

**Long Island's Educational System**  
***A Statistical Analysis of Educational Resources, Challenges and Outcomes***  
**Marc Silver, Ph.D. and William Mangino, Ph.D.**  
**Hofstra University**

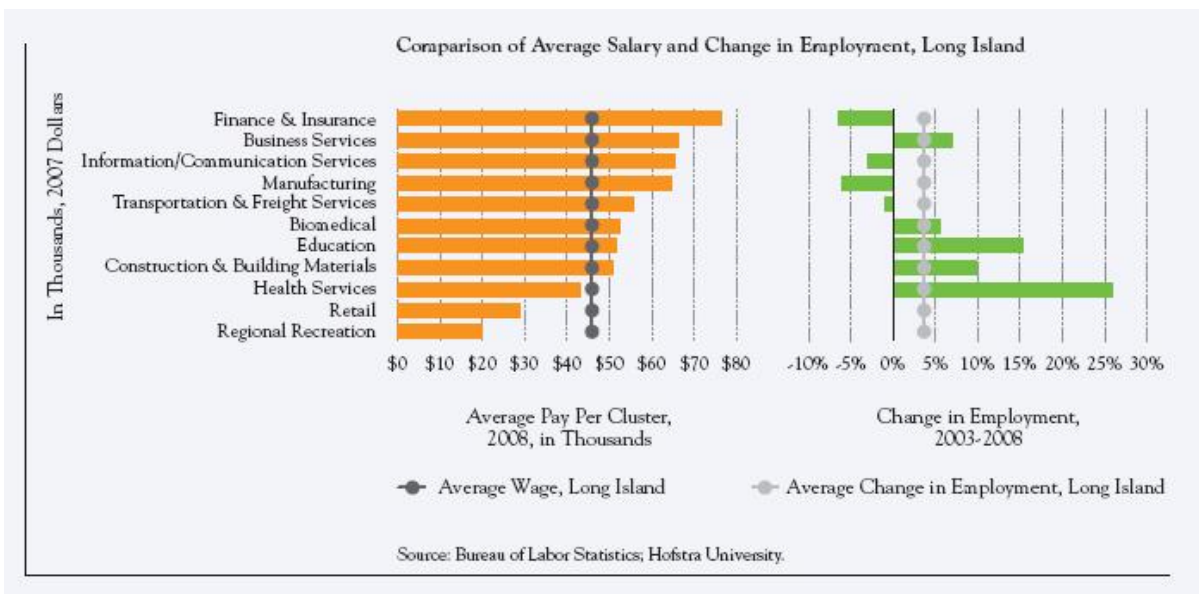
**INTRODUCTION**

In many respects, the distinctive geographical character of our region has tended to shape perceptions of Long Island. Being both situated on an island and directly to the east of the world's premier global city tends to accentuate the perception that the communities in the bi-county region have a high degree of similarity and shared experience. Indeed, there is a lot that Long Islanders do share in common. We are all bound by the shorelines of the Long Island Sound and Atlantic Ocean and have the opportunity to enjoy the aesthetic and recreational pleasures that they provide. We all use the same major roadways and railroads when moving about the Island, and the same bridges, tunnels, and ferries when leaving it or returning to it. Attention in recent years to the concept of 'suburban sprawl', implying as it does a pattern of unplanned, chaotic, and unorganized growth, helps foster the view of a relatively seamless continuity across communities running west to east and north to south. In a similar fashion, focus on the presence of hundreds of overlapping administrative and political jurisdictions and special service districts lends its own hint of a patchwork connectedness among the communities on Long Island.

In that context, the consistently high overall performance of Long Island schools relative to New York State as a whole is certainly worthy of the note that it frequently receives. Long Island schools as a group are consistently above the state average on all of the common measures of student achievement: 4<sup>th</sup> and 8<sup>th</sup> grade English and Math exams, Advanced Regents Diplomas, and graduation rates. Our own analysis of college readiness is consistent in indicating the superior academic performance of students in Long Island schools relative to the state.

Unfortunately, that is not all there is to the story. To the extent that Long Islanders are similar, there is much that separates us. The chasm between rich and poor on Long Island is vast. The social distance between racial and ethnic groups is wide. Most telling, of course, is that both of these divides are reflected in our patterns of residential location. Long Island is among the most racially segregated suburban regions in the nation. That pattern is complemented by a high degree of economic segregation. In many respects, the Long Island of the early 21<sup>st</sup> century reflects the trends of more than a century of social, residential and economic development that both responded to and perpetuated the pressures of embedded class and racial inequalities in our society at large.

These divisions and inequalities belie our common concern for and vested interest in our economic and social future as a region. We have lost much of our post-World War II industrial and manufacturing economic base. Such sectors included relatively high proportions of skilled jobs and occupations for salaries and wages that were the foundation of a middle class life. Today, our largest and fastest growing sectors of the economic have tended to be in retail and service where most jobs are of low pay and require little training. It is partly for that reason that we now lose many of our better educated young people to the magnet that is New York City and to other regions. The high cost of living on Long Island is definitely part of the reason for that, but it is also based on the *decline* in occupations that require a high level of education and return a salary or wage that provides for a middle class lifestyle (see chart below).



A region with a well-educated young population provides fertile ground for investment opportunities and a long-term commitment by firms planning to expand. If we as a region are going to turn around these disturbing trends attention must be paid to getting all of our young people off on a sound educational footing.

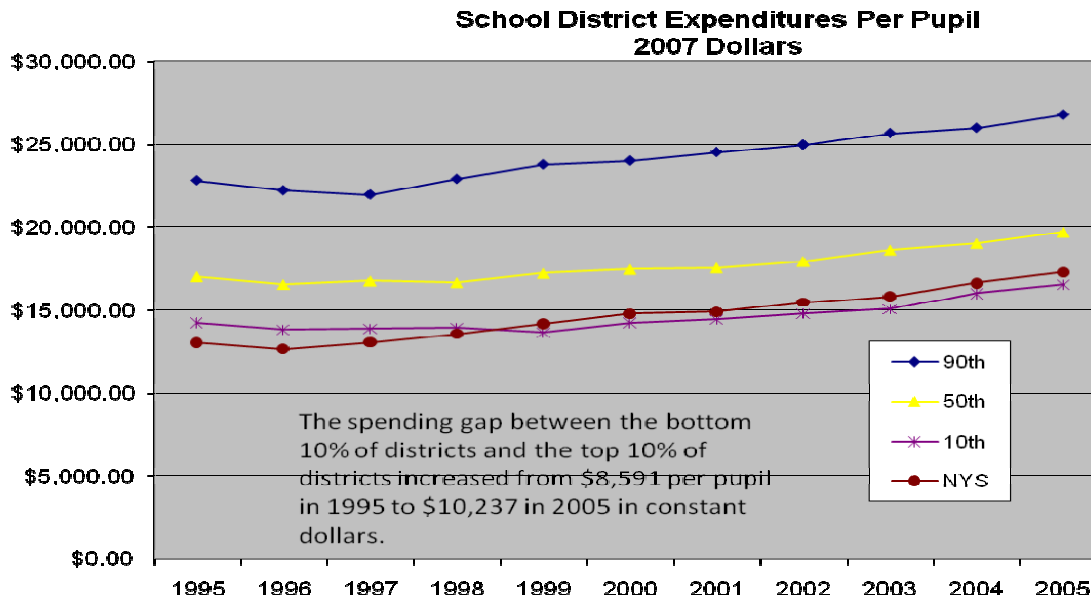
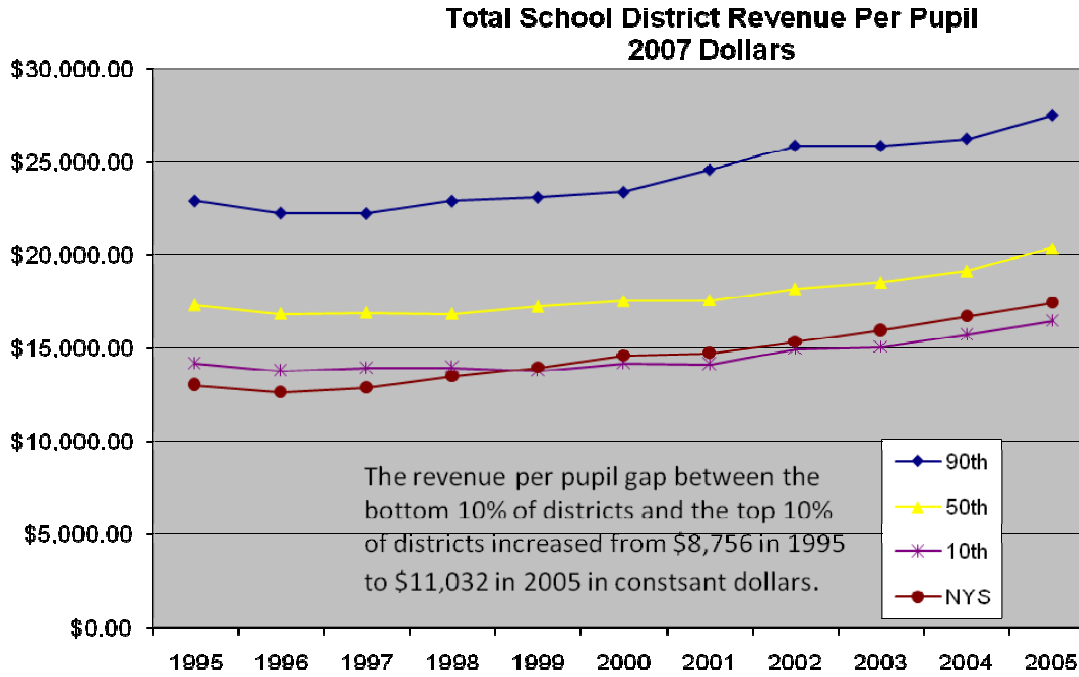
For a variety of reasons, some of which will be explored in the following analysis, our educational system has tended to incorporate and reproduce many of the same divisions and inequalities that exist in our broader economic and social spheres. Not the least of the reasons for this has been that school district boundaries have evolved in close relationship to the economic and racial boundary lines of the

communities that they serve.<sup>1</sup> As a consequence, the social climate, the funding streams, and the educational obstacles faced by students are conditioned by where they live and thus where their education is taking place. The primary agent in maintaining inequality among Long Island school districts is the combination of a large number of districts and a highly segregated population. The gap between “affluent” and “poor” neighborhoods, and therefore “affluent” and “poor” school districts, is wide and continues to grow wider. Moreover, Black and Latino residents are over-represented among the poor and thus are over-represented in the most impoverished schools and the least affluent districts. This creates a cycle in which those who need quality education the most in order to raise their future socioeconomic status tend to go to resource-poor schools; thereby further handicapping already disadvantaged groups of people. Thus, it would be a grave error to allow the overall performance of students in Long Island schools relative to the rest of the State to blind us to the inequalities between Long Island schools and school districts.

The following two charts illustrate the financial disparities that exist among school districts on Long Island. On average, between the academic years 1995-96 and 2005-06 (the latest year for which detailed and audited information is available from New York State), the total revenues per pupil for the school district at the 10<sup>th</sup> percentile was about 61% of the revenues of Long Island school district at the 90<sup>th</sup> percentile. In addition, the gap between revenues at the top and bottom of the range of Long Island school districts actually widened slightly during this period. In 1995, revenues at the 10<sup>th</sup> percentile were 62% of those at the 90<sup>th</sup> (a gap of \$8,800 per pupil). By 2005, the figure was 60% (a gap of \$11,000 per pupil).

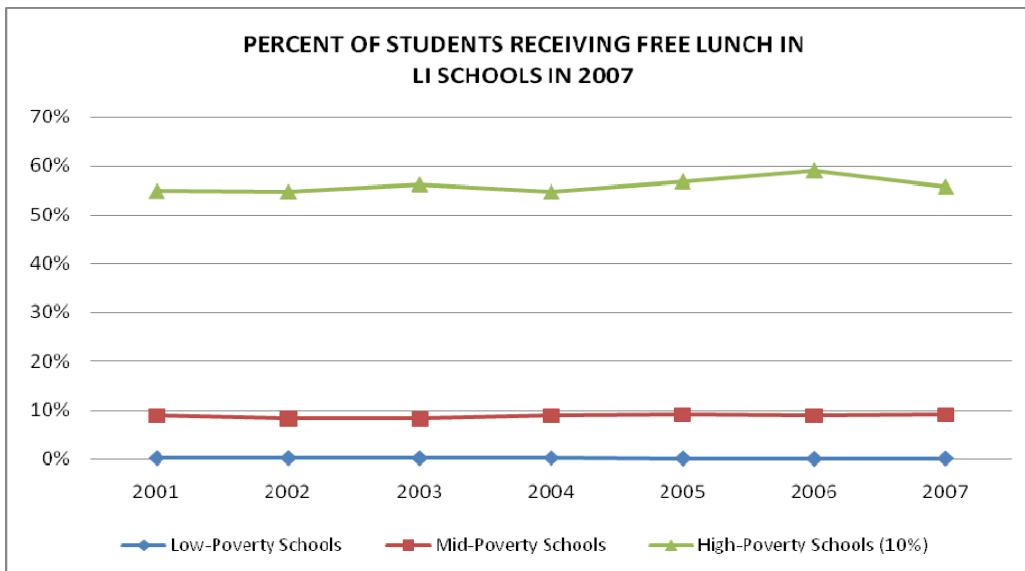
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<sup>1</sup> See Appendix A for a brief history of the founding of Long Island’s school districts.

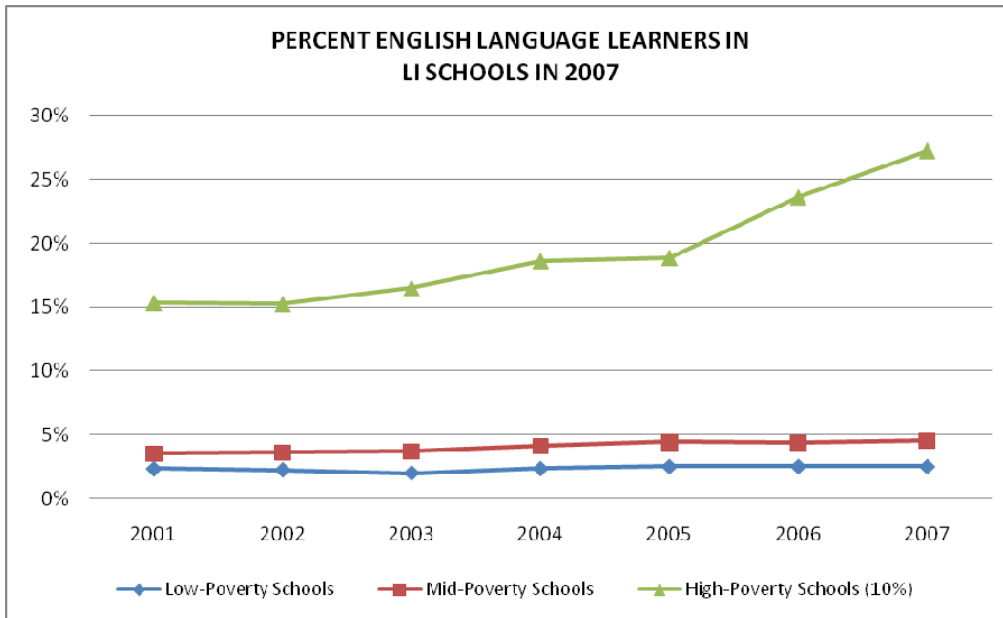


Given the closeness of the relationship one would expect between revenues and expenditures per pupil, it is not a surprise to find that expenditures per pupil followed almost the identical pattern. Expenditures per pupil at the 10<sup>th</sup> percentile were about 62% of those at the 90<sup>th</sup> percentile of spending (a difference in 2005 of about \$10,000 per pupil).

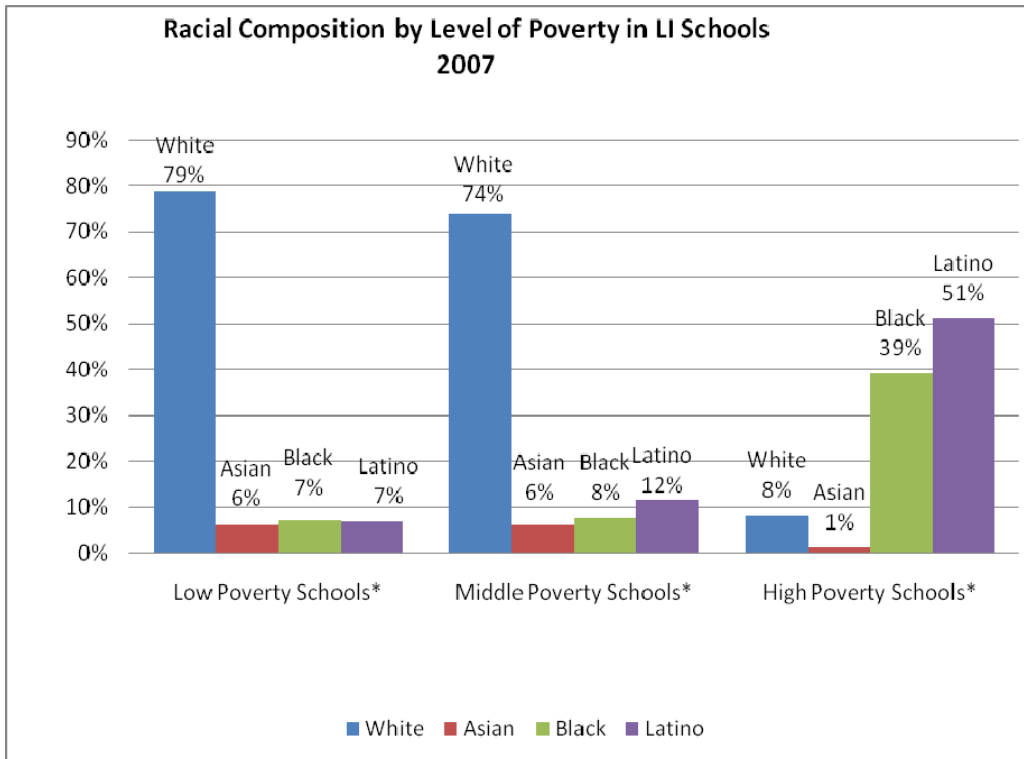
The financial profile of our school districts is only one part of the story, however. Among the most significant factors that affect students' overall performance are the experience of being poor, the presence of language barriers, and segregation from the economic and social mainstream of American life. These disparities have been structured by the social and economic historical development of the region. The pattern among the next three charts is striking. For high-poverty schools the rate of students eligible for free lunch has been consistently above 50%, approached 59% in 2006, and was 56% in 2007, the most recent year for which we have reliable data. In contrast, the percentage of students receiving free lunch in the low-poverty schools is almost zero in 2007 (.03%).



