49.9	20.1	20.4		CLEVELAND
70.0	44.6	47.8	25.4	22.2		NEWTON ST
68.9	55.1	52.4	13.8	16.5		SUSSEX AVE
66.7	55.6	59.6	11.1	7.1		LOUISE A. SPENCER
66.6	63.1	62.9	3.5	3.7		FRANKLIN
61.1	60.8	57.6	0.3	3.5		SOUTH ST
56.9	61.4	49.1	-4.5	7.8		DR E ALMA FLAGG
56.5	52.3	51.2	4.2	5.3		BURNET ST
55.7	46.8	49.8	8.9	5.9		ALEXANDER ST
52.2	64.0	59.8	-11.8	-7.6		DR WILLIAM H HORTON
50.0	65.6	50.4	-15.6	-0.4		ROBERTO CLEMENTE
50.0	51.5	61.4	-1.5	-11.4		WARREN ST
48.5	70.5	69.8	-22.0	-21.3		ELLIOTT ST
47.6	48.8	50.9	-1.2	-3.3		THIRTEENTH AVE

47.1	50.4	44.9	-3.3	2.2		LINCOLN
46.9	51.4	62.0	-4.5	-15.1		EIGHTEENTH AVE
46.2	78.1	52.7	-31.9	-6.5	Yes	DISCOVERY CS
44.2	44.1	50.0	0.1	-5.8		CHANCELLOR AVE
42.7	51.2	47.6	-8.5	-4.9		PESHINE AVE
42.2	48.3	47.5	-6.1	-5.3		QUITMAN COMMUNITY SCHOOL
41.7	49.5	53.2	-7.8	-11.5		MILLER ST
38.0	42.8	47.3	-4.8	-9.3		BELMONT RUNYON
37.8	71.5	63.6	-33.7	-25.8		RAFAEL HERNANDEZ SCHOOL
36.4	48.3	48.8	-11.9	-12.4		MAPLE AVE SCHOOL
36.3	49.9	36.4	-13.6	-0.1		GEORGE WASHINGTON CARVER
35.5	49.9	41.4	-14.4	-5.9		MADISON ELEM.
34.7	47.4	44.1	-12.7	-9.4		MARTIN LUTHER KING JR
33.4	56.7	57.0	-23.3	-23.6		DAYTON ST
30.3	51.8	31.7	-21.5	-1.4	Yes	LADY LIBERTY ACADEMY CS
28.6	59.7	53.6	-31.1	-25.0		BROADWAY
24.2	37.0	12.7	-12.8	11.5	Yes	MARION P. THOMAS CS
21.9	49.1	42.8	-27.2	-20.9		AVON AVE
21.2	46.6	40.9	-25.4	-19.7	Yes	NEW HORIZONS COMM. CS
19.2	46.9	29.1	-27.7	-9.9		HAWTHORNE AVE
10.5	46.1	46.2	-35.6	-35.7		BRAGAW AVE

* A linear regression model does not preclude having predicted values greater than 100% or less than 0. But since there are relatively few schools with an “out-of-bounds” predicted value we do not employ other estimation techniques that restrict the predicted values to lie in the proper intervals.

Table 6: Descriptive Statistics Newark District Public and Charter Schools with Eighth Graders, 2004						
Variable	Mean	St. Dev.	Min.	Max.	# Obs	
Exam Performance						
GEPA Language Arts (General Education Students)						
# Tested	65.7	44.0	14	264	43	
% Above Proficient	1.4	2.6	0.0	12.8	43	
% Proficient	53.3	22.9	5.0	100.0	43	
% Below Proficient	45.3	24.3	0.0	95.0	43	
One year change (%P+AP)	-1.7	14.4	-35.7	37.4	41	
GEPA Mathematics (General Education Students)						
# Tested	65.5	43.7	14	263	43	
% Above Proficient	6.3	8.7	0.0	43.3	43	
% Proficient	34.7	19.0	4.9	78.8	43	
% Below Proficient	59.0	24.8	10.5	95.1	43	
One year change (%P+AP)	8.6	13.7	-29.6	47.2	41	
GEPA Science (General Education Students)						
# Tested	66.0	42.9	14	258	44	
% Above Proficient	4.3	6.3	0.0	21.4	43	
% Proficient	44.7	18.4	0.0	72.7	44	
% Below Proficient	49.1	22.0	8.8	86.7	44	
One year change (%P+AP)	7.5	14.1	-38.3	35.6	41	
Student Variables						
% Asian	0.7	1.6	0.0	8.0	44	

