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August 2015

RE-ENGAGING YOUTH FOR HIGH SCHOOL SUCCESS

Evaluation of the Good Shepherd Services Transfer School Model

SUBMITTED TO:
Good Shepherd Services

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SUBMITTED TO:
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Executive Summary

In the forefront of serving children, youth, and their families in under-resourced New York City communities, Good Shepherd Services (GSS) has developed a school model for young people who have not been successful in traditional high schools. Built on a program model that was initiated at the request of the Department of Education in 1980 for neighborhood youth off track to graduation, it became an independent diploma-awarding high school in 2002. In collaboration with the New York City Department of Education (NYC DOE), transfer schools serve students who have fallen behind and are unlikely to graduate from high school before they turn 21.

Over-age students accounted for more than two-thirds of the dropouts of the city's Class of 2012, but only about one in five graduates of that class were over-age (NYC DOE, n.d.-a). Youth without a diploma face long odds for economic success; over the course of a lifetime, high school dropouts are estimated to earn $400,000 less than high school graduates (The Annie E. Casey Foundation, 2012). The transfer schools are targeted at this population of over-age and under-credited students and are designed to provide more support in an alternative model of schooling.

Taking a holistic approach, the GSS transfer schools offer a full-day, year-round academic program that integrates intensive support services and youth development practices with personalized, standards-based instruction. The schools operate under an equal partnership of GSS and NYC DOE leaders.

GSS engaged Metis Associates to evaluate the effectiveness of their transfer school model in improving student outcomes. The study seeks to contribute to the knowledge base about strategies for helping disconnected youth re-connect with school by utilizing a rigorous impact evaluation design, as well as describing the GSS model and the population served. Conducted from 2011–2014, the study examines the GSS model implemented at South Brooklyn Community High School, New York City's first independent transfer school (established in 2002) and at West Brooklyn Community High School, where the model was replicated in 2006. While a lot has been written about best practices for serving youth, the evidence from rigorous studies remains limited. Furthering our understanding of what works is especially important in light of national conversations about improving educational and life outcomes for students who have become disengaged.

The evaluation addresses the following research questions:

- To what extent is the GSS transfer school model implemented as designed, and how does the model differ from other schools?
- What impact does the model have on student academic performance, including school attendance, credit attainment, persistence in school, and graduation?
- What are the youth development outcomes of GSS transfer school students and what is the relationship between these outcomes and academic performance and other characteristics?

The evaluation used a rigorous quasi-experimental design, in which outcomes for GSS students are compared to outcomes for equivalent comparison groups based on propensity score matching. For this study, comparison students were drawn from students enrolled in other Brooklyn transfer schools not affiliated with GSS. These schools have a similar core educational program but may vary in practices such as admissions criteria and partnership roles and responsibilities. This type of design is expected to allow for the difference in observed outcomes to be confidently attributed to the treatment (i.e., GSS transfer school model), meeting evidence standards according to the What Works Clearinghouse. Impact analyses were conducted on data available through the end of the 2012–13 school year, with additional analyses on graduation and persistence conducted through the end of 2013–14.

Information about implementation at the GSS schools was obtained during the 2011–12 and 2012–13 school years through surveys and focus groups of staff and students, interviews with school leaders, and a review of documentation. Implementation was explored in-depth in two previous reports; the findings are summarized herein. Information about the schools attended by comparison group students was obtained through interviews with representatives of the community organizations serving these schools as well as public information.

In addition to examining academic outcomes, the evaluation included a measure of youth development of the GSS students, namely the Search Institute's *Developmental Assets Profile (DAP)*. The qualities measured by the DAP have been identified as being essential to healthy adolescent development and include positive relationships, opportunities, skills, values, and protection against risk behaviors. This aspect of the study was designed to further understanding about the presence of these qualities that have been shown to predict a variety of outcomes for youth, including academic achievement.

Implementation Findings

The GSS transfer school model includes programmatic approaches that have been demonstrated to reduce dropout rates, including assigning adult advocates to students at risk of dropping out, providing academic support and enrichment, personalizing the learning environment and instruction, providing rigorous and relevant instruction to engage students in learning and provide the skills needed to graduate and later in life (Dynarski et al, 2008). The schools are

neighborhood-based and led by a NYC DOE principal and a GSS director in equal partnership, with each responsible for different aspects of the school.

Just over half of the GSS students (54%) are male. The predominant ethnic group is Hispanic (67%)—reflecting the population of the schools' neighborhoods; 15% are Black, 12% are White, and 6% are Asian or 'Other'. Most students are low-income, with 75% eligible for free/reduced price meals. Special education students account for 9% and English language learners, 2%.

In the year prior to enrolling in the GSS schools, the GSS students had attended school, on average, only 67% of the time, equivalent to missing about three months of school. On average, students enrolled in the two GSS schools during the study period entered the school with only 14.8 credits despite being 17 years old.[1] In fact, 40% of GSS students entered with less than 11 credits. A 17-year-old student who is on-track for graduation would be expected to have at least 30 credits.

The average length of time the GSS students have stayed at the schools is almost 22 months. During this time, their advocate counselor provides attendance outreach, social and emotional counseling, academic advisement and programming, work with families, and activities focused on the students' postsecondary future and community building. With more than half of the students having the same advocate counselor since they enrolled, and most of the others having just two advocate counselors, the schools have attained a high degree of stability in this relationship. The primary person approach, as well as the size of the schools (150 to 200 students, each) and classes (maximum 25, with most at 18 students), offers opportunities for individual attention; students described the relationship with staff as "familial."

Students are organized in ungraded cohorts and have personalized schedules that reflect their individual course and credit needs. Academic expectations are clear and students receive feedback on their performance through biweekly benchmark reports and meetings, enabling them to see their progress as well as where they are falling short, and the connection between attendance and grades—a critical aspect for students who have a history of truancy.

A high degree of student engagement was evident in student survey responses to questions about participation in class as well as leadership opportunities; staff perceived the importance of student leadership as well. However, during the second year of the study some activities were curtailed because of Superstorm Sandy, which severely affected one school and its surrounding community.

[1] A student who is on-track going into high school would be 14 years of age and expected to earn at least 10 credits in each of four years of high school.

The schools also help focus students on the future, with information about postsecondary options, including college and careers, through workshops, seminars, postsecondary planning, and internships. Close to two-thirds of the students enrolled during the study period had participated in an internship.

A variety of methods are used to facilitate the partnership and develop staff capacity to implement the youth development model; more than half of the staff rated their schools' orientation efforts 'good' or 'excellent;' however further development in this area is suggested by the more than one-third of the staff who gave lower ratings (adequate, fair, or poor). Information about how the other transfer schools from which comparison students were drawn implement their model or program is incomplete. However, the other schools vary in the extent to which decision-making is shared between NYC DOE and community organization staff. An obvious difference is that the GSS schools are neighborhood-based.

Academic Outcome Findings and Program Impact

The evaluation examined the impacts of the GSS model on students' academic and behavioral outcomes, including graduation, persistence (continued enrollment) in school, credits earned, core Regents exams passed, school attendance, and suspensions. Analyses compared the GSS students to comparison students overall and, when the number of students was sufficient, exploratory analyses were conducted for female and male students, Hispanic males, Black males, and students who entered the transfer school with less than 11 credits.

Key findings for the overall groups as well as for the subgroups are presented below:

- The GSS students have a higher probability that they will graduate from high school than the matched comparison students, 63% vs. 51.4%, a statistically significant finding.
    - Within the female subgroup, GSS students have a significantly higher probability of graduating than the comparison students, 67.8% vs. 53.2%.
    - Among those with less than 11 credits at admission, GSS students also have a significantly higher likelihood of graduating than the comparison students, 52.6% vs. 35.6%.
- Overall, the GSS students did not differ significantly from the comparison group in their probability of remaining in school; however the difference was in the direction of favoring the GSS group (30.9% vs. 26.3%).
    - For this outcome, none of the subgroup analyses achieved statistical significance either, although female GSS students were expected to persist in school to a greater extent than their comparisons.

- The GSS model had a statistically significant positive impact on credit attainment, measured by the number of credits students earned after they were admitted to the transfer schools. GSS students earned, on average, 4.3 more credits than the comparison group, another substantively importance difference.
    - The majority of subgroup analysis results for credits earned were consistent with the overall findings; GSS females, males, Hispanic males, and students who enrolled with less than 11 credits each outperformed their comparison group.
    - There was no difference in credits earned between the Black male GSS students and comparison group students who were Black males.
- The GSS students were not significantly different in the average number of core Regents exams passed after admission when compared to students in the comparison group.
- With a 65.4% attendance rate over the two school years, the GSS students had significantly better school attendance than their matched comparisons, after controlling for a number of student and school characteristics. The GSS students outperformed comparison students by 5.4 percentage points, a difference that is considered substantively important by the What Works Clearinghouse.
    - Most of the subgroup analysis results for school attendance were consistent with the overall impact finding: GSS females, males, Hispanic males, and students with less than 11 credits at admission each outperformed comparison students.
    - The results for Black males were not statistically significant, although the direction of the difference favored GSS students.
- The GSS model did not have any impact on student suspensions; however, the low number of suspensions for both GSS and comparison students suggests that this event has little relevance to this student population.

Youth Development Findings

The evaluation included an assessment of developmental assets as measured by the Developmental Assets Profile (DAP), a tool designed to assess how youth are faring personally and socially. DAP items are grouped into 40 assets with half categorized as external (related to experiences and relationships with others, and involvement in extracurricular activities) and half categorized as internal qualities (e.g., motivation, responsibility, decision making, and identity). Research suggests that youth who report more assets are more likely to report engaging in positive, socially constructive behaviors and less likely to report engaging in risky behaviors (Benson et al., 2011). A higher level of developmental assets also is associated with higher academic achievement (Scales et al., 2006).

In this report, results are presented for a group of GSS students who were new to the schools in the fall of 2012. A longitudinal analysis of the students' responses on the DAP was conducted from fall (pre) to spring of 2013 (post). The analysis assessed whether there were any changes in

assets over the school year and, if so, in which areas, as well as to identify any characteristics that predicted the students' end-of-year scores. The study period falls within an acceptable timeframe for assessing change and observing the possible influence of the GSS school experience on students' asset levels, nevertheless the school year may be too short a time to observe change. Furthermore, there was a major disruption at the beginning of this school year from Superstorm Sandy, which affected the lives of students and their families, and school routines, and may have affected students' feelings in a variety of ways.

The analyses conducted to identify the predictors of DAP scores confirm the relationship between student level of assets and academic progress (credit accumulation), the relationship between assets and Constructive Use of Time, and the relationship between assets and civic engagement. The Constructive Use of Time subscale, which includes involvement in arts and sports (as well as involvement in religious activities), is a domain that may be directly influenced by the GSS transfer school experience. The civic engagement finding is based on students who indicated, on the evaluation survey, that they helped to solve community problems as part of their GSS school experience.

The number of assets places the youth within one of four levels of strength/risk, defined as: at-risk, vulnerable, healthy, and thriving. The fall to spring analysis showed a positive trend, with an increase in the percentage of GSS students at the high end of assets (thriving) and a decrease in the percentage of students at the low end (at-risk). However, results for students in the two middle levels (healthy, vulnerable) were mixed. Several of the DAP subscales offer some insight into areas related to the GSS model. The external domains in which students improved included students' feelings of empowerment (which includes having useful roles and responsibilities and feelings of safety) and constructive use of time (involvement in sports and arts, as well as religious activities). Students' feelings of support decreased, although it should be noted that several of the items that make up this subscale relate to support from parents, family members, and neighbors. However, this subscale includes support from other adults and a school "that cares about kids and encourages them."

For the most part, students' scores in the internal domains, comprised of items that assess students' commitment to learning, positive values, personal responsibility and decision-making, and locus of control, decreased. Of particular interest, however, is a positive increase in the percentage of students who value "serving others in my community."

Discussion and Recommendations

Results from the impact evaluation indicate that, compared to matched groups of over-age, under-credited students attending other transfer schools, the GSS transfer school model has a significant impact on graduation as well as the intermediate outcomes of credit attainment and school attendance. The probability of GSS students graduating (63%) exceeds that of the comparison group by 12 percentage points. The rate for GSS students also is higher than the six-

year graduation rate (Class of 2012) for over-age and under-credited (OA-UC) students in transfer schools citywide (41%) and far exceeds the rate for OA-UC students in traditional high schools (29%) (NYC DOE, 2014).

The most notable findings of the subgroup analyses were that female GSS students and students who entered the transfer schools with less than 11 credits have a significantly higher probability of graduating than the comparison students (15 and 17 percentage points higher, respectively). Of note, students admitted with less than 11 credits likely face the most challenging road to graduation due to their need to complete more than three years of high school coursework before they turn 21.

Other significantly positive findings on school attendance and credit attainment were found for the subgroups of females, males, and Hispanic males, which make up the majority of the GSS student population, and students with less than 11 credits at admission.

The absence of a comparison group for the assessment of youth development limits our ability to assess the impact of the GSS model on changes in these areas. Nevertheless, the DAP analysis findings confirm the relationship between assets and academic performance, as well as participation in extracurricular activities and civic engagement. The results also identified some areas that warrant further exploration, including whether the program model is doing enough in terms of providing socio-emotional supports to students (and to students' families) in order to bolster students' internal assets.

Recognizing that the final year of the implementation evaluation was a time of substantial disruption and curtailment of school activities because of Superstorm Sandy, the findings speak to the importance of consistently engaging students in learning and emphasizing the future focus of their education so that students are able to stay committed to continuing their education and see a connection to their future well-being. In working toward this goal, the schools could capitalize on their neighborhood base and the value that students place on civic engagement.

Based on the study findings, we offer the following recommendations for strengthening the model:

1. Engage in further professional staff development about the GSS transfer school model as it relates to and incorporates youth development to ensure that all staff are fully oriented to and comfortable with the model.
2. Review strategies used to support students and whether there are additional ways to support their families through other GSS services.
3. To capitalize on the positive findings associated with student engagement (i.e., Constructive Use of Time), review the extracurricular and civic engagement opportunities available to students with an eye toward expanding student interest in these areas and helping them to see the connections to academic performance and future well-being.

The following recommendations are offered for further research:

4. Conduct an impact study with additional cohorts to build the evidence base for the impact of the GSS transfer school model.
5. Conduct a qualitative study of female students and students who entered the GSS schools with less than 11 credits to understand better why the GSS model produced such strong effect with these two groups.
6. Explore the impact of the GSS transfer school model on students' socio-emotional learning and civic engagement using a comparison group evaluation design.

Introduction

Recognizing that traditional high schools do not work well for all students, educators and advocates have worked over the past decade to develop alternative settings and strategies to help these students stay in high school, graduate, and gain the skills they need to be successful (Dynarski et al, 2008). Some of these students will opt for an alternative credential to the traditional diploma while others will look for a program that allows them to fulfill work or family responsibilities during the day and continue their education in the evening. But many students still hope for a full high school experience that leads to a diploma. Built on a program that was initiated in response to the large number of dropouts in the local zoned public schools in 1980, Good Shepherd Services (GSS) pioneered the development of the transfer school model. In 2002, South Brooklyn Community High School, a diploma awarding school, was established in a partnership with the New York City Department of Education (NYC DOE). The model was replicated in 2006 with a second partnership at West Brooklyn Community High School.

The model developed by GSS takes a holistic approach to educating and supporting youth though an equal partnership of GSS and NYC DOE. The model offers a full-day, year-round academic program that integrates intensive support services and youth development practices with personalized, standards-based instruction. Core principles include setting high expectations for students, offering an active and rigorous learning environment, building healthy relationships, promoting student voice and responsibility, and building community.

New York City's on-time graduation rate was 66% in 2013 (NYC DOE, n.d.-b), below the national average of 80% (Stetser and Stillwell, 2014). The need for a high school model that supports students who are over-age and under-credited (OA-UC), the target population for transfer schools, is demonstrated in their large numbers and poor outcomes. A study commissioned by the NYC DOE estimated the number of in- and out-of-school youth who were at least two years behind their expected age and credit accumulation for graduation to be 140,000 (NYC DOE, 2006). Those who remain in school face poor odds for graduation. Indeed, the six-year graduation rate (Class of 2012) was only 29% for over-age and under-credited students enrolled in traditional high schools and 41% for OA-UC students in transfer schools citywide (NYC DOE, 2014). Over-age students accounted for more than two-thirds of the city's dropouts (Class of 2013), but only about one in five graduates of that class were over-age (NYC DOE, n.d.-a). Youth without a diploma face long odds for economic success. Over the course of a lifetime, high school dropouts are estimated to earn $400,000 less than high school graduates (The Annie E. Casey Foundation, 2012).

Thus the stakes are high for identifying a model that engages over-age and under-credited students and supports them on the path to high school graduation, college and careers. Developed specifically for this population, transfer schools are small, academically rigorous diploma-granting full-time high schools for youth between the ages of 16 and 21 who have fallen behind in a traditional high school. The schools offer an accelerated schedule so that students can earn the credits they need to graduate before they reach the age of 21. More than 10,000 students are enrolled in New York City's 48 transfer schools.

In 2011, Good Shepherd Services commissioned Metis Associates to evaluate the effectiveness of their transfer school model in improving student outcomes. By describing the GSS model and the population served, and utilizing a rigorous impact evaluation design, the study seeks to contribute to the knowledge base about strategies for helping disconnected youth re-connect with school. The evaluation examines the model as it has been implemented at South Brooklyn Community High School in the Red Hook section of Brooklyn and West Brooklyn Community High School in Sunset Park.

> The South Brooklyn Community High School neighborhood of Red Hook, with roots in the shipping industry, has some of the last commercial piers in New York and a unique mix of cobblestone streets and condemned buildings, housing projects, and the big-box store Ikea (Bagli, 2008). In the 1960s, this part of the borough was cut off from neighboring areas by the Brooklyn Queens Expressway (BQE), solidifying the divide between brownstone Brooklyn and this industrial outpost. The neighborhood is

On average, students enrolled in the two GSS schools during the study period had earned only 14.8 credits at the time of entry, despite being 17 years of age. In fact, 40% of GSS students entered with less than 11 credits. A 17-year-old student who is on-track for graduation would be expected to have at least 30 credits. Thus, the average GSS student is about three years older than a traditional high school student, but has credits equal to only about a year and a half of school. In the year prior to enrolling in the GSS schools, the GSS students had an average daily school attendance of only 67%, equivalent to missing about three months of school.

Just over half of the GSS students (54%) are male. The predominant ethnic group is Hispanic (67%)—reflecting the population of the schools' neighborhoods; 15% are Black, 12% are White, and 6% are Asian or 'Other'. Most students are low-income, with 75% eligible for free/reduced price meals. Special education students account for 9% and English language learners, 2%.

43% Hispanic, 36% non-Hispanic black or African American, and 17% non-Hispanic white ("New York City Census FactFinder," n.d.).[2] A low-lying area, Red Hook was severely affected by the October 2012 Superstorm Sandy.

The West Brooklyn Community High School neighborhood of Sunset Park, situated along the Upper New York Bay, also was shaped by the shipping industry and the BQE, which separates most of the neighborhood from the waterfront. Sometimes referred to as "Little Latin America," Sunset Park is 41% Hispanic. Non-Hispanic residents include 31% Asian, 23% white, and 3% black or African American (NYC DCP, n.d.-a). Sunset Park's Hispanic community includes immigrants from Mexico and Puerto Rico.

Conducted over the two-year period from 2011 through 2013, with selected impact analyses continued through 2014, the study was designed to answer the following research questions:

- To what extent is the GSS transfer school model implemented as designed, and how does the model differ from other schools?
- What impact does the model have on students' academic performance, including school attendance, credit attainment, persistence in school, and graduation?
- What are the youth development outcomes of GSS transfer school students and what is the relationship between these outcomes and academic performance or other characteristics?

[2] These data are based on statistics for census tracts 53, 59, and 85 belonging to Red Hook: Kings County (Brooklyn).

Evaluation Methodology

Evaluation Questions and Design

The evaluation was designed to determine the extent to which the transfer school model is implemented as designed and what impacts it has on students' academic performance and behavior. Three basic assumptions are being tested:

- Students in the GSS transfer schools will demonstrate better academic outcomes than students in the comparison group.
- Students in the GSS transfer schools will demonstrate better school-day attendance than students in the comparison group.
- Students in the GSS transfer schools will demonstrate better behavioral outcomes than students in the comparison group.[3]

The outcome evaluation follows a rigorous quasi-experimental design that included the development of equivalent comparison groups based on statistical matching. This type of design is expected to allow for the differences in observed outcomes to be confidently attributed to the treatment,[4] in this case, the GSS transfer school model. The design compared students at the GSS schools with other over-age and under-credited students enrolled in schools with a similar core educational program and in geographical proximity to the target schools (i.e., other transfer schools in Brooklyn). Thus, both their characteristics and motivations were expected to be similar. However, the transfer schools attended by students in the comparison group operate outside of the network of GSS schools and do not have a relationship with GSS.[5]

The study included an assessment of implementation. The implementation evaluation was designed to provide an understanding of the GSS transfer school model and the extent to which

[3] As measured by number of suspensions.

[4] According to the *What Works Clearinghouse (WWC) Procedures and Standards Handbook* (v 2.1, 2011), a quasi-experimental design based on closely matched comparison groups could meet the WWC evidence standards, albeit with reservations owing to the fact that unobserved variables may not be equated between the two groups.

[5] A second group of similarly over-age and under-credited students who remained in a traditional high school was identified. For details about that group and why it was not comparable, see Appendix B.

the model's core principles and components are evident. Information was also obtained on the practices in the schools from which the comparison group students were drawn.

In addition to examining academic outcomes, the evaluation included a measure of youth development of GSS students. This part of the study was designed to further our understanding about the presence of experiences and qualities that have been shown to predict a variety of outcomes for youth, including academic achievement. These include positive relationships, opportunities, skills, and values.