A similar pattern marks the situation for schools contending with students who are not proficient in the English language. In 2007, high-poverty schools had **ten times** the relative numbers of students certified as LEP as compared to the low-poverty schools. The rate in 2007 for high-poverty schools was about 27% and for low-poverty schools it was about 2.5%. Thus, schools dealing with high rates of students in poverty also tend to be dealing with high rates of LEP students.



Finally, we can see that the burdens of being in schools heavily impacted by high rates of poverty and high rates of LEP are not borne evenly across racial and ethnic groups. To the contrary, the following chart suggests a quite strong connection between racial/ethnic composition and being situated in high-poverty and high-LEP schools. In 2007, 90% of students in high-poverty schools were either Black (39%) or Latino (51%). In contrast, the percentage of students that are white declines from 79% in low-poverty districts to 8% in high-poverty districts. This pattern reflects an entrenched meshing of economic and racial/ethnic segregation among school districts and communities on Long Island. As a consequence, these schools face significant obstacles in their attempts to meet the needs of their students.



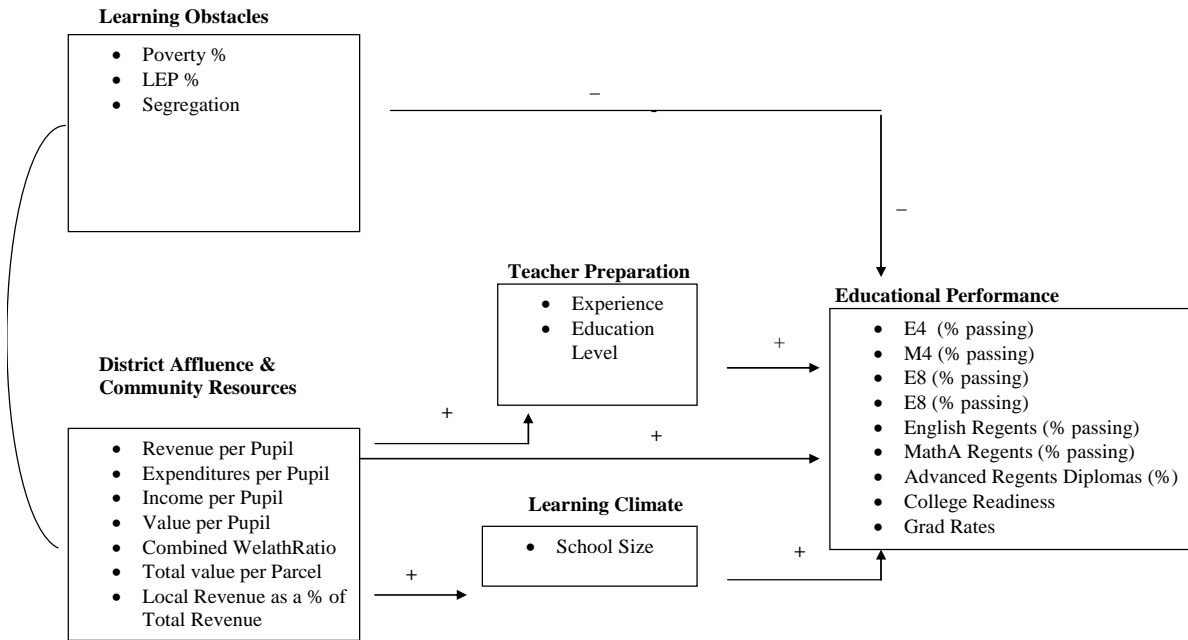
Ultimately, we rely on our schools to expand the intellectual and career opportunities for our youth and to ensure our regional economic and social wellbeing. Meeting a uniformly high standard of academic achievement for all of our young people is one of the most important vehicles for ensuring our future collective interests. In order to do that we need to better understand what factors shape educational performance in our schools. If some schools face greater obstacles than others, we need to provide the resources necessary to meet those challenges. If important inequalities are structured into our present educational and social support systems, we need to rethink policies that have the potential to place our communities and educational institutions on firmer, more equitable foundations.

**DETERMINING EDUCATIONAL OUTCOMES: WHAT IS HAPPENING ON LONG ISLAND**

The present effort seeks to provide a systematic analysis of those factors that consistently impact on the academic performance of the 659 schools within the 125 school districts on Long Island. The analysis is based upon data provided annually by New York State school districts to the state on their Chapter 655 reports, fiscal profiles, school report cards (SRCs), and tax data. The effort was made to construct a logically consistent and empirically sound causal model of school performance. Such a model provides a solid basis on which to posit educational policy recommendations.

## The Model

A CAUSAL PATH DIAGRAM: EXPLAINING EDUCATIONAL PERFORMANCE



The above figure reflects the logic of a causal model that explains educational outcomes for schools on Long Island. As indicated in the Figure, educational performance reflects the cumulative impact of factors at the school, community, and district levels. Each arrow in the diagram represents a significant causal influence. A positive sign (+) indicates that the factor *improves* circumstances. A negative sign (-) indicates that the factor *worsens* circumstances. For instance, the combination of learning obstacles such as poverty rates, rates of students with Limited English proficiency (LEP), and the extent of segregation is shown as having an important negative impact on aggregate student performance on several standard measures (e.g., English and math test scores, graduation rates, and students' readiness for college-level work). Similarly, the combination of greater property wealth and socio-economic resources at the community and school district level is shown to positively affect aspects of the learning environment for students, teacher preparedness, as well as educational outcomes.

Ultimately, the question comes down to identifying those factors that have positive and negative impacts on aggregate student performance. We've subjected the data for Long Island schools from the 2005-06 academic year to a meticulous statistical examination. There are several benefits that derive from the multivariate statistical approach that we've adopted. First, it is able to analyze the simultaneous impact of multiple factors on students' academic performance (here measured at the school level). Thus, it avoids the potential mistakes that can derive from looking at the impact of several factors in isolation from one another. Second, in doing so, the analysis "takes into account" the



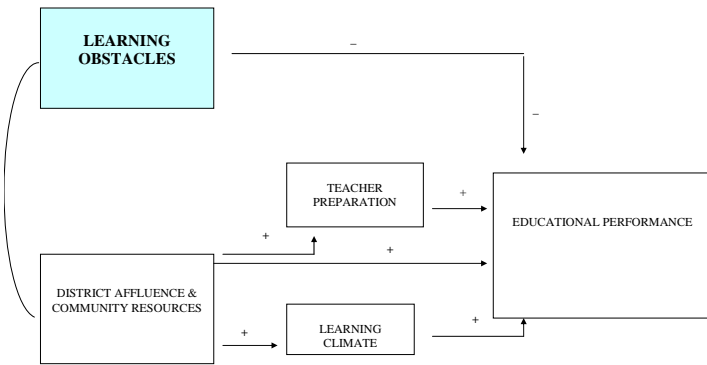
impact of other factors when assessing the impact of any single one. The culmination of the procedure is an additive model of factors that contribute positively or negatively to academic performance. What follows is a relatively brief summary that attempts to distill the complexities of the statistical analysis to its clearest and most basic elements.

We have examined the educational outcomes in eight different ways. Seven of them are fairly standard measures of student achievement at the different stages of the educational process: 4<sup>th</sup> grade English and math exam scores, 8<sup>th</sup> grade English and math exam scores, English and math-A Regents scores, and the Percent of Students Receiving Advanced Regents Diplomas. The eighth performance variable is “*College Readiness*”. It reflects the percent of students scoring at least 85 across multiple Regents exams. The logic of this variable is that having students capable of performing at a high level on Regents exams in more than a single subject represents that they are prepared to perform well at the college level.

The overall results of the regression analyses appear in the accompanying table (see Appendix B). There are three factors that consistently demonstrate a strong impact on performance: The relative presence of **Learning Obstacles** in the school, the degree of **Affluence of the district and community** in which schools operate, and **School Size**. Two additional factors (**Teacher Quality** and the **Percent of Students with Disabilities**) show important, but less consistent statistically significant connections to overall student performance levels.

As indicated in the table, our analysis offers a powerful explanation of the most important factors that influence the aggregate performance of students at the school level on several key measures of educational progress from elementary school through high school graduation. The differences across Long Island schools with respect to the students’ performance on these major measures of educational performance are most significantly structured by their differences in the relative presence of *learning obstacles*. That factor is followed by *affluence* as a strong and consistent causal factor. In addition, *school size* and *teacher preparedness* also are important, but somewhat less consistent factors that influence aggregate student performance. In addition, the proportion of students with disabilities in each school is also significantly related to overall performance in the expected direction. While we do not discuss this factor, it is included as an important control variable for assessing differences across all schools. We will discuss the most significant factors affecting student performance individually in the sections that follow.

## Learning Obstacles

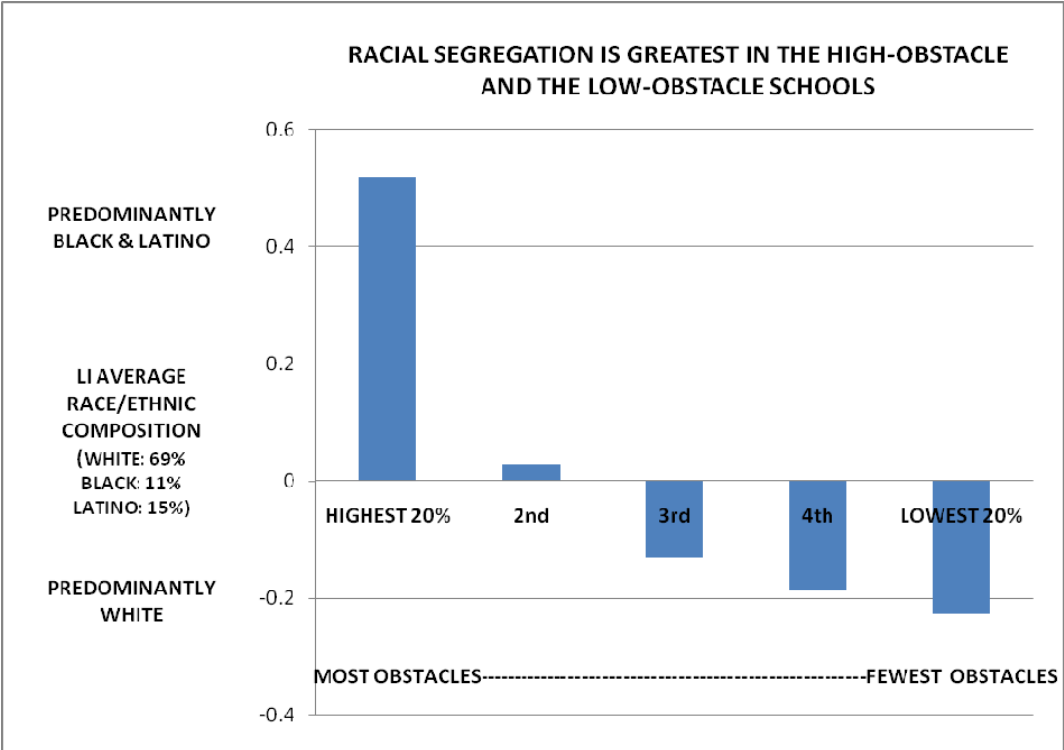
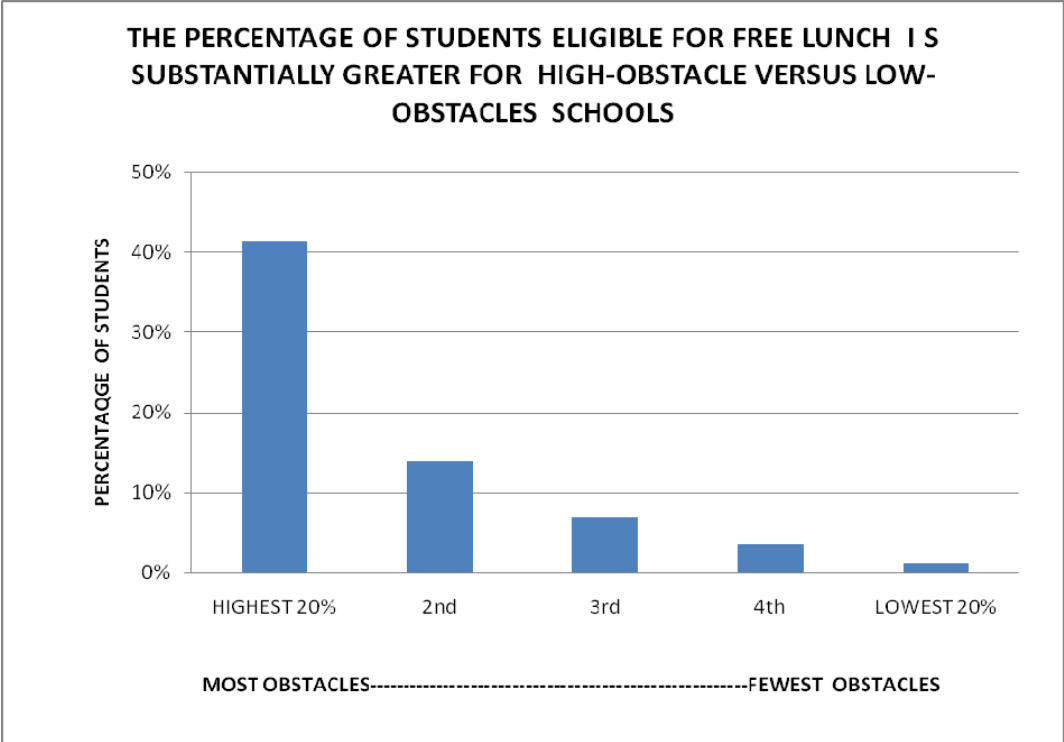


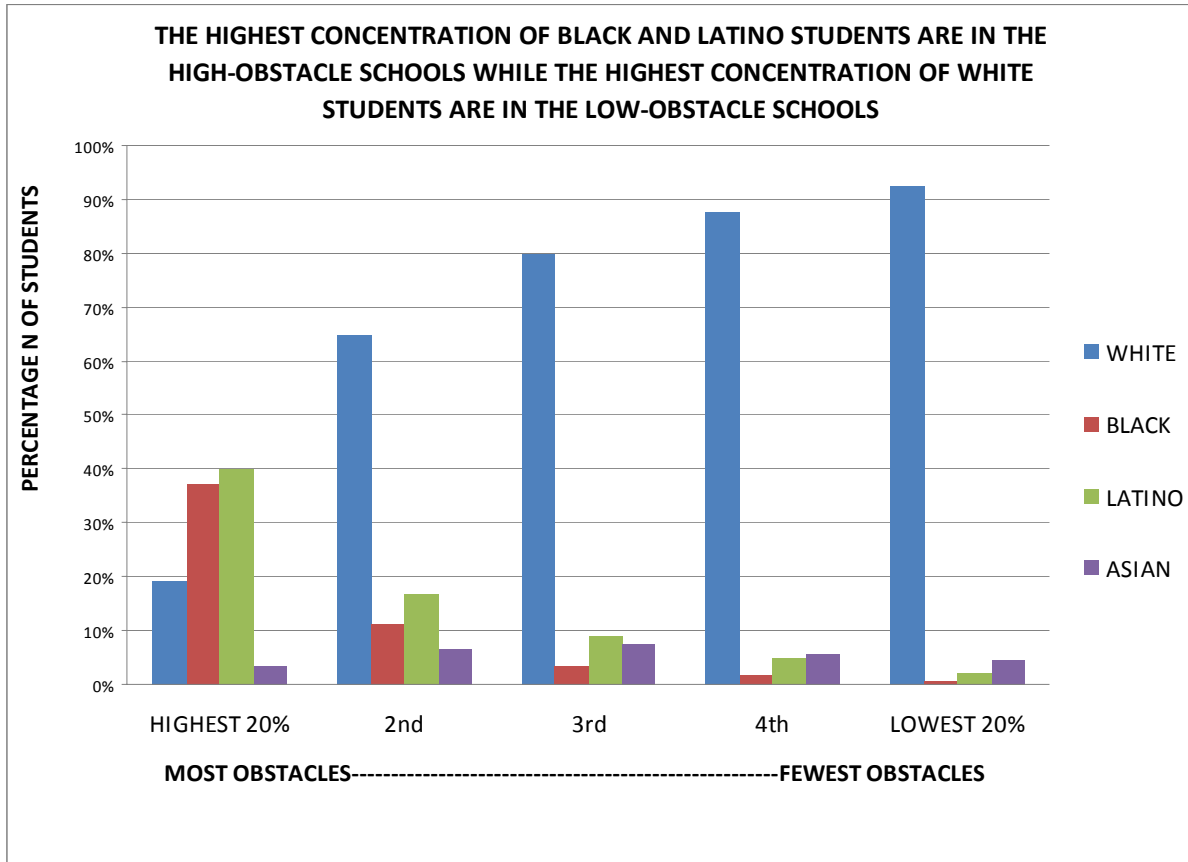
The most profound influences on educational outcomes stem from the presence of obstacles that make it more difficult for young learners to attain high levels of achievement in the academic sphere. We've identified three factors that emerge from the general research literature on educational achievement, as well as our own prior research on the educational situation on Long Island as being impediments to student achievement: poverty, limited English proficiency (LEP), and segregation along racial and ethnic lines.

The first reflects the harsh reality that **poverty** is the most significant factor in determining how a child will perform in school (Coleman, 1990; Fischer, et al., 1996; Riordan, 2004). Household level poverty experienced by children in school can have several negative impacts on their performance, ranging from poor nutrition, lack of adult supervision, less family-based support and help for their school work, and greater incidences of health problems that may have an impact on academic performance (Budrys, 2003; O'Connor, 2000). In addition, the concentration of poverty stricken students at the school and the community levels creates an uneven playing field for schools attempting to achieve their mandated goals, and for the students who should be able to expect a quality educational environment. In brief, schools situated within economically poorer communities face greater challenges than those located in affluent communities; not simply in terms of the proportion of their students who are poverty stricken, but also with respect to community characteristics that bear on educationally relevant resources available to the schools themselves (e.g., a property tax base that funds the schools and affects the ability to attract and retain high caliber teachers, community libraries, cultural resources available to community residents, availability of parents for direct and ancillary student support, etc.). Inequalities in the wider social and economic spheres mean that schools must contend with factors that do not have their origins within and which cannot be resolved directly by the educational system alone (Arum, 2000; Greenwald et al., 1996; Kozol, 1992).