% Black	67.4	34.2	0.5	98.7	44
% Hispanic	25.1	26.1	1.3	83.9	44
% Native American	0.0	0.1	0.0	0.3	44
% White	6.8	17.1	0.0	69.9	44
% Male	51.5	7.2	35.9	87.8	44
% Free Lunch	65.5	13.2	30.9	85.9	44
% Limited English Proficient	6.1	8.1	0.0	27.4	44
% Student Mobility	27.1	22.6	0.0	153.7	44
Faculty Variables					
% Teachers Asian	0.1	0.5	0.0	3.4	44
% Teachers Black	46.0	26.0	0.0	82.1	44
% Teachers Hispanic	12.0	10.6	0.0	43.3	44
% Teachers Native American	2.0	3.0	0.0	12.5	44
% Teachers White	40.0	22.9	11.8	100.0	44
% Administrators Minority	62.5	34.7	0.0	100.0	44
% Faculty with Bachelor's only	68.1	9.0	45.7	86.2	44
% Faculty with Master's	26.5	8.9	13.5	51.4	44
% Faculty with PhD/Ed's	5.3	4.1	0.0	18.8	44
# Teachers	43.4	19.3	2.0	80.0	44
School Variables					
Enrollment	548.3	266.5	41.0	1067.0	44
Average School Class Size	18.5	3.5	5.1	26.4	44
Student-Faculty Ratio	12.1	7.4	1.9	52.3	44
% Average Student Attendance	92.6	3.0	81.3	99.5	44
Elementary School (non-charter)	0.80				
Secondary School (non-charter)	0.05				
Comprehensive	0.023				
Predominantly Black School	0.52				
Charter School Variables (n=6)					
Charter School	0.14				
Charter Elementary	0.114				
Charter Secondary	0.023				
School Year	197.7	10.13	182	213	
School Day	7.8	0.64	7.3	9	

Table 7: Eighth Grades Comparisons of Means, 2004				
Variable	Public (n=38)	Charter (n=6)	Diff.	P-value
GEPA Exam Performance				
Lang. %P + AP	55.25	51.35	3.90	0.36
Math %P+AP	42.44	32.08	10.35	0.23
Science %P+AP	50.40	48.13	2.27	0.43
Lang. 1-year growth(0.11	-18.63	18.74	0.09*
Math 1-year growth [#]	9.38	1.48	7.91	0.27
Science 1-year growth [#]	10.37	-19.10	29.47	0.03
Student Variables				
% Asian	0.53	1.55	-1.02	0.76
% Black	64.14	88.02	-23.87	0.00***
% Hispanic	27.54	9.57	17.97	0.00***
% Native American	0.09	0.00	0.09	0.16
% White	7.75	0.88	6.86	0.01***
% Male	52.36	45.78	6.58	0.02*
% Free Lunch	65.84	63.18	2.66	0.30
% Limited English Proficient	6.99	0.27	6.72	0.00***
% Student Mobility	29.38	12.42	16.96	0.01***
Faculty Variables				
% Teachers Asian	1.43	5.27	-3.83	0.92
% Teachers Black	48.07	32.62	15.45	0.11
% Teachers Hispanic	12.51	8.57	3.94	0.17
% Teachers Native American	0.09	0.00	0.09	0.16
% Teachers White	37.90	53.55	-15.65	0.87
% Administrators Minority	65.76	41.67	24.09	0.15
% Faculty with Master's	25.02	36.15	-11.13	0.92
% Faculty with PhD/Eds	6.05	0.85	5.20	0.00***
School Variables				
Enrollment	603.47	198.50	404.97	0.00***
Average Class Size	18.49	18.42	0.08	0.48
Student-Faculty Ratio	11.77	14.47	-2.69	0.75
% Average Student Attendance	92.18	95.35	-3.17	0.98
Predominantly Black School	0.55	0.33	-3.17	0.37
School Year	180.00	197.67	-3.17	0.01***
School Day	6.41	7.79	-1.38	0.00***

[#]n=37 for public and n=4 for charter; . *=p-val.<.1, **=p-val<.05, ***=p-value<.01