A summary of the methods used in the evaluation, and the study's strengths and weaknesses, are summarized below. Details are provided in Appendix A.

Methods Used for the Outcome Evaluation

All of the data needed for assessing student academic and behavioral outcomes were obtained from school records provided by the NYC DOE. Using sophisticated propensity score matching (PSM) procedures, Metis matched the target students who were enrolled in the two GSS schools during the 2011–12 school year to similar students in the remaining 11 transfer high schools in Brooklyn that do not follow the GSS model. The list of baseline variables used for one-to-one matching included student gender, race/ethnicity, free/reduced price lunch (FRL) eligibility, English language learner (ELL) and special education status, New York State Grade 8 English Language Arts (ELA) and Math exam scores, number of years over-age when first enrolled in Grade 9, credits earned and average daily attendance (ADA) in Grade 9.[6]

After generating a comparable non-participating group for the target sample, Metis conducted regression analyses for the following intended academic and behavioral outcomes: (1) graduation vs. discharge status, (2) enrollment vs. discharge status, (3) number of credits earned, (4) number of core Regents exams passed, (5) average daily attendance (ADA) during the school years 2011–12 and 2012–13, and (6) number of suspensions during the school years 2011–12 and 2012–13.[7] Due to the multiple dimensions of the data structure in the study (i.e., students clustered within schools), hierarchical linear modeling (HLM) served as the major analytic technique to account

[6] In addition, student grade level in the 2011–12 school year was used during matching (i.e., a 10th grade GSS student would be matched to another 10th grader in the comparison transfer schools). See additional details in Appendix A.

[7] Linear regressions were used for continuous outcome measures (i.e., credits earned, number of core Regents exams passed, attendance and suspensions), whereas logistic regressions were employed when outcome measures were dichotomous (i.e., graduation vs. discharge status, and enrollment vs. discharge status). In addition to the treatment indicator, all of the matching variables were included as predictors in the full regression models for further statistical control.

for the clustering effect and control for multiple covariates at each level within the same analysis (see model specifications in Appendix D). Standard multiple regressions were also used to re-analyze data when HLMs did not converge.[8] In addition to the overall impact analyses, exploratory analyses were also conducted for the following subgroups when the number of students was sufficient to support the analysis:[9] (1) males, (2) females, (3) Black males, (4) Hispanic males, and (5) students with less than 11 credits at admission. In addition to assessing intended program outcomes based on statistical significance level, Metis also calculated applicable effect size indices to help measure the practical importance of the findings.

Anticipating that graduation outcomes for the transfer school population are typically longer term, Metis analyzed GSS and comparison student data on graduation and enrollment (persistence) outcomes after an additional school year. For this analysis, school records for the 2013–14 school year were obtained from NYC DOE, and the updated graduation, enrollment, and discharge data were integrated into the data files created for the first round of analysis. The updated data files included the latest graduation vs. discharge status and enrollment vs. discharge status as of the end of the 2013–14 school year for the target students who were enrolled in the two GSS schools during the 2011–12 school year and the potential comparison students in the same group of transfer high schools described above. To ensure that there were no covariate imbalances with the addition of the new outcome data, a second round of matching procedures was carried out to establish the baseline equivalence of the treatment and comparison groups. For both updated outcomes, post-matching regression analyses (see model specifications in Appendix E) were conducted again for the overall matched sample and same subgroups listed above.

Strength and Weakness of the Outcome Study

The key to success for any approach to estimating the impacts of an intervention is its capability of projecting what student performance would have been in the absence of the intervention. While random assignment to treatment and control conditions would provide the strongest evidence of program effects, it was not feasible in the evaluation of the GSS model. As stated above, the GSS outcome study was based on a quasi-experimental closely matched comparison group design. PSM is currently considered the best available approach to generating a comparable group of non-participants in the absence of random assignment. Guided by the *What Works Clearinghouse (WWC) Procedures and Standards Handbook* (v 2.1, 2011), Metis ensured that the matching included important observed baseline characteristics related to the outcomes

[8] Metis used this procedure when the between-school variance was zero.

[9] The business rules were: for continuous outcome measures, if the N was less than 30, regression analysis would not be conducted (Gravetter, F. J., & Wallnau, L. B., 2013); for dichotomous outcome measures, if the N was less than 50, regression analysis would not be carried out (Peduzzi, P. et al., 1996). Due to low Ns of Black males, pertinent subgroup analyses were not performed for some outcomes.

of interest and eliminated the apparent selection bias based on the assessment of post-matching covariate balance.

To ensure that the baseline equivalence of matching covariates could be established for each final analytic sample, rigorous matching was conducted multiple times with consideration given to the availability of pertinent outcomes for analysis. In other words, matching procedures were repeated whenever there were a large number of individuals missing any given outcome. This was done to ensure that the outcome analyses actually compared groups that were similar based on all selected baseline characteristics, while maximizing the number of matched pairs with both complete matching and outcome data. Separate PSMs resulted in matched comparison groups that were not necessarily constituted from exactly the same set of students, although there could be a substantial overlap across different matched samples (i.e., some comparison students were selected more than once during multiple matching). Thus, there was what could be termed a separate or unique analysis sample for each outcome.[10]

For each analysis sample, more than 90% of the original target sample with complete matching and outcome data successfully found a match (i.e., the reduction rate was less than 10%). The well-established baseline equivalence of the GSS group and its matched comparison group was capable of achieving high levels of internal validity. This means that any conclusions about a given outcome based on the study could be confidently attributed to the GSS model rather than other factors. Further, the low reduction rate provides assurance that the analytic target sample with matched comparisons is representative of the original treatment group with complete data for outcome analysis.[11]

A well-known limitation of rigorous quasi-experimental designs is the inability to account for the unmeasured factors (i.e., hidden selection bias) that would play a role in affecting intervention participation and target outcomes. In the evaluation of the GSS model, the potential comparison students were limited to those who were enrolled in non-GSS affiliated schools with similar core educational programs and geographical proximity to the target GSS schools (i.e., other Brooklyn transfer schools) to control better for unmeasured confounding variables. The remaining transfer schools in Brooklyn use similar criteria for admission, and the students in these schools are anticipated to have similar motivation as the GSS students to meet academic requirements and graduate. As with any quasi-experimental design, the findings should be interpreted

[10] Note that since all the students (including GSS students and potential comparisons) with complete matching data had credit and suspension outcome data, the final analytic samples for these two outcomes were exactly the same (with 348 matched pairs each).

[11] According to the WWC evidence standards, when a study uses a quasi-experimental comparison group design, the baseline equivalence must be established based on the final analytic samples without imputing missing data for outcomes or covariates (WWC, 2011).

cautiously, given the concern that hidden selection bias (e.g., resources, support) may influence outcomes.

Methods Used for the Implementation Evaluation

Information about implementation at the GSS schools was obtained from interviews, focus groups, surveys, school walk-throughs, and from documentation and data provided by GSS and the NYC DOE.

- Site visits were conducted in the fall of each school year for the purpose of conducting individual interviews with the GSS and DOE administrators, focus groups with students and staff, and school walk-throughs to get a feel of the school climate.
- All students were surveyed in December 2011, spring 2012, and spring 2013; the survey was developed by Metis to assess: the extent to which students feel supported by staff, relationships with peers, student leadership experiences, college and career preparation, educational aspirations, and satisfaction with their school.
- Staff were surveyed in spring 2012 and spring 2013; the survey was developed by Metis to obtain staff's perceptions about implementation of the program model with regard to mission, the GSS and DOE partnership, support for students, student leadership opportunities, and college and career preparation.
- Data on the characteristics of the students enrolled in the GSS schools were obtained from the NYC DOE.
- Data on the GSS students' participation in internships were provided by GSS.

Information on practices in the comparison group transfer schools was obtained from interviews with some of the representatives of the community-based organizations partnering with or providing services to students in these schools as well as from information available to the public in the NYC DOE directory of high schools and on the department's website.

Strength and Weakness of the Implementation Study

The implementation study used multiple sources and methods over a two-year period, allowing for a range of perspectives over an extended time.

Response bias could have been present in the focus groups. Although student leaders as well as representatives from the different Advocate Counselor groups were involved in the focus groups, it is possible that students in the focus groups were more engaged in school, which may have shaped their responses. Staff focus groups included a mix of GSS and DOE staff. In consultation with GSS staff, each staff focus group was specifically designed to include this staff mix. It is possible that this combination created an atmosphere where staff were reluctant to talk about the shortcomings of the school in front of their colleagues from the other side of the

partnership. Only a small number of parents participated in focus groups; thus these data were rarely cited.

For both student and staff respondents, the surveys presented no such bias. Students placed their completed surveys in sealed envelopes. Staff surveys were completed anonymously online. The staff survey response rate was 95% for each administration.

Because of the logistics of starting any study at the beginning of the school year, the fall 2011 student survey was not conducted until December and the response rate for one of the schools was low. The timing of the survey also meant that responses from this administration could not be considered baseline for newly-enrolled students; therefore the results of this survey are not presented. However, the response rates for the two spring survey administrations were 79.6% (spring 2012) and 73.1% (spring 2013), rates considered acceptable for this type of survey.

Although Metis wanted to interview principals of the comparison transfer schools about their schools' practices, this group was not responsive to requests. Instead, interviews were conducted with representatives of 5 community organizations in 5 of the 11 schools. The NYC DOE's descriptions of the schools were also used to describe the schools; however the study would have benefitted from the availability of the same interview data for the comparison schools as was collected from the GSS schools.

Methods Used for the Study of Youth Development

An assessment of the developmental outcomes of GSS students was obtained through administrations of the *Developmental Assets Profile* (DAP), a tool developed by the Search Institute to assess the types of experiences and qualities that are viewed as essential to healthy psychological and social development of adolescents. These include external qualities such as support from and relationships with others, feelings of safety, and use of time as well as internal qualities such as motivation, responsibility and decision making, and locus of control (see Appendix E for details). School staff administered the DAP (along with the locally-developed student survey) in December 2011, spring 2012, and spring 2013, providing formative data to the schools. To assess differences over the course of a school year, the DAP was administered only to incoming students before the start of the 2012–13 school year (fall 2012) and again as part of the spring 2013 survey administration when all students were surveyed. A matched, longitudinal analysis was conducted on the fall 2012 and spring 2013 DAP responses from the group of students who were new to the school in 2012–13.

Strength and Weakness of the Study of Youth Development

The timing of the DAP administration has the same weakness as described above in relation to the timing of the student survey. However, the administration of the DAP to newly-enrolled

students was a true baseline, which allowed for a longitudinal analysis to assess any changes over the course of the year.

A drawback of this analysis is the absence of a New York City high school student comparison group, an option that was explored but not feasible to implement. Instead, the Search Institute provided data for a sample of Dallas, Texas high school students that was administered the DAP in the spring of 2011. The sample consisted of more than 20,000 students whose demographic characteristics were similar to those of the GSS students, thus allowing for a comparison population (see Appendix H for details).

What is the Good Shepherd Services Transfer School Model?

There is substantial support in the literature for the GSS transfer school model's holistic approach to youth development and dropout prevention. In an extensive synthesis of the research and a review of various models that have been used to explain why students drop out, Rumberger (2011) proposes a framework that includes individual factors associated with students (background, attitudes, behaviors, and performance) and institutional factors that are associated with the contexts that influence students (families, schools, and communities). The author demonstrates the interrelatedness of these factors and the complexity of the reasons that students drop out of school.
In adopting a model that approaches students as individuals, reaches out to family members, and seeks to engage students academically as well social-emotionally in a community-based environment, the GSS transfer school model recognizes the multiple influences on students.

Furthermore, the GSS model includes programmatic approaches that have a moderate level of evidence for reducing dropout rates, including:

- assigning adult advocates to students at risk of dropping out;
- providing academic support and enrichment to improve academic performance;
- personalizing the learning environment and instructional process; and
- providing rigorous and relevant instruction to better engage students in learning and provide the skills needed to graduate and serve them after they leave school (Dynarksi et al., 2008).

GSS transfer schools create a safe, caring, learning community for students that recognizes the different strengths of each student and family we work with. In partnership with the DOE, we work with students to overcome obstacles to their success, mastering skills and knowledge necessary to earn a high school diploma and be college and career ready. Our work both challenges and helps students and families in their journey to self-sufficiency setting them up for success in life after school. We define self-sufficiency as the ability to build healthy relationship, problem solve, set goals, navigate conflict and challenge, as well as motivation to change, effective communication skills, and taking responsibility for learning (Good Shepherd Services, 2007).

The daily practice of the GSS approach includes the following aspects:

- Strength-based and transparent communication between students and staff
- The value of a primary adult in each students' life
- Structured routines that provide clear, consistent expectations and ongoing feedback that promotes accountability both in and outside the classroom
- Respect for student voice and a focus on youth participation and leadership development
- A personalized learning environment where each student is known.

Implementation of the Model

The core components of the GSS model include: a defined target population and admissions process, partnership and shared leadership, integration of the advocate counselor within the school setting, personalized small school environment, and youth development approach to instruction. Although not listed as a core component in the description of the model, postsecondary preparation is another critical component. Each of these features is described below, along with evaluation findings related to their implementation.

Information collected through interviews and available documentation indicate that, on the whole, the GSS transfer schools have many aspects in common with the schools in the comparison group, although there was a range of practices at these other schools. However, the GSS model offers a substantially different experience for students than traditional high schools. Highlights of the similarities and differences between the GSS transfer school model and schools from which comparison group students were drawn are presented in Appendix C.

Admissions Criteria and Practices

The GSS transfer schools are neighborhood-based; each has a defined geographic catchment area. The schools enroll students who are between the ages of 16 and 21, and who have dropped out of school or who have a history of truancy. The average student brings less than 15 credits upon arrival at the GSS schools and is two or more years over-age.

The GSS schools conduct active outreach to recruit students who meet their admissions criteria through contacts with neighborhood high schools and NYC DOE guidance counselors. Following an admissions process that is designed to engage students, eligible students are interviewed by one of the schools' advocate counselors (described below). An educational biography prepared by the advocate counselor serves as the basis for discussing the student's educational future. Identification of a supportive adult—a parent, another family member, or another adult outside of the school—who can take an interest in supporting the student academically, is another part of the admissions process. The students' commitment to their

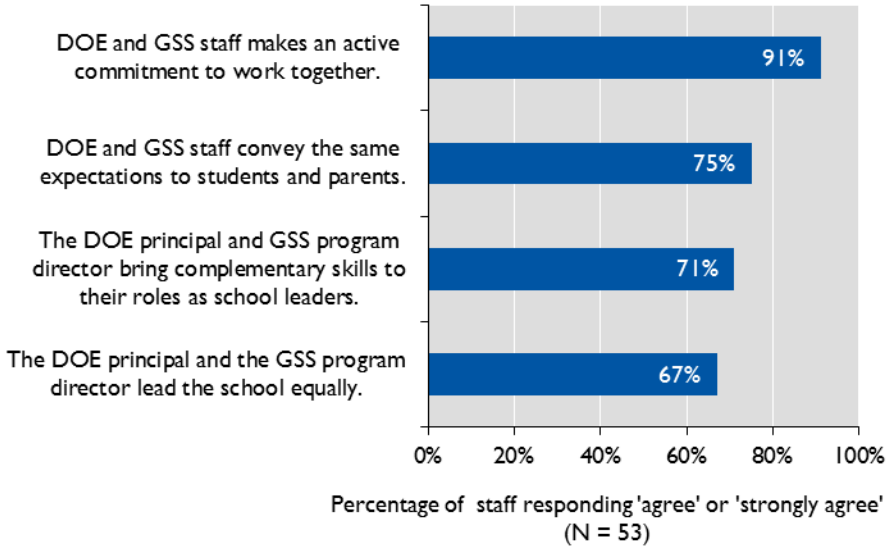
education is affirmed in a letter signed by them, their parents, and the advocate counselors. New students attend a group orientation where the school's core values and expectations are discussed.

Partnership and Shared Leadership

The schools are led by a NYC DOE principal and a GSS director in an equal partnership, with each responsible for different aspects of the school. Weekly full staff meetings and joint professional development support this shared approach. Furthermore, to reinforce the notion of a partnership, there should be no distinction by students and parents as to which staff are employed by GSS and which are employed by NYC DOE.

Survey responses provide an indication of the staff's perceptions of the partnership as incorporating an active commitment of the DOE and GSS staff to work together (91% of staff) and in which these staff convey the same expectations to students and parents (75%). More than two-thirds of the staff believe their school is led equally by the DOE principal and GSS program director (67%) and that the leaders bring complementary skills to their roles (71%).

Figure 1. Staff perceptions of partnership and shared leadership, 2013



An analysis of the responses of teachers and advocate counselors shows that teachers are more likely than advocate counselors to agree or strongly agree that the school is led equally by the two administrators and that they bring complementary skills to their leadership roles, and that all

staff convey the same expectations to students and parents. However, the two groups of staff equally agreed that they make an active commitment to work together.

Integration of Advocate Counseling

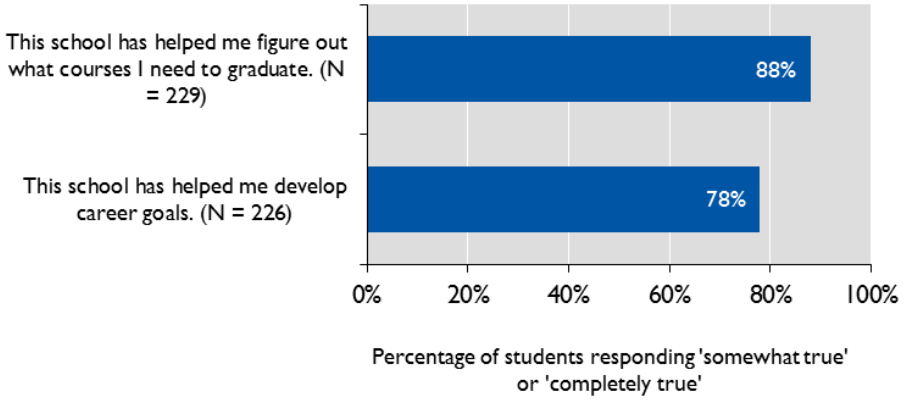
Advocate counselors, as well as other adults in the schools, serve as a support system for students. Following a primary person model, each student is assigned an advocate counselor who is expected to continue with them until graduation.[12] The role of the advocate counselor includes engagement of students and families, attendance outreach (including greeting students at the beginning of each day), social and emotional counseling, academic advisement and programming, and activities focused on the students' postsecondary future and community building. In addition to meeting individually with students, the advocate counselors provide these supports through a required credit-bearing elective course. The class also serves as a group advisory and peer support group. Self-advocacy, responsibility, and communication, are major topics of discussion.

The schools' data reflect a high degree of success in achieving stability of this relationship. More than half of the students (61%) have had the same advocate counselor since they enrolled and most of the others have had just two advocate counselors (35%). On average, students stayed in the GSS schools for almost 22 months (including summer).

In focus groups, GSS students contrasted the supports they received from the advocate counselors with the absence of such support at their previous high schools. At the GSS schools, they said, counselors are involved in every step of the process and available at all times to discuss academic and personal issues. Student survey responses also indicate that the school has helped them figure out the courses they need to graduate (88%) and develop career goals (78%), as shown in Figure 2.

[12] Assignment is based on individual needs as well as student characteristics.

Figure 2. Students' report of academic advisement, 2013



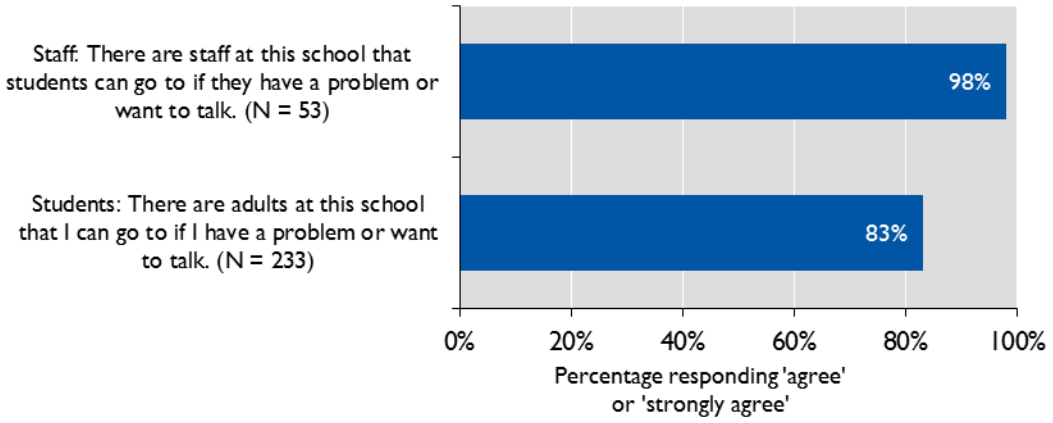
Personalized, Small School Environment

As a small school with small class sizes, the GSS transfer schools are designed to offer a high level of individual attention. Enrollment at each school ranges from 150 to 200 students. Classes have approximately 18 students, with a maximum of 25 students per class.

The size of the school and its classes were among the reasons GSS students offered for wanting to enroll in the schools. While in large schools, a student commented, it was easy to *"get lost in the pack,"* but at the GSS schools, "*people care about what happens to [students]*." The schools break down barriers between staff and students by using the staff's first names while modeling mature relationships. One staff member commented, *"We're not just teachers, we're educators; we educate them about life."*

In focus groups, students described the relationship between staff and students as "familial" and commented that they "*feel at home*" in the school. They added that they were comfortable going to staff members and were close to staff because "*they know they will be heard and not rejected.*" In the survey, 83% of students agreed that there are adults they can turn to if they have a problem or want to talk. As shown in Figure 3, 98% of staff also agreed.