The second factor, **Limited English Proficiency** (LEP), reflects the obvious circumstance that it is more difficult to master key elements of an academic curriculum if one is faced with having a limited ability to understand and communicate in English. Mastering the language itself, in some respects represents the first hurdle to then meeting the academic challenges in other aspects of the curriculum.

The third factor, segregation, has received much attention over the decades. The 1954 Brown v. Board of Education decision offered the forceful conclusion that segregation is inherently linked to inequality. Empirical studies throughout the decades since then have consistently borne out the accuracy of that conclusion. The ways in which residential patterns on Long Island emerged throughout the 20<sup>th</sup> Century, have led to a current pattern of economic, ethnic, and racial segregation such that there tends to be a concentration of higher rates of poverty, higher rates of LEP in those school districts that serve a predominately minority population (measured as percent Black and Latino). As the charts in the Introduction indicated, these three obstacles to learning are themselves systematically linked to one another at both the school and district levels. To take that linkage into account, we constructed a single measure of **Learning Obstacles**. It represents the combination, for each school, of the percent of students receiving free lunch, the percent of students designated with LEP, and the measure of racial and ethnic segregation. Since we have already observed the close associations among the rates of poverty, LEP and segregation for Long Island schools, the following charts are included to highlight the extent to which the single measure, **Learning Obstacles**, captures all three variables.

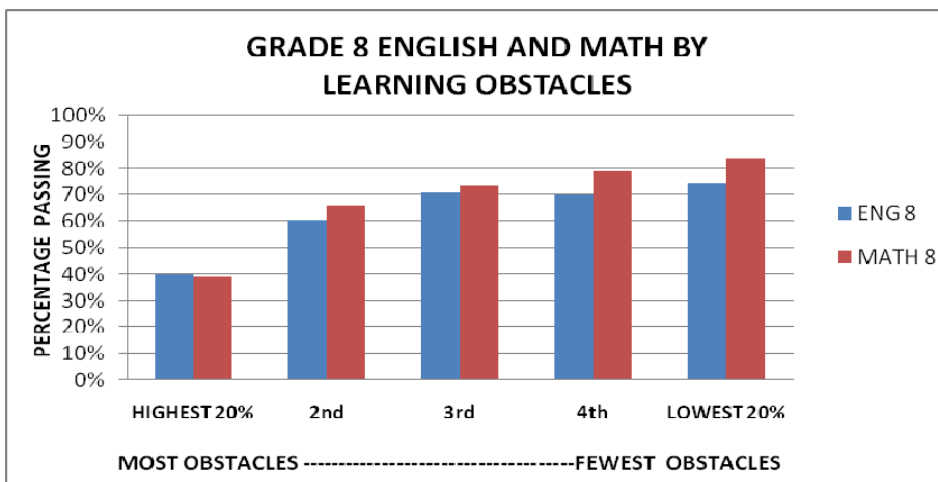
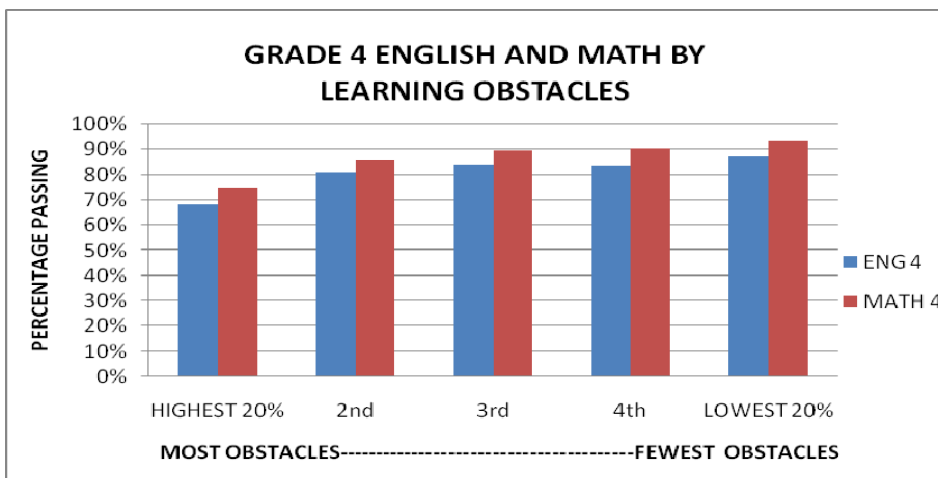




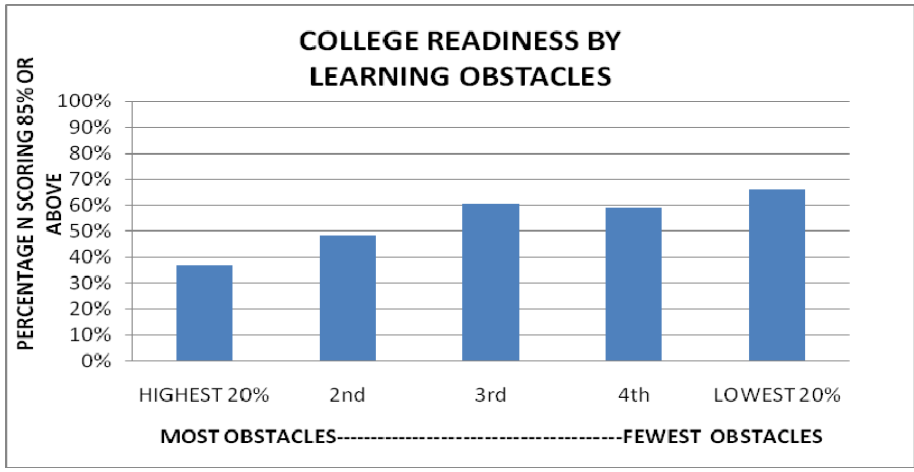
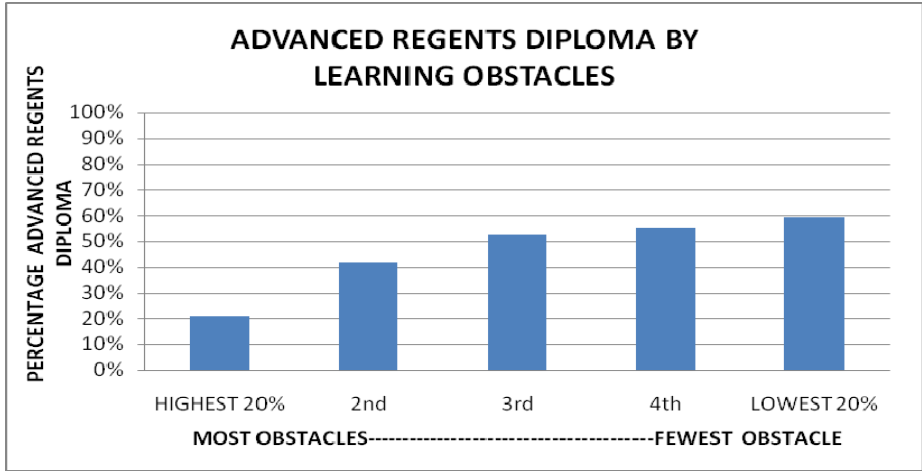
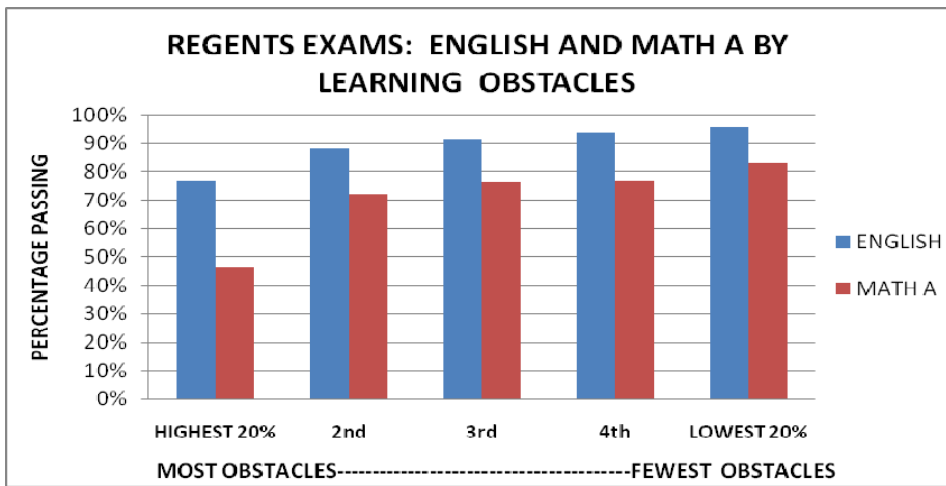
The charts above indicate how the variable *learning obstacles* captures all three factors. Not incidentally, the charts also suggest that the concentration of students facing those obstacles increases as we move from low-obstacle to high-obstacle schools. Thus, schools at the higher end of the obstacle scale (e.g., those in categories 1 and 2) have significantly greater proportion of students in poverty, with LEP, and have much higher proportions of Black and Latino students than those schools at the lower end of the obstacle scale (e.g., those schools in categories 4 and 5). We can thus see the pattern of economic and racial/ethnic segregation across schools and school districts on Long Island.

Our analysis of Long Island schools indicates quite clearly that the presence of learning obstacles has a strong negative impact on student performance. The regression table (see Appendix B) indicates that the Betas range from .27 to .70 across the various educational outcomes. All are substantial and statistically significant. This is consistent with well documented and clearly established results from national educational research. Being economically impoverished and having to learn the English

language are substantial barriers to educational progress. The following charts reflect both the magnitude and consistency of these patterns.<sup>2</sup>



<sup>2</sup> As noted, the analysis that underlies this presentation is a statistical multivariate regression analysis that 'controls' for the impact of the other factors when examining each factor's affect on student performance. However, for ease of presentation and interpretation in a non-technical format the charts in this section show simple bivariate results.

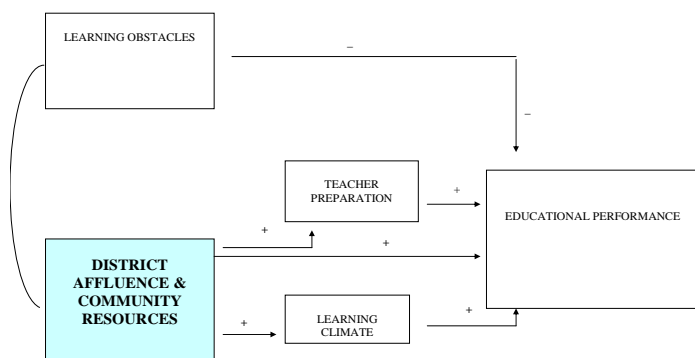


The pattern across all eight performance measures is striking, consistent, and clear. A greater prevalence of *learning obstacles* in schools contributes to lower overall performance. Those schools more heavily impacted by higher rates of poverty and LEP, have lower aggregate performance. Quite

simply, economically disadvantaged students and those struggling to achieve English proficiency have a harder time doing well academically. In addition, these two factors, in combination with historically determined patterns of discrimination and high degrees of residential (and thus school) segregation mean that Black and Latino students are much more likely to attend schools with higher proportions of students in poverty and working to achieve proficiency in English among the student body.

The presence of schools that contend with highly different degrees of **learning obstacles** suggests that additional effort, attention and social and economic resources must be brought to bear in the educational sphere if we expect students facing them to achieve at a level of academic performance commensurate with students not facing those obstacles. Educational research indicates very clearly that it costs more to achieve high level educational outcomes with students who face significant obstacles such as these. The ability of school districts to bear the costs of providing better educated and more experienced teachers, provide more intimate learning settings, greater educational resources, such as computers for students' use, and to generate a general atmosphere of optimism and success in both educational and non-educational settings can make a large difference in promoting high level performance for students facing significant obstacles. Unfortunately, it appears that high-obstacle schools do not necessarily reside in communities and districts that can provide the necessary resources to make a difference. It does not appear that any systematic policy is in place on Long Island that directs substantially more resources to the schools and districts servicing the students in greatest need. Rather, resources appear to adhere to schools in districts with greater property wealth and income. We elaborate on this crucial point in the following analyses.

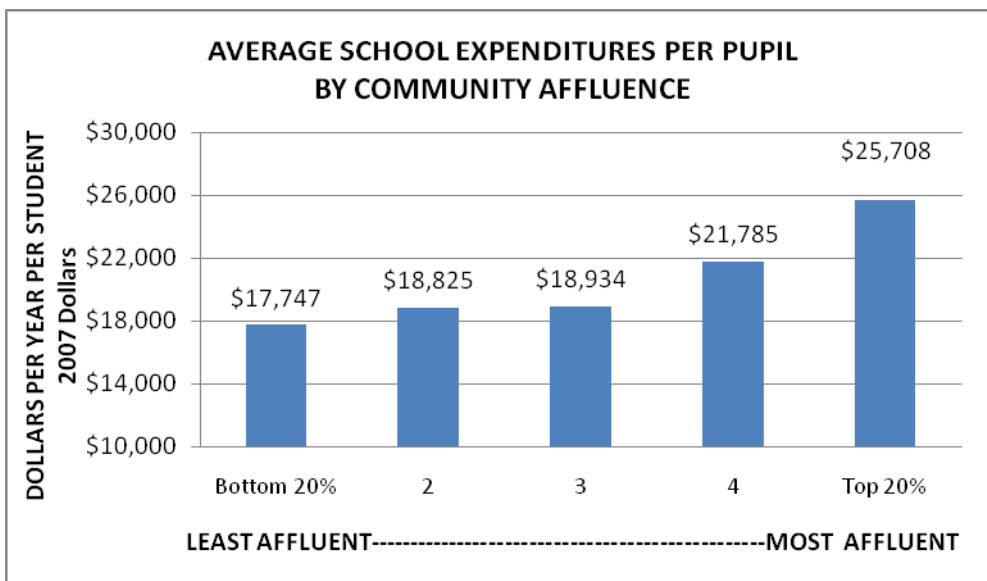
### **Community Affluence**



It requires significant resources to provide the type of educational environment in which superior learning can take place. Thus, it is not surprising at all that the most affluent communities and districts



on the Island<sup>3</sup> tend to have better educational resources to work with. The following charts are illustrative of this pattern. We define *community affluence* as the combination of several aspects of a community's economic health. Total property value per pupil, the average value of land per parcel, the combined wealth ratio computed by the state, and the total income per pupil all reflect the area's economic wellbeing. Communities in which commercial and residential properties are worth more and where business and personal incomes are higher are economically more sound and healthy than communities with lower property values and with lower income levels. As a consequence, more affluent communities are able to provide more revenues for their school districts (thereby being able to spend more) and can afford to have local revenues provide a greater proportion of the total revenues for their school districts.

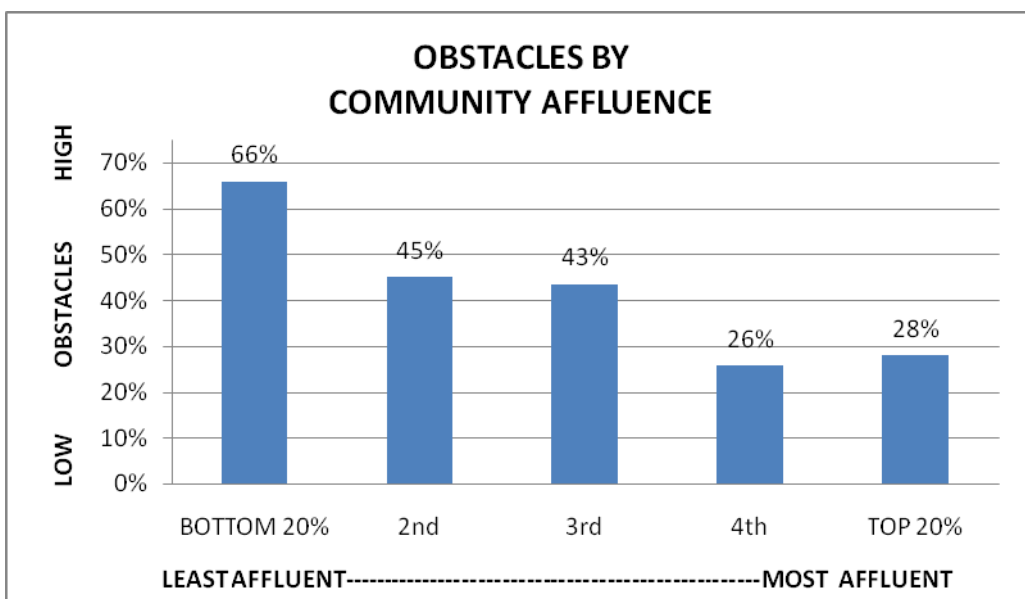


This chart<sup>4</sup> suggests quite clearly that the more affluent districts spend more per pupil than less affluent districts. This pattern tends to increase as affluence rises, and is especially pronounced for the wealthiest 20% of districts.

<sup>3</sup> We measure *affluence* as the combination of seven distinct factors: district revenues per pupil, district expenditures per pupil, personal and corporate income per pupil, property value per pupil, the combined wealth ratio computed by New York State to reflect the amount of wealth in the district in relationship to the state average, the property value per parcel in the district, and the percent of total district revenues that come from local sources. These seven factors are all very highly correlated with one another at the school district level. The scale uses standardized measures of each variable to account for their different metrics.

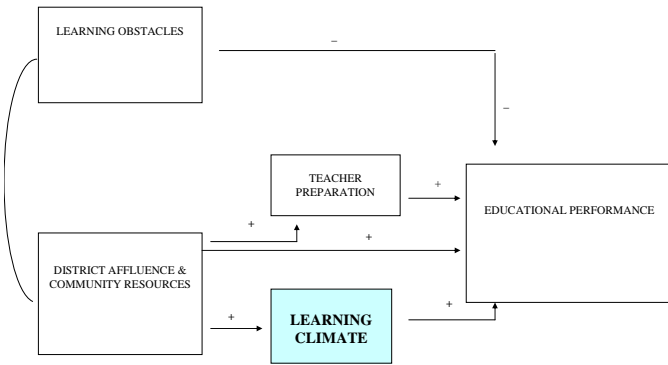
<sup>4</sup> In order to present a clear picture of the overall pattern for Long Island, the charts in this section exclude sixteen small (fewer than 600 students) single-school districts. These districts are not typical of the multi-school districts that comprise the bulk of districts on the Long Island. In addition, single-school districts have higher costs associated with the absence of economies of scale achieved by multi-school districts. Finally, these districts are also associated with the anomalies previously mentioned associated with very wealthy districts with high prevalence of second and vacation homes and a high rate of private schooling for wealthy local residents.