Table 8: GEPA Regression Results. Dependant Variable % At or Above Proficiency, GEPA						
Variable	Language		Math		Science	
	SES	FULL	SES	FULL	SES	FULL
% Students Black	-0.65 <i>0.00***</i>	-0.49 <i>0.02**</i>	-0.69 <i>0.00***</i>	-0.67 <i>0.00***</i>	-0.71 <i>0.00***</i>	-0.57 <i>0.00***</i>
% Students Hispanic	-0.42 <i>0.10*</i>	-0.18 <i>0.30</i>	-0.43 <i>0.10*</i>	-0.18 <i>0.36</i>	-0.51 <i>0.01***</i>	-0.22 <i>0.29</i>
% Students Native Am.	-40.45 <i>0.22</i>	7.67 <i>0.27</i>	-10.26 <i>0.72</i>	0.97 <i>0.91</i>	-21.80 <i>0.50</i>	12.32 <i>0.30</i>
% Students Asian	1.71 <i>0.16</i>	1.73 <i>0.09*</i>	5.43 <i>0.00***</i>	2.20 <i>0.04**</i>	3.44 <i>0.01***</i>	1.79 <i>0.05**</i>
% Male	-1.06 <i>0.37</i>	-0.50 <i>0.29</i>	-1.24 <i>0.33</i>	-0.39 <i>0.44</i>	-0.60 <i>0.60</i>	-0.14 <i>0.73</i>
% Free Lunch	0.34 <i>0.30</i>	0.43 <i>0.03**</i>	0.43 <i>0.23</i>	0.63 <i>0.00***</i>	0.33 <i>0.29</i>	0.22 <i>0.25</i>
% Student Mobility	-0.53 <i>0.09*</i>	-0.31 <i>0.10*</i>	-0.20 <i>0.45</i>	-0.38 <i>0.06*</i>	-0.28 <i>0.30</i>	-0.26 <i>0.14</i>
Year 2003		10.28 <i>0.01***</i>		3.6 <i>0.4</i>		7.9 <i>0.0***</i>
Year 2004		14.36 <i>0.01***</i>		18.0 <i>0.0***</i>		20.4 <i>0.0***</i>
Charter		-7.82 <i>0.60</i>		-0.13 <i>0.99</i>		8.43 <i>0.58</i>
Charter*Year 2003		-1.65 <i>0.87</i>		-0.83 <i>0.94</i>		6.95 <i>0.50</i>
Charter* Year 2004		-28.27 <i>0.03**</i>		-26.94 <i>0.05**</i>		-24.52 <i>0.06*</i>
School Day		6.83 <i>0.46</i>		9.91 <i>0.27</i>		5.51 <i>0.54</i>
School Year		-0.62 <i>0.16</i>		-1.72 <i>0.00***</i>		-0.75 <i>0.06*</i>
Student-Faculty Ratio		-1.87 <i>0.00***</i>		-1.62 <i>0.00***</i>		-1.74 <i>0.00***</i>
Enrollment (000)		1.16 <i>0.26</i>		1.94 <i>0.09*</i>		1.30 <i>0.15</i>
% Teachers Black		-0.30 <i>0.10*</i>		-0.07 <i>0.73</i>		-0.22 <i>0.18</i>
% Teachers Hispanic		-0.22 <i>0.36</i>		-0.33 <i>0.21</i>		-0.17 <i>0.47</i>
% Teachers Native Am.		1.25 <i>0.66</i>		3.09 <i>0.21</i>		5.11 <i>0.01***</i>
% Teachers Asian		-0.42 <i>0.56</i>		-0.76 <i>0.36</i>		-0.67 <i>0.35</i>
% Administration Minority		-0.05 <i>0.38</i>		-0.01 <i>0.87</i>		-0.03 <i>0.60</i>
% Faculty w. MA's		0.24 <i>0.40</i>		0.25 <i>0.37</i>		0.15 <i>0.51</i>
% Faculty w. PhD/Eds		0.10		-0.19		0.40

		0.85	0.70	0.38	
% Students LEP		0.24	0.33	0.08	
		0.56	0.45	0.84	
Predominantly Black School		16.39	15.12	13.67	
		0.03**	0.04**	0.06*	
% Avg. Attendance		0.33	0.31	0.23	
		0.62	0.67	0.72	
Elementary school (non-charter)		-43.31	-54.24	-37.15	
		0.01***	0.00***	0.03**	
Constant	153.18	179.32	134.47	329.53	124.63
		0.01***	0.08*	0.03*	0.00***
# Observation	43	124	43	124	43
R-squared	0.479	0.689	0.501	0.67	0.514
					0.731

Note: probability values below estimates. *=p-val.<.1, **=p-val<.05, ***=p-value<.01