Figure 3. Perceptions of staff support of students, 2013



Youth Development Approach to Instruction

Teachers use strategies that promote a high level of active participation, including the workshop model, differentiated instruction, and hands-on learning. The schools also work to engage students in learning by offering opportunities for them to voice their opinions and through teamwork. Students have a personalized course schedule based on the courses and Regents exams they need to graduate. Because they are each on their own schedule, students are not organized according to a grade level, but are in ungraded cohorts. Academic expectations are clear and every teacher has the same standards and grading policy.

> *You can be a helper just as much as the person who needs help. [Students] learn a sense of 'belongingness,' agency, developing a voice. It's empowering.*
>
> *–GSS Transfer School Leader*

Students get regular feedback about their academic progress through biweekly meetings and benchmark reports—a two-page document that gives an overview of a student's progress in each course. According to one staff member, *"The frequent assessment of academics allows us to provide early intervention to students. Benchmark conversations help zero in on the issues and promote goal-setting."* In focus groups, students reported that the benchmarks allow them to see their progress or shortfalls every two weeks and the connection between grades and attendance. A student commented, "*Benchmarks make the missed work real.*"

Student feedback is sought through formal and informal means, including in student council meetings, group meetings with advocate counselors, surveys, and end-of-course evaluations. As an example, student input about the blended learning model that had been adopted was obtained through focus group meetings, and changes were made for the subsequent cycle.

Levels of student engagement are evident in student survey responses, in 75% of students reported that they have been an active participant in discussions, 57% have led an activity, and 50% have contributed solutions for a community problem. Additional student responses are presented in Figure 4. The importance the schools place on these types of student involvement is reflected in staff survey responses, shown in Figure 5.

Figure 4. Student engagement in a leadership role, 2013

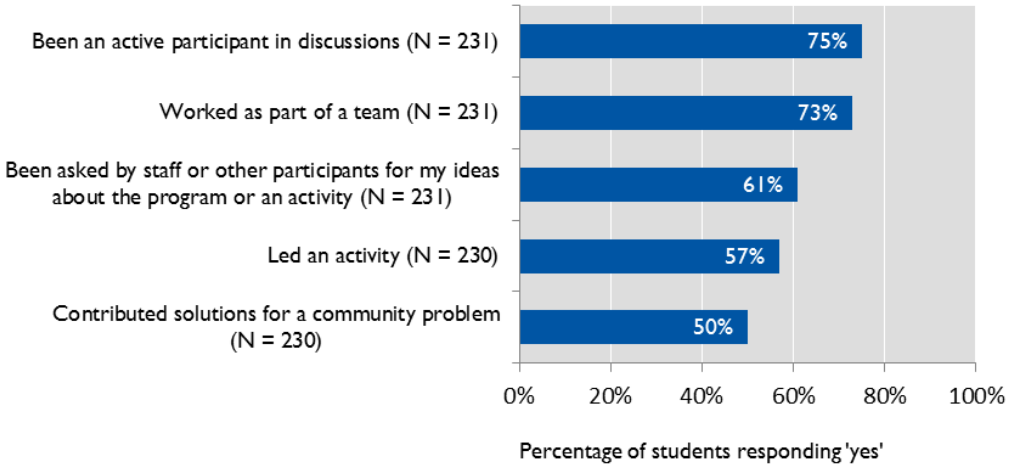
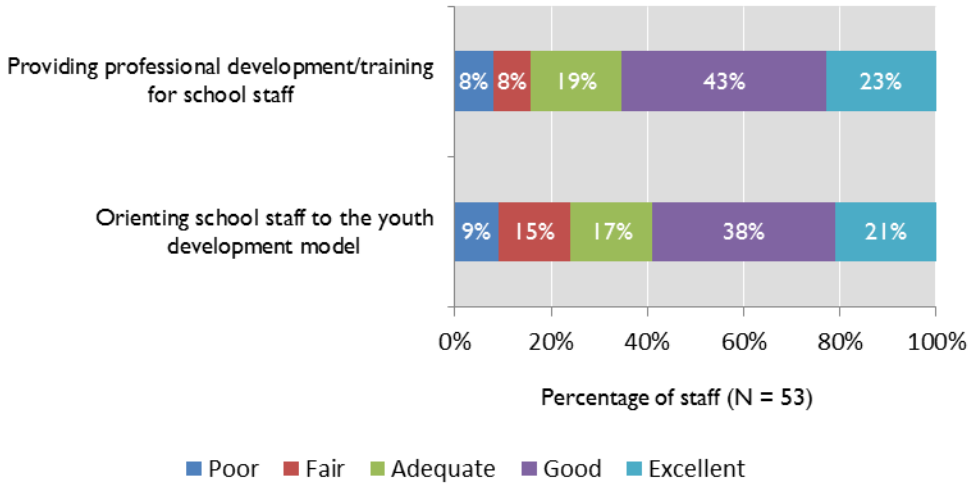


Figure 5. Staff perceptions of importance of student leadership, 2013

In focus groups, staff noted that some opportunities for students to exhibit leadership were postponed or curtailed, in part because of a major storm (Superstorm Sandy) that occurred in the fall of 2012. Although both schools were affected, the storm severely affected one school and the lives of students living in the surrounding community. In addition to being closed entirely for several days, the school had to consolidate the use of its space during a three-month renovation and its cafeteria served as a donation distribution and food refrigeration site for the neighborhood. Indeed, a comparison of student survey responses from spring 2012 to spring 2013 shows small declines in the percentages of students who have been engaged in the types of activities described above.

Group staff activities, including full staff meetings, inquiry teams, case conferences, and retreats, were among structures in place at the school for facilitating the partnership and developing the staff's capacity to implement a youth development model. Ratings of how well the schools have oriented staff to the model and provided professional development or training to staff are presented in Figure 6. More than half of the staff rated these aspects 'good' or 'excellent.' However, more than a third of the staff gave ratings of 'adequate,' 'fair,' or 'poor,' suggesting a need to further develop staffs' capacity to implement the model. Advocate counselors were more likely than teachers to rate these aspects as 'poor' or 'fair.'

Figure 6. Staff ratings of orientation to the model and professional development, 2013



Furthermore, the ratings were lower in the 2013 survey compared to the 2012 survey. Over this period, the percentage of staff that rated the professional development as 'good' or 'excellent' declined from 70% to 66%. Similarly, 59% of staff rated the schools' orientation of staff to the youth development model as 'good' or 'excellent' in 2013, down from 67% in 2012.

Postsecondary Preparation

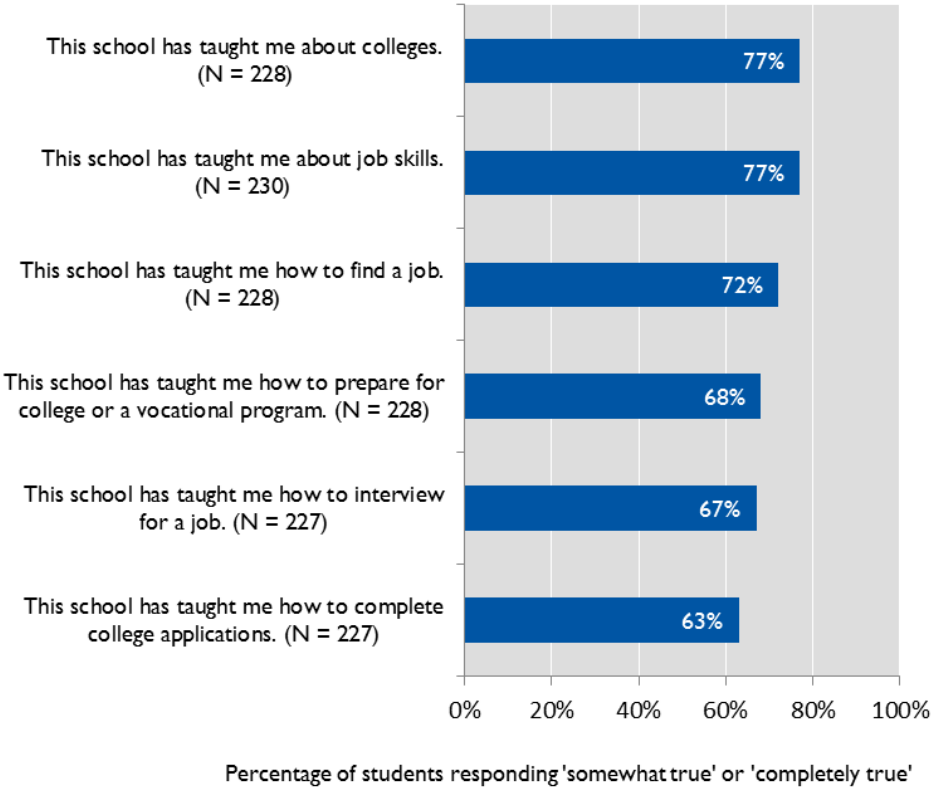
The GSS transfer school model is designed to help students master the skills and knowledge needed to earn a high school diploma and—focusing on the future—be college and career ready, and promote self-sufficiency. The importance of college and preparation for the future is communicated at intake and throughout a student's life at the school, with an emphasis on students' learning to take responsibility for their actions and make their own decisions.

Teachers and advocate counselors team up for postsecondary planning which is part of the required elective class, described above, and each school has a full-time college advocate/advisor. Most students take an introduction to job readiness or internship readiness class. The schools also offer the Learning to Work program, sponsored by the NYC DOE's

Office of Postsecondary Readiness.[13] The program supports paid internships as well as pre-internship workshops and weekly seminars during the internship. Advocate counselors and teachers work with students to help them develop a postsecondary plan. As students get closer to graduation, they take a class on college and careers.

Survey data indicate that the GSS transfer school experience includes learning about postsecondary options and what is needed to be successful after high school. As shown in Figure 7, more than three-quarters of the students have learned about colleges and job skills. Furthermore, data provided by GSS indicate that 64% of the students enrolled during the study period had participated in an internship.

Figure 7. Postsecondary preparation, 2013



[13] Learning to Work is also the NYC DOE funding stream for services provided by community-based organizations to transfer schools. The funding supports some of the GSS staff members (e.g., advocate counselors, internship coordinator, a portion of the director) and the internship stipends.

Summary of Implementation

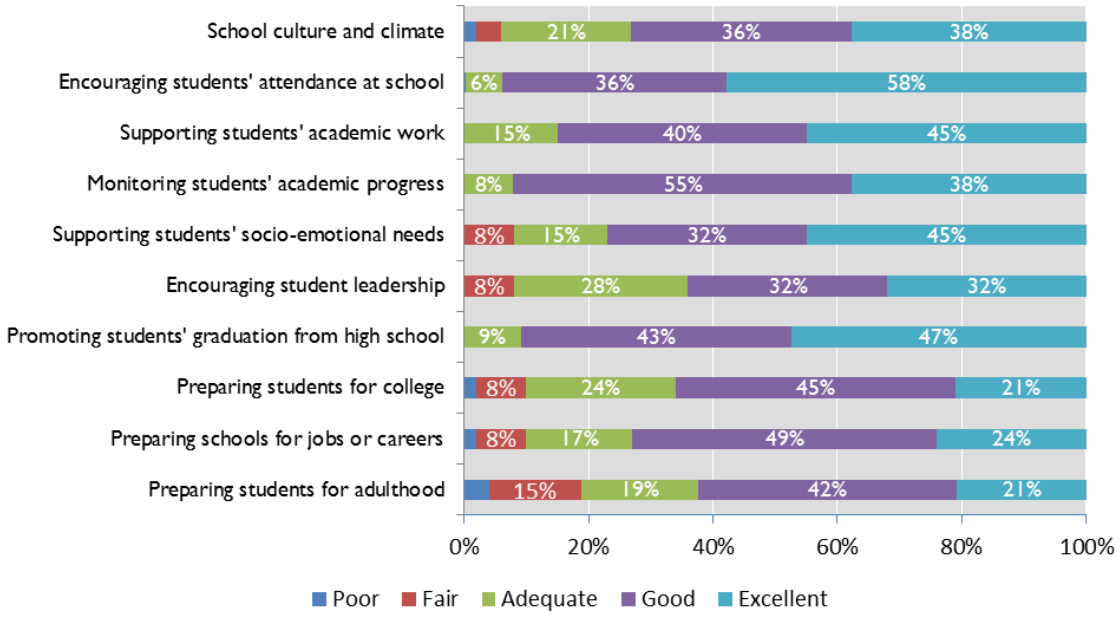
The students enrolled in the GSS transfer schools fit the population the model is intended to serve. Qualitative data obtained through surveys, interviews, and focus groups indicate that the principles and components of the model are being implemented as designed. Students reported a high level of satisfaction and staff reported a high level of adherence to the schools' mission.

The GSS transfer school model expects to provide students with an experience that will help them to develop academically so that they graduate from high school, but also support other aspects of their development—socio-emotional, life skills, college, and careers. Asked to rate these aspects of their school, a majority of staff gave high ratings (good or excellent) in every area, although there is room for improvement in encouraging student leadership and postsecondary goals (preparing students for college and for adulthood).

- *86% of students were 'satisfied' or 'very satisfied' and 88% indicated that they would recommend their school to a friend in similar circumstances.*
- *77% of staff 'agree' or 'strongly agree' that the schools' mission is reflected in the everyday experiences at their school.*

Figure 8 presents the staff ratings of their school, including school climate, supporting students academically and social-emotionally, and preparing students for adulthood.

Figure 8. Staff ratings of their school, 2013



Percentages of less than 5% not shown.

Percentage of staff (N = 53)

What is the Impact on Students' Academic Outcomes?

The outcome study examined the impacts of the GSS model on students' academic and behavioral outcomes. After matching one-to-one the target GSS students to students in the comparison transfer schools, analyses[14] were conducted for the following outcomes:

(1) graduation;
(2) persistence in school;
(3) credits earned;
(4) core Regents exams passed;
(5) school attendance; and
(6) school suspensions.

Anticipating that graduation outcomes for the transfer school population are typically longer term, Metis analyzed GSS and comparison student data on graduation and enrollment (persistence) outcomes after an additional school year. Therefore additional analyses to examine graduation, and persistence, were undertaken once data for the 2013–14 school year were available. All of the other outcomes listed above were analyzed through 2012–13.

When the number of students was sufficient, additional analyses were conducted for demographic subgroups of students:

(1) females;
(2) males;
(3) Black males;
(4) Hispanic males; and
(5) students with less than 11 credits at admission.[15]

[14] Analyses included hierarchical linear models, hierarchical generalized linear models (a parallel form of logistic regressions for dichotomous outcomes using multi-level modeling), multiple linear regressions and binary logistic regressions.

[15] Note that all findings for subgroup analyses were exploratory in nature since baseline equivalence might not be established for pertinent analytic samples that contained only subgroups of original matched youth. Therefore, no multiple comparisons adjustment (e.g., Bonferroni, Benjamini-Hochberg) was applied for any outcomes in this study—the overall analysis results were considered confirmatory.

Findings for both the overall and subgroup analyses are presented for each of the intended outcomes. For all analyses, the effect size and statistical significance are reported. Specifications of full models and detailed regression analysis results for the 2011–13 analysis can be found in Appendix D. Similar information for the 2011–14 analysis can be found in Appendix E.[16] Note that unless otherwise stated, the outcome findings are regression adjusted. That is, the presented rates, means, etc., are not observed, but rather estimates from which the effects of other covariates have been factored out through statistical modeling.

Graduation

Students' graduation vs. discharge status by the end of the 2012–13 and 2013–14 school years was examined.[17] Although not statistically significant at the end of the 2012–13 school year, **by 2014 the results showed that the GSS students were more likely to graduate from high school than comparison students.**

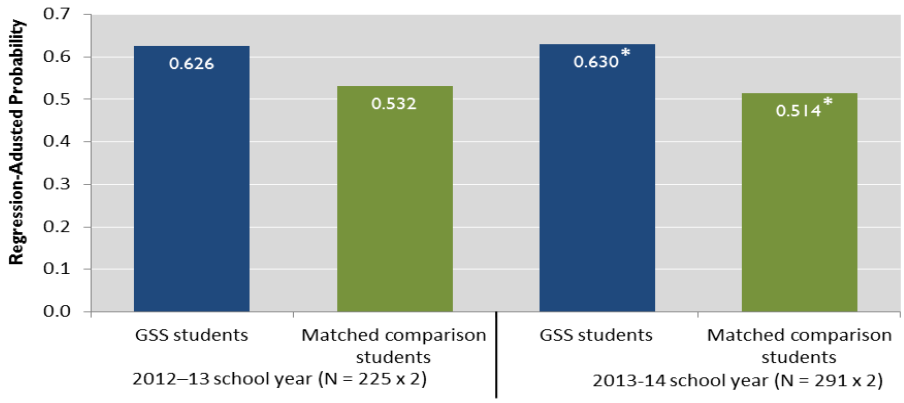
As displayed in Figure 9, on average, at the end of 2013–14, 63.0% of the GSS students were expected to graduate, while it is projected that only 51.4% of the matched comparisons would have this outcome. According to the WWC standards, the effect size for the finding at the end of 2013–14 (0.287) is substantively important, whereas that measure at the end of 2012–13 is not (0.234).[18]

[16] Following the WWC requirements for quasi-experimental studies, Metis did not impute missing data for outcomes or predictors in these analyses.

[17] Because the outcome measure is (yes/no), Metis used logistic and multi-level logistic regressions for the analyses. See Appendix D and Appendix E for full model specifications.

[18] For logistic or multi-level logistic regressions of dichotomous outcomes (i.e., graduation vs. discharge status, enrollment vs. discharge status), the WWC (v 2.1, 2011) adopts the Cox index as the default effect size measure. According to the WWC (v 2.1, 2011), a Cox index of 0.25 or larger is considered to be substantively important, regardless of whether it reaches statistical significance.

Figure 9. Overall impact of GSS model on graduation



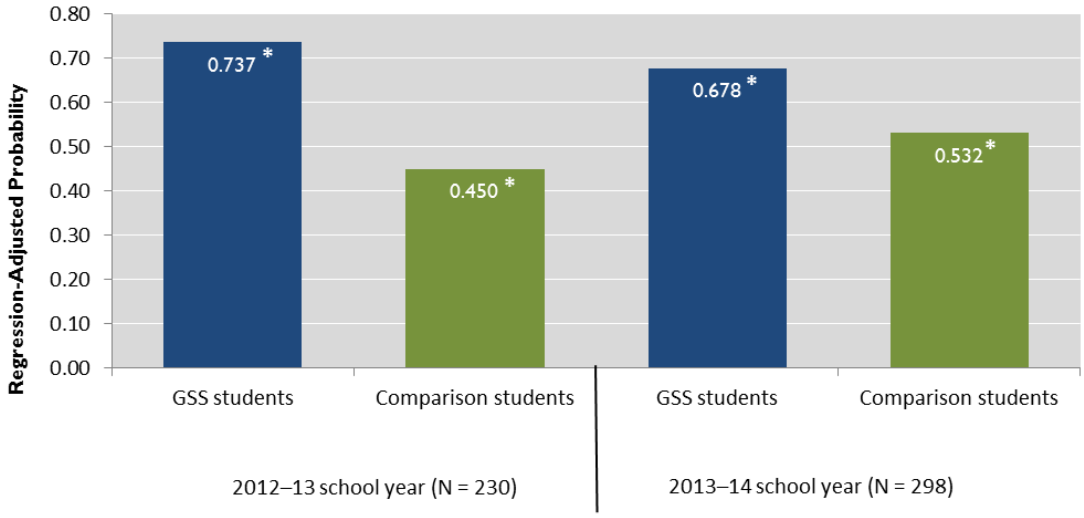
*Statistically significant, p = <.05.

Of further interest, analyses from both years showed that **female GSS students had a significantly higher probability of graduating than the female comparison students**.[19]

As seen in Figure 10, on average, it is anticipated that 73.7% of the female GSS students would graduate at the end of 2012–13, while this is projected for only 45% of the female comparisons. By the end of 2013–14, the difference in the proportion of female graduates between the two groups was closer, but nonetheless still statistically significant; 67.8% of the female GSS students graduated compared to 53.2% of the comparisons. According to the WWC, this effect is substantively important for both years (0.742 and 0.374, respectively).

[19] Note that all findings based on subgroup analyses should be interpreted with caution, since the baseline equivalence might not be established for pertinent analytic samples that contained only subgroups of original matched students (i.e., students in a matched pair may not both be included in a given subgroup analysis).

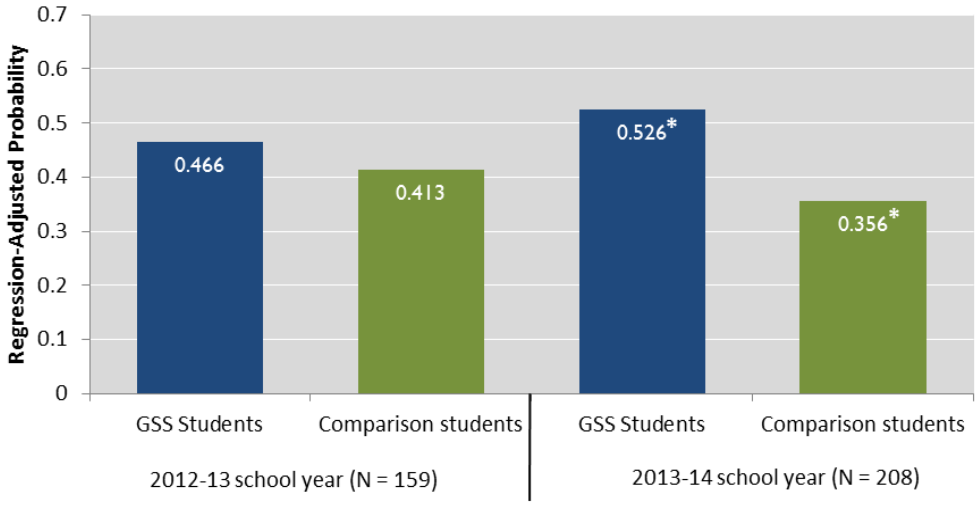
Figure 10. Impact of GSS model on graduation of female students



*Statistically significant, p = <.05.