One essential question, then, is whether the educational resources that can positively impact on students' performance are being deployed in such ways as to mitigate the *learning obstacles* associated with poverty, limited English proficiency, and segregation. Not surprisingly, as we see in the following table, there is actually a fairly strong negative association between district affluence and the relative presence of students in their respective schools who are forced to contend with learning obstacles. As a consequence, schools that have a relatively high presence of learning obstacles tend to be embedded in the less-affluent and thus more resource-poor districts. As we shall see, the paucity of resources in high-obstacle districts relative to their need impedes such schools in their pursuit of high levels of student performance.

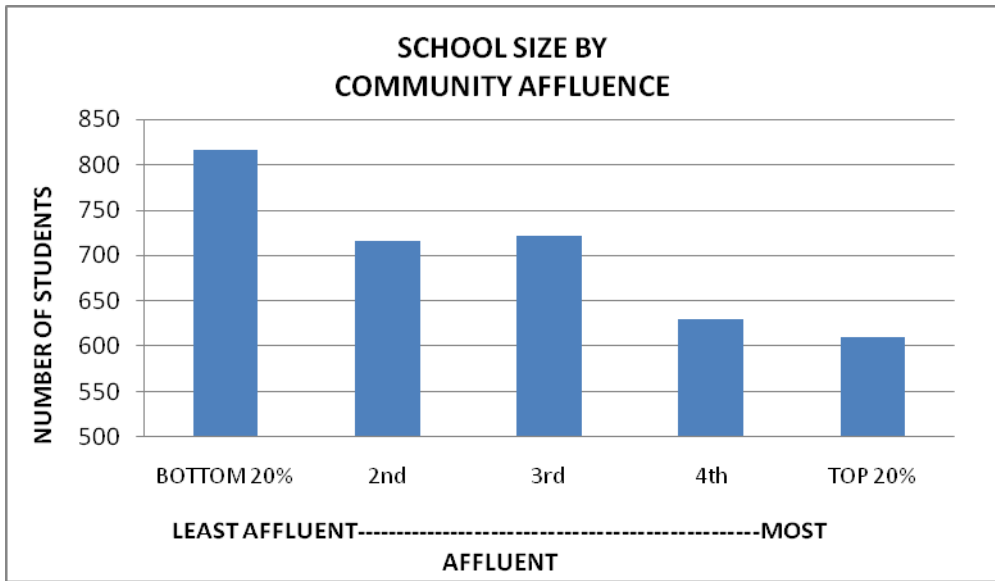


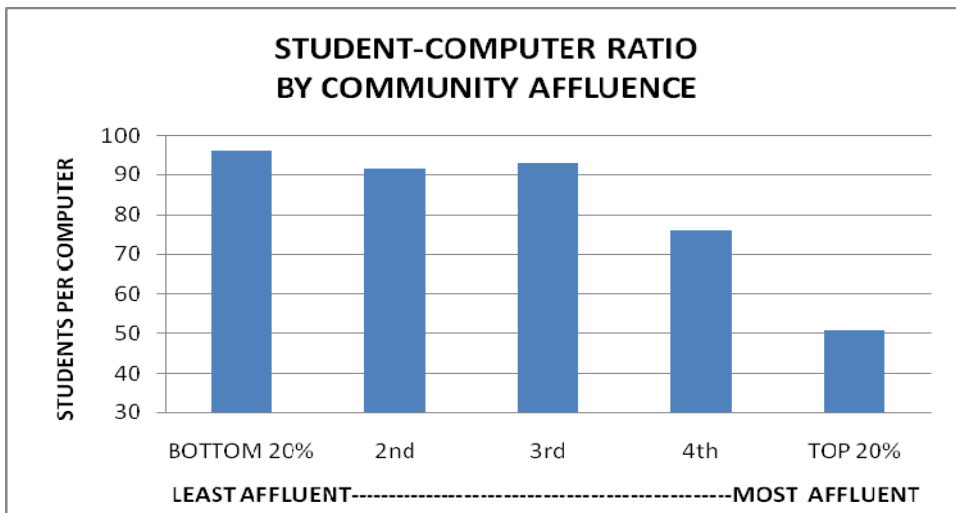
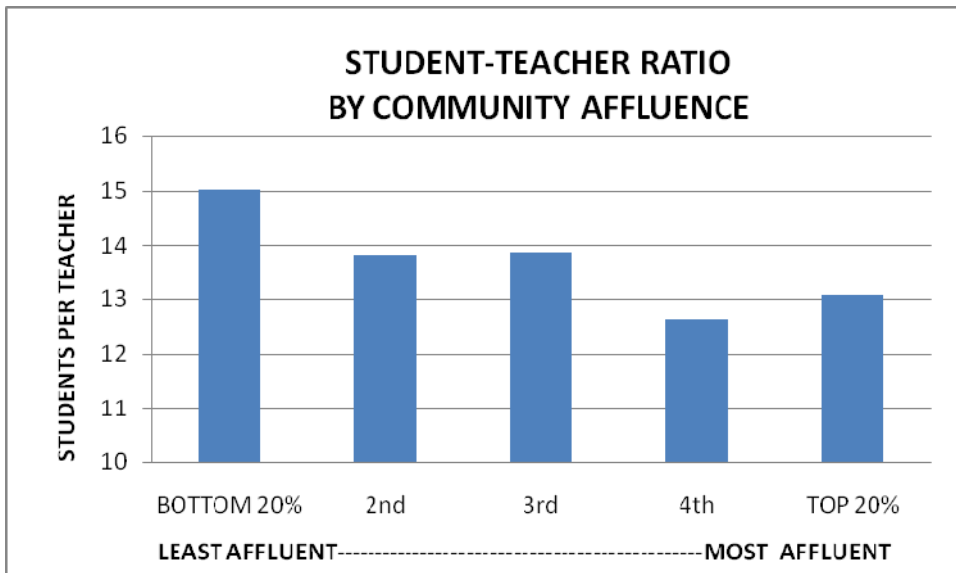
Parenthetically, the greater presence of obstacles in the most affluent 20% of schools should be noted. That apparent anomaly is based on a number of very affluent districts, particular in the East End and on the South Shore, in which there are a large numbers of expensive homes, including vacation and second homes which contribute to those communities' affluence. At the same time, the owners are not necessarily full-time residents and their children therefore do not attend public school in that district. In addition, it is fairly common for very affluent full-time residents to send their children to private schools instead of enrolling them in the local public school system. The students who attend public schools in those affluent districts come from families who are full-time residents, but are much less-well situated than the property wealth of the community would suggest. In fact, districts in the top 20% of affluence have higher rate of poverty, relatively more LEP students, and have a higher proportion of Latino students than the districts in the next less affluent grouping. As a result, there is a greater rate of obstacles in those public schools than might be expected.

**Learning Climate**

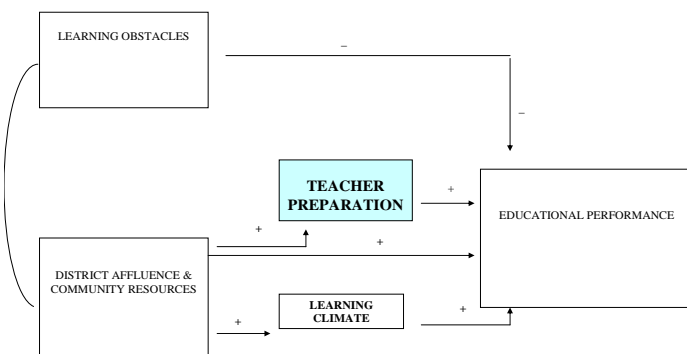


The ability of a community or school district to allocate resources to the educational arena actually does translate into meaningful differences across school districts. School size tends to decrease as we move from the least affluent to most affluent districts, the student-teacher ratio tends to decrease as we move from the least to most affluent districts, teacher preparedness tends to improve as we move from the least to the most affluent districts, and resources such as computer access improve as we move from the least to the most affluent districts. In sum, schools in the most affluent districts generally are smaller, have more technological resources per students, more experienced and better qualified teachers and more intimate learning environments. All of these factors have the potential for helping students to perform better academically. Unfortunately, as we have already seen the highest concentrations of learning obstacles occurs in districts with the fewest resources to devote to the educational realm.

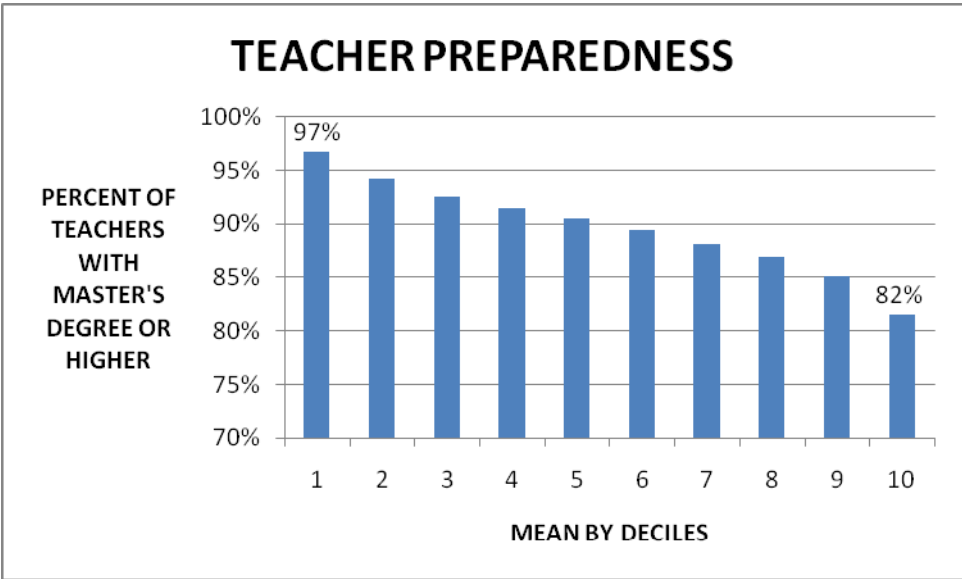
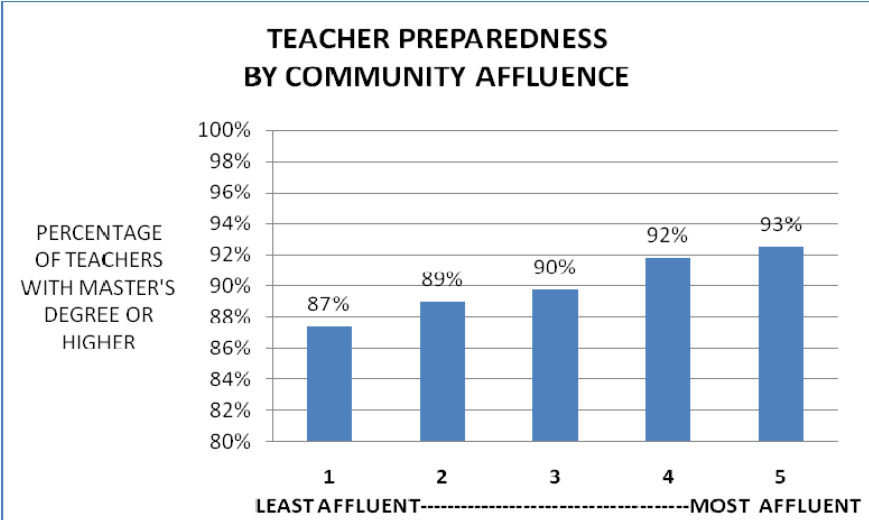




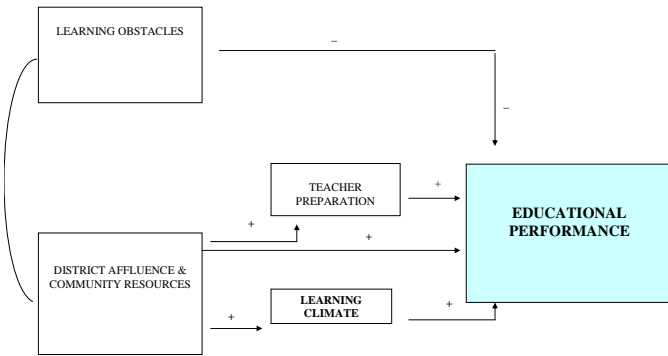
### Teacher Preparedness



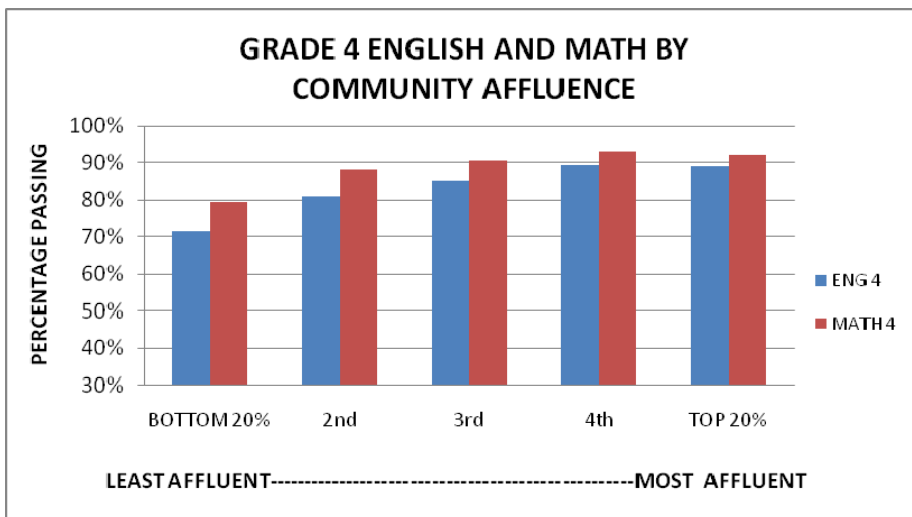
The chart below actually masks to some degree the differences in teacher preparedness across schools on Long Island. Teacher preparedness (the percent of teachers with at least a Master's degree) actually ranges from schools with 100% down to 50%. When broken into deciles, the top 10% of schools have an average of 97% of faculty with the MA degree or more, while the bottom 10% of schools have on average only 82% of teachers with at least the MA.

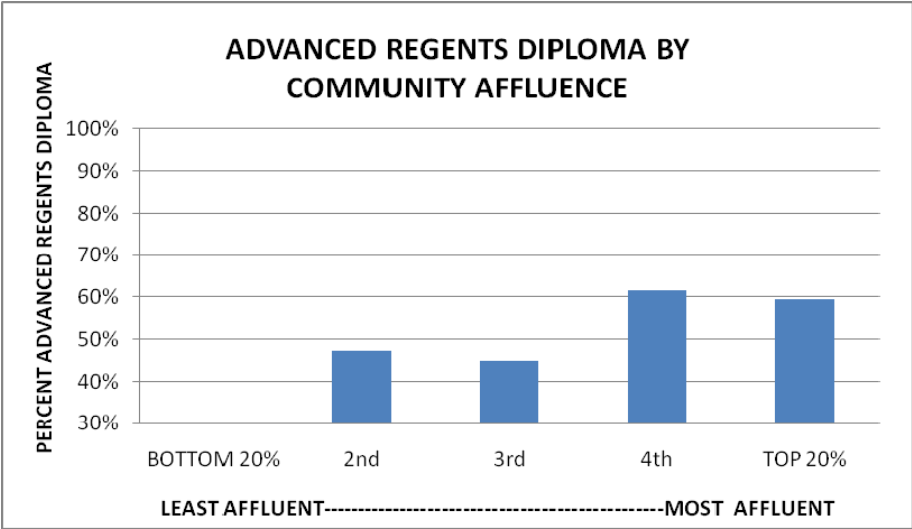
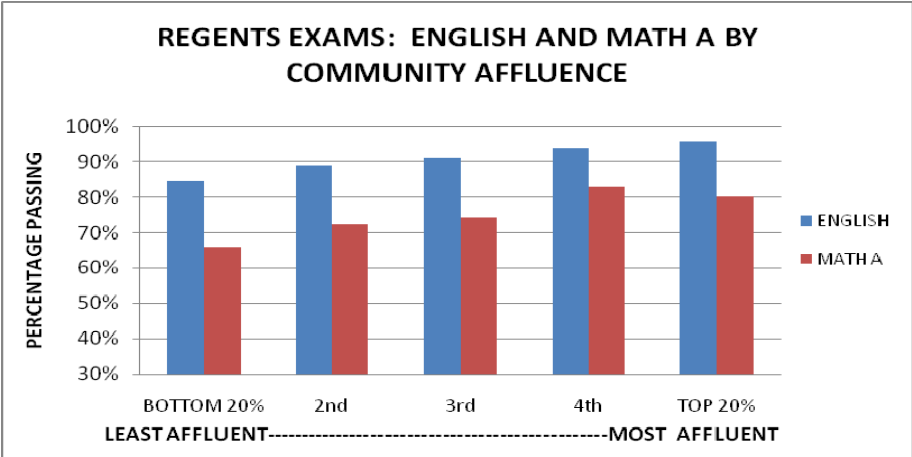
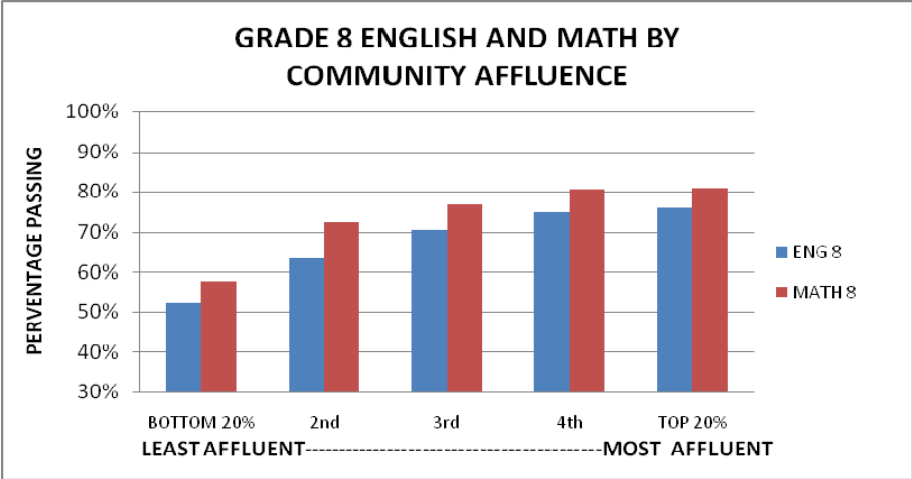


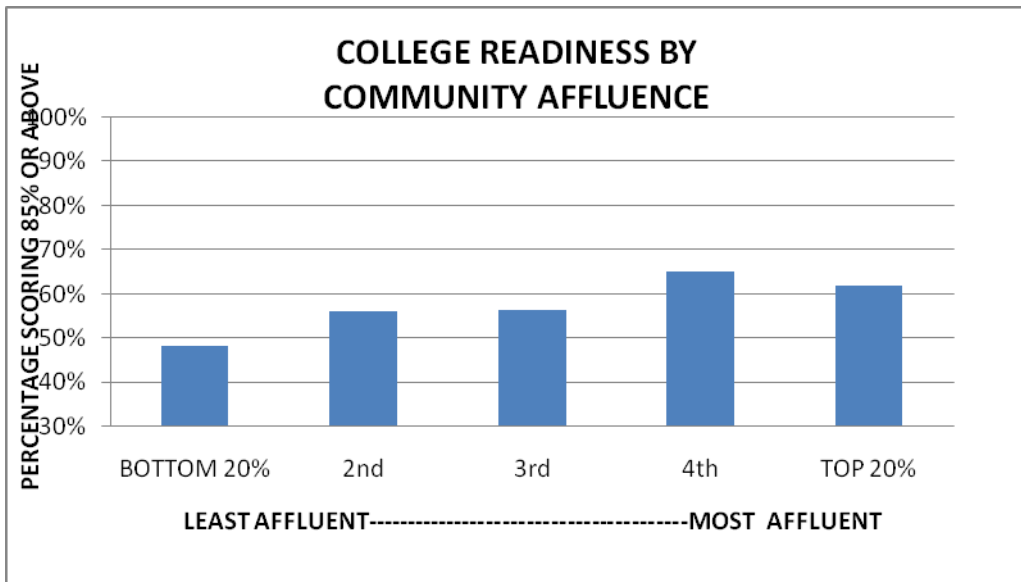
**Educational Performance**



Affluence shows both direct and indirect impacts on student performance. As noted previously, the more affluent districts tend to have smaller schools and to attract and retain teachers with more experience and better credentials. Thus, to the extent that the latter variables have a positive impact on student performance, the district’s affluence level provides the means for that to occur. In addition, district affluence also has its direct impact on performance. Others things being equal, schools in more affluent districts and communities show higher aggregate student performance on the measures we present. The following charts reflect that pattern. The relationships reflect both the tangible aspects of educationally related revenues and expenditures and the intangible aspects of the social climate associated with a community’s economic and social wellbeing as they relate to school-level performance.