% A + AP	Pred. SES	Pred. Full	Resid. SES	Resid. Full	Charter	School
100.0	41.5	57.9	58.5	42.1		THIRTEENTH AVE
100.0	69.6	96.9	30.4	3.1		UNIVERSITY HIGH
96.6	90.5	85.7	6.1	10.9		LAFAYETTE ST
90.9	82.3	91.0	8.6	-0.1		ANN ST
90.9	74.2	64.4	16.7	26.5	Yes	NORTH STAR ACAD. CS OF NE
88.8	69.0	82.7	19.8	6.1		ABINGTON AVE
83.7	63.0	59.7	20.7	24.0		LUIS MUNOZ MARIN MIDDLE
82.8	54.6	54.2	28.2	28.6		CAMDEN MIDDLE
78.9	88.1	91.7	-9.2	-12.8		WILSON AVE
78.2	80.9	79.1	-2.7	-0.9		OLIVER ST
73.2	74.4	76.7	-1.2	-3.5		RIDGE ST
71.7	79.4	75.6	-7.7	-3.9		FIRST AVENUE
70.5	42.9	48.0	27.6	22.5		HAROLD WILSON
68.8	43.9	48.9	24.9	19.9		SUSSEX AVE
68.0	52.0	51.3	16.0	16.7		WARREN ST
64.3	68.9	70.2	-4.6	-5.9	Yes	DISCOVERY CS
57.6	54.4	56.9	3.2	0.7		GLADYS HILLMAN-JONES SCH
56.9	47.7	52.3	9.2	4.6		MAPLE AVE SCHOOL
56.1	61.5	63.5	-5.4	-7.4		HAWKINS ST
50.0	52.2	60.4	-2.2	-10.4		DR WILLIAM H HORTON
50.0	55.4	50.6	-5.4	-0.6	Yes	GRAY CS
48.7	53.6	43.1	-4.9	5.6		BRAGAW AVE
48.3	46.8	43.9	1.5	4.4		CHANCELLOR AVE
48.3	48.4	47.7	-0.1	0.6		MARTIN LUTHER KING JR
46.3	49.8	52.4	-3.5	-6.1	Yes	NEWARK CS
45.3	61.3	53.6	-16.0	-8.3		MILLER ST
43.5	36.3	42.1	7.2	1.4		MORTON ST
42.9	64.1	63.5	-21.2	-20.6		LOUISE A. SPENCER
41.9	52.0	46.1	-10.1	-4.2		BURNET ST
41.9	44.5	49.4	-2.6	-7.5		PESHINE AVE
37.5	75.5	26.9	-38.0	10.6	Yes	MARIA L. VARISCO-ROGERS CS
36.6	43.5	38.8	-6.9	-2.2		DR E ALMA FLAGG

35.1	45.9	51.4	-10.8	-16.3		NEWTON ST
34.4	34.3	32.0	0.1	2.4		VAILSBURG MIDDLE SCHOOL
33.8	48.9	46.7	-15.1	-12.9		AVON AVE
33.3	50.2	44.6	-16.9	-11.3		RAFAEL HERNANDEZ SCHOOL
33.0	44.7	39.1	-11.7	-6.1		GEORGE WASHINGTON CARVER
31.0	45.4	47.2	-14.4	-16.2		HAWTHORNE AVE
28.2	45.1	40.3	-16.9	-12.1		DAYTON ST
20.2	21.6	34.5	-1.4	-14.3		WILLIAM H BROWN ACADEMY
20.0	39.3	44.2	-19.3	-24.2		SOUTH SEVENTEENTH ST
19.1	42.7	43.7	-23.6	-24.6	Yes	LADY LIBERTY ACADEMY CS
5.0	11.6	3.5	-6.6	1.5		RENAISSANCE ACADEMY
		na				SAMUEL L BERLINER