Mirroring the results obtained for overall graduation rates, no statistically significant difference is observed in expected graduation rates between the GSS and comparison student groups admitted with less than 11 credits by the end of the 2012-13 school year. However, **by the end of the 2013–14 school year, statistically significant higher percentages of GSS students were expected to graduate than the comparisons.** As shown in Figure 11, on average, 52.6% of the students at the GSS schools admitted with less than 11 credits were likely to graduate compared to 35.6% of comparison students belonging to the same subgroup. Note that the effect size associated with this finding (0.423) is considered substantively important by the WWC.

Figure 11. Impact of GSS model on graduation of students with less than 11 credits



*Statistically significant, p = <.05.

Finally, higher percentages of GSS Hispanic males were expected to graduate than their comparisons in both years, although neither finding is statistically significant (see Appendix Tables D.7 and E.3).

The results for the analysis of male students were mixed, although not statistically significant in either year. Analyses were not conducted for the Black male subgroup due to insufficient sample size.

Persistence in School

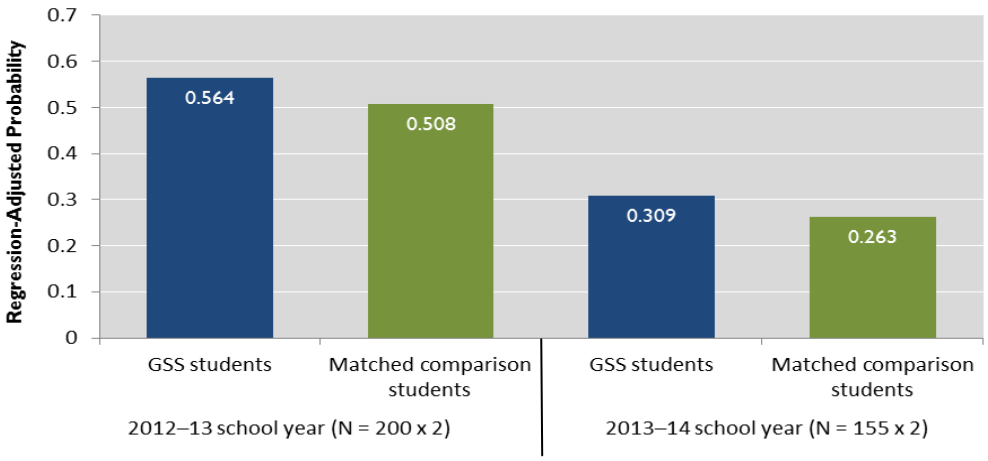
Students' status in school, whether they remained enrolled vs. whether they had been discharged, served as a measure of persistence in school, and was examined for the two time periods.[20] **In each year, although the GSS students overall were more likely to remain in school than the comparison group, the differences are not statistically significant.**

As shown in Figure 12, on average, 56.4% of the GSS students were expected to stay enrolled in school at the end of 2012–13, and 30.9% of them were expected to remain at the end of 2013–

[20] Note that this outcome measure was dichotomous (yes/no), so logistic or multi-level logistic regressions were used for the analyses. See Appendix D and Appendix E for full model specifications.

14, whereas 50.8% of the matched comparisons were expected to remain in school the first year, and 26.3% in the second year. The GSS schools' effect on persistence in school is considered small (0.136 and 0.135, respectively) and not substantively important based on the pertinent effect size measure. It should be noted that, over time more individuals are moving toward a terminal outcome thus reducing the size of the group for which persistence data[21] are available.

Figure 12. Overall impact of GSS model on persistence in school



All of the subgroup analyses for persistence also did not achieve statistical significance (See Appendix Tables D.6 and E.2). However, it should be noted that **for both 2012–13 and 2013–14, a higher percentage of female GSS students were expected to persist in school than the comparison students.** While not statistically significant, the effect for this group is substantively important (0.280 in 2012–13 and 0.339 in 2013–14). Conversely, for males, the results across both years anticipated a lower percentage of GSS persisters than the comparisons—although the effect is small at best.

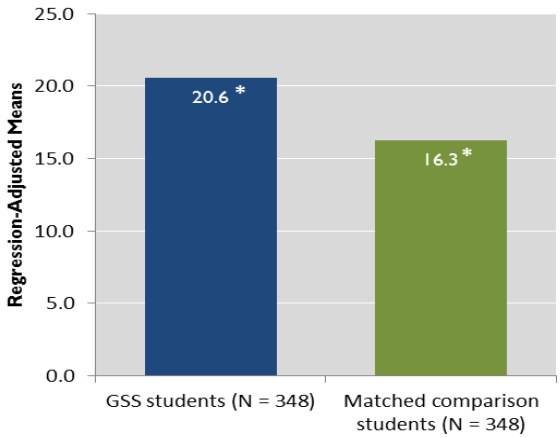
Finally, the directions of observed differences in persistence between GSS and comparison students for the Hispanic males and students with less than 11 credits changed from year to year, (and the magnitudes were very small), suggesting little to no effect. The analysis for the Black male subgroup was not conducted due to insufficient numbers.

[21] Note that persistence is being measured by current enrollment in school. Those individuals who do not have a discharge code are the members of the persistence analytic sample. As more individuals receive terminal discharge codes, the persistence group shrinks.

Credit Attainment

Credit attainment was measured by the number of credits students earned after they were admitted to the transfer schools through the end of the 2012–13 school year.[22] The overall analysis result shows that **the GSS model had significant positive impact on credit attainment**. After enrolling in the transfer schools, the GSS students on average earned 4.3 more credits than their matched comparisons (20.6 vs. 16.3, see Figure 13). The corresponding effect is of medium size (0.37, see Appendix Table D.1) and substantively important according to the WWC.[23]

Figure 13. Overall impact of GSS model on credit attainment



*Statistically significant, p = <.05.

[22] Note that all credit attainment analyses controlled for the number of credits earned before enrolling in the transfer schools, in addition to the predictors included in the analyses of other outcomes.

[23] Effect sizes for continuous outcomes included in this report (i.e., number of credits earned and core Regents exams passed, attendance and suspensions) were derived based on Glass's Delta. A meta-analysis of 186 education intervention studies indicated that the bottom third of studies ranged from 0.00 to 0.32, the middle third from 0.33 to 0.55, and the top third from 0.56 to 1.20 (Lipsey, 1990). These ranges could help loosely define small, medium, and large effects. According to the WWC standards (v 2.1, 2011), for continuous outcomes, effect sizes of 0.25 standard deviations or larger are considered to be substantively important, regardless of whether they reach statistical significance.

The majority of the subgroup analysis results of credits earned after admission was consistent with the conclusion drawn from the overall impact analysis (see Appendix Table D.4).

- The female GSS students on average accumulated 5.5 more credits than the female comparison students (21.7 vs. 16.2), with a medium to large effect size (0.48). This finding was statistically significant.
- The GSS male students on average accumulated 2.7 more credits than the comparison group (19.1 vs. 16.4); although the effect size is relatively small (0.23). This finding was statistically significant.
- The GSS Hispanic male students on average accumulated 3.0 more credits than the comparison group (18.8 for GSS and 15.8 for comparison), with a substantively important effect size (0.26). This finding was statistically significant.
- Among students with less than 11 credits at admission, the GSS group on average accumulated 5.3 more credits than the comparison group (21.5 for GSS and 16.2 for comparison), with a medium effect size (0.41). This finding was statistically significant.

GSS Black male students, however, showed a very small difference, on average, in accumulated credits (17.4 vs. 17.0), and the corresponding effect is very small (0.03). This finding was not statistically significant, in part because it was based on a small number of observations.

Core Regents Exams

In addition to earning 44 credits, students must pass five core New York State Regents exams[24] to graduate. Therefore, the number of core Regents exams passed after admission serves as an important academic outcome measure. Students may take these exams at any point during high school (and can repeat the exams if they do not score a passing grade). **The overall analysis result indicates that the GSS students did not show any significant difference in the average number of core Regents exams passed after admission, when compared to students in the comparison group.**

As seen in Figure 14, by the end of the 2012–13 school year, both the GSS students and their matched comparisons passed approximately one and a half core Regents exams after being admitted to transfer schools.[25]

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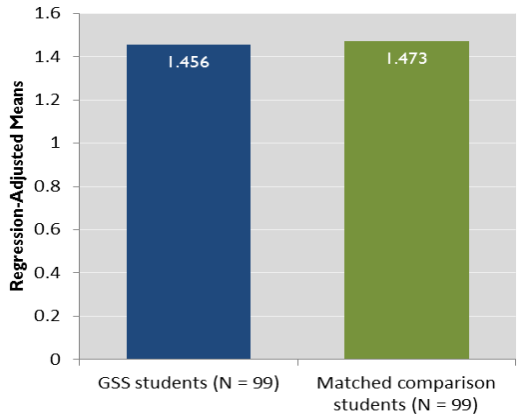
[24] The five required NYS Regents exams are Comprehensive English, Global History, U.S. History, a math exam (usually Algebra), and a science exam (usually Living Environment/Biology or Earth Science).

[25] Note that the number of students with available Regents outcome data was substantially smaller than earlier analyses (N = 99 pairs). The core Regents exams analyses were restricted to those who were still enrolled in school (i.e., those who had graduated or discharged were excluded from this analysis). In addition to the

Figure 14. Overall impact of GSS model on number of core Regents exams passed



The subgroup analyses for number of Regents passed are mixed and none of the findings achieved statistical significance (see Appendix Table D.5).

- For females and students who had less than 11 credits at admission, the average number of core Regents exams passed after admission for the GSS students was a little smaller than that for the comparison group and both impacts were estimated to be of small size (0.15 and 0.23 respectively).
- Among males and among Hispanic males, however, the GSS group passed more Regents exams than the non-GSS group. Note that for the subgroup of Hispanic males, the effect is substantively important (0.29), while that for males is a little smaller (0.20).

The analysis for the Black males was not carried out due to an insufficient number of cases.

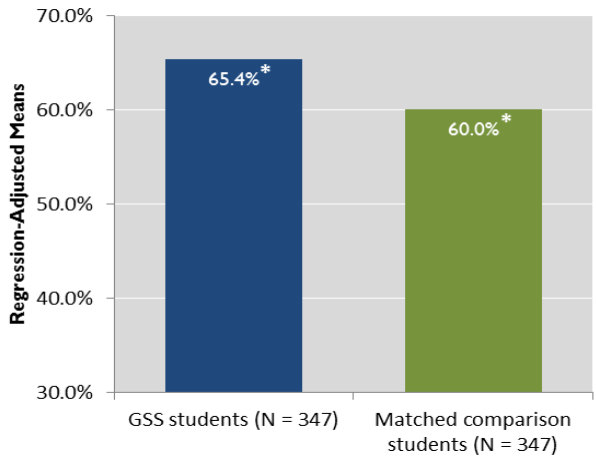
predictors included in the analyses of other outcomes, these analyses also controlled for the number of core Regents exams passed prior to admission.

School Attendance

The school attendance outcome was measured by students' average daily attendance (ADA) over two school years, 2011–12 and 2012–13. The result of this analysis indicates that **the GSS students had significantly better school attendance than their matched comparisons at the end of 2012–13**.

As shown in Figure 15, the GSS students had a 65.4% attendance rate, outperforming comparison students by 5.4 percentage points, after controlling for a number of student and school characteristics.[26] The effect size calculated for this finding (0.25, see Appendix Table D.1) is considered substantively important by the WWC.

Figure 15. Overall impact of GSS model on school attendance



*Statistically significant, p = <.05.

Most of the results of the subgroup analysis for school attendance during the two school years were consistent with those of the overall impact analysis (see Appendix Table D.2). Thus, **female as well as male GSS students, Hispanic males, and students who had less than 11 credits at admission, each outperformed their comparison group in terms of attendance**.

- The female GSS students had a higher average daily attendance rate than the comparison students (64.3% vs. 59.5%). This finding was statistically significant.

[26] Linear regressions were used for all ADA analyses since the between-school variance did not converge when fitting HLM models for overall or subgroup analyses (see Appendix D for details).

- The male GSS students had a higher average daily attendance rate than the comparison students (66.5% vs. 60.6%). This finding was statistically significant.
- The Hispanic male GSS students had a higher average daily attendance rate than the comparison students (66.4% vs. 59.5%). This finding was statistically significant.
- Among students with less than 11 credits at admission, GSS students had a higher average daily attendance rate than the comparison students (64.1% vs. 55.5%). This finding was statistically significant.

Note that the effect sizes calculated for the analyses of males, Hispanic males and those with less than 11 credits at admission all reach substantive importance (see details in Appendix Table D.2), while that for females falls just short of that level (0.21).

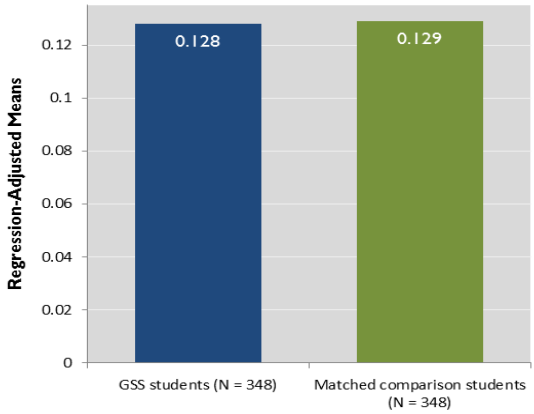
For Black males, the difference between GSS and comparison students (63.9% vs. 61.4%) did not reach statistical significance and the corresponding effect size is small (0.12), likely due to insufficient statistical power as there were only a very small number of Black males included in the analysis.

School Suspensions

With limited data available on student behaviors, the number of school suspensions over two years was used as a measure of behavioral outcomes. Unlike the finding for school attendance, **the overall analysis result of suspensions showed that the GSS model did not have an impact on this outcome**.

As displayed in Figure 16, the average number of suspensions per student for the GSS and the matched comparison group for the combined 2011–12 and 2012–13 school years were almost identical after controlling for various student and school characteristics (0.128 for GSS and 0.129 for comparison). However, only 24 of 348 GSS (3 more than once) and 40 of 348 comparison (9 more than once) students were suspended during the two-year period. Thus, the vast majority of each group never experienced a suspension.

Figure 16. Overall impact of GSS model on school suspensions



The subgroup analyses of suspensions during the two school years showed more variations in the estimated GSS-comparison differences, but the conclusions were the same as the overall analysis: the GSS students did not show any significant differences in their average number of suspensions from the comparison group (see Appendix Table D.3).

While the result for Hispanic males indicates that the GSS students had more suspensions than the comparison students, the analyses of the other subgroups (including females, males, Black males, and students with less than 11 credits at admission) showed the opposite—the average number of suspensions was smaller for the GSS students than for the comparisons. Based on these analyses, only the female subgroup show a substantial effect size (0.20), whereas the effects for the other subgroups are very small (see Appendix Table D.3).

Again, similar to the overall analysis, average numbers of suspensions for all the subgroups, either GSS or comparison students, were low (< 0.2), and the estimated program impacts are negligible (all < 0.1).

Summary of Impact

The findings from these overall impact analyses indicate that when compared to the matched comparisons, **the GSS students have a significantly better chance of graduating, a higher average rate of school attendance, and also earn significantly more credits after enrollment—all effects are substantively important according to the WWC.** In terms of graduation, GSS students outperformed comparison students by 12 percentage points, 63% to 51.4%. In comparison, the six-year graduation rate for over-age and under-credited students in

transfer schools citywide (Class of 2013) was 41%, while for OA-UC students in traditional high schools it was only 29% (NYC DOE, 2014).

The observed difference between the GSS students and the comparison students in persistence, core Regents exams passed, and suspensions was negligible and not statistically significant.

Regarding the exploratory subgroup analyses, the most notable findings were that **female GSS students and GSS students who enter the transfer schools with less than 11 credits have a significantly higher probability of graduating than the comparison students.**

Other significantly positive findings for school attendance and credits earned after admission were found for the subgroups of females, males, Hispanic males, and those with less than 11 credits at admission. All the other subgroup analyses, however, did not show statistically significant results.

What Have We Learned About Youth Development?

To address the research question, "What are the youth development outcomes of GSS transfer school students and what is the relationship between these outcomes and academic performance or other characteristics?" the evaluation included an assessment of developmental assets as measured by the *Developmental Assets Profile* (DAP). Developed by the Search Institute, the DAP is designed to assess how youth are faring personally and socially.

> *Developmental Assets are defined as positive experiences and qualities identified by the Search Institute as being essential to healthy psychological and social development in childhood and adolescence. These assets have the power to influence young people's developmental trajectories, protect them from a range of negative outcomes, and help them become more productive, caring, and responsible adults. Developmental assets represent the positive relationships, opportunities, skills, and values that promote the positive development of all children and adolescents* (Haggerty et al., 2011).

The DAP asks young people about the frequency or intensity with which they have experienced, "now or within the past three months" a list of 58 "positive things that you might have in yourself, your family, friends, neighborhood, school, and community."[27] The items are grouped into 40 developmental assets, with half categorized as external assets or strengths and half categorized as internal. The external assets/strengths assess a youth's experiences and relationships with peers, parents, teachers, and other adults in their community. Internal assets/strengths include those qualities that young people develop gradually as they become more self-regulating (Search Institute, 2005).[28] Figure 17 provides a description of the subscales for both the External and Internal DAP categories.[29]

Figure 17. Description of DAP categories and subscales

Category and Subscale		Description
External	Support	Parent-adolescent communication, family support, as well as caring, encouragement, and support outside the family from the neighborhood, school, and community
	Empowerment	A general feeling of safety across many contexts; feeling valued, useful, and respected by others

[27] The questions are asked in a series of "I" statements, with a four-point response scale: not at all or rarely, somewhat or sometimes, very or often, and extremely or almost always.

[28] See Appendix F for further discussion of the DAP and the developmental assets it measures.

[29] For additional information on interpretation, see Appendix F, Figure F.2.

Category and Subscale		Description
	Boundaries and Expectations	Parental support; safety in a variety of settings; rules and consequences in a variety of settings; and role models among friends, family, and outside the family
	Constructive Use of Time	Involvement in extracurricular activities in one of four areas: (1) religious or spiritual; (2) sports, clubs, or other groups; (3) creative arts; and (4) family life
Internal	Commitment to Learning	Motivation and rewards related to learning and active engagement in learning, both tied directly to school and extending outside of school
	Positive Values	Personal virtues such as honesty, integrity, responsibility, and restraint, as well as caring about others and working for equality and social justice
	Social Competencies	Planning and decision making, cultural competence, and social skills involving the ability to build friendships, resist negative peer pressure, and resolve conflicts peacefully
	Positive Identity	Adolescent's emerging identity, including self-esteem, internal locus of control, optimism, and sense of purpose in life

Research suggests that youth who report relatively more assets are more likely to report engaging in positive, socially constructive behaviors and less likely to report engaging in risky behaviors (Benson et al., 2011). Analyses conducted by the Search Institute also have found that a higher level of developmental assets is associated with academic achievement as measured by grade point average (Scales et al., 2006) and with better college- and career-readiness outcomes.[30] Thus, it is worthwhile for a program to focus attention on increasing students' assets, in order to have a greater impact on academic achievement and future college success.

The DAP was administered to new students just prior to their enrollment in the GSS schools in the fall of 2012 and to all students in the spring of 2013. The analysis presented in this report was designed to assess whether there were any changes in assets among the group of new students for which both pre- and post- scores were available (N=75). The students' scores in the fall represent a baseline level of assets that could, over time, be expected to be influenced by their experience at the GSS schools. The analysis also identified variables (demographic, academic, student engagement) that predicted these students' end-of-year scores.

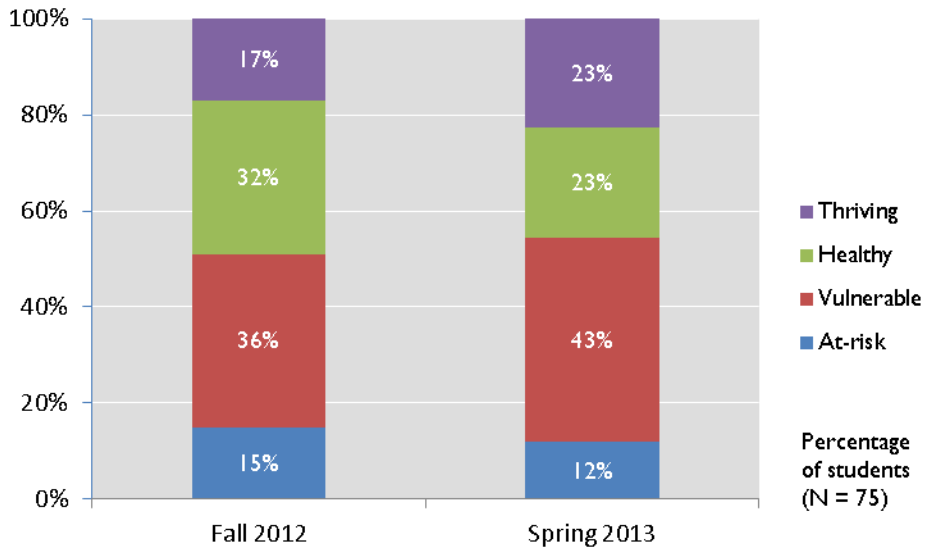
[30] College- and career-readiness outcomes are defined as key cognitive strategies (e.g. problem solving, reasoning, communication) in core subject areas; students' time management and study habits; students' perceptions of the academic rigor of their core classes; the degree to which students are engaged in researching colleges; and the level of support students report receiving from school and family in learning about colleges and how to apply (Search Institute, 2012).