## KEY FINDINGS

Overall, the pattern is consistent across the several outcomes measures of academic performance. In general, the academic performance of students is consistently higher in more affluent districts than in less affluent ones. Part of the reason for this is the more intimate (i.e., smaller) learning environment made possible by the resource-availability associated with greater affluence. Part of the reason no doubt rests also on the intangible and unmeasured aspects of a district’s social climate that is associated with higher degrees of affluence and economic wellbeing. On the other hand, there are two qualifications that must be raised with respect to the impact of economic affluence.

First, our analysis clearly indicates that the relationship of affluence with academic performance actually shows signs of diminishing returns. That is indicated in the regression table by the significant coefficients for the “Affluence Quadratic” variable. The largest impacts of increases in affluence occur in the lower through middle ranges. At the higher ends of affluence, there is a diminished return for having additional resources available. That is shown in the charts comparing the fourth and fifth quintiles where the educational performance for some outcomes is either flat or even seems to decline slightly. While the apparent declines are not statistically significant, the deviation from the pattern of increases in the other quintiles reflects the diminished impact of added affluence at the highest levels.

Second, district affluence and the economic resources associated with it is only one of the more important factors impacting academic performance. As the pattern in the prior charts suggest, simply



having and expending greater resources is not in itself sufficient to ensure higher performance. Schools, and school districts, also have to contend with differing levels of *obstacles to learning*.

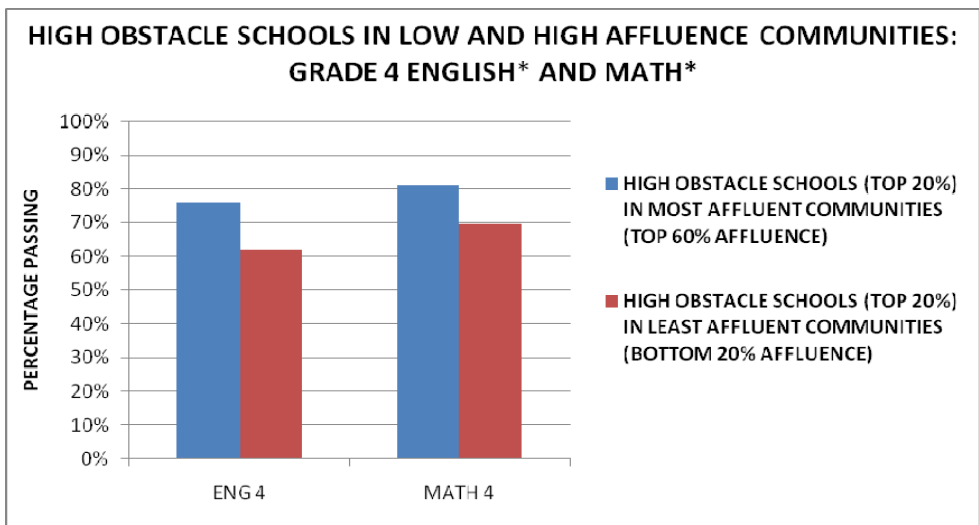
*School Size*: The third important factor in determining student performance is *school size*. In general, smaller schools (i.e., fewer students) allow for an environment that is more conducive to learning and educational achievement. This is evident in the regression table. Small school size is significantly associated with improved performance for 4<sup>th</sup> Grade English and math, 8<sup>th</sup> Grade English, Math A Regents, Advanced Regents Diplomas, and College Readiness. This result is, of course, independent of the level of affluence of the community or school district. It is an impact on educational performance *in addition to* the previously discussed effects of the negative impact of learning obstacles and the positive impact of affluence. Having small schools is more expensive. It is not a surprise, therefore, to find that school size is strongly related to district affluence. That connection notwithstanding, smaller schools tend to foster higher student performance independent of the affluence of the district in which the schools are found has important policy implications that will be considered later.

*Teacher Preparedness*: The fourth major factor affecting educational outcomes is the level of teacher training and experience. As noted earlier, this variable is measured as the percentage of teachers in the district that have attained at least a Master's degree. Those schools with a lower score on this factor indicate a prevalence of minimally qualified teachers on staff (i.e., a mix of teachers with less than a Bachelor's degree, or with a BA only, or with a BA plus some graduate level credits). As we have already noted, schools vary widely on this measure; with one school having as much as 50% of teachers with less than the MA, while several other schools having 100% of teachers with at least the MA. The role that teachers play in the educational process is obvious. Equally obvious, however, is the likelihood that less experienced and minimally-prepared teachers are not as likely to be as effective as those teachers with higher educational credentials. That is part of the logic that underlies the requirement that teachers obtain the MA degree within five years of teaching in order to retain their certification. The results of our analysis are quite consistent with that logic. As shown in the regression table, *teacher preparedness* has strong impacts on student performance outcomes: especially at the lower grades. This factor is significantly related to 4<sup>th</sup> grade English and math and to 8<sup>th</sup> grade English. It also has a significant impact on the percentage of students achieving advanced Regents diplomas. In general, students in schools reporting high percentages of teaching with at least the MA degree perform better on these measures of academic performance. As we have already noted, similar to the findings for school size, the proportion of teachers who are prepared at least at the MA level is statistically linked to the community/district affluence. It is the less affluent districts that tend to have a greater relative presence of minimally-prepared teachers.

## ANALYSIS OF HIGH OBSTACLE SCHOOLS IN TWO DISTRICT SETTINGS

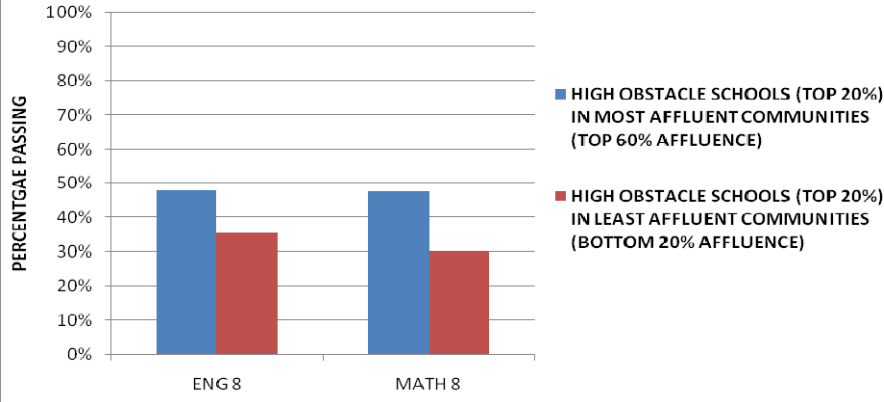
The intersection of these four important factors, each with an independent bearing on student performance, prompts us to consider the particularly extreme situation of high-obstacle schools in low-affluence (resource-poor) districts. The following charts compare such schools with their high-obstacle counterparts which happen to be located in more affluent districts. All schools in the following charts are among the 20% of schools with the highest scores on the *learning obstacle* factor. In each chart, the red bar indicates high-obstacle-schools in the least affluent 20% of districts. The blue bar indicates high-obstacles schools in the most affluent 60% of districts. It can be readily seen that a clear pattern of difference exists, based on both the affluence of the district and the extreme degree of concentrated obstacles in those schools in low-affluence districts.

*NOTE: For all charts shown, statistically significant differences on that factor between the two types of schools are noted by the presence of asterisks in the title of the chart.*

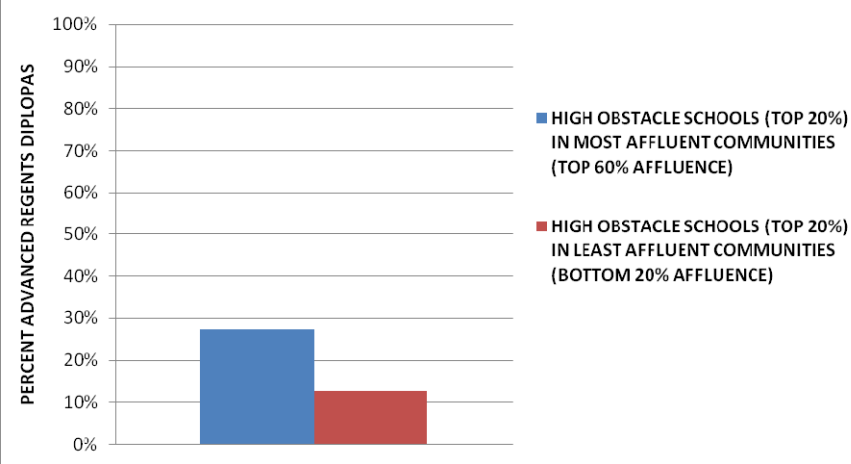


The above chart shows that for both the 4<sup>th</sup> grade English and math exams, students in high obstacle schools embedded in the least affluent districts underperform their counterparts in high obstacle schools in the most affluent districts. The pattern for all the other educational outcomes follow this trend. These charts are shown below.

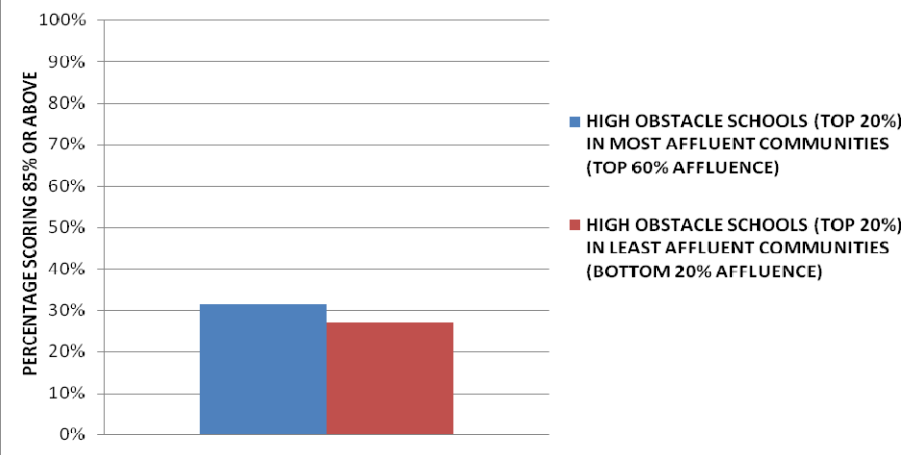
**HIGH OBSTACLE SCHOOLS IN LOW AND HIGH AFFLUENCE COMMUNITIES:  
GRADE 8 ENGLISH AND MATH**



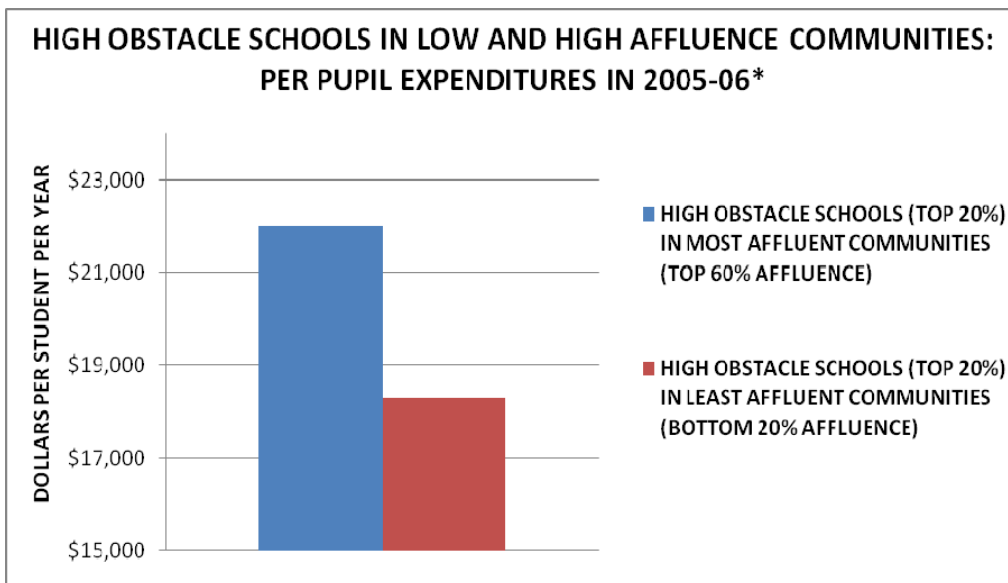
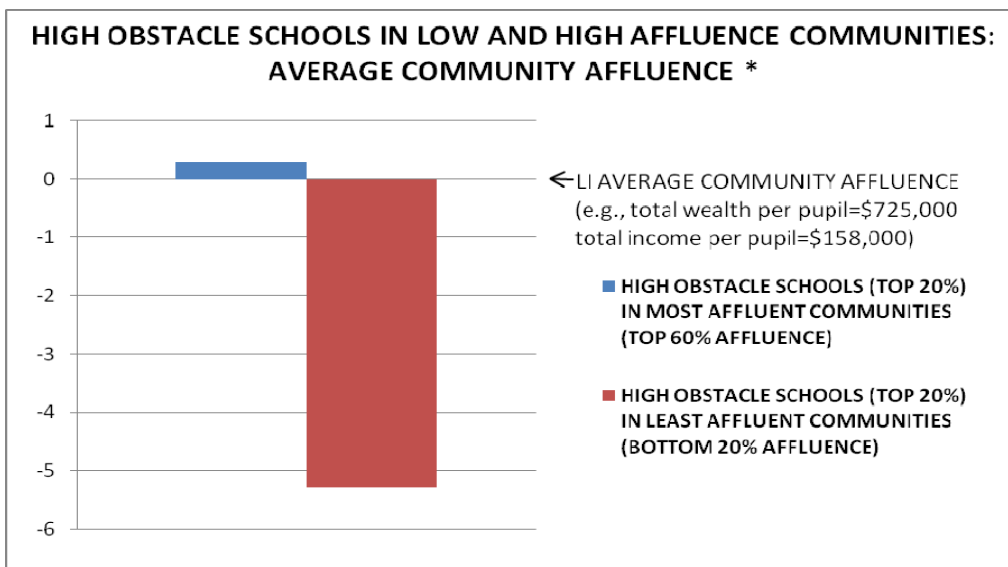
**HIGH OBSTACLE SCHOOLS IN LOW AND HIGH AFFLUENCE  
COMMUNITIES: ADVANCED REGENTS DIPLOMAS**

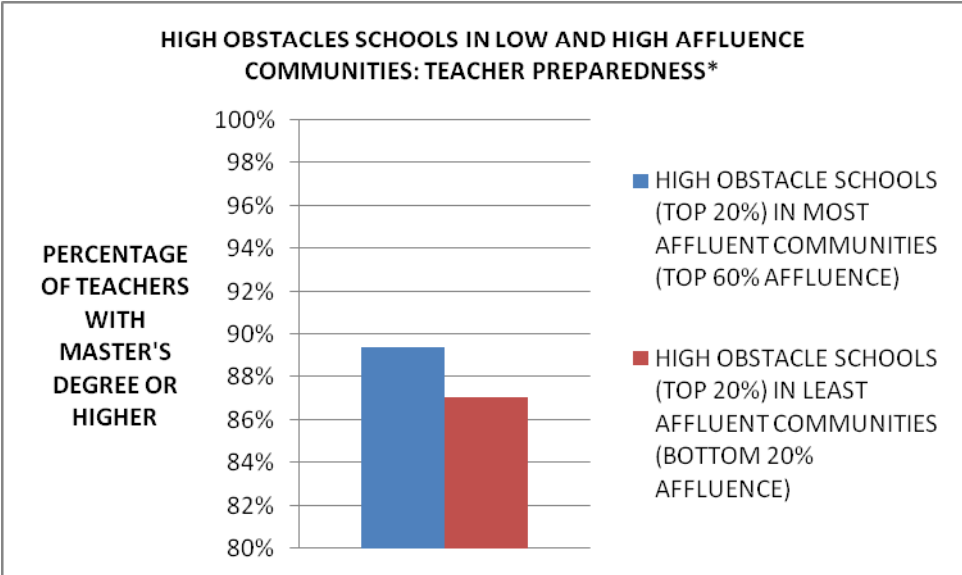
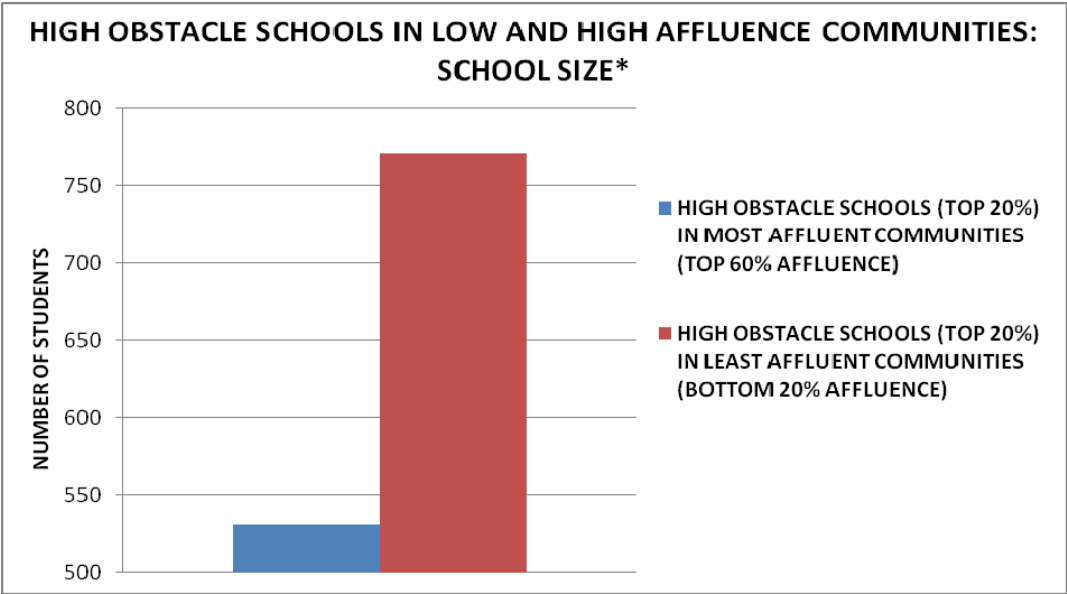