Table 10: GEPA Math 2004

% A + AP	Pred. SES	Pred. Full	Resid. SES	Resid. Full	Charter	School
89.5	51.4	85.6	38.1	3.9		UNIVERSITY HIGH
85.1	65.8	71.6	19.3	13.5		ABINGTON AVE
83.3	71.3	73.7	12.0	9.6		LAFAYETTE ST
79.4	26.3	42.0	53.1	37.4		THIRTEENTH AVE
78.6	74.1	60.1	4.5	18.5	Yes	DISCOVERY CS
73.3	84.9	66.1	-11.6	7.2		FIRST AVENUE
72.7	48.5	53.3	24.2	19.4		LUIS MUNOZ MARIN MIDDLE
71.4	36.7	43.7	34.7	27.7		CAMDEN MIDDLE
69.3	72.2	78.7	-2.9	-9.4		ANN ST
69.0	72.6	78.0	-3.6	-9.0		WILSON AVE
60.6	52.5	45.7	8.1	14.9	Yes	NORTH STAR ACAD. CS OF NE
60.0	36.9	32.0	23.1	28.0		WARREN ST
59.7	62.7	63.0	-3.0	-3.3		OLIVER ST
51.3	46.7	45.2	4.6	6.1		HAWKINS ST
50.0	48.7	48.0	1.3	2.0		MILLER ST
49.3	45.5	48.0	3.8	1.3		DR WILLIAM H HORTON
47.4	67.7	63.5	-20.3	-16.1		RIDGE ST
43.8	33.1	30.1	10.7	13.7		SUSSEX AVE
40.5	29.3	37.5	11.2	3.0		HAWTHORNE AVE
37.3	39.7	46.1	-2.4	-8.8		GLADYS HILLMAN-JONES SCH
36.5	26.4	39.4	10.1	-2.9		PESHINE AVE
36.3	26.7	27.9	9.6	8.4		HAROLD WILSON
31.0	36.7	28.1	-5.7	2.9		RAFAEL HERNANDEZ SCHOOL
30.6	22.8	27.4	7.8	3.2		MORTON ST
29.7	33.1	37.9	-3.4	-8.2		NEWTON ST
27.6	28.8	33.5	-1.2	-5.9		MAPLE AVE SCHOOL
26.0	28.2	30.5	-2.2	-4.5		SOUTH SEVENTEENTH ST
25.8	33.3	27.2	-7.5	-1.4		CHANCELLOR AVE
25.7	33.9	29.8	-8.2	-4.1		BRAGAW AVE
25.0	35.0	38.2	-10.0	-13.2	Yes	GRAY CS
24.3	32.5	23.9	-8.2	0.4		DR E ALMA FLAGG
23.8	38.6	53.6	-14.8	-29.8		LOUISE A. SPENCER
22.6	36.8	34.1	-14.2	-11.5		BURNET ST
21.3	22.5	17.9	-1.2	3.4		VAILSBURG MIDDLE SCHOOL
20.8	28.6	28.9	-7.8	-8.1		AVON AVE
20.3	33.8	39.2	-13.5	-18.9		MARTIN LUTHER KING JR
12.8	30.5	25.6	-17.7	-12.8		DAYTON ST
12.5	56.5	-5.2	-44.0	17.7	Yes	MARIA L. VARISCO-ROGERS CS
9.1	26.3	27.8	-17.2	-18.7		GEORGE WASHINGTON CARVER
8.7	18.6	18.7	-9.9	-10.0		WILLIAM H BROWN ACADEMY
8.5	29.8	27.2	-21.3	-18.7	Yes	LADY LIBERTY ACADEMY CS
7.3	27.6	26.6	-20.3	-19.3	Yes	NEWARK CS
4.9	9.0	12.6	-4.1	-7.7		RENAISSANCE ACADEMY
na						SAMUEL L BERLINER