The DAP survey items are asked within a three-month time frame, with respondents instructed to describe themselves "now or within the past three months," thus the re-administration of the DAP nine months after the first administration falls within the Search Institute's guidelines to detect meaningful changes. It should be recognized, however, that this is a short period to effect change and it is possible that the disruption caused by Superstorm Sandy early in the school year had a negative effect on students' reports of the extent to which they felt supported and engaged during this time period.

DAP scores are interpreted within four levels: low, fair, good, and excellent. Low scores indicate a depleted level of assets and tremendous opportunity for strengthening assets in most areas. Scores in the 'fair' range indicate a borderline level, with many assets weak and/or infrequent. Within this level, there is considerable room for strengthening. Scores in the 'good' range suggest a moderate level of assets, still with room for improvement. An excellent level indicates that most assets are experienced strongly and/or frequently.

Figure 18 shows the level of developmental assets reported by the GSS students in the fall and spring. The results show a positive trend, with an increase in the percentage of students considered 'thriving' and a small decrease in the percentage of students considered 'at risk.' However, results for the two middle groups were mixed, with an increase in the percentage of students who were 'vulnerable' and a decrease in the percentage of students with a 'healthy' level of assets.

Figure 18. Level of GSS students' Developmental Assets, fall 2012 and spring 2013



Several of the DAP subscales offer some insight into areas pertaining to the GSS model, although the DAP is not solely focused on the school environment and experiences. The external domains in which students improved included feelings of empowerment (which includes having useful roles and responsibilities and feelings of safety) and constructive use of time (involvement in sports and arts, as well as religious activities).

- With regard to Empowerment, the percentage of GSS students whose responses were in the 'excellent' range increased from 20% to 33%, with the shift occurring from 'good' to 'excellent,' while the 'fair' and 'low' ranges were stable. Note, however, that the Empowerment subscale includes items unrelated to school, such as feeling safe at home and in the neighborhood and inclusion in family decisions.
- With regard to Constructive Use of Time—the percentage of students whose responses were in the 'excellent' range increased from 9% to 19%, while the percentage of students in the 'low' range decreased from 49% to 39%;

Students' feelings of support decreased, although it should be noted that several of the items that make up this subscale relate to support from parents, family members, and neighbors. However, this subscale also includes support from other adults and a school "that cares about kids and encourages them." In this area, the percentage of students with assets in the 'good' range fell from 27% to 16%, while the percentage of students in the 'low' range rose from 9% to 15%.

For the most part, students' scores in the internal domains—comprised of items that assess students' commitment to learning, positive values, personal responsibility and decision-making, and locus of control—decreased. For example, on the Commitment to Learning subscale, the percentage of students scoring at a 'good' level decreased from 25% to 15% and the percentage scoring at the low level increased from 13% to 25%. Commitment to Learning includes caring about school, enjoyment of learning and reading, and a desire to do well in school.

Figure 19 presents a longitudinal analysis of the distribution of responses in fall 2012 and spring 2013 for each subscale that comprise the external assets and Figure 20 presents the same information for each internal assets subscale.

Figure 19. GSS students' external assets by subscale, fall 2012 and spring 2013

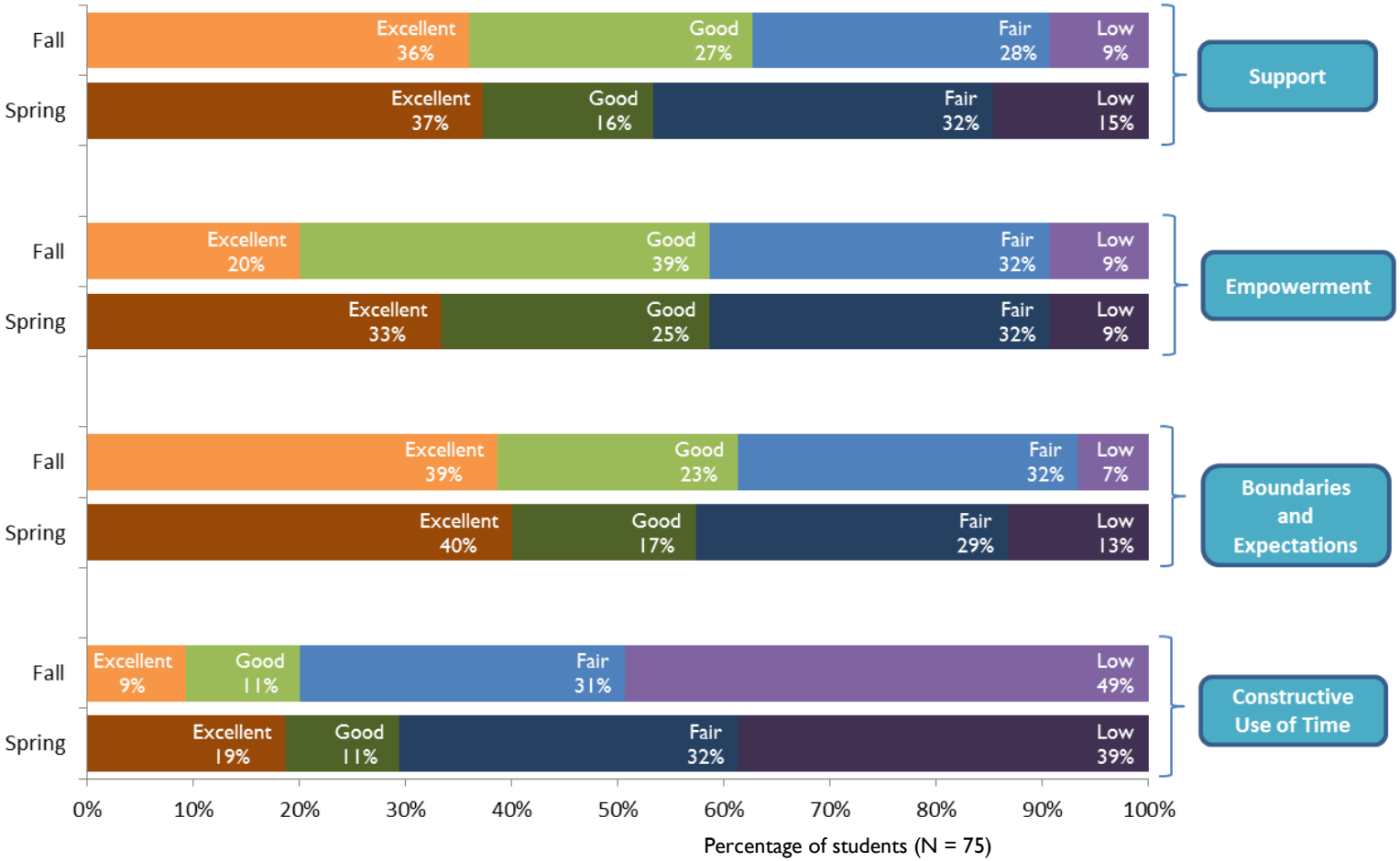
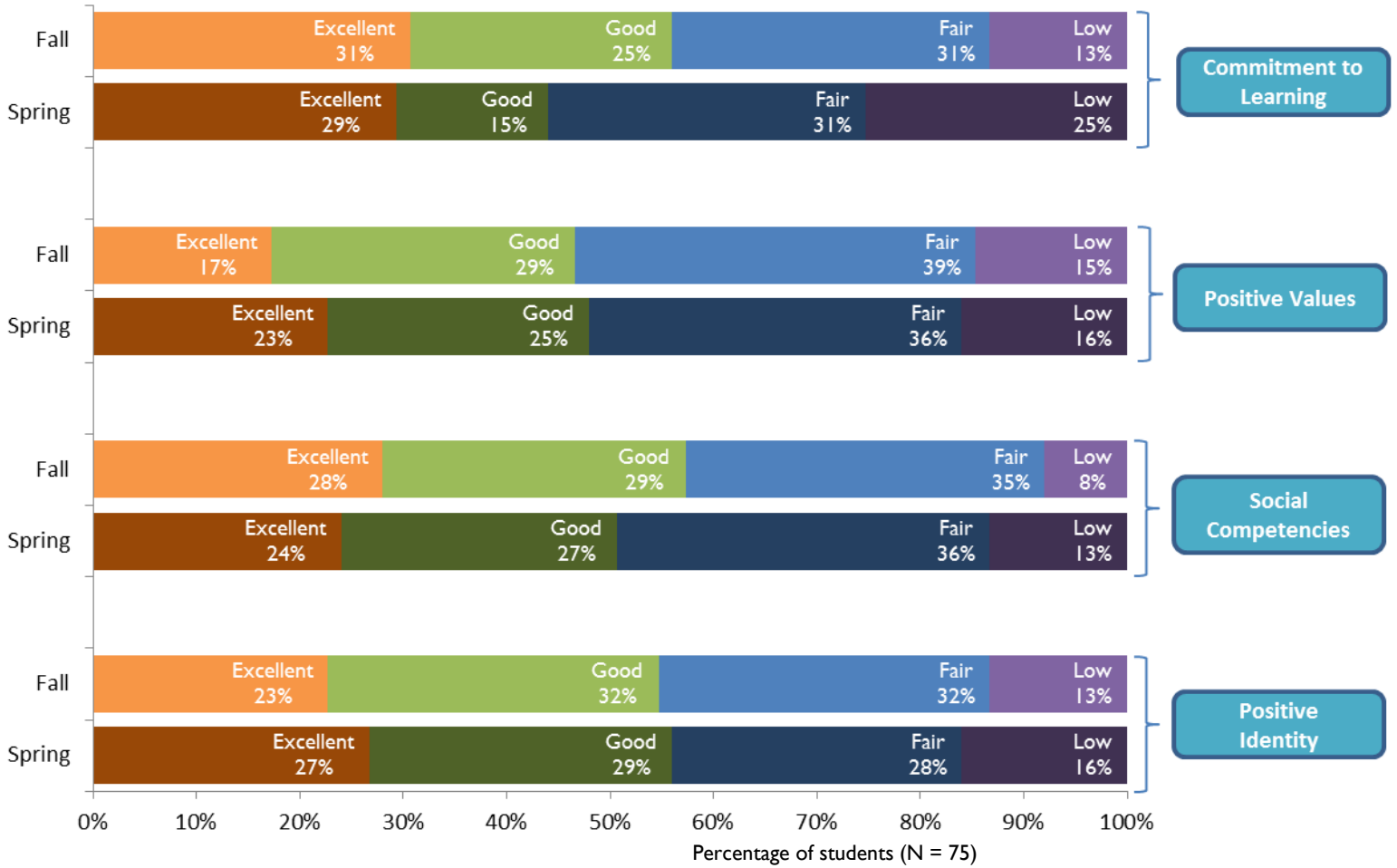
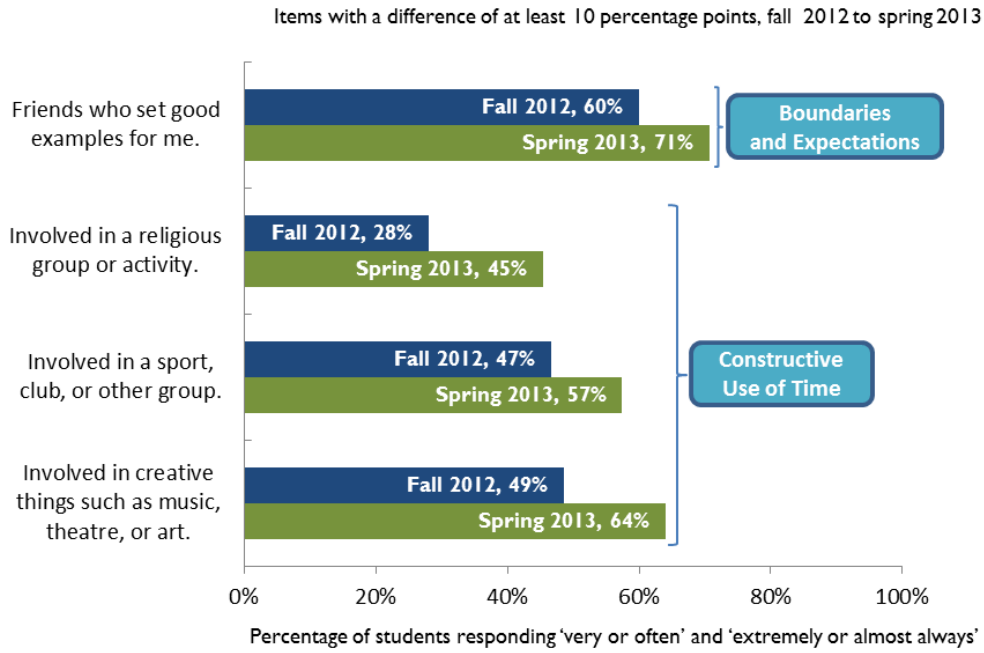


Figure 20. GSS students' internal assets by subscale, fall 2012 and spring 2013



Drilling down further into these findings, one can find a number of specific DAP items where there was a substantial change (at least 10 percentage points) from fall to spring.[31] Within the category of external assets, shown in Figure 21, three of the four items in which there was substantial change (all in a positive direction) are part of the Constructive Use of Time subscale. Two of the items (involvement in sports or clubs, involvement in the arts) may have been affected by the students' participation in GSS school activities. It is also possible that the item from the Boundaries and Expectations scale, "*Friends who set good examples for me*," could have also been influenced by their personalized learning experiences at the GSS schools, such as small school and class size, family-like atmosphere, and community building activities.

Figure 21. External assets items with change from fall 2012 to spring 2013



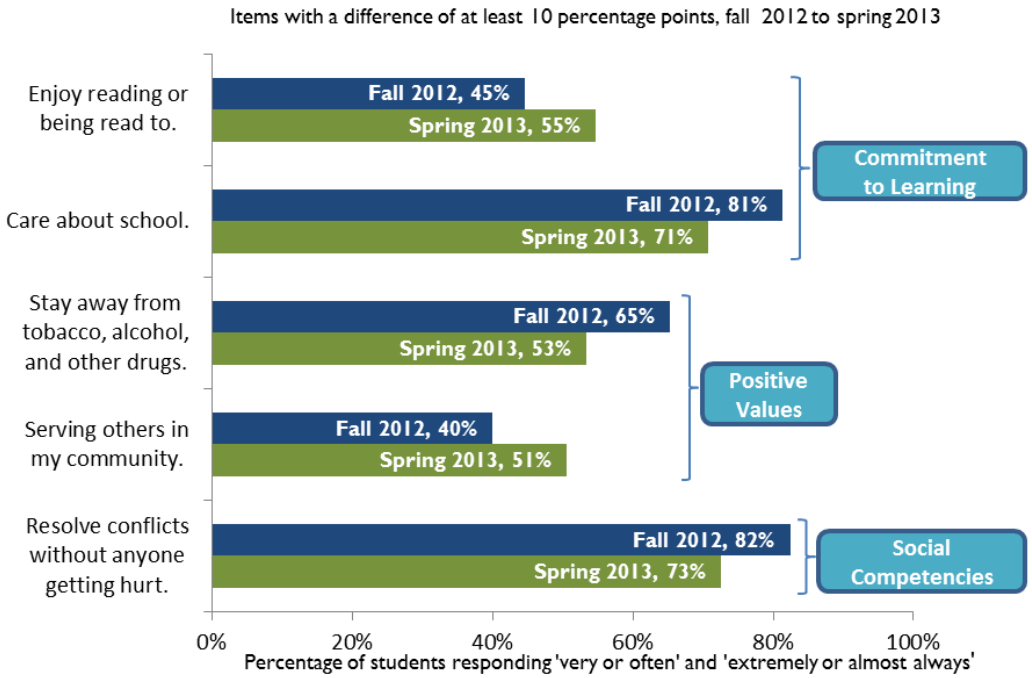
Within the category of internal assets, shown in Figure 22, five items showed substantial change, although three were in a negative direction. Within Commitment to Learning, while there was a decrease in the percentage of students who said they care about school (possibly reflecting an end-of-year impatience or realization about the hard road ahead these students face), more students reported that they enjoyed reading, a finding that may be related to their classroom

[31] Complete responses are presented in Appendix F, Tables F.2 and F.3.

experiences at the GSS schools, where teachers work to provide authentic learning opportunities. The reason for these disparate results is not readily apparent, but may, as noted above, reflect discouragement about how far behind the students feel after their first year in the GSS schools.

Serving others in the community also saw an increase, which could be reflective of the schools' civic engagement activities or the personalized learning environment in which students feel a connection. The negative findings related to substance use and conflict resolution may reflect the larger community influences these students experience, and could point to a need to marshal additional resources to address these areas.

Figure 22. Internal assets items with change from fall 2012 to spring 2013



The slightly smaller difference for the Social Competencies item represents a rounding error.

Further analyses were conducted to identify what predicted the end-of-year DAP scale scores of these new students. The variables in the analyses included student scores on the fall 2012 DAP, demographic and educational characteristics, and school attendance and credits taken and earned during the school year. In addition, student internship participation during the year and responses to selected survey questions related to engagement (having led an activity, helped to plan an activity, contributed solutions to a community problem) were included.

These findings confirm the relationship between student level of assets and academic progress (credits), and the relationship between assets and student Constructive Use of Time—a domain that can be directly impacted by the GSS transfer school experience. It was expected, and was later the case, that the pre-enrollment DAP scores would have the largest predictive value. However, students who responded on the end-of-year survey that they had helped to solve a community problem also was identified as a predictor, as were students' external and internal assets scale scores and the Constructive Use of Time subscale score. The number of credits earned during the school year was another predictor of the total DAP score, and internal assets, external assets, and Constructive Use of Time scale scores.[32]

Table 1 identifies the variables that were included in the predictive models, as well as those variables that were statistically significant predictors of the spring 2013 DAP scores.

Table 1. DAP regression analysis results

Variable	Total Scale Score (r^2=0.546)	External Asset Scale Score (r^2=0.433)	Internal Asset Scale Score (r^2=0.528)	School Context Scale Score (r^2=0.304)	Constructive Use of Time Scale Score (r^2=0.573)
Fall 2012 DAP score	✓	✓	✓	✓	✓
Grade level in 2013					
Sex					
Black vs. other races	✓				
Hispanic vs. other races					
English language learner status in 2013					
Eligibility for free/reduced price lunch in 2013					
Special education status in 2013					
Average daily attendance in 2013					
Credits taken in 2013					
Credits earned in 2013	✓		✓		✓
Age at start of SY 2012–13					
Had an internship during SY 2012–13					

[32] See Appendix G, Tables G.1–G.5 for detailed results of the linear regression models.

Variable	Total Scale Score (r^2=0.546)	External Asset Scale Score (r^2=0.433)	Internal Asset Scale Score (r^2=0.528)	School Context Scale Score (r^2=0.304)	Constructive Use of Time Scale Score (r^2=0.573)
Student Survey items (Spring 2013)					
Q3a. I led an activity (discussion group, service project)					
Q3c. I helped plan a program activity or event					
Q3g. I contributed solutions to a community problem	✓	✓	✓		✓

Conclusion and Recommendations

The evaluation of the GSS transfer school model was designed to determine the extent to which the model is implemented at South Brooklyn and West Brooklyn Community High Schools and to determine, through a rigorous evaluation, the impact of the model on students' academic performance and behavior.

Implementation of the Model

The GSS transfer school model incorporates those programmatic approaches that are believed to be effective in engaging students and, thus, in reducing dropout rates. All of the core components of the model were evident in the two GSS transfer schools.

Information about implementation of comparable strategies in the other transfer schools from which comparison students were drawn is incomplete. All of the schools are small and have small class sizes, and all but one of them has a community organization on-site, with advocate counselors to play a similar role as the GSS staff. However, the other schools vary in the extent to which decision-making is shared between NYC DOE and community organization staff. Information was not available to assess the relationship between DOE and community organization leaders and staff. An obvious difference is that the GSS schools are neighborhood-based.

Youth development practices were evident, but staff survey results identified a need to reinforce the staff's understanding of the schools' youth development model. Although more than half of the staff reported that their school did a good or excellent job of orienting staff to the youth development model and providing professional development and training, more than a third did not share this view. Furthermore, staff's ratings of these aspects of the schools were lower in 2013 than the year before.

Youth Development Outcomes

The absence of a comparison group for the assessment of youth development limits our ability to assess the impact of the GSS model on changes in these areas. Nevertheless, the DAP analysis findings confirm the relationship between assets and academic performance, as well as participation in extracurricular activities and civic engagement. The results also identified some

areas that warrant further exploration, including whether the program model is doing enough in terms of providing socio-emotional supports to students (and to their families) in order to bolster students' internal assets.

Recognizing that the final year of the evaluation was a time of substantial disruption and curtailment of school activities because of Superstorm Sandy, what can be made of these findings? They speak to the importance of consistently engaging students in learning and emphasizing the future focus of their education. The schools' connections to their communities and the students' desires to help solve community problems could be harnessed toward this goal.

Impact of the Model

Results from the outcome evaluation indicate that compared to matched groups of students from other transfer schools, the GSS transfer school model has a significant impact on graduation, school attendance, and credit attainment. The probability of GSS students graduating (63%) exceeds that of the comparison group by 12 percentage points. The rate for GSS students also is higher than the six-year graduation rate (Class of 2012) for over-age and under-credited (OA-UC) students in transfer schools citywide (41%) and far exceeds the rate for OA-UC students in traditional high schools (29%) (NYC DOE, 2014).

The most notable findings of the exploratory subgroup analyses were that female GSS students and students who are admitted with less than 11 credits (and who thus have the longest path to graduation) have significantly higher probabilities of graduating than the comparison students.