**HIGH OBSTACLE SCHOOLS IN LOW AND HIGH AFFLUENCE COMMUNITIES:  
COLLEGE READINESS**

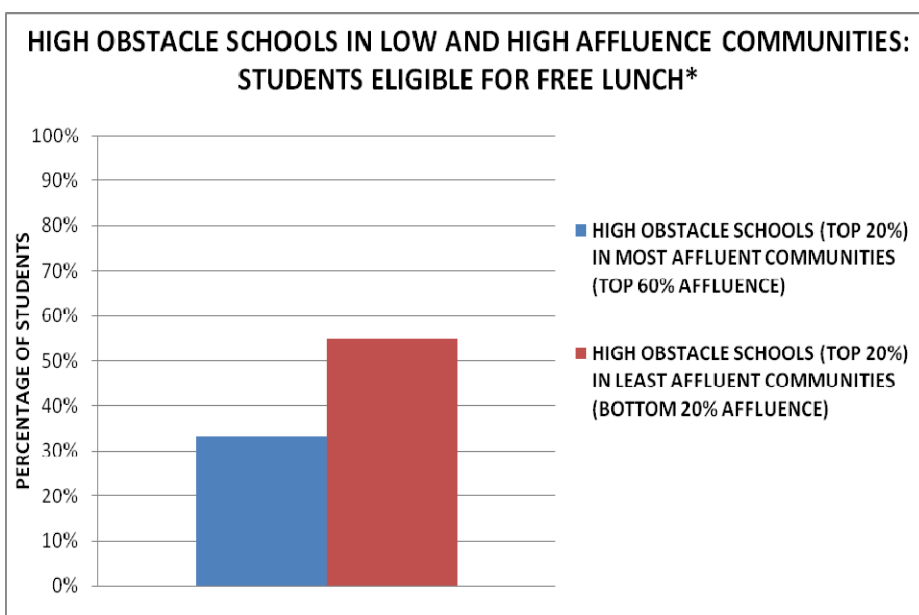
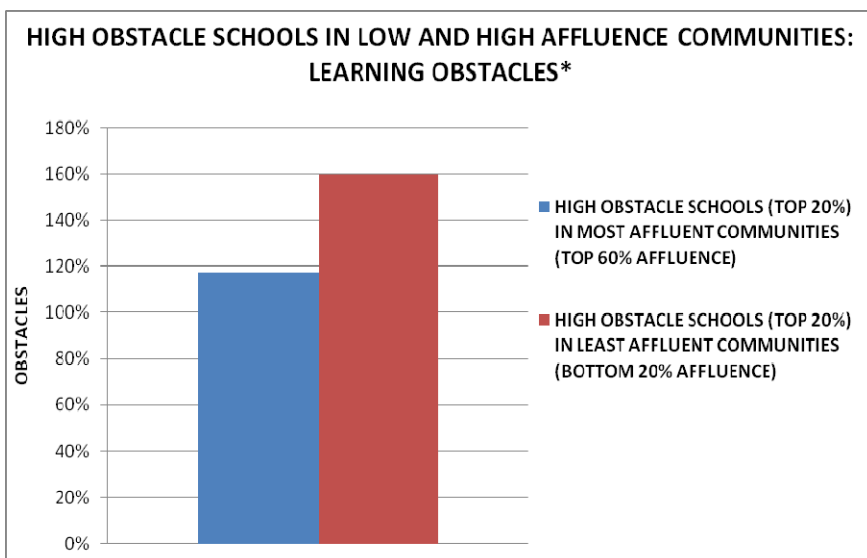


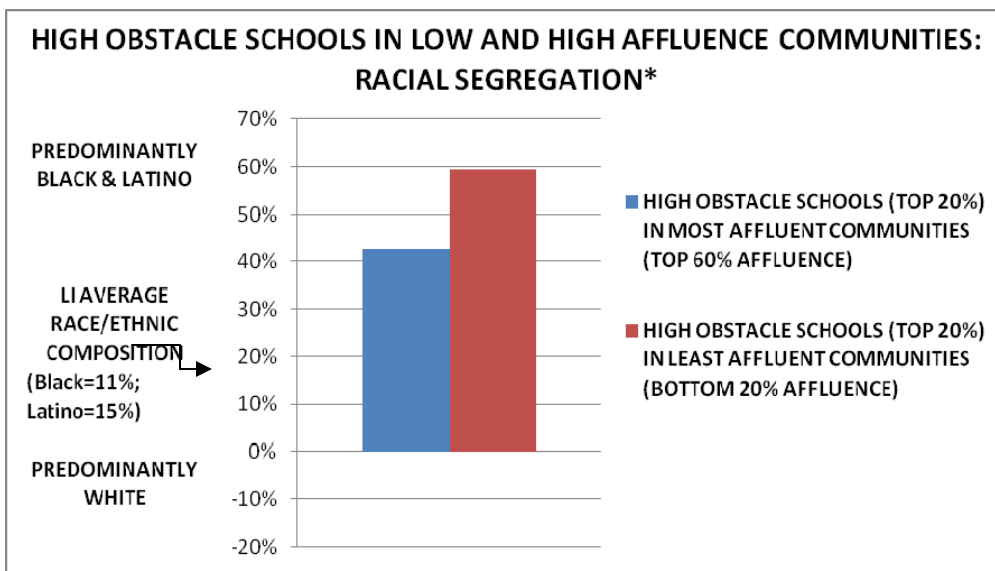
It is not a surprise to find that the performance of high-obstacle schools in more affluent districts to be and superior to that of those in resource-poor districts. As the following charts make clear, there is an accumulation of disadvantage for challenged schools in low-resource districts. They consistently are shown to have fewer resources, lower expenditures per pupil, lower teacher quality, and larger schools. In addition, high-obstacle schools in low-affluence districts experience greater concentrations of poverty, LEP, and are more racially segregated than their more affluent counterparts. The combination of these factors contributes negatively to performance, over and above obstacles of poverty, language barriers, and segregation.





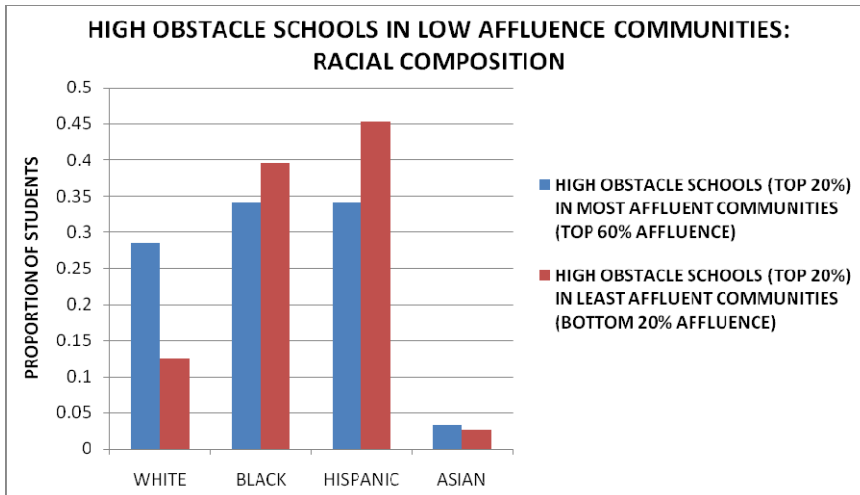
In addition, it appears that high-obstacle schools in resource-poor districts are further burdened by a concentrated degree of poverty and racial/ethnic segregation.





These charts indicate that high-obstacle schools in low-resource districts have significantly higher rates of poverty and are more segregated than high-obstacle schools in affluent districts. In other words, this is a sign of a higher degree of *concentrated obstacles* for those schools in district with the *least amount* of resources that can be brought to bear to deal with these obstacles. This concentration effect further suppresses the aggregate academic performance in such school settings.

Finally, we can see the profound injustice that arises from the combination of racial and economic segregation. As the final chart indicates all schools in the highest obstacle quintile are predominately Black and Latino. However, the proportion of these students in the high obstacle-low resource schools is even greater than for high obstacle schools in the more affluent communities. The combination of the historical legacy of *de jure* segregation and repression that characterized U.S. society for hundreds of years and the discriminatory practices that have continued throughout the past fifty years has profoundly impacted the educational opportunities of Black and Latino youth. As a result, for the 2005-06 academic year, while constituting about 25% of Long Island’s student body overall, fully 85% of all students in high obstacle-low resource schools are either Latino (45%) or Black (40%). These students are faced with the severest set of educational conditions in which to try to learn. Perhaps they experience poverty and the need to attain proficiency in English themselves, but even if not, they are surrounded by many students who are contending with those obstacles to learning. And they are doing so in communities and school districts with the least amount of resources available to bring to bear on the situation.



## SUMMARY AND POLICY IMPLICATIONS

Our analysis has identified a relatively parsimonious model of academic performance among Long Island Schools. These results that we’ve reported on are stable and robust. They reflect general patterns that run throughout the range of the more than six hundred schools in the analysis, and are not simply the result of a few “extreme cases” of isolated districts with heavy concentrations of poverty and little affluence on the one end and no poverty and very high affluence on the other. The patterns that have been reported on thus far in this report reflect the differences that exist across districts throughout the continuum of individual schools and the districts in which they are located. In addition, as a result of the high degree of economic and racial segregation that exists on Long Island, there are also indications of a “concentration effect” of the consequences of the accumulation of high obstacles to learning in some schools embedded in economically disadvantaged districts that have little in the way of the resources necessary to successfully contend with those learning obstacles. The chasm between the schools with high rates of poverty that are embedded in resource-strapped districts and those schools in quite affluent districts with very low or nonexistent rates of poverty within its student body is indeed vast. Yet that divide actually reflects a broad continuum of inequality at both the school and community levels.

The fact that we’ve been able to identify specific factors that independently contribute both positively and negatively to aggregate student performance fortunately lends itself to specific policy directions. First, the roles of poverty and language barriers as impediments to learning have to be fully recognized. The sources of poverty (and its consequences for young people), and patterns of geographic mobility and migration lie outside the educational sphere itself. At minimum, if we are to expect our educational institutions to successfully contend with these obstacles to learning, we have to



provide them with the resources sufficient to get the job done. However, this line of policy development may only amount to a rear-guard action. In contrast, policies which fall outside the purview of the educational realm per se, but that directly reduce or eliminate poverty itself (or at least mitigate its worst consequences for the young) may have the most positive of educational impacts.

Second, the findings that a community's economic wellbeing (including, but not limited to the capacity to spend more for educational needs) offers a clear line of intervention to overcome the negative impact of the presence of learning obstacles. In some respects the ability to spend more does matter. But more than that, our analysis suggests that having economically "healthy" communities in themselves fosters higher academic performance among its youth. In that vein, the structural lines of economic and racial segregation tend to perpetuate educational inequalities.

Third, the findings indicate that students, and especially younger students, perform better in more intimate "smaller" learning settings. Yet, as currently practiced, our educational policies locate students with the greatest obstacles in the larger more impersonal setting. The re-allocation of resources to establish greater equality of access to those facilities and climates most conducive to high quality learning must be included in any meaningful set of policy priorities.

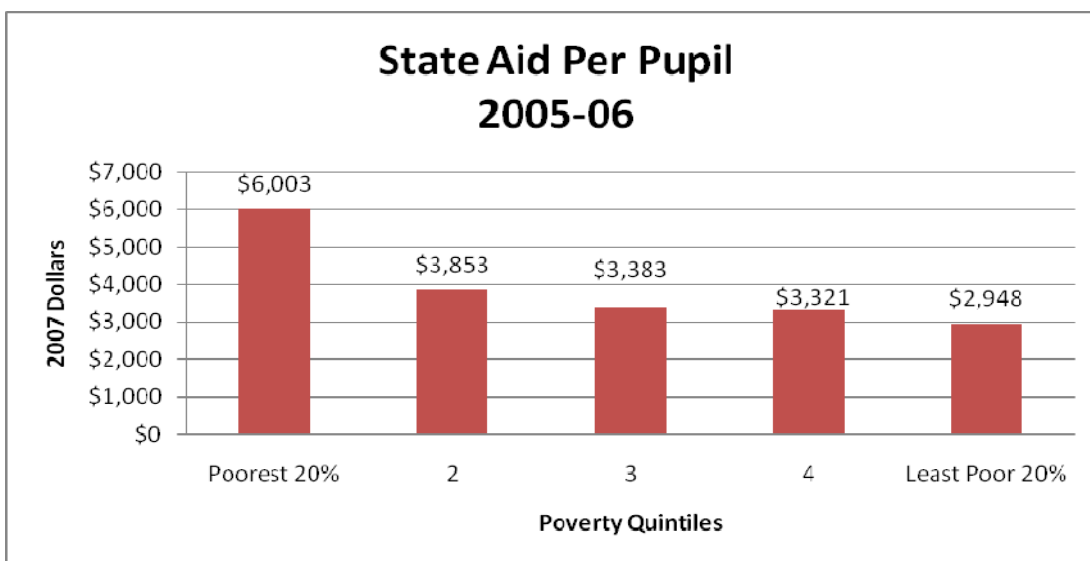
Finally, the implications of the foregoing analysis prompts a serious consideration of how our present circumstance reflects the combination of the historical development of numerous school districts that are generally isomorphic with residential communities along with entrenched historical and institutional patterns of racial discrimination and racial and economic segregation. To address the heart of the problem within the educational sphere requires rethinking the boundaries dividing Long Island school districts. Two types of approaches have been used successfully in other parts of the country. First, consolidating school districts could create a smaller number of districts that integrate students across economic, racial and ethnic backgrounds. A second approach is the creation of greater opportunities to integrate schools through such options as integration overlay districts, inter-district magnet schools, and/or voluntary inter-district transfer plans.

The advantage of consolidating school districts is that it impacts the largest number of students who are currently negatively affected by attending poorer school districts. Unfortunately, indications are that there is strong opposition to alterations in the current home-rule status quo. Any attempt to achieve wide-scale consolidated school districts in order to establish a more equitable educational experience for all Long Island young people is likely to take many years. Alternative options such as integration overlay districts, magnet schools and/or voluntary inter-district transfer plans have a smaller impact in terms of the number of students served but implementation may be easier and may face fewer roadblocks since it does not disturb pre-existing school district lines. In addition, unless carefully

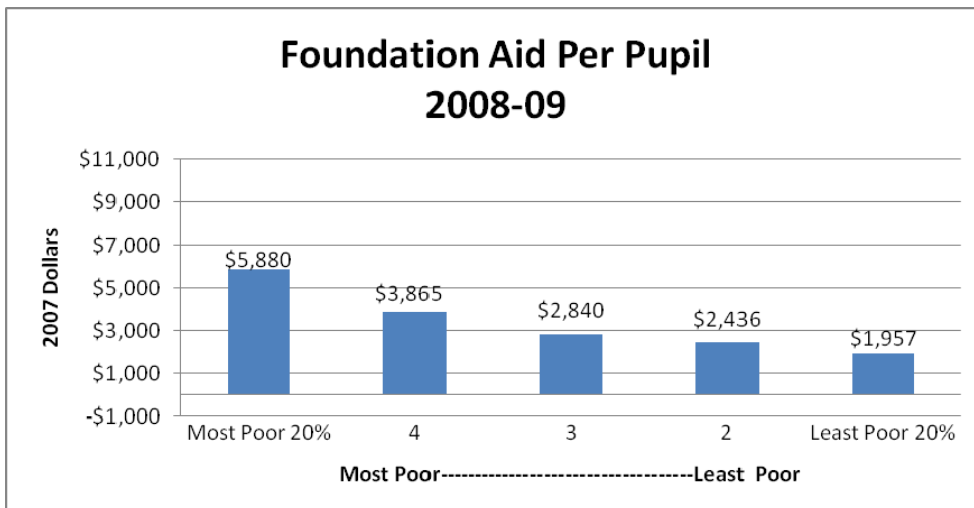
envisioned and instituted, the more modest latter programs have the potential for draining the poorer districts of their most talented students attracted to magnet programs outside their home district. That would have the negative effect of leaving some communities even more isolated and having to deal with the effects of concentrated obstacles. Policy development in this area must take into account the entrenched nature of economic and racial segregation on Long Island. It must also consider full range of ramifications for both increasing opportunities for individual students but also for the social and economic health and wellbeing of our more fragile communities. Given the enduring nature of these patterns of segregation, as well as the seeming resistance of the majority, individually and collectively, to move away from economic and social homogeneity, any policy attempts in this area must take a long range view towards change. That being the case, the question then emerges concerning what interim policies can be enacted that are not necessarily contingent upon breaking down economic and social barriers of such long standing. In that vein, it is essential to examine whether state funding patterns operate to mitigate against or to reinforce the consequences of structurally embedded patterns of segregation along economic and racial/ethnic dimensions.