Table 11: GEPA Science 2004

% A + AP	Pred. SES	Pred. Full	Resid. SES	Resid. Full	Charter	School
91.3	68.1	78.5	23.2	12.8		ABINGTON AVE
90.9	83.7	92.5	7.2	-1.6		ANN ST
87.3	86.1	88.8	1.2	-1.5		WILSON AVE
81.8	57.5	56.7	24.3	25.1	Yes	NORTH STAR ACAD. CS OF NE
80.0	83.3	81.2	-3.3	-1.2		LAFAYETTE ST
78.9	54.2	80.7	24.7	-1.8		UNIVERSITY HIGH
78.5	72.8	74.1	5.7	4.4	Yes	DISCOVERY CS
74.4	74.4	77.9	0.0	-3.5		OLIVER ST
71.8	38.2	49.1	33.6	22.7		THIRTEENTH AVE
68.0	81.6	73.7	-13.6	-5.7		FIRST AVENUE
68.0	45.4	44.0	22.6	24.0		WARREN ST
67.5	57.0	55.6	10.5	11.9		LUIS MUNOZ MARIN MIDDLE
60.0	50.4	51.9	9.6	8.1		GLADYS HILLMAN-JONES SCH
59.5	40.1	51.3	19.4	8.2		HAWTHORNE AVE
59.1	40.0	39.8	19.1	19.3		HAROLD WILSON
57.1	70.2	72.9	-13.1	-15.8		RIDGE ST
55.1	46.3	46.5	8.8	8.6		RAFAEL HERNANDEZ SCHOOL
54.8	50.6	56.3	4.2	-1.5		DR WILLIAM H HORTON
54.2	44.1	38.1	10.1	16.1		MARTIN LUTHER KING JR
50.0	41.1	37.3	8.9	12.7		CHANCELLOR AVE
50.0	40.1	43.4	9.9	6.6		MAPLE AVE SCHOOL
48.7	40.5	45.7	8.2	3.0	Yes	NEWARK CS
47.6	53.9	44.2	-6.3	3.4		MILLER ST
46.9	41.3	42.0	5.6	4.9		SUSSEX AVE
44.3	46.1	45.2	-1.8	-0.9		CAMDEN MIDDLE
40.6	39.2	42.2	1.4	-1.6		PESHINE AVE
38.7	47.5	39.1	-8.8	-0.4		BURNET ST
37.6	46.0	49.8	-8.4	-12.2	Yes	GRAY CS
36.8	42.7	34.3	-5.9	2.5		DAYTON ST
36.6	41.2	36.9	-4.6	-0.3		DR E ALMA FLAGG
36.0	36.2	39.9	-0.2	-3.9		MORTON ST
34.1	56.4	56.2	-22.3	-22.1		HAWKINS ST
33.9	52.7	56.0	-18.8	-22.1		LOUISE A. SPENCER
29.7	42.0	41.6	-12.3	-11.9		NEWTON ST
27.9	34.5	29.7	-6.6	-1.8		VAILSBURG MIDDLE SCHOOL
27.2	37.7	35.8	-10.5	-8.6		GEORGE WASHINGTON CARVER
25.6	45.2	34.9	-19.6	-9.3		BRAGAW AVE
24.7	40.6	40.5	-15.9	-15.8		AVON AVE
24.0	38.5	38.6	-14.5	-14.6		SOUTH SEVENTEENTH ST
23.4	38.6	46.3	-15.2	-22.9	Yes	LADY LIBERTY ACADEMY CS
19.0	27.6	34.8	-8.6	-15.8		WILLIAM H BROWN ACADEMY
18.8	59.0	16.2	-40.2	2.6	Yes	MARIA L. VARISCO-ROGERS CS
13.3	21.2	13.1	-7.9	0.2		RENAISSANCE ACADEMY
na						SAMUEL L BERLINER