Other significantly positive findings on school attendance and credit attainment were found for the subgroups of females, males, Hispanic males, who represent the majority of the GSS students, and those with less than 11 credits at admission.

Recommendations

Based on the study findings, we offer the following recommendations for strengthening the model:

1. Engage in further professional staff development about the GSS transfer school model as it relates to and incorporates youth development to ensure that staff are fully oriented to and comfortable with the model.
2. Review strategies used to support students and whether there are additional ways to support their families through other GSS services.
3. To capitalize on the positive findings associated with student engagement (i.e., Constructive Use of Time), review the extracurricular and civic engagement

opportunities available to students with an eye toward expanding student interest in these areas and helping them to see the connections to academic performance and future well-being.

The following recommendations are offered for further research:

4. Conduct an impact study with additional cohorts to build the evidence base for the impact of the GSS transfer school model.
5. Conduct a qualitative study of female students and students who entered the GSS schools with less than 11 credits to understand better why the GSS model produced such strong effect with these two groups.
6. Explore the impact of the GSS transfer school model on students' socio-emotional learning and civic engagement using a comparison group evaluation design.

References

Almeida, C., Johnson, C. & Steinberg, A. (2006). *Making good on a promise: What policymakers can do to support the educational persistence of dropouts*. Boston, MA: Jobs for the Future.

Bagli, Charles. (November 23, 2008). For Reinvention, Red Hook follows its roots. *The New York Times*. Retrieved May 14, 2012, from http://www.nytimes.com/2008/11/23/nyregion/23redhook.htlm?pagewanted=all.

Benson, Peter L., Scales, Peter C., Roehlkepartain, Eugene C., and Leffert, Nancy. (2011). *A Fragile Foundation: The State of Developmental Assets Among American Youth (Second Edition)*. Minneapolis, MN: Search Institute.

Bridgeland, John M., DiIulio, Jr., John J., and Morison, Karen Burke. (2006). *The Silent Epidemic: Perspectives of High School Dropouts*. Report by Civic Enterprises in association with Peter D. Hart Research Associates for the Bill & Melinda Gates Foundation.

The Annie E. Casey Foundation. (2012). *Youth and work. Restoring teen and young adult connections to opportunity*. Kids Count Policy Report. Baltimore, MD: Annie E. Casey Foundation.

Dynarski, M., Clarke, L., Cobb, B., Finn, J., Rumberger, R., and Smink, J. (2008). *Dropout Prevention: A Practice Guide* (NCEE 2008-4025). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee.wwc.

Good Shepherd Services. (2007). *South Brooklyn Community High School: A model transfer school for replication.*

Gravetter, F. J., & Wallnau, L. B. (2013). *Statistics for the Behavioral Sciences (9th edition)*. Belmont, CA: Wadsworth/Thomson Learning.

Haggerty, K., Elgin, J., & Woolley, A. (2011). *Social-emotional learning assessment measures for middle school youth.* University of Washington: Social Development Research Group. Retrieved from http://www.raikesfoundation.com/Documents/SELTools.pdf.

Lipsey, M. W. (1990). *Design sensitivity: Statistical power for experimental research*. Newbury Park, CA: Sage.

"New York City Census FactFinder." (n.d.). *The City of New York*. Retrieved from http://maps.nyc.gov/census/.

New York City Department of City Planning. (n.d.-a). *ACS Demographic and Housing Estimates. New York City Community Districts. 2010-2012 American Community Survey 3-Year Estimates*. Retrieved from http://www.nyc.gov/html/dcp/pdf/census/puma_demo_10to12_acs.pdf.

New York City Department of Education. (2014). Unpublished data.

New York City Department of Education. (n.d.-a). *The Class of 2013 Four-Year Longitudinal Report and 2012-2013 Event Dropout Rates*. Retrieved from http://schools.nyc.gov/Accountability/data/GraduationDropoutReports/NYCTraditionalCalc.htm.

New York City Department of Education. (n.d.-b). *New York City Graduation Rates Class of 2013 (2009 Cohort).* Retrieved from http://schools.nyc.gov/NR/rdonlyres/723B1E9A-B35E-4C25-9D48-4E18E0BA90A5/0/2013GraduationRatesPublicWebsite.pdf

New York City Department of Education, Office of Multiple Pathways to Graduation. (2006, October). *Multiple pathways research and development: Summary findings and strategic solutions for overage, under-credited youth*. Presentation to the New York State Regents, Albany, NY.

Peduzzi, P., Concato, J., Kemper, E., Holford, T.R., & Feinstein, A.R. (1996). A simulation study of the number of events per variable in logistic regression analysis. *Journal of Clinical Epidemiology, 49* (12): 1373–9.

Rumberger, Russell W. (2011). *Dropping out. Why students drop out of high school and what can be done about it.* Cambridge, MA: Harvard University Press.

Scales, Peter C., Benson, P.L., Roehlkepartain, E.C., Sesma Jr., A., van Dulmen, M. (2006). The role of developmental assets in predicting academic achievement: A longitudinal study. *Journal of Adolescence*, 29, 691–708.

Search Institute. (2005). *Developmental Assets Profile: User manual.* Minneapolis, MN: Search Institute.

Search Institute. (Nov. 26, 2012). *Supplemental analysis of the Dallas Developmental Assets Profile dataset*. Search Institute report to Good Shepherd Services, New York City:

Stetser, M., and Stillwell, R. (2014). *Public High School Four-Year On-Time Graduation Rates and Event Dropout Rates: School Years 2010–11 and 2011–12*. First Look (NCES 2014-391). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved June 23, 2014 from http://nces.ed.gov/pubsearch.

What Works Clearinghouse (2011). *Procedures and Standards Handbook* (version 2.1). Retrieved from http://ies.ed.gov/ncee/wwc/pdf/reference_resources/wwc_procedures_v2_1_standards_handbook.pdf.

Technical Appendix

A. Evaluation Design and Methods

B. Traditional High School Comparison Group Considerations

C. Practices in Comparison Group Schools

D. Regression Analysis Results, 2012–13

E. Regression Analysis Results, 2013–14

F. Developmental Assets Profile

G. Regression Results for the Developmental Assets Profile

H. Search Institute Report on the Dallas Sample

Appendix A: Evaluation Design and Methods

Guided by the *What Works Clearinghouse (WWC) Procedures and Standards Handbook* (v 2.1, 2011), Metis proposed conducting a rigorous and systematic evaluation that included formative and summative components and used multiple sources of quantitative and qualitative data and methods of analysis. The outcome evaluation assessed the extent to which the GSS model as implemented was meeting its objectives, and estimated the intervention impact on intended student outcomes based on treatment-comparison contrasts. The implementation evaluation was intended to provide formative feedback to the GSS model to improve implementation, and to examine the extent to which implementation occurred as planned. Findings from the implementation study were expected to provide contextual information for interpreting the impact study results (e.g., how variations in the model implementation may relate to intervention effectiveness).

Evaluation of Outcomes

In the evaluation of the GSS program models at South Brooklyn Community High School and West Brooklyn Community High School, all of the data needed for assessing student academic and behavioral outcomes were obtained from archival school records. With the generous permission of the NYC DOE, Metis was able to accumulate historical individual student level data records, including demographics, attendance and achievement metrics. Using these data Metis was able to create a retrospective longitudinal student-level file, covering the years prior to transfer school enrollment through the most recent years. The student-level baseline characteristics and target outcome data were therefore available for use in the current GSS impact study.

The outcome evaluation design was intended to determine whether the GSS model had demonstrable impact on the academic and behavioral outcomes of their participants compared with a similar group of non-participants (i.e., counterfactual). Given the fact that a randomized controlled trial (RCT) design would not be feasible for the evaluation of the GSS program models, in accordance with the WWC guidelines, Metis proposed a rigorous quasi-experimental matched comparison group design based on a propensity score matching (PSM) approach. PSM is currently considered the best available approach to generating a comparable group of non-participants without random assignment. Under the PSM framework (Rosenbaum & Rubin, 1983, 1984, 1985; Rosenbaum, 1991, 2002), initial large imbalances on observed covariates (e.g., demographic variables and baseline achievement) between treated and comparison groups could be removed or greatly reduced. PSM techniques first summarize all pertinent characteristics

observed prior to treatment (i.e., the matching variables) into a single score (i.e., the propensity) that indicates the predicted conditional probability of an individual participating in a given program. After propensity score estimation, PSM techniques typically match each program participant with one or more comparison students with similar propensity scores. One commonly used PSM technique for program evaluation is the nearest neighbor matching within caliper (also known as greedy matching).

Metis adopted greedy matching *without* replacement algorithms in the outcome evaluation of the GSS model. The target students who were enrolled in the two GSS schools during the 2011–12 school year were matched one-to-one to similar students in the remaining 11 transfer high schools in Brooklyn that do not follow the GSS model. The baseline variables used for propensity score estimation and matching included student gender, race/ethnicity, free/reduced price lunch (FRL) eligibility, English language learner (ELL) and special education status, New York State Grade 8 English Language Arts (ELA) and Math exam scores, number of years over-age when first enrolled in Grade 9, credits earned and average daily attendance (ADA) in Grade 9. In addition, student grade level in the 2011–12 school year was used during the matching stage (i.e., a 10th grade GSS student would be matched to a comparison 10th grader), although this variable was not involved in the propensity score estimation process since it was not baseline information. Following Rosenbaum and Rubin's recommendation (1985), a caliper size of a quarter of standard deviation of the estimated propensity score was employed in the matching process.

Note that propensity estimation and matching were done in two steps. Using the estimated propensity scores, matching was conducted multiple times with consideration given to the availability of pertinent outcomes for analysis. This was done to maximize the number of matched pairs with outcome data as well as ensure that the baseline equivalence of matching covariates could be established for the final analytic samples. Details on the level of overt bias reduction for each matching are presented in Tables A.1 through A.8 respectively for each final analytic sample.[33] As seen from these tables, while most matching variables displayed statistically significant differences between the target group and the potential comparison group before matching, these differences did not achieve statistical significance after matching. More importantly, the balance measure adopted by the WWC (i.e., the standardized mean difference calculated by Hedge's g) showed that for all the matching variables included in each PSM, the baseline equivalence was established after matching, either with or without the requirement for statistical adjustment of the baseline differences depending on the magnitude of Hedge's g.[34]

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[33] For the graduation and persistence outcomes, matching was carried out twice for separate impact analyses of each at different time points—at the end of 2012–13 school year and at the end of 2013–14 school year (see Tables A.1, A.2, A.7, and A.8).

[34] Based on the WWC criteria, if the magnitude of Hedge's g for a given baseline variable is (1) less than or equal to 0.05 standard deviations, one can conclude that equivalence is established for the baseline variable

In addition, each table indicates the matching rate for the overall target group based on GSS students who had complete data for matching and outcome analysis.[35, 36] According to Tables A.1 – A.8, all the matching rates were at least 90%, which means that the great majority of the target GSS youth successfully found comparable matches in the potential comparison group.

(no statistical adjustment needed in outcome analyses later); (2) greater than .05 standard deviations but less than or equal to .25 standard deviations, one has to include the baseline variable in statistical models used in outcome analyses to account for the imbalance and establish baseline equivalence; and (3) greater than .25 standard deviations, one has to conclude that equivalence was not established for the baseline variable (i.e., baseline imbalance).

[35] Group baseline equivalence must be demonstrated on the analysis sample that excludes cases with missing values because WWC guidelines do not allow missing data imputation for outcome or baseline matching variables when a study is based on a quasi-experimental design (QED).

[36] Note that there were a total of 429 GSS students who were enrolled in the two GSS schools during the 2011–12 school year, but only 374 of them had complete matching data.

Table A.1. Baseline covariate balance before and after matching: GSS vs. comparison students for graduation vs. discharge status analysis (2011–13)

Matching Variable	GSS vs. Comparison Students				
	Before Matching		After Matching		
	Comparison	GSS	Comparison	GSS	Hedge's *g*
Count	2,180	374	225	225	
Treated cases with complete matching and outcome data				248	
$N_{treated}$ lost after matching				23	
$\%_{treated}$ lost after matching				9.3%	
Hispanic[a]	24.31 ***	67.65 ***	71.11	69.78	-0.04
Black[a]	71.70 ***	14.71 ***	14.22	14.22	0.00
White and other[a, b]	3.99 ***	17.64 ***	14.67	16.00	0.06
Female[a]	54.27*	47.86 *	53.33	48.89	-0.11
Male[a]	45.73 *	52.14 *	46.67	51.11	0.11
ELL[a]	2.02 **	4.28 **	3.56	4.89	0.20
Not ELL[a]	97.98 **	95.72 **	96.44	95.11	-0.20
FRL[a]	46.93	45.19	46.67	44.44	-0.05
Not FRL[a]	53.07	54.81	53.33	55.56	0.05
Special Ed[a]	8.58	9.63	5.78	7.56	0.17
Not Special Ed[a]	91.42	90.37	94.22	92.44	-0.17
Grade 8 ELA[c]	637.16 ** (24.63)	640.99 ** (23.53)	641.08 (23.13)	638.23 (24.29)	-0.12
Grade 8 Math[c]	638.60 *** (29.83)	644.21*** (24.94)	644.04 (26.50)	641.72 (24.46)	-0.09
Years of Over-Age When First Enrolled in Grade 9[c]	0.57 *** (0.70)	0.34 *** (0.52)	0.32 (0.53)	0.33 (0.52)	0.02
Grade 9 Credits Earned[c]	6.98 (4.32)	6.88 (4.34)	7.42 (4.11)	6.78 (4.36)	-0.15
Grade 9 ADA[c]	80.07 * (16.83)	82.40 * (15.93)	82.57 (14.61)	81.99 (16.55)	-0.04

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, Native American/Alaskan, Native Hawaiian/Pacific Islander, or multiracial.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed.

Table A.2. Baseline covariate balance before and after matching: GSS vs. comparison students for enrollment vs. discharge status analysis (2011–13)

Matching Variable	GSS vs. Comparison Students				
	Before Matching		After Matching		
	Comparison	GSS	Comparison	GSS	Hedge's *g*
Count	2,180	374	200	200	
Treated cases with complete matching and outcome data				218	
$N_{treated}$ lost after matching				18	
$\%_{treated}$ lost after matching				8.3%	
Hispanic[a]	24.31 ***	67.65 ***	68.50	72.00	0.10
Black[a]	71.70 ***	14.71 ***	16.50	16.50	0.00
White and other[a, b]	3.99 ***	17.64 ***	15.00	11.50	-0.19
Female[a]	54.27*	47.86 *	53.00	50.50	-0.06
Male[a]	45.73 *	52.14 *	47.00	49.50	0.06
ELL[a]	2.02 **	4.28 **	4.50	4.50	0.00
Not ELL[a]	97.98 **	95.72 **	95.50	95.50	0.00
FRL[a]	46.93	45.19	47.50	46.00	-0.04
Not FRL[a]	53.07	54.81	52.50	54.00	0.04
Special Ed[a]	8.58	9.63	9.00	9.50	0.04
Not Special Ed[a]	91.42	90.37	91.00	90.50	-0.04
Grade 8 ELA[c]	637.16 ** (24.63)	640.99 ** (23.53)	639.72 (21.73)	640.82 (20.18)	0.05
Grade 8 Math[c]	638.60 *** (29.83)	644.21*** (24.94)	643.89 (24.04)	643.80 (22.64)	0.00
Years of Over-Age When First Enrolled in Grade 9[c]	0.57 *** (0.70)	0.34 *** (0.52)	0.40 (0.58)	0.35 (0.52)	-0.09
Grade 9 Credits Earned[c]	6.98 (4.32)	6.88 (4.34)	6.37 (4.10)	6.73 (4.50)	0.08
Grade 9 ADA[c]	80.07 * (16.83)	82.40 * (15.93)	79.40 (16.52)	80.51 (16.26)	0.07

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, Native American/Alaskan, Native Hawaiian/Pacific Islander, or multiracial.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed.

Table A.3. Baseline covariate balance before and after matching: GSS vs. comparison students for credits earned analysis (2011–13)

Matching Variable	GSS vs. Comparison Students				
	Before Matching		After Matching		
	Comparison	GSS	Comparison	GSS	Hedge's *g*
Count	2,180	374	348	348	
Treated cases with complete matching and outcome data				374	
$N_{treated}$ lost after matching				26	
$\%_{treated}$ lost after matching				7.0%	
Hispanic[a]	24.31 ***	67.65 ***	70.11	70.69	0.02
Black[a]	71.70 ***	14.71 ***	15.80	15.80	0.00
White and other[a, b]	3.99 ***	17.64 ***	14.08	13.51	-0.03
Female[a]	54.27*	47.86 *	52.87	49.71	-0.08
Male[a]	45.73 *	52.14 *	47.13	50.29	0.08
ELL[a]	2.02 **	4.28 **	4.02	4.02	0.00
Not ELL[a]	97.98 **	95.72 **	95.98	95.98	0.00
FRL[a]	46.93	45.19	47.70	45.98	-0.04
Not FRL[a]	53.07	54.81	52.30	54.02	0.04
Special Ed[a]	8.58	9.63	8.62	8.91	0.02
Not Special Ed[a]	91.42	90.37	91.38	91.09	-0.02
Grade 8 ELA[c]	637.16 ** (24.63)	640.99 ** (23.53)	640.29 (22.17)	639.73 (22.65)	-0.02
Grade 8 Math[c]	638.60 *** (29.83)	644.21*** (24.94)	643.65 (25.38)	643.11 (24.43)	-0.02
Years of Over-Age When First Enrolled in Grade 9[c]	0.57 *** (0.70)	0.34 *** (0.52)	0.37 (0.56)	0.36 (0.53)	-0.02
Grade 9 Credits Earned[c]	6.98 (4.32)	6.88 (4.34)	7.20 (4.21)	6.86 (4.36)	-0.08
Grade 9 ADA[c]	80.07 * (16.83)	82.40 * (15.93)	81.95 (15.19)	81.88 (16.07)	0.00

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, Native American/Alaskan, Native Hawaiian/Pacific Islander, or multiracial.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed.

Table A.4. Baseline covariate balance before and after matching: GSS vs. comparison students for number of core Regents exams passed analysis (2011–13)

Matching Variable	GSS vs. Comparison Students				
	Before Matching		After Matching		
	Comparison	GSS	Comparison	GSS	Hedge's *g*
Count	2,180	374	99	99	
Treated cases with complete matching and outcome data				110	
$N_{treated}$ lost after matching				11	
$\%_{treated}$ lost after matching				10.0%	
Hispanic[a]	24.31 ***	67.65 ***	70.71	68.69	-0.06
Black[a]	71.70 ***	14.71 ***	19.19	19.19	0.00
White and other[a, b]	3.99 ***	17.64 ***	10.10	12.12	0.12
Female[a]	54.27*	47.86 *	60.61	54.55	-0.15
Male[a]	45.73 *	52.14 *	39.39	45.45	0.15
ELL[a]	2.02 **	4.28 **	3.03	4.04	0.18
Not ELL[a]	97.98 **	95.72 **	96.97	95.96	-0.18
FRL[a]	46.93	45.19	47.47	50.51	0.07
Not FRL[a]	53.07	54.81	52.53	49.49	-0.07
Special Ed[a]	8.58	9.63	11.11	13.13	0.11
Not Special Ed[a]	91.42	90.37	88.89	86.87	-0.11
Grade 8 ELA[c]	637.16 ** (24.63)	640.99 ** (23.53)	640.38 (19.04)	642.75 (18.70)	0.13
Grade 8 Math[c]	638.60 *** (29.83)	644.21 *** (24.94)	647.91 (19.31)	645.96 (21.58)	-0.09
Years of Over-Age When First Enrolled in Grade 9[c]	0.57 *** (0.70)	0.34 *** (0.52)	0.39 (0.60)	0.38 (0.53)	-0.02
Grade 9 Credits Earned[c]	6.98 (4.32)	6.88 (4.34)	7.18 (4.16)	7.23 (4.46)	0.01
Grade 9 ADA[c]	80.07 * (16.83)	82.40 * (15.93)	82.65 (11.95)	82.82 (14.22)	0.01

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, Native American/Alaskan, Native Hawaiian/Pacific Islander, or multiracial.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed.

Table A.5. Baseline covariate balance before and after matching: GSS vs. comparison students for school attendance analysis (2011–13)

Matching Variable	GSS vs. Comparison Students				
	Before Matching		After Matching		
	Comparison	GSS	Comparison	GSS	Hedge's *g*
Count	2,180	374	347	347	
Treated cases with complete matching and outcome data				374	
$N_{treated}$ lost after matching				27	
$\%_{treated}$ lost after matching				7.2%	
Hispanic[a]	24.31 ***	67.65 ***	70.32	70.89	0.02
Black[a]	71.70 ***	14.71 ***	15.85	15.85	0.00
White and other[a, b]	3.99 ***	17.64 ***	13.83	13.26	-0.03
Female[a]	54.27*	47.86 *	53.60	49.86	-0.09
Male[a]	45.73 *	52.14 *	46.40	50.14	0.09
ELL[a]	2.02 **	4.28 **	4.03	4.03	0.00
Not ELL[a]	97.98 **	95.72 **	95.97	95.97	0.00
FRL[a]	46.93	45.19	47.84	46.11	-0.04
Not FRL[a]	53.07	54.81	52.16	53.89	0.04
Special Ed[a]	8.58	9.63	8.36	8.93	0.04
Not Special Ed[a]	91.42	90.37	91.64	91.07	-0.04
Grade 8 ELA[c]	637.16 ** (24.63)	640.99 ** (23.53)	640.38 (22.25)	639.67 (22.66)	-0.03
Grade 8 Math[c]	638.60 *** (29.83)	644.21*** (24.94)	643.68 (25.37)	643.12 (24.46)	-0.02
Years of Over-Age When First Enrolled in Grade 9[c]	0.57 *** (0.70)	0.34 *** (0.52)	0.37 (0.56)	0.36 (0.53)	-0.02
Grade 9 Credits Earned[c]	6.98 (4.32)	6.88 (4.34)	7.20 (4.23)	6.85 (4.37)	-0.08
Grade 9 ADA[c]	80.07 * (16.83)	82.40 * (15.93)	81.92 (15.18)	81.84 (16.07)	-0.01

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, Native American/Alaskan, Native Hawaiian/Pacific Islander, or multiracial.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed.