**State Aid**

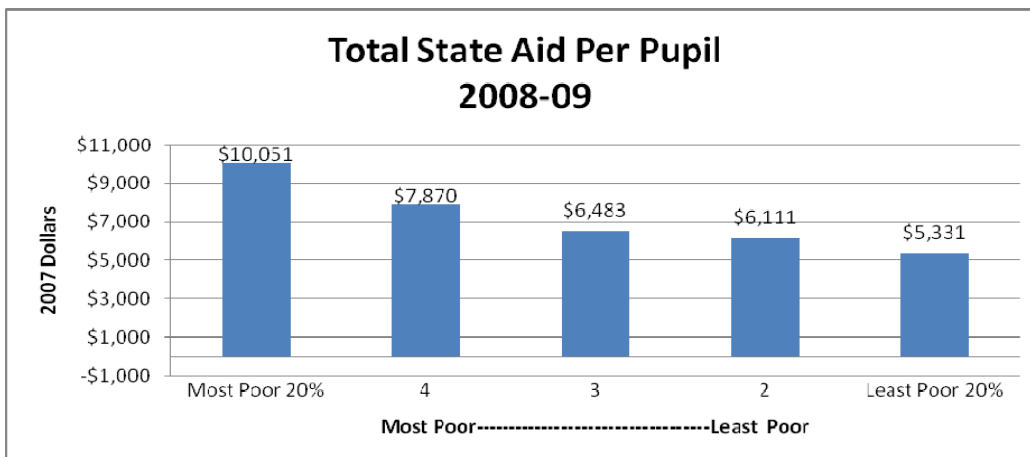
One part of the reason why economic and social inequalities between districts are so strongly correlated with inequalities in educational resources is that the aid coming from New York State is not adequate to fundamentally redistribute funds in a way that would provide the needed extra resources to those districts with students facing the greatest obstacles. For instance, in the academic year 2005-06 the 20% of districts with the highest proportion of students in poverty received twice the amount of total state aid per pupil as the 20% of districts with the lowest proportion of students in poverty. That signifies that general tax funds were redistributed to some extent in the direction of the more needy districts in 2005-06. However, those districts were able to expend only slightly more per student as the least poor quintile (1.2:1 ratio).



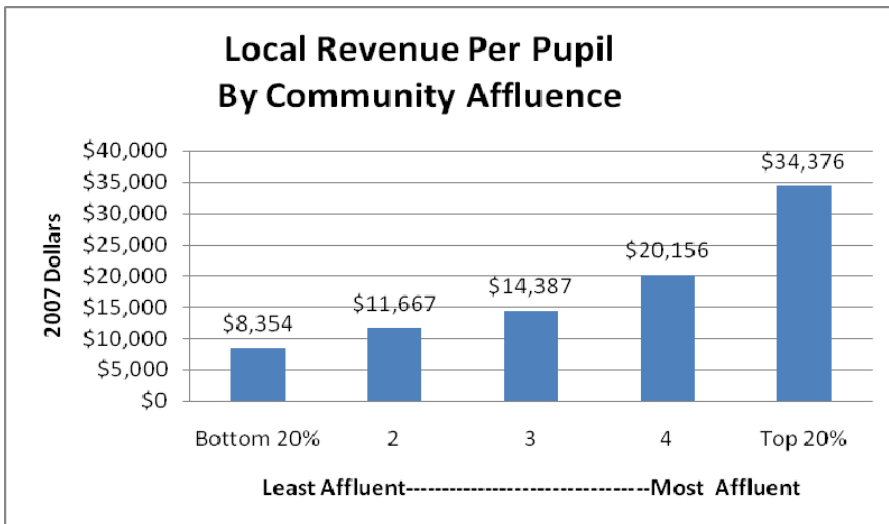
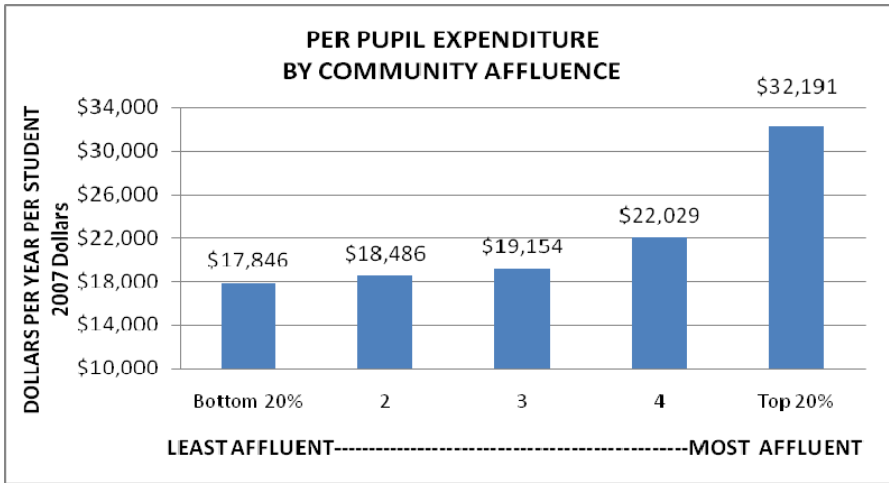
Data from 2008-09 indicate a general continuation of that situation. The formula for establishing state aid based on district need was revised for the 2007-08 academic year in order to more effectively direct funds to those districts with the highest needs and fewest resources to meet those needs. The new method established a *Foundation Formula* based upon several indicators of a district's need (e.g., poverty, LEP, regional cost of living differences), as well as the district's ability to provide resources to meet those needs (e.g., measures of the district's property wealth, income per pupil, and combined wealth ratio). The result is a basic aid formula that clearly redirects state funding to the districts in most need.



As shown in the chart above, the 20% of districts with the highest poverty rates received about three times the amount of Foundation Aid as the 20% of districts with the lowest rates of poverty. Unfortunately, other components of the State's overall aid program are not as progressive. In fact, they are regressive: sending more aid to low poverty districts than to high poverty districts (e.g., the STAR and High Tax programs). As a result, the final distribution of state aid is much less progressive than the basic Foundation Formula.



After the inclusion of the regressive components of the program, the final allocation of state aid only provides the most needy districts with about 1.8 times the aid as the least needy districts.



Moreover, as noted above, those districts with greater commercial and residential property wealth and higher incomes have the capacity to fund expenditures for educational resources well beyond what is supplied via state aid. Thus, while state aid does adjust to some extent for educational needs, wealthier districts are still in the advantageous position to utilize local wealth to fund educational expenditures. As noted in the chart, “Local Revenue Per Pupil By Community Affluent,” the wealthiest 20% of districts raise **four** times the amount of funding from local sources as compared to the least affluent 20% of districts. The results of the complex process that is the New York State funding formula ultimately do not succeed in substantially redistributing resources to the districts most in need. Moreover, to the extent that the state formula does modestly redirect some funding, less affluent

districts remain dependent on state aid for a much higher proportion of its revenues than wealthier districts that have the wherewithal to devote local resources to its school district's educational mission. Certainly, no school district can simply "buy" educational success. Yet our districts that face the most profound challenges remain starved for the resources that if spent wisely could help to overcome the obstacles faced by our most needy young people.

The current system provides "foundation" grants to districts largely based on an assessment of need. However, the implementation of the STAR program and the aid to high-tax districts results in little diminution of the significant imbalances that exist between rich and poor districts. Part of the reason for this is the regressive elements in the current state aid program that direct more funds to low-poverty districts than to high-poverty districts. The other reason is the ability that affluent communities have to use local wealth to fund local schools. Many states have been required to redesign their education funding formulas to take into account the need to adequately fund school districts that have a higher proportion of at-risk or high-need students. The law suit against New York State focusing on the underfunding of New York City schools is a case in point. Some states (e.g., Vermont) have instituted the equivalent of a "luxury tax" on more affluent districts that choose to direct excess local resources into their local schools as a means of ensuring a degree of equality in spending across districts. Long Island's funding patterns need to be re-evaluated to ensure that poorer districts have an equal opportunity to provide the necessary supports and facilities for all students.

In sum, the economic and social inequalities across our Long Island schools, school districts, and communities are systematic and substantial. Definitely, some situations are worse than others. Yet, the pattern we detail across 125 school districts and 659 schools reflects a continuum that links all our schools. Educational and social policy proposals, to be effective, must go beyond the focus on one or two extreme situations. Our analysis belies the notion that all is well except for the isolated 'pockets' of problematic situations. Current social and educational policy has done little to remediate these inequalities and, at worst, may be reproducing them.

***Projecting the Results of a New Policy Orientation:*** In light of the findings that our analysis has revealed thus far and their implications for establishing new priorities for educational policy on Long Island, it is instructive to consider the likely results of a new policy direction. We are specifically interested in predicting the educational performance outcomes that likely would be associated with policies that directly address the most important factors impacting students' performance. The basis of the projections is our analysis of the differential outcomes across Long Island schools that are unequal with respect to the important factors such as poverty rates, district level affluence and the superior learning environments associated with have greater resources.

One can think of the projected models as an interrelated and sequential series of “what if” scenarios. We can first ask the question, “What would be the likely impact on students’ educational performance, measured at the school level, if policy were directed at reducing poverty?” That question provides a good starting point because our analysis, in line with a vast body of national educational research, has already demonstrated that poverty is one of the most important obstacles to learning for young students. That question can then be followed up with a second: “What if the inequalities that exist across communities with respect to affluence and economic well-being, including the ability to fund smaller school sizes and better teacher qualifications, were reduced?”

As noted above, there are a variety of policies that would have the desired effects of reducing poverty in schools and of increasing the affluence and resources available to less affluent districts. For example, aggressive anti-poverty programs could significantly reduce poverty in the highly impacted schools and communities. Such programs obviously would have to originate outside the educational arena. In contrast, educational policies that lead to school district consolidation with an eye toward reducing economic and racial segregation would also have the effect of creating schools with lower levels of learning obstacles. In a similar fashion, redistributive policies that equalize resources among school districts and communities could come in a variety of forms. For example, educational funding formulas could ensure that state aid is directed at the most needy districts in amounts that truly allow them to meet the needs of their more needy students. In addition, social policies could be instituted that eventually break down the barriers of economic and racial segregation. Such policies may, in the long run, create truly integrated communities that do not leave our most needy Long Island residents housed and schooled in the communities with the fewest resources. In that respect, the projections we present do not distinguish which sort of policies might be in place; only their projected results.

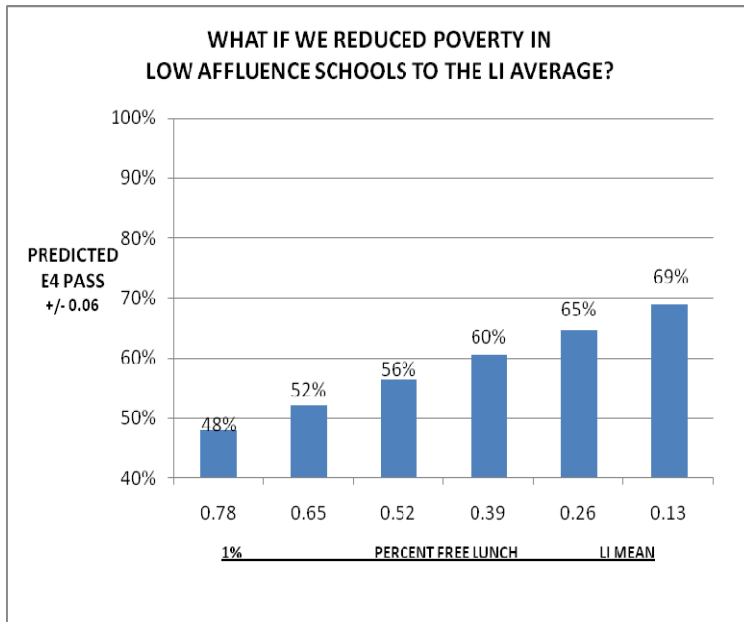
The implementation of any social policy entails costs. The question generally comes down to whether the benefits significantly outweigh them. Because we are not evaluating a specific policy proposal we cannot put forth a clear cost-benefit analysis. We can, however, assess the potential for achieving significant benefits. Expending even a modest sum in order to attain marginal or minimal benefits may not be worth the effort. On the other hand, demonstrating the potential for achieving significant gains in educational outcomes for our youth challenges us to then look at the costs of the variety of policies that might achieve those benefits. In that context, we point to the substantial gains in educational performance that we can project that would result for reductions of learning obstacles in the most seriously impacted schools, and from raising the affluence and resource level of the most strapped districts and communities.

We have charted the projected results of such policies for the eight educational outcomes that we have been tracking thus far: the percent of students passing 4<sup>th</sup> grade English, 4<sup>th</sup> grade Math, 8<sup>th</sup> grade

English, 8<sup>th</sup> grade Math, English Regents Exam, Math A Regents Exam, the percent of students receiving Advanced Regents Diplomas, and College Readiness. The results of our predictive modeling of these outcomes appear below. In the case of each outcome, the starting point of the analysis is the performance of a hypothetical school with the characteristics that are representative of a very poor school (the poverty rate for the poorest 1% of schools) of a size and with a teacher preparedness typical for schools in low-affluence districts, and with the wealth, income and general financial profile typical of low-affluence districts (the actual degree of community affluence for the least-affluent one percent of districts). The first chart for each educational outcome shows the expected increase in student performance as the rate of poverty is decreased from its starting point of 78% (the actual poverty rate of schools at the first percentile of all schools) to the mean level of poverty for Long Island school districts as a whole (13%). As we can see for all measures of educational performance we would predict a substantial increase in performance as a result of reducing the presence of poverty the school. For example, the percent of students passing the 4<sup>th</sup> grade English Exam would be expected to rise from a low point of 49% to a high of 69% as the poverty rate drops from 78% to the regional mean poverty rate of 13%. For many of the academic outcomes measures, our projection of improvement is between 20-30 percentage points.<sup>5</sup> From any perspective on the merits of policy implementation, these are significant and substantial anticipated improvements in student performance.

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<sup>5</sup> It is important to reiterate the basis of the projections. Our analysis is based on aggregate school-level data on school and district characteristics and school-level performance outcomes. We do not have data on individual students. Thus, we are careful not to ascribe conclusions directly to the level of individual students. Nonetheless, our analysis is highly consistent with educational research that has taken the individual student as the unit of analysis.



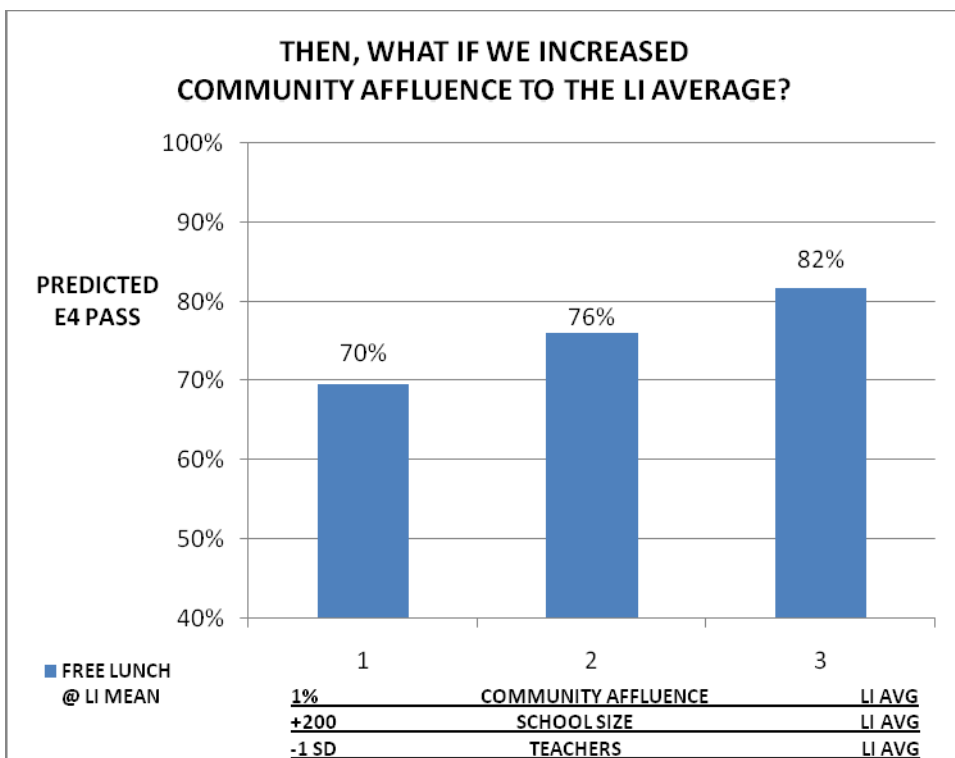
The anticipated improvement in performance measures could result from the successful implementation of one or a combination of the policies noted earlier. Social and economic policies that reduce the overall levels of poverty would directly result in fewer poor children in Long Island schools. Given the high degree of economic segregation on Long Island, such programs would have their greatest impact on those schools now serving extremely high concentrations of poor students. Educational policies that consolidate school districts in order to reduce economic and racial segregation and those that establish cross-district transfer plans and multi-district magnet schools would have the effect of redistributing the economically impoverished and economically advantaged students across schools and districts on Long Island. In essence, such programs would raise the performance of high-obstacle schools dramatically by reducing the proportion of impoverished students and increasing the proportion of non-poor students in their schools. The logic of such programs would also mean that some districts that presently have little or no impoverished students would see slight declines in aggregate student performance as they take on more impoverished students. On balance, the net gains on the one end more than make up for having many districts share much more equitably in the added challenges of working with economically disadvantaged students.

The second chart for each outcome then addresses the additional expected improvement in overall student performance that would be expected if policies were instituted that had the effect of raising the affluence level of the poorest communities on Long Island, including the impact of improving the school learning environment that is associated with greater affluence (i.e., smaller schools and better prepared and more experienced teachers). This could be the result of policies that redistributed the overall resources and wealth that exist on the Island, policies that increased the general social and



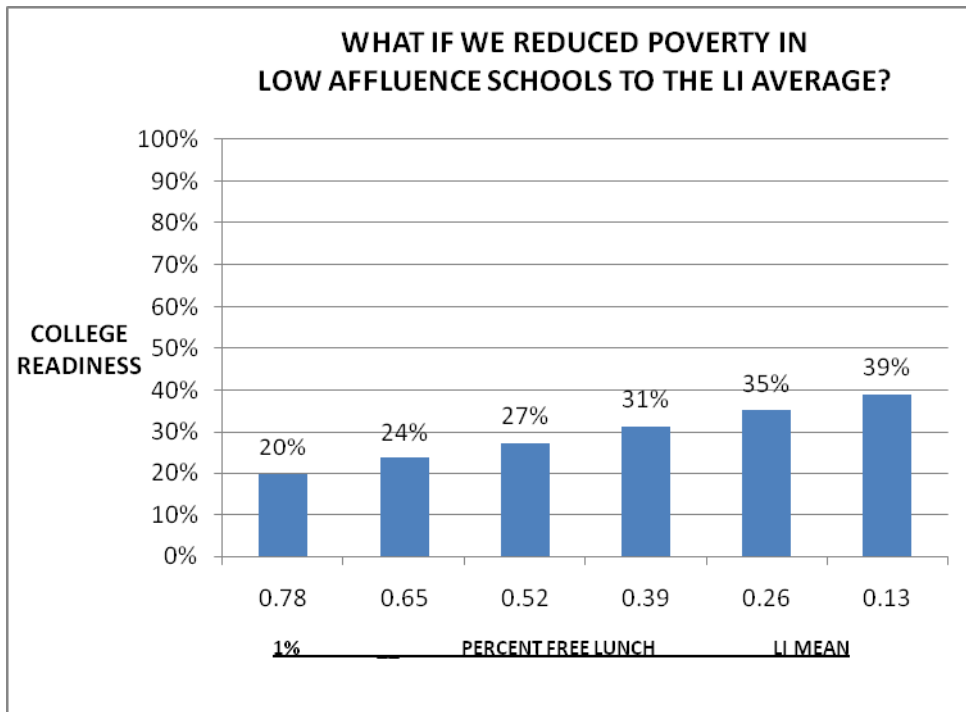
economic wellbeing of the least affluent communities, policies that fostered the economic and racial integration of communities on Long Island, or some combination of the three.