Appendix: Selected Variables for Schools

Selected School Variables for Schools with Fourth Graders, 2004									
School	% Black	% Hisp.	% Free Lunch	% LEP	% St. Mob.	Enroll.	S-F Ratio	Predom. Black Sch.	Charter
ABINGTON AVE	13.2	75.3	61.5	15.6	13.8	906	11.8		
ALEXANDER ST	97.6	2.4	77.5	0.9	27.7	422	9.8	Yes	
ANN ST	1.8	27.4	36.2	26.1	11.2	1067	12.7		
AVON AVE	97.7	2.1	64.8	0.0	17.1	620	11.5	Yes	
BELMONT RUNYON	91.9	8.1	88.8	0.0	38.4	320	11.0	Yes	
BRAGAW AVE	96.2	3.6	78.1	0.0	15.8	392	12.3	Yes	
BRANCH BROOK	14.6	79.3	64.6	14.0	31.7	164	12.3		
BROADWAY	40.5	59.1	84.1	23.8	47.6	252	6.3		
BURNET ST	70.2	29.5	85.9	6.4	28.2	312	8.4		
CAMDEN ST	83.6	13.4	74.6	6.2	38.4	531	7.0	Yes	
CHANCELLOR AVE	97.3	2.7	74.5	0.0	33.6	408	10.2	Yes	
CLEVELAND	90.3	9.0	86.4	0.0	25.8	279	8.0	Yes	
DAYTON ST	73.9	26.1	81.5	0.0	32.3	449	9.0		
DISCOVERY CS	84.0	8.0	50.7	0.0	6.7	75	13.2		Yes
DR E ALMA FLAGG	48.5	51.2	61.4	13.2	43.9	674	15.3		
DR WILLIAM H HORTON	31.7	65.5	66.5	14.7	27.0	877	12.2		
EIGHTEENTH AVE	91.1	8.1	83.0	0.0	35.2	247	5.7	Yes	
ELLIOTT ST	8.9	88.1	72.1	21.2	24.6	674	12.3		
FIFTEENTH AVE	93.3	6.7	81.5	0.0	50.0	270	9.3	Yes	
FIRST AVENUE	9.2	78.5	57.7	7.8	23.2	818	15.7		
FOURTEENTH AVENUE	83.4	16.0	85.6	14.4	30.9	181	5.5		
FRANKLIN	9.7	86.4	73.0	37.6	45.3	545	10.9		
GEORGE WASHINGTON CARVER	98.2	1.7	60.2	0.0	23.5	930	13.1	Yes	
GRAY CS	90.2	7.4	55.3	0.0	8.6	244	9.1		Yes
HARRIET TUBMAN	92.6	7.4	52.2	0.0	12.8	312	10.4	Yes	
HAWKINS ST	39.0	46.0	60.7	14.3	27.5	582	10.6		
HAWTHORNE AVE	98.7	1.3	75.2	0.0	28.0	371	11.2	Yes	
LADY LIBERTY ACADEMY CS	93.5	5.8	60.5	0.0	33.6	428	10.7	Yes	Yes
LAFAYETTE ST	1.9	48.0	49.9	22.3	12.3	791	11.8		
LINCOLN	95.7	3.9	72.4	4.3	44.9	515	13.2	Yes	
LOUISE A. SPENCER	84.3	7.1	68.7	0.0	0.0	807	11.1	Yes	
MADISON ELEM.	97.3	2.6	76.2	0.0	31.3	587	13.3	Yes	
MAPLE AVE SCHOOL	98.0	2.0	65.6	0.0	20.9	604	9.0	Yes	
MARION P. THOMAS CS	93.1	5.8	57.3	0.0	16.5	260	18.6	Yes	Yes
MARTIN LUTHER KING JR	87.8	11.2	83.4	4.5	30.5	597	12.2	Yes	
MCKINLEY	41.0	56.8	67.6	4.3	37.4	800	10.0		
MILLER ST	46.9	52.9	81.9	19.6	31.7	448	9.0		
MT VERNON	66.0	15.2	52.0	15.1	26.0	959	15.0		
NEW HORIZONS COMM. CS	94.9	5.1	68.7	0.0	10.8	492	12.6	Yes	Yes
NEWTON ST	96.1	3.9	84.2	0.0	35.2	463	8.3	Yes	
OLIVER ST	9.0	41.8	30.9	27.4	19.9	844	12.8		
PESHINE AVE	90.7	9.2	66.3	7.4	23.5	813	12.0	Yes	
QUITMAN COMMUNITY SCHOOL	90.6	7.9	78.7	4.7	25.5	381	8.2	Yes	
RAFAEL HERNANDEZ SCHOOL	31.1	67.8	59.3	4.3	35.4	789	11.8		
RIDGE ST	10.7	83.9	57.4	14.9	16.3	805	13.4		

ROBERT TREAT ACADEMY CS	18.0	76.3	43.0	2.8	1.5	400	14.8		Yes
ROBERTO CLEMENTE	11.3	86.4	69.6	25.4	38.6	619	12.1		
ROSEVILLE AVE SCHOOL	60.8	37.3	73.6	9.9	37.3	212	9.2		
SOUTH SEVENTEENTH ST	94.0	4.7	71.8	0.0	20.4	529	11.3	Yes	
SOUTH ST	27.4	66.2	81.9	25.3	33.8	237	7.0		
SPEEDWAY AVE	96.1	3.9	72.6	0.0	40.0	255	9.4		
SUSSEX AVE	69.0	30.5	63.9	11.8	40.1	449	10.2	Yes	
THIRTEENTH AVE	98.2	1.8	76.1	0.0	31.6	716	8.0	Yes	
WARREN ST	87.7	11.5	65.2	2.9	22.1	244	8.4	Yes	
WILSON AVE	0.5	32.8	43.1	21.0	24.0	808	10.6		
Average/Proportion	64.3	29.0	67.9	8.1	27.1	523.2	10.9	0.49	0.11