Table A.6. Baseline covariate balance before and after matching: GSS vs. comparison students for suspensions analysis (2011–13)

Matching Variable	GSS vs. Comparison Students				
	Before Matching		After Matching		
	Comparison	GSS	Comparison	GSS	Hedge's *g*
Count	2,180	374	348	348	
Treated cases with complete matching and outcome data				374	
$N_{treated}$ lost after matching				26	
$\%_{treated}$ lost after matching				7.0%	
Hispanic[a]	24.31 ***	67.65 ***	70.11	70.69	0.02
Black[a]	71.70 ***	14.71 ***	15.80	15.80	0.00
White and other[a, b]	3.99 ***	17.64 ***	14.08	13.51	-0.03
Female[a]	54.27*	47.86 *	52.87	49.71	-0.08
Male[a]	45.73 *	52.14 *	47.13	50.29	0.08
ELL[a]	2.02 **	4.28 **	4.02	4.02	0.00
Not ELL[a]	97.98 **	95.72 **	95.98	95.98	0.00
FRL[a]	46.93	45.19	47.70	45.98	-0.04
Not FRL[a]	53.07	54.81	52.30	54.02	0.04
Special Ed[a]	8.58	9.63	8.62	8.91	0.02
Not Special Ed[a]	91.42	90.37	91.38	91.09	-0.02
Grade 8 ELA[c]	637.16 ** (24.63)	640.99 ** (23.53)	640.29 (22.17)	639.73 (22.65)	-0.02
Grade 8 Math[c]	638.60 *** (29.83)	644.21 *** (24.94)	643.65 (25.38)	643.11 (24.43)	-0.02
Years of Over-Age When First Enrolled in Grade 9[c]	0.57 *** (0.70)	0.34 *** (0.52)	0.37 (0.56)	0.36 (0.53)	-0.02
Grade 9 Credits Earned[c]	6.98 (4.32)	6.88 (4.34)	7.20 (4.21)	6.86 (4.36)	-0.08
Grade 9 ADA[c]	80.07 * (16.83)	82.40 * (15.93)	81.95 (15.19)	81.88 (16.07)	0.00

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, Native American/Alaskan, Native Hawaiian/Pacific Islander, or multiracial.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed.

Table A.7. Baseline covariate balance before and after matching: GSS vs. comparison students for graduation vs. discharge status analysis (2011–14)

Matching Variable	GSS vs. Comparison Students				
	Before Matching		After Matching		
	Comparison	GSS	Comparison	GSS	Hedge's *g*
Count	2,180	374	291	291	
Treated cases with complete matching and outcome data				314	
$N_{treated}$ lost after matching				23	
$\%_{treated}$ lost after matching				7.3%	
Hispanic[a]	24.31 ***	67.65 ***	72.51	71.48	-0.03
Black[a]	71.70 ***	14.71 ***	14.78	14.78	0.00
White and other[a, b]	3.99 ***	17.64 ***	12.71	13.75	0.05
Female[a]	54.27*	47.86 *	53.61	48.80	-0.12
Male[a]	45.73 *	52.14 *	46.39	51.20	0.12
ELL[a]	2.02 **	4.28 **	4.12	4.81	0.10
Not ELL[a]	97.98 **	95.72 **	95.88	95.19	-0.10
FRL[a]	46.93	45.19	46.74	43.64	-0.08
Not FRL[a]	53.07	54.81	53.26	56.36	0.08
Special Ed[a]	8.58	9.63	9.62	8.25	-0.10
Not Special Ed[a]	91.42	90.37	90.38	91.75	0.10
Grade 8 ELA[c]	637.16 ** (24.63)	640.99 ** (23.53)	640.06 (22.66)	640.53 (22.66)	0.02
Grade 8 Math[c]	638.60 *** (29.83)	644.21*** (24.94)	642.77 (26.57)	643.81 (24.33)	0.04
Years of Over-Age When First Enrolled in Grade 9[c]	0.57 *** (0.70)	0.34 *** (0.52)	0.32 (0.54)	0.35 (0.53)	0.06
Grade 9 Credits Earned[c]	6.98 (4.32)	6.88 (4.34)	6.93 (4.01)	6.76 (4.27)	-0.04
Grade 9 ADA[c]	80.07 * (16.83)	82.40 * (15.93)	82.62 (13.85)	82.26 (16.04)	-0.02

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, Native American/Alaskan, Native Hawaiian/Pacific Islander, or multiracial.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed.

Table A.8. Baseline covariate balance before and after matching: GSS vs. comparison students for enrollment vs. discharge status analysis (2011–14)

Matching Variable	GSS vs. Comparison Students				
	Before Matching		After Matching		
	Comparison	GSS	Comparison	GSS	Hedge's *g*
Count	2,180	374	155	155	
Treated cases with complete matching and outcome data				168	
$N_{treated}$ lost after matching				13	
$\%_{treated}$ lost after matching				7.7%	
Hispanic[a]	24.31 ***	67.65 ***	68.39	72.26	0.11
Black[a]	71.70 ***	14.71 ***	15.48	15.48	0.00
White and other[a, b]	3.99 ***	17.64 ***	16.13	12.26	-0.19
Female[a]	54.27*	47.86 *	50.32	49.03	-0.03
Male[a]	45.73 *	52.14 *	49.68	50.97	0.03
ELL[a]	2.02 **	4.28 **	3.87	4.52	0.10
Not ELL[a]	97.98 **	95.72 **	96.13	95.48	-0.10
FRL[a]	46.93	45.19	50.32	48.39	-0.05
Not FRL[a]	53.07	54.81	49.68	51.61	0.05
Special Ed[a]	8.58	9.63	7.10	8.39	0.11
Not Special Ed[a]	91.42	90.37	92.90	91.61	-0.11
Grade 8 ELA[c]	637.16 ** (24.63)	640.99 ** (23.53)	637.14 (27.50)	639.86 (20.82)	0.11
Grade 8 Math[c]	638.60 *** (29.83)	644.21*** (24.94)	643.67 (23.05)	642.28 (22.62)	-0.06
Years of Over-Age When First Enrolled in Grade 9[c]	0.57 *** (0.70)	0.34 *** (0.52)	0.37 (0.51)	0.35 (0.50)	-0.04
Grade 9 Credits Earned[c]	6.98 (4.32)	6.88 (4.34)	6.29 (4.14)	6.57 (4.73)	0.06
Grade 9 ADA[c]	80.07 * (16.83)	82.40 * (15.93)	80.48 (15.36)	79.34 (17.43)	-0.07

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, Native American/Alaskan, Native Hawaiian/Pacific Islander, or multiracial.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed.

After generating a closely matched group of comparison students for the GSS students, hierarchical linear modeling (HLM) was used to assess the overall impact of the GSS model on students' academic and behavioral outcomes. Additional exploratory analyses were also conducted for the following subgroups: (1) males, (2) females, (3) Black males, (4) Hispanic males, and (5) students with less than 11 credits at admission. Because school was the unit of assignment but impacts were measured at the student level, two-level models were used for these cross-sectional analyses to account for the clustering of students within schools. In addition to the treatment indicator, the matching variables used for PSM were also included as pertinent covariates in the student-level models of HLMs to further control for possible confounding effects in the impact analyses. In addition, Metis tried to include a few important school characteristics (i.e., percent low-income and average New York State Grade 8 ELA exam score) in the school-level models of HLMs for more precise estimates of intervention impacts. The limited number of schools (2 GSS and 11 comparisons) posed challenges to including additional school-level variables in HLMs. In some cases, the between-school variance components in the HLM models could not converge, and therefore the corresponding analyses were re-conducted using regular regressions (i.e., without nesting students under schools). Additional details on the regression analyses are presented in Appendices D and E.

Evaluation of Implementation

Information about implementation at the GSS schools was obtained from interviews, focus groups, surveys, school walk-throughs, and from documentation and data provided by GSS and the NYC DOE.

- Site visits were conducted in the fall of each school year for the purpose of conducting individual interviews with the GSS and DOE administrators, focus groups with students and staff, and school walk-throughs to get a feel of the school climate.
- Students were surveyed in December 2011, spring 2012, and spring 2013.
- Staff were surveyed in spring 2012 and spring 2013.
- Data on the characteristics of the students enrolled in the GSS schools were obtained from the NYC DOE.
- Rosters of enrolled students and data on the students' participation in internships were provided by GSS.

Information on practices in the comparison group transfer schools was obtained from interviews with some of the representatives of the community-based organizations partnering with or providing services to students in these schools as well as from information available to the public in the NYC DOE high school directory and on the department's website.

Protocols were designed to collect information about the key components of the GSS transfer school model, respondents' experiences in the schools and services provided, challenges, and recommendations for improvement.

Methods and Sources of Data

In each year of the evaluation individual interviews were conducted with each school principal and GSS program director. Two staff focus groups were conducted at each school each year, with participation from a total of 29 DOE and GSS personnel across both schools. Two student focus groups were conducted at each school each year, with a total of 29 students participating in a focus group in the first year and 23 in the second year. Half of the groups were composed of student leaders while the other half was selected by advocate counselors from across their caseloads based on their ability to express themselves in a group.

A small number of parents participated in a focus group at each school; nine parents participated the first year and six the second year. Focus groups were conducted in Spanish for Spanish-speaking parents.

The evaluation team took a tour of each school led by student or school leaders. The walk-through included observations of classrooms (although not of instruction); common spaces, such as the cafeteria, stairwells, and hallways; and rooms used for counseling. The purpose of the tours was to become familiar with the physical facilities and get a sense of the school atmosphere that could be observed through wall posters, exhibits of student work, etc. Instruction was minimally observed during the school visits.

A locally-developed survey was administered during the school day by school personnel in December 2011, May 2012, and May 2013, according to the schedule listed above. The survey was designed to gather information about students' educational experiences, opportunities to participate in community-building and leadership experiences, relationships with peers and adults at the school, experiences with college- and career-preparation activities, educational aspirations, and satisfaction. It included adapted standardized items focused on key predictors of engagement as well as locally developed items that addressed specific aspects of the GSS transfer school model. All enrolled students were expected to be surveyed. Surveys were administered, in paper versions, primarily by the advocate counselors in a group setting. Using rosters provided by GSS, the survey was pre-populated with students' names, but in addition, the schools received copies with names left blank for any new students.

An online survey was administered to all school staff over a two-week period in May 2012 and May 2013. The survey was designed to obtain staff perspectives on how well their school is implementing the model's core principals and components.

Student and staff response rates for each year's administration are presented in Table A.7.

Table A.7. Survey response rates

Administration	Students			Staff		
	Total N	Response N	Response %	Total N	Response N	Response %
Spring 2012	352	280	79.6%	64	61	95.3%
Spring 2013	327	239	73.1%	56	53	94.6%

Development of the surveys and protocols was informed by reports by and about the GSS program, including a manual for replicating the model, a logic model, and the Good Shepherd Services Sanctuary Information Guide. Student rosters and program administrative data (assignment of advocate counselors, participation in internships) also were obtained from GSS.

To identify transfer schools for the comparison group, the list of all transfer schools in Brooklyn was reviewed by GSS staff. Schools affiliated with or that follow the GSS model were eliminated from the list, leaving a total of 11 schools. Descriptions of the schools and information about enrollment were obtained from the NYC DOE website and the directory of high schools. A semi-structured telephone interview protocol was developed and, beginning in January 2013, outreach was made by Metis researchers to the principals of these schools to obtain qualitative information about the schools. Two schools indicated they did not wish to participate, and the others did not return emails and telephone calls. After repeated attempts, the same methods were used to contact the program directors of the community-based organizations that work in partnership and/or provide on-site services. Outreach was also made by GSS staff and staff of a coalition that works with these schools. The evaluators conducted interviews or received written responses from the program directors of community organizations that work in five of the 11 schools.

References

Rosenbaum, P. R. (1991). A Characterization of Optimal Designs for Observational Studies, *Journal of the Royal Statistical Society, Ser. B*, 53, 597-610.

Rosenbaum, P. R. (2002). *Observational studies* (2nd ed.). New York: Springer.

Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika, 70*, 41-55.

Rosenbaum, P. R., & Rubin, D. B. (1984). Reducing bias in observational studies using subclassification on the propensity score. *Journal of the American Statistical Association, 79*, 516-524.

Rosenbaum, P. R., & Rubin, D. B. (1985). Constructing a control group using multivariate matched sampling methods that incorporate the propensity score. *American Statistician, 39*, 33-38.

What Works Clearinghouse (2011). *Procedures and Standards Handbook* (version 2.1). Retrieved from http://ies.ed.gov/ncee/wwc/pdf/reference_resources/wwc_procedures_v2_1_standards_handbook.pdf

Appendix B: Traditional High School Comparison Group Considerations

In the evaluation of the GSS program, Metis initially tried to limit the potential comparison schools to those with similar core educational programs and geographical proximity to the target schools (i.e., the other Brooklyn transfer high schools that do not follow the GSS model) to better control for unmeasured confounding variables. However, instead of relying solely on a comparison group from other transfer schools offering similar programs, GSS asked Metis to explore the possibility of generating an additional matched comparison group from similar over-age, under-credited students who stayed in the sending regular high schools using propensity score matching (PSM) techniques.

Although aware that there might be difficulty in finding similar students from the regular high schools, Metis continued with the design as planned. A retrospective longitudinal student-level file was generated from NYC DOE data for students in the identified sending high schools, with the same matching metrics that were used for creating the transfer school comparison group.[37] Again using the same greedy matching *without* replacement algorithms, the GSS target students enrolled in the two schools during the 2011–12 school year were matched to similar youth who stayed in the 10 major sending high schools.

While target case losses after PSM are very common due to stringent matching criteria as well as missing or faulty data, there is an expectation that these losses can be minimized with a large reservoir of non-participating subjects and adequate overlap between target and possible comparison samples. The PSM matching process as designed for this study involved a large set of matching variables for a relatively small group of targets (N= 429).[38] It is always preferable to have a large pool of possible comparisons to minimize loss, as explained above. The matching procedures for both possible comparison groups were repeated several times to ensure a

[37] Recall that the following matching variables were used for identifying the transfer school comparison group: gender, race/ethnicity, free/reduced price lunch (FRL) eligibility, English language learner (ELL) and special education status, New York State Grade 8 English Language Arts (ELA) and Math exam scores, number of years over-age when first enrolled in Grade 9, credits earned and average daily attendance (ADA) in Grade 9.

[38] Note that while there were a total of 429 GSS students who were enrolled in the two schools during the 2011–12 school year, only 374 of them had complete matching data, and among these 374 cases, some were further missing various target outcomes.

minimal loss of cases.[39] However, even though the traditional high school comparison pool (N=30,138) was over ten times as large as the available transfer school comparison pool (N=2,581), extensive matching and re-matching only accounted for eight (8) more matches for the traditional high school than the much smaller transfer school population. This was a clear indication that there may not be a great deal of overlap between the transfer school target population and the population of students who remain in the sending high schools.

Nonetheless, with a traditional high school comparison group identified, Metis proceeded to conduct the impact analyses for the following outcomes: (1) graduation vs. discharge status, (2) enrollment vs. discharge status, (3) credits earned, (4) number of core Regents exams passed, (5) attendance, and (6) suspensions. Table B.1 presents a summary of the regression analyses results. The findings indicated that GSS students had a significant *lower* probability of remaining enrolled in school (as opposed to being discharged) than their matched comparisons from the top ten traditional feeder high schools (odds ratio = 0.441, p-value = 0.0326). Observed differences for the other metrics proved to be negligible (graduation), positive (credits earned) or negative (core Regents passed, average daily attendance (ADA), suspensions) and not statistically significant with, at best, very small effect sizes (see Table B.1).

In attempting to interpret the counter-intuitive results, Metis and the GSS program staff revisited the matching variables that were used for selecting similar comparison students. Following the *What Works Clearinghouse (WWC) Procedures and Standards Handbook* (v 2.1, 2011), Metis tried to demonstrate baseline equivalence of the target GSS group and the traditional high school comparison group on student race/ethnicity, gender, measures of degree of disadvantage, and school performance. Based on the feedback from GSS, however, in the case of traditional high school comparison selection, the credits earned and ADA in grade 9 were actually not good proxies for prior high school performance, which is crucial for identifying those who were truly comparable to the target youth. The key issue is that these variables are measured in Year 1 of high school and do not provide accurate information for important baseline characteristics that GSS and other transfer schools use to select their students: being 16 or older, over-age, under-credited, and truant at the time of enrollment.[40] In other words, the selected ninth-grade metrics therefore do not provide an adequate account of student achievement and/or attendance prior to transfer school entry for comparison students selected from the traditional high schools. Furthermore, given that only those who stayed in sending schools *and* had pertinent outcomes could be matched to the target students, it was impossible to find the truant students who would likely be a better comparison population in the traditional high schools.

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[39] An iterative matching process is typically more robust given that greedy matching pairs treated subjects with their closest comparison counterparts one at a time without reconsidering early matches as later matches are made.

[40] Note that approximately 45% of the target youth enroll in the GSS schools when they are 16, while the remaining 55% are 17 to 20 years old at the time of enrollment.

Given the difficulty Metis encountered in collecting a matched comparison group from over 30,000 possible comparisons and the rolling admission policy used by the transfer schools, the task of constituting a closely-matched comparison group based on more accurate baseline characteristics seemed insurmountable. Metis and GSS thus concluded that any comparison group from traditional feeder high schools would likely not accurately reflect the treatment group in baseline equivalence, particularly if based on the above selected matching variables. According to the WWC standards, this poses an insurmountable threat to the internal validity of the comparison, leading to the conclusion that the comparison to traditional feeder schools presented in this appendix is inherently flawed and should not be included in the text of the final report. The comparisons presented within this appendix are therefore provided for disclosure purposes only and should neither be presented nor interpreted as a valid statistical comparison of similarly situated groups.

While the comparison students from the other Brooklyn transfer schools were selected using the same matching variables to denote prior high school performance, the matching variables are more appropriate for this group of students. The potential comparison group was restricted to those who had already been admitted to transfer schools with similar admission criteria to the GSS schools. Because we know that these students are like those in the treatment group based on selection criteria to the transfer schools, the use of the ninth-grade metrics to approximate baseline performance is appropriate and not a threat to internal validity. The impact analyses based on the transfer school comparison therefore could meet the WWC evidence standards with reservations, since the baseline equivalence of both groups was established for final analytic samples based on valid observed pre-intervention characteristics related to the outcomes of interest (see Appendix A for details).

Table B.1. Summary of regression results for overall impacts on traditional high school student comparison group (2011–13)[41]

Dichotomous Outcomes	Sample Size (Matched Pairs x 2)	Unadjusted Odds		Regression-Adjusted Odds		Effect Size in Odds Ratio or Multiplicative Inverse of Odds Ratio		*p* Value
		Comparison	Treatment	Comparison	Treatment			
Graduation vs. Discharge	226 x 2	1.690	1.511	1.698	1.602	$0.943^{-1} = 1.060$		0.8771
Enrollment vs. Discharge	206 x 2	2.492	1.191	2.763	1.218	$0.441^{-1} = 2.268$		0.0326
Continuous Outcomes	**Sample Size (Matched Pairs x 2)**	**Unadjusted Means**		**Regression-Adjusted Means**		**Estimated Impact**	**Effect Size in Glass's Delta**	***p* Value**
		Comparison	Treatment	Comparison	Treatment			
Credits Earned	346 x 2	12.428	12.822	12.449	12.818	0.369	0.038	0.7303
Core Regents Passed	104 x 2	2.529	2.260	2.555	2.234	-0.321	-0.179	0.1187
Average Daily Attendance SY12 & SY13	356 x 2	66.838	64.896	66.950	64.783	-2.168	-0.074	0.6620
Suspensions SY12 & SY13	356 x 2	0.126	0.076	0.125	0.084	-0.041	-0.076	0.3699

[41] Note that the second round of analyses of the graduation and persistence outcomes at the end of 2013–14 school year was not carried out for the traditional high school group.

Appendix C: The GSS Model Compared to Comparison Group Schools

Information collected through interviews and available documentation indicates that, on the whole, the GSS transfer schools have many aspects in common with the transfer schools from which comparison students were drawn. However, there was a range of practices at these other schools and information about these schools was limited to public sources and interviews with representatives of the some of the community organizations. Highlights of the similarities and differences are presented below.

Admissions criteria and practices: Unlike the GSS schools, the comparison schools do not serve a neighborhood catchment area. Students in all transfer schools must have been enrolled in another high school for at least one year, however different schools have various credit entry requirements and truancy is not always a criterion.

Based on interview information obtained from five of the comparison schools, the schools follow an admissions process that is similar to that of the GSS schools, including active recruitment and referrals from guidance counselors, one-on-one meetings of students and parents/guardians with counselors, reviews of transcripts to make sure students have sufficient time to be able to graduate, and reading (and at some schools math) assessments. With one exception, at the interviewed schools, the community organization staff handles the intake and admissions process, and enrollment decisions are made jointly by NYC DOE and community organization personnel.

The transfer schools vary in when they admit students during the school year, with some offering three cycles, one having rolling admissions, and others following a semester schedule. Some schools maintain a waiting list.