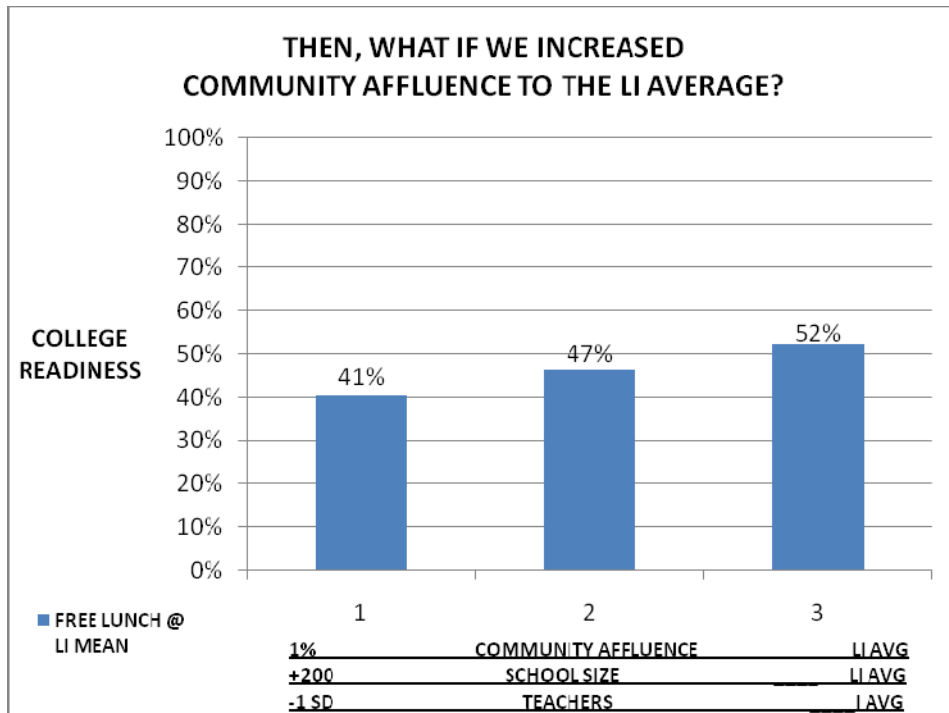
In this respect the second chart for each performance measure begins where the first chart leaves off. Once again, we can easily see that the expected educational returns on increasing the affluence of resource-poor are substantial. Taking the pass rate for the 4<sup>th</sup> grade English exam as an example, we would expect an additional 12 percentage point increase in the pass rate if the least affluent district was provided the resources and wealth enjoyed by those at the Long Island district average. Overall, we project that a school positioned among schools most heavily impacted by the presence of learning obstacles and in the most resource-poor districts would experience a 34 percentage point increase in number of students passing the English 4 exam based on the combination of a reduction of poverty, an increase in affluence, increase in teachers' qualifications, and a reduction in school size to average figures for Long Island schools.



Given the fact that we tend to place tremendous emphasis on the educational system to serve as the individual's vehicle to economic security and well-being, it might be worthwhile focusing on how anti-poverty and redistributive policies might have significant educational payoffs in that regard. The current level of college readiness for students in schools heavily impacted by high poverty rates and situated in low-affluence and resource-poor communities is very low. For the poorest 1% of schools in low-affluence districts only about 20% of students can be deemed truly 'college ready'. The average

for the most disadvantaged quintile (twenty percent) of schools is only about 28%. However, our analysis suggests that the combination of anti-poverty, redistributive, and integrative social policies can potentially raise the rate of college readiness to 52%. Of course, a figure such as this is only an estimate based upon an empirically grounded model of student performance. It is highly suggestive, however, of the social as well as individual long-run benefits that could accrue through the application of well conceived social and educational policy.





We share a collective interest in how well our educational institutions serve our region's youth. As we have shown, inequalities on several key areas generate serious inequalities with respect to educational outcomes. Some of those inequalities, like poverty and the inordinate concentration of poverty in some schools and districts, can have a crushing effect on the ability of schools to meet their students' needs and the capacity of young people to achieve their dreams. While some factors have their origins outside the educational realm itself (e.g., poverty), others pertain directly to how we fund and provide resources within the educational system. Creating more opportunities for students of all backgrounds to learn together and providing adequate funding for high-needs districts are worthy policy goals. Our analysis has pointed out quite clearly how such redirections of our current policy practices can have important positive ramifications. The underlying issue in all cases is what types of programs are initiated to ensure that all students are allowed to achieve to their highest potential. On Long Island the first step in addressing the inequities in the school districts is looking for ways to breakdown the divisions between districts either through consolidation or other smaller initiatives and to provide infusions of economic and social resources to our least affluent communities in order to offer greater opportunities to the young people who live and attend school there. Such efforts clearly go beyond a focus on the internal workings of school districts alone and in isolation from one another. They require a regional perspective that seeks both to share the burdens and also to spread the opportunities across all of our communities and to all of our youth who represent our future. They also require state and even federal level initiatives that ensure equitable funding streams and that help to move families out of poverty.

Lastly, the above measures become necessary because of the high degree of economic and racial segregation across Long Island. We frequently hold out educational opportunity as the pathway to social mobility and economic security. However, without educational policies that tackle the challenges directly, economic policies that buffer our young from the ravages of poverty, and housing policies that foster economic and racial inclusiveness throughout LI, school districts will continue to reproduce the very inequalities that we seek to eliminate.

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## APPENDIX A

### A HISTORY OF EDUCATIONAL INSTITUTIONS ON LONG ISLAND

The tradition of community involvement in the education of Long Island youth extends as far back as our colonial origins. Some of the earliest schools were established prior to or during the Revolutionary War era. For example, the present-day Southold school district records show the first school in its area to have been established in 1672. Port Washington saw its first school started in 1757, and one was initiated in Half Hollow Hills in 1779\*.<sup>6</sup> The State of New York's involvement in public education at the primary level began in 1795, with the passage of "An Act for The Encouragement of Schools". That law encouraged the establishment of *common schools* throughout the state, and provided five years of funding to the counties in the state for their operation. About 1,500 schools participated in the state aid program during its existence. State-wide funding was renewed in 1805. However, it is with the 1812 bill for the establishment of common schools that comprehensive organization and funding of common schools in New York really began. That law, as amended in 1814, mandated towns and communities to establish common school districts. Reflecting that mandate, the Town of Hempstead, for instance, initially created thirteen school districts in 1812. Common School Districts, under the act, were required to provide primary level schooling (through the eighth grade), but were not authorized to operate high schools. The 1812 law established key principles that are still in effect today: 1) that schooling is a state function and that schools are under state control; 2) funding for education must be a shared local-state obligation; 3) that the district, as opposed to town or county agencies, is the primary administrative unit for education. By 1845 there were approximately 11,000 school districts operating in the state, including many on Long Island. Many of the common school districts were quite small; covering only a portion of a city or village.

The high volume of very small districts was extremely unwieldy to fund, oversee, and manage. That situation prompted two new laws in 1851 (The Free School Act) and 1853 (the Union Free School Act). They set the stage for the development of the school district organization that we see today. These acts encouraged smaller common school districts to consolidate operations and resources to form large Union Free School Districts. Many such new districts were created at this point with boundary lines largely isomorphic with those of established communities, villages and cities. Besides being larger than their common school district predecessors, Union Free School Districts were authorized to

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<sup>6</sup> Most of the historical records of school districts held in Albany was destroyed in a massive fire in the early 1900s. Thus, in order to obtain a record of the origins of our districts on Long Island, we conducted a survey of all districts. We attempted to obtain dates for each district's first school, initial formation as a district, and the date of any subsequent consolidation. We were able to obtain information from 89 of the 125 districts presently in existence. All dates and percentages about district formation on Long Island reflect the results of the information provided by those 89 districts.

operate high schools in order to provide secondary level education to residents. These laws led to the gradual, but steady process of consolidation. However, with increases in population and the growth of new communities, the number of school districts in the state in 1905 was still more than 10,000. In line with this trend, about 42% of our present-day districts on Long Island record that their origins (school/district initiation, or point of consolidation) occurred between 1800 and 1899.

As the population of the state and our region grew, and as new communities came into existence, the state saw the need to encourage further consolidation in order to achieve greater administrative efficiencies and to allow districts to better meet the needs of their residents and students. The Central Rural School Act (1914) sought to encourage small union free districts to consolidate across village and city lines. The act also authorized the creation of Central High School Districts that would allow districts only providing primary level education to pool resources to provide secondary education on a cross community basis. By 1935, the number of districts in the state had declined to about 7,500. In 1942, the state initiated the development of a comprehensive Master Plan for School District Reorganization which was completed in 1947. Its primary goal was to further reduce the number of districts through voluntary consolidation of smaller existing districts into larger UFSDs (Union Free School Districts) and CSDs (Common School Districts). Thus, on Long Island, we see that about 38% of our present districts were formed between 1900 and 1949.

The general thrust of the 1947 master plan was updated in 1958 and was renamed The State Plan for School District Reorganization. Again, the focus of the 1958 Master Plan was to achieve greater administrative efficiencies and establish a basis for more effective delivery of education to local residents. The adoption of the two master plans had the largest impact on the statewide organization of school districts. The total number of districts went from 7,500 in 1935 down to 795 in 1965. With subsequent modifications, this plan has continued to guide reorganization to the present day. As Long Island underwent its post-war suburban expansion, some existing district grew in size and served greater numbers of students, and further consolidations were taking place. At the same time, new districts were coming into existence as residential communities were expanding to the eastward. About 16% of districts on the Island identify that most recent period (1950- present) as their point of origin.

Overall, the history of our educational institutions on Long Island reflects both the longevity of the region and the extent to which it has grown and changed over the centuries and decades. As our population and communities have changed, so has the shape of our educational system. From an array of tiny single-school districts and one-room school houses we have gradually transformed our educational structure to where there are now 125 districts and over 650 public schools. Yet our region continues to change and evolve. The demands on our educational system are never static. A

changing landscape at the local, national, and global levels demands new approaches to pedagogy and curriculum. At the same time, economic, political, and social constraints and inequalities force policy makers and stakeholders to rethink 'what is' with an eye toward 'what should be'. Ultimately, the goal is to work towards a system of education that provides opportunity for all of our young people. As we move further into the 21<sup>st</sup> century we want our youth to be prepared for the challenges that will confront them. But we must additionally recognize that their future is also our future, as families, as communities, and as a region.

	Academic Year			
	1905/06	1935/36	1965/66	1995/96
<b>Independent superintendencies</b>				
City school districts <u>*</u>	45	59	62	62
Union free school districts <u>**</u>	31	94	100	86
Central school districts <u>**</u>	-	2	73	192
<b>Dependent districts <u>***</u></b>				
Common school districts <u>****</u>	9,935	6,626	56	11
Union free school districts	614	629	103	167
Central school districts	-	158	394	274
Central high school districts	-	5	4	3
<b>Total School Districts</b>	<b>10,625</b>	<b>7,573</b>	<b>792</b>	<b>709</b>
School commissioner districts	113	-	-	-
Supervisory districts (BOCES)	-	203	71	38

Sources: Education Department *Annual Report*, 1905 (school year 1903/04); same, 1907 (school year 1905/06); same, 1937 (1935/36); Education Department *Annual Education Summary*, 1966 (1965/66); SED Information Center on Education, unpublished data (1995/96). *State Education Department Glossary of Terms* (Albany: 1961).

\*Figures for 1965, 1995 are the total number of city school districts (population 125 thousand or more), enlarged city school districts (population 10 to 125 thousand), and city central school districts (population under 10 thousand). All city districts operate under an appointed superintendent (or chancellor in New York City).

\*\*Figures for 1905, 1935 include independent village districts (whose population was over 4500 in 1905, or 5000 in 1935). Figures for 1965, 1995 include all independent non-city districts (over 4500 population). Sometimes still termed "village superintendencies," these supervisory units today do not necessarily have an incorporated village within their boundaries. An independent non-city superintendency is established by order of the Commissioner, on application by the district's board of education.



\*\*\*Dependent districts operate under general supervision of a district superintendent (before 1912, an elected district commissioner of schools).

\*\*\*Figure for 1905 includes an unknown but very small number of non-operating districts, which either had no children of school age or contracted with a neighboring district.

### **Sources for Appendix A**

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**Earliest start dates for Long Island school districts (if available)**

<b>Nassau County</b>	<b>Earliest Date</b>
Port Washington	1757
Jericho	1804
East Meadow	1812
Freeport	1812
Herricks	1813
Baldwin	1814
Great Neck	1814
Seaford	1830
Oceanside	1833
Franklin Square	1838
Manhasset	1843
Bellmore	1850
Hewlett-Woodmere	1850
Bethpage	1855
Oyster Bay-East Norwich	1865
Rockville Centre	1890
Lawrence	1891
Farmingdale	1894
Lynbrook	1897
Uniondale	1900
Merrick	1901
Island Trees	1902
Roslyn	1904
New Hyde Park- Garden City Park	1906
North Bellmore	1907
Valley Stream Twenty-four	1908
Wantagh	1908
Roosevelt	1910
Malverne	1914
North Merrick	1921
Valley Stream Thirty	1923
Island Park	1924
Long Beach	1925
Massapequa	1925
Valley Stream Central High School District	1925
Sewanhaka Central High School District	1926
Bellmore-Merrick High School District	1934
Plainview-Old Bethpage	1957
North Shore Central at Glen Head	1958
Locust Valley	1959

<b>Suffolk County</b>	<b>Earliest Date</b>
Southold	1672
Wainscott	1730
Half Hollow Hills	1779
Babylon	1805
Amagansett	1813
Center Moriches	1813
Islip	1814
Bayport-Bluepoint	1820
William Floyd	1833
Miller Place	1837
East Moriches	1842
East Islip	1857
Amityville	1862
Bayshore	1864
Connetquot	1869
Patchogue-Medford	1870
Brookhaven-Comsewogue	1874
Elwood	1874
Lindenhurst	1875
Northport	1876
Greenport	1881
Sagaponack	1885
West Babylon	1890
Copiague	1897
Commack	1899
West Hampton	1903
New Suffolk	1907
Sag Harbor	1907
Hampton Bays	1908
North Babylon	1908
Southampton	1908
Deer Park	1910
East Hampton	1910
Central Islip	1913
Mattituck-Cutchogue	1919
South Huntington	1924
Sayville	1925
Montauk	1927
Rocky Pt	1930
Little Flowers	1931
Sachem	1955
Harborfields	1956
Brentwood	1957
Middle Country	1957
West Islip	1957
Cold Spring Harbor	1958
Longwood	1959
Mt. Sinai	1965
Oysterponds	1966
Remsenberg Speonk	1966
Eastport/South Manor Central	2004

## APPENDIX B

### EDUCATIONAL OUTCOMES FOR LONG ISLAND SCHOOLS: MULTIVARIATE REGRESSION STATISTICAL RESULTS

PREDICTORS:	OUTCOME									
	ENG 4 β	MATH 4 β	ENG 8 β	MATH 8 β	ENG REGENTS β	MATH A REGENTS β	COLLEGE READINESS β	ADVANCED DIPLOMA β		
Obstacles	-0.31 ***	-0.37 ***	-0.51 ***	-0.61 ***	-0.70 ***	-0.61 ***	-	-0.48 ***		
Affluence	0.16 ***	0.10	0.51 ***	0.24 ***	0.23 **	0.16	0.27 ***	0.47 ***		
Affluence Quadratic	-0.12 **	-0.05	-0.48 ***	-0.38 ***	-0.08	-0.09	0.25 *	-0.41 ***		
Teacher Preparedness	0.12 **	0.09 *	0.15 **	0.01	0.10	0.05	0.22 **	0.18 **		
School size	-0.34 ***	-0.26 ***	0.15 **	0.09	0.03	0.16 *	0.05	0.13 *		
Student w/ Disabilities	-0.09 **	-0.14 ***	0.00	-0.21 ***	-0.09	-0.15 *	0.20 **	-0.08		
MODEL:										
Number of Schools	365	364	123	123	103	99	130	102		
F	37.69 ***	28.82 ***	38.04 ***	40.24 ***	27.54 ***	12.55 ***	7.40 ***	21.73 ***		
R-squared	0.39	0.33	0.66	0.68	0.63	0.45	0.27	0.58		
Adj R-squared	0.38	0.32	0.65	0.66	0.61	0.41	0.23	0.55		

\*  $p \leq 0.10$

\*\*  $p \leq 0.05$

\*\*\*  $p \leq 0.01$

NOTES: β (Beta)= standardized regression coefficients. Betas reflect the relative strength of association between the predictor variable and the specific educational outcome measure. The larger the size of Beta, the larger the effect any change in the predictor has on change in the outcome. The sign of the coefficient signifies where upward change in the predictor leads to upward change in the outcome or a downward change in the outcome (signified by a minus sign).

The asterisks signify the presence of “statistical significance”. In other words, they indicate whether the amount of change is greater than might be expected to occur simply by chance when collecting and analyzing data. The noted probabilities reflect the degree of confidence that a particular relationship cannot be attributed to chance occurrence. For example, “  $p \leq 0.01$ ” indicates that there is less than a one in a hundred chance that a Beta of that magnitude would occur and there actually be no impact of the predictor on the educational measure under consideration.

$R^2$  indicates the amount of total differences in each educational outcome that is “explained” or “accounted for” by the regression equation. For example, for English 8, the  $R^2$  of .65 indicates that of all the differences across LI schools with respect to the % passing that exam, 65% of those differences are due to the variables in the equation.