Selected School Variables for Schools with Eighth Graders, 2004

School	% Black	% Hisp.	% Free Lunch	% LEP	% St. Mob.	Enroll.	S-F Ratio	Predom. Black Sch.	Charter
ABINGTON AVE	13.2	75.3	61.5	15.6	13.8	906	11.8		
ANN ST	1.8	27.4	36.2	26.1	11.2	1067	12.7		
AVON AVE	97.7	2.1	64.8	0.0	17.1	620	11.5	Yes	
BRAGAW AVE	96.2	3.6	78.1	0.0	15.8	392	12.3	Yes	
BURNET ST	70.2	29.5	85.9	6.4	28.2	312	8.4		
CAMDEN MIDDLE	89.9	9.4	73.7	3.4	19.7	681	9.6	Yes	
CHANCELLOR AVE	97.3	2.7	74.5	0.0	33.6	408	10.2	Yes	
DAYTON ST	73.9	26.1	81.5	0.0	32.3	449	9.0		
DISCOVERY CS	84.0	8.0	50.7	0.0	6.7	75	13.2		Yes
DR E ALMA FLAGG	48.5	51.2	61.4	13.2	43.9	674	15.3		
DR WILLIAM H HORTON	31.7	65.5	66.5	14.7	27.0	877	12.2		
FIRST AVENUE	9.2	78.5	57.7	7.8	23.2	818	15.7		
GEORGE WASHINGTON CARVER	98.2	1.7	60.2	0.0	23.5	930	13.1	Yes	
GLADYS HILLMAN-JONES SCH	33.2	66.2	76.7	10.9	30.5	331	8.7		
GRAY CS	90.2	7.4	55.3	0.0	8.6	244	9.1		Yes
HAROLD WILSON	95.4	4.2	81.9	0.0	28.7	216	7.7	Yes	
HAWKINS ST	39.0	46.0	60.7	14.3	27.5	582	10.6		
HAWTHORNE AVE	98.7	1.3	75.2	0.0	28.0	371	11.2	Yes	
LADY LIBERTY ACADEMY CS	93.5	5.8	60.5	0.0	33.6	428	10.7	Yes	Yes
LAFAYETTE ST	1.9	48.0	49.9	22.3	12.3	791	11.8		
LOUISE A. SPENCER	84.3	7.1	68.6	0.0	0.0	807	11.1	Yes	
LUIS MUNOZ MARIN MIDDLE	16.2	82.1	74.8	10.7	26.8	924	13.6		
MAPLE AVE SCHOOL	98.0	2.0	65.6	0.0	20.9	604	9.0	Yes	
MARIA L. VARISCO-ROGERS C	79.7	18.8	78.1	1.6	9.4	64	32.0		Yes
MARTIN LUTHER KING JR	87.8	11.2	83.4	4.5	30.5	597	12.2	Yes	
MILLER ST	46.9	52.9	81.9	19.6	31.7	448	9.0		
MORTON ST	93.6	6.1	73.7	3.7	35.7	297	6.6	Yes	
NEWARK CS	96.4	3.6	59.8	0.0	12.5	112	12.4	Yes	Yes
NEWTON ST	96.1	3.9	84.2	0.0	35.2	463	8.3	Yes	
NORTH STAR ACAD. CS OF NE	84.3	13.8	74.6	0.0	3.7	268	9.4		Yes
OLIVER ST	9.0	41.8	30.9	27.4	19.9	844	12.8		
PESHINE AVE	90.7	9.2	66.3	7.4	23.5	813	12.0	Yes	
RAFAEL HERNANDEZ SCHOOL	31.1	67.8	59.3	4.3	35.4	789	11.8		
RENAISSANCE ACADEMY	76.8	17.9	42.8	0.0	48.4	732	52.3	Yes	
RIDGE ST	10.7	83.9	57.4	14.9	16.3	805	13.4		
SAMUEL L BERLINER	82.9	14.6	80.5	0.0	153.7	41	1.9	Yes	
SOUTH SEVENTEENTH ST	94.0	4.7	71.8	0.0	20.4	529	11.3	Yes	
SUSSEX AVE	69.0	30.5	63.9	11.8	40.1	449	10.2	Yes	
THIRTEENTH AVE	98.2	1.8	76.1	0.0	31.6	716	8.0	Yes	
UNIVERSITY HIGH	83.8	13.8	49.3	0.0	7.2	513	9.9		
VAILSBURG MIDDLE SCHOOL	93.6	3.7	57.5	2.7	29.7	670	14.6	Yes	
WARREN ST	87.7	11.5	65.2	2.9	22.1	244	8.4	Yes	
WILLIAM H BROWN ACADEMY	90.6	8.5	58.9	0.0	46.9	414	8.6	Yes	
WILSON AVE	0.5	32.8	43.1	21.0	24.0	808	10.6		
Average/Proportion	67.4	25.1	65.5	6.1	27.1	548.3	12.1	0.52	0.14