Leadership and partnership structure: The structures at the comparison schools vary, with some having shared leadership and others a more differentiated relationship. All but one of them has a community-based organization on-site;[42] however, they vary in the extent to which decision making is shared between NYC DOE and community organization staff. Information

[42] None of the other Brooklyn transfer schools has a partnership with GSS as this was a criterion for excluding schools from this comparison group.

was not available to assess the relationship between DOE and community organization leaders and staff.

Integration of advocate counseling: The advocate counselor role is present at some, but not all, of the comparison schools. At some of them, various school staff have assumed some of these functions—for example, attendance outreach and academic advisement. Information from interviews indicates that two of the schools are implementing models that closely resemble the primary person model used by GSS. The other schools fall somewhere along the spectrum between a primary person model and the approach adopted by most traditional high schools in which attendance, academic, guidance, and career/college readiness supports are offered by different school personnel, and in only a few instances, by community organization staff.

Personalized, small school environment: The GSS schools are similar to the comparison schools in size and student-to-staff ratios. The comparison schools have small student enrollments, ranging from 125 to 370, with a typical average class size of about 15 to 20 students. According to interviews, the community organization partners have played a critical role in helping provide the personalized environment and types of supports that students need to succeed and graduate.

Youth development approach to instruction: In terms of how students are grouped and an individualized approach, the transfer school model developed by GSS and adopted by DOE is present in the comparison schools. Like the GSS schools, each of the transfer schools is structured on credit needs rather than grade level. Information from the interviews indicates that two follow a semester schedule, two offer three academic cycles, and one is based on student mastery of academic content. Information was not available for the comparison schools on opportunities for youth voice and participation.

Postsecondary preparation: Nine of the 11 transfer schools in the comparison group have a Learning to Work (LTW) program in their school. In these schools, the LTW director and/or coordinator and, in many cases additional staff from the partnering community organizations, are responsible for providing students with job and career development activities, internships, and college exploration activities.

Appendix D: Regression Analysis Results, 2011–13

Full model specifications and regression analysis results are presented below.[43] Due to the multiple dimensions of the data structure in this study (i.e., students nested within schools), hierarchical linear modeling (HLM) was conducted to account for the clustering effect and control for multiple covariates at each level within the same analysis. In cases where the between-school variance was zero (and therefore the corresponding random component estimate did not show up), standard regressions were used to re-analyze the same sets of data and provide the final results. Note that in each regression model, all covariates were grand-mean centered, except for the treatment indicator.

Full Hierarchical Linear Regression Model

Level 1: Student level

$$
\begin{aligned}
Y_{ij} = {} & \beta_{0j} + \beta_{1j}(\text{Male}_{ij} - \overline{\text{Male}}..) + \beta_{2j}(\text{Hispanic}_{ij} - \overline{\text{Hispanic}}..) + \beta_{3j}(\text{Black}_{ij} - \overline{\text{Black}}..) \\
& + \beta_{4j}(\text{SpeEd}_{ij} - \overline{\text{SpeEd}}..) + \beta_{5j}(\text{FRL}_{ij} - \overline{\text{FRL}}..) + \beta_{6j}(\text{ELL}_{ij} - \overline{\text{ELL}}..) \\
& + \beta_{7j}(\text{GRD8ELA}_{ij} - \overline{\text{GRD8ELA}}..) + \beta_{8j}(\text{GRD8Math}_{ij} - \overline{\text{GRD8Math}}..) \\
& + \beta_{9j}(\text{OAGRD9}_{ij} - \overline{\text{OAGRD9}}..) + \beta_{10j}(\text{GRD9CRD}_{ij} - \overline{\text{GRD9CRD}}..) + \\
& + \beta_{11j}(\text{GRD9ADA}_{ij} - \overline{\text{GRD9ADA}}..) + r_{ij}
\end{aligned}
$$

where

Y_{ij} represents the selected outcome for student i in school j;

β_{0j} represents the mean score for school j adjusted for the student-level covariates;

$\beta_{1j} - \beta_{11j}$ represent the regression coefficients for school j, associated with various student-level covariates; and

r_{ij} represents the random error associated with student i in school j.

[43] Specifically, in addition to the treatment indicator (TRT), the following covariates were included in each full model: student gender (Male), race/ethnicity (Hispanic, Black), free/reduced price lunch eligibility (FRL), English language learner (ELL) and special education status (SpeEd), New York State Grade 8 English Language Arts and Math exam scores (GRD8ELA, GRD8Math), number of years over-age when first enrolled in Grade 9 (OAGRD9), credits earned and average daily attendance (ADA) in Grade 9 (GRD9CRD, GRD9ADA), and percent low-income and average New York State Grade 8 ELA exam score at the school-level (PFRL, AVGGRD8ELA).

Level 2: School level

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{AVGGRD8ELA}_j - \overline{\text{AVGGRD8ELA.}}) + \gamma_{02}(\text{PFRL}_j - \overline{\text{PFRL.}}) + \\ + \gamma_{03}(\text{TRT}_j) + \mu_{0j}$$

$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$
$\beta_{4j} = \gamma_{40}$
$\beta_{5j} = \gamma_{50}$
$\beta_{6j} = \gamma_{60}$
$\beta_{7j} = \gamma_{70}$
$\beta_{8j} = \gamma_{80}$
$\beta_{9j} = \gamma_{90}$
$\beta_{10j} = \gamma_{100}$
$\beta_{11j} = \gamma_{110}$

where

γ_{00} represents the selected outcome mean for the comparison schools;

$\gamma_{01} - \gamma_{02}$ represent the regression coefficients associated with the school-level covariates;

γ_{03} represents the regression coefficient associated with the treatment indicator – it quantifies the treatment impact (the mean difference in the outcome between treatment and comparison subjects);

$\gamma_{10} - \gamma_{110}$ represent the common regression coefficients associated with the various student-level covariates for each school; and

μ_{0j} represents the random error associated with school *j*.

Full Hierarchical Generalized Linear Regression Model

The two-level logistic regression model is given in terms of the logits of probabilities of the selected outcome equal to 1, i.e.,

$$\eta_{ij} = \log\left(\frac{\Pr(Y_{ij}=1)}{1-\Pr(Y_{ij}=1)}\right)$$

The full multilevel model can be specified as follows:

Level 1: Student level

$$\eta_{ij} = \alpha_{0j} + \alpha_{1j}(\text{Male}_{ij} - \overline{\text{Male..}}) + \alpha_{2j}(\text{Hispanic}_{ij} - \overline{\text{Hispanic.}}) + \alpha_{3j}(\text{Black}_{ij} - \overline{\text{Black..}}) \\ + \alpha_{4j}(\text{SpeEd}_{ij} - \overline{\text{SpeEd..}}) + \alpha_{5j}(\text{FRL}_{ij} - \overline{\text{FRL..}}) + \alpha_{6j}(\text{ELL}_{ij} - \overline{\text{ELL..}}) \\ + \alpha_{7j}(\text{GRD8ELA}_{ij} - \overline{\text{GRD8ELA..}}) + \alpha_{8j}(\text{GRD8Math}_{ij} - \overline{\text{GRD8Math..}}) \\ + \alpha_{9j}(\text{OAGRD9}_{ij} - \overline{\text{OAGRD9..}}) + \alpha_{10j}(\text{GRD9CRD}_{ij} - \overline{\text{GRD9CRD..}}) \\ + \alpha_{11j}(\text{GRD9ADA}_{ij} - \overline{\text{GRD9ADA..}}) + r_{ij}$$

where

α_{0j} represents the mean logit for school *j* adjusted for the student-level covariates;

$\alpha_{1j} - \alpha_{11j}$ represent the regression coefficients for school *j*, associated with various student-level covariates; and

r_{ij} represents the random error associated with student *i* in school *j*.

Level 2: School level

$$\alpha_{0j} = \beta_{00} + \beta_{01}(\text{AVGGRD8ELA}_j - \overline{\text{AVGGRD8ELA.}}) + \beta_{02}(\text{PFRL}_j - \overline{\text{PFRL.}}) + \beta_{03}(\text{TRT}_j) + u_{0j}$$

$$\alpha_{1j} = \beta_{10}$$

$$\alpha_{2j} = \beta_{20}$$

$$\alpha_{3j} = \beta_{30}$$

$$\alpha_{4j} = \beta_{40}$$

$$\alpha_{5j} = \beta_{50}$$

$$\alpha_{6j} = \beta_{60}$$

$$\alpha_{7j} = \beta_{70}$$

$$\alpha_{8j} = \beta_{80}$$

$$\alpha_{9j} = \beta_{90}$$

$$\alpha_{10j} = \beta_{100}$$

$$\alpha_{11j} = \beta_{110}$$

Where

β_{00} represents the mean logit for the comparison schools;

$\beta_{01} - \beta_{02}$ represent the regression coefficients associated with the school-level covariates;

β_{03} represents the regression coefficient associated with the treatment indicator – it quantifies the treatment impact (the difference in the log-odds-ratio associated with being a treatment subject, as opposed to a comparison subject);

$\beta_{10} - \beta_{110}$ represent the common regression coefficients associated with various student-level covariates for each school; and

u_{0j} represents the random error associated with school *j*.

Full Linear Regression Model

$$
\begin{aligned}
Y_i &= \beta_0 + \beta_1(\text{Male}_i - \overline{\text{Male.}}) + \beta_2(\text{Hispanic}_i - \overline{\text{Hispanic.}}) + \beta_3(\text{Black}_i - \overline{\text{Black.}}) \\
&+ \beta_4(\text{SpeEd}_i - \overline{\text{SpeEd.}}) + \beta_5(\text{FRL}_i - \overline{\text{FRL.}}) + \beta_6(\text{ELL}_i - \overline{\text{ELL.}}) \\
&+ \beta_7(\text{GRD8ELA}_i - \overline{\text{GRD8ELA.}}) + \beta_8(\text{GRD8Math}_i - \overline{\text{GRD8Math.}}) \\
&+ \beta_9(\text{OAGRD9}_i - \overline{\text{OAGRD9.}}) + \beta_{10}(\text{GRD9CRD}_i - \overline{\text{GRD9CRD.}}) \\
&+ \beta_{11}(\text{GRD9CRD}_i - \overline{\text{GRD9CRD.}}) + \beta_{12}(\text{AVGGRD8ELA}_i - \overline{\text{AVGGRD8ELA.}}) \\
&+ \beta_{13}(\text{PFRL}_i - \overline{\text{PFRL.}}) + \beta_{14}(\text{TRT}_i) + \varepsilon_i
\end{aligned}
$$

where

Y_i represents the selected outcome for subject *i*;

β_0 represents the mean score for subject *i* adjusted for the covariates;

$\beta_1 - \beta_{13}$ represent the regression coefficients associated with various covariates for subject *i*;

β_{14} represents the regression coefficient associated with the treatment indicator – it quantifies the treatment impact (the mean difference in the outcome between treatment and comparison subjects);

ε_i represents the random error associated with subject *i*.

Full Logistic Regression Model

The logistic regression model is given in terms of the logits of probabilities of the selected outcome equal to 1, i.e.,

$$\eta_i = \log\left(\frac{\Pr(Y_i = 1)}{1 - \Pr(Y_i = 1)}\right)$$

The full model can be specified as follows:

$$
\begin{aligned}
\eta_i &= \beta_0 + \beta_1(\text{Male}_i - \overline{\text{Male.}}) + \beta_2(\text{Hispanic}_i - \overline{\text{Hispanic.}}) + \beta_3(\text{Black}_i - \overline{\text{Black.}}) \\
&+ \beta_4(\text{SpeEd}_i - \overline{\text{SpeEd.}}) + \beta_5(\text{FRL}_i - \overline{\text{FRL.}}) + \beta_6(\text{ELL}_i - \overline{\text{ELL.}}) \\
&+ \beta_7(\text{GRD8ELA}_i - \overline{\text{GRD8ELA.}}) + \beta_8(\text{GRD8Math}_i - \overline{\text{GRD8Math.}}) \\
&+ \beta_9(\text{OAGRD9}_i - \overline{\text{OAGRD9.}}) + \beta_{10}(\text{GRD9CRD}_i - \overline{\text{GRD9CRD.}}) \\
&+ \beta_{11}(\text{GRD9ADA}_i - \overline{\text{GRD9ADA.}}) + \beta_{12}(\text{AVGGRD8ELA}_i - \overline{\text{AVGGRD8ELA.}}) \\
&+ \beta_{13}(\text{PFRL}_i - \overline{\text{PFRL.}}) + \beta_{14}(\text{TRT}_i) + \varepsilon_i
\end{aligned}
$$

where

Y_i represents the selected outcome for subject *i*;

η_i represents the logits of $\Pr(Y_i = 1)$

β_0 represents the mean logit for subject *i* adjusted for the covariates;

$\beta_1 - \beta_{13}$ represent the logistic regression coefficients associated with various covariates for subject *i*;

β_{14} represents the logistic regression coefficient associated with the treatment indicator – it quantifies the treatment impact (the difference in the log-odds-ratio associated with being a treatment subject, as opposed to a comparison subject);

ε_i represents the random error associated with subject *i*.

Table D.1. Summary of regression results for overall impacts on intended outcomes (2011–13)

Dichotomous Outcomes	Sample Size (Matched Pairs x 2)	Unadjusted Probability of Success		Regression-Adjusted Probability of Success		Effect Size in Cox Index		*p*-value
		Comparison	Treatment	Comparison	Treatment			
Enrollment vs Discharge	200 x 2	0.480	0.550	0.508	0.564	0.136		0.5396
Graduation vs Discharge	225 x 2	0.564	0.582	0.532	0.626	0.234		0.2583
Continuous Outcomes	**Sample Size (Matched Pairs x 2)**	**Unadjusted Means**		**Regression-Adjusted Means**		**Estimated Impact**	**Effect Size in Glass's Delta**	***p*-value**
		Comparison	Treatment	Comparison	Treatment			
Average Daily Attendance SY12 & SY13	347 x 2	60.055	65.372	60.043	65.383	5.340	0.248	0.0008
Suspensions SY12 & SY13	348 x 2	0.167	0.080	0.129	0.128	-0.002	-0.003	0.9815
Credits Earned	348 x 2	16.733	19.926	16.252	20.556	4.304	0.369	0.0170
Core Regents Passed	99 x 2	1.455	1.475	1.473	1.456	-0.016	-0.012	0.9326

Table D.2. Summary of regression results for subgroup analyses of average daily attendance during school years 2012 and 2013 (2011–13)

Subgroups	Sample Size	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Glass's Delta	*p*-value
		Comparison	Treatment	Comparison	Treatment			
Females	359	59.693	64.084	59.517	64.273	4.755	0.213	0.0367
Males	335	60.473	66.652	60.613	66.523	5.910	0.285	0.0082
Black Males	54	62.025	63.367	61.427	63.882	2.455	0.122	0.6623
Hispanic Males	245	59.389	66.375	59.457	66.309	6.852	0.328	0.0078
< 11 credits at admission	257	54.933	64.609	55.540	64.101	8.561	0.344	0.0027

Table D.3. Summary of regression results for subgroup analyses of the number of suspensions during school years 2012 and 2013 (2011–13)

Subgroups	Sample Size	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Glass's Delta	*p*-value
		Comparison	Treatment	Comparison	Treatment			
Females	357	0.130	0.069	0.153	0.068	-0.085	-0.200	0.3287
Males	339	0.207	0.091	0.165	0.131	-0.034	-0.049	0.7009
Black Males	56	0.185	0.172	0.184	0.173	-0.011	-0.023	0.9282
Hispanic Males	245	0.182	0.089	0.101	0.168	0.067	0.106	0.4778
< 11 credits at admission	257	0.205	0.064	0.151	0.110	-0.041	-0.060	0.6884

Table D.4. Summary of regression results for subgroup analyses of the number of credits earned after admission (2011–13)

Subgroups	Sample Size	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Glass's Delta	*p*-value
		Comparison	Treatment	Comparison	Treatment			
Females	357	16.973	20.872	16.155	21.744	5.589	0.479	0.0199
Males	339	16.464	18.991	16.375	19.075	2.700	0.231	0.0370
Black Males	56	15.788	18.638	16.964	17.357	0.393	0.032	0.9236
Hispanic Males	245	15.820	18.772	15.839	18.754	2.915	0.259	0.0497
< 11 credits at admission	257	15.513	21.622	16.160	21.474	5.314	0.410	0.0351

Table D.5. Summary of regression results for subgroup analyses of the number of core Regents exams passed after admission (2011–13)

Subgroups	Sample Size	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Glass's Delta	*p*-value
		Comparison	Treatment	Comparison	Treatment			
Females	114	1.483	1.259	1.482	1.261	-0.222	-0.153	0.4051
Males	84	1.410	1.733	1.437	1.710	0.273	0.199	0.3527
Black Males	10							
Hispanic Males	64	1.167	1.676	1.232	1.618	0.386	0.288	0.2753
< 11 credits at admission	80	1.947	1.595	1.967	1.577	-0.390	-0.233	0.2340

Table D.6. Summary of regression results for subgroup analyses of enrollment vs. discharge status (2011–13)

Subgroups	Sample Size	Unadjusted Probability of Success		Regression-Adjusted Probability of Success		Effect Size in Cox Index	*p*-value
		Comparison	Treatment	Comparison	Treatment		
Females	207	0.491	0.604	0.498	0.612	0.280	0.1100
Males	193	0.468	0.495	0.521	0.499	-0.051	0.8610
Black Males	27						
Hispanic Males	146	0.479	0.533	0.506	0.532	0.062	0.8053
< 11 credits at admission	178	0.459	0.505	0.475	0.521	0.110	0.6970

Table D.7. Summary of regression results for subgroup analyses of graduation vs. discharge status (2011–13)

Subgroups	Sample Size	Unadjusted Probability of Success		Regression-Adjusted Probability of Success		Effect Size in Cox Index	*p*-value
		Comparison	Treatment	Comparison	Treatment		
Females	230	0.558	0.627	0.450	0.737	0.742	0.0292
Males	220	0.571	0.539	0.574	0.538	-0.088	0.5991
Black Males	41						
Hispanic Males	151	0.540	0.506	0.445	0.603	0.384	0.1910
< 11 credits at admission	159	0.420	0.456	0.413	0.466	0.130	0.5222

Table D.8. Linear regression results of average daily attendance for all students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	61.079	1.497	40.790	<.0001	--
Male	1.180	1.642	0.720	0.4728	0.055
Hispanic	-3.308	2.415	-1.370	0.1711	-0.154
Black	-2.521	3.040	-0.830	0.4072	-0.117
SpeEd	3.337	2.985	1.120	0.2640	0.155
FRL	-0.039	1.617	-0.020	0.9808	-0.002
ELL	-1.332	4.163	-0.320	0.7491	-0.062
GRD8ELA	-0.039	0.043	-0.910	0.3631	-0.002
GRD8Math	-0.024	0.039	-0.620	0.5367	-0.001
OAGRD9	0.248	1.557	0.160	0.8736	0.011
GRD9CRD	-0.257	0.227	-1.130	0.2568	-0.012
GRD9ADA	0.330	0.062	5.320	<.0001	0.015
AVGGRD8ELA	0.104	0.115	0.900	0.3659	0.005
PFRL	0.014	0.149	0.090	0.9248	0.001
TRT	3.269	2.540	1.290	0.1986	0.152

Table D.9. Linear regression results of average daily attendance for all students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	60.043	1.120	53.590	<.0001	--
GRD9ADA	0.303	0.051	5.970	<.0001	0.014
TRT	5.340	1.584	3.370	0.0008	0.248

Table D.10. HLM results of the number of suspensions for all students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.130	0.037	3.520	0.0024	--
Male	0.058	0.036	1.610	0.1077	0.101
Hispanic	-0.090	0.052	-1.710	0.0869	-0.158
Black	0.015	0.067	0.230	0.8178	0.027
SpeEd	0.061	0.064	0.950	0.3428	0.107
FRL	-0.029	0.035	-0.830	0.4094	-0.051
ELL	-0.032	0.090	-0.350	0.7231	-0.056
GRD8ELA	0.000	0.001	-0.110	0.9110	0.000
GRD8Math	0.001	0.001	0.700	0.4822	0.001

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
OAGRD9	0.015	0.034	0.440	0.6631	0.026
GRD9CRD	-0.004	0.005	-0.740	0.4594	-0.006
GRD9ADA	0.000	0.001	-0.090	0.9248	0.000
AVGGRD8ELA	-0.005	0.003	-1.910	0.0653	-0.009
PFRL	0.007	0.003	2.170	0.0346	0.013
TRT	-0.003	0.065	-0.050	0.9605	-0.006
Random Effects	**Estimate**	**SE**	**z-value**	***p*-value**	
Between-School Variance	0.001	0.002	0.680	0.249	
Within-School Variance	0.206	0.011	18.550	<.0001	

Table D.11. HLM results of the number of suspensions for all students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.129	0.037	3.490	0.0024	--
Male	0.063	0.035	1.810	0.0714	0.110
Hispanic	-0.100	0.038	-2.610	0.0092	-0.175
AVGGRD8ELA	-0.005	0.003	-1.920	0.0646	-0.009
PFRL	0.007	0.003	2.070	0.0435	0.012
TRT	-0.002	0.065	-0.020	0.9815	-0.003
Random Effects	**Estimate**	**SE**	**z-value**	***p*-value**	
Between-School Variance	0.001	0.002	0.740	0.231	
Within-School Variance	0.207	0.011	18.560	<.0001	

Table D.12. HLM results of the number of credits earned after admission for all students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.348	0.917	17.830	<.0001	--
Male	-1.350	0.930	-1.450	0.1470	-0.116
Hispanic	-0.963	1.363	-0.710	0.4804	-0.083
Black	-2.286	1.743	-1.310	0.1903	-0.196
SpeEd	-2.178	1.677	-1.300	0.1945	-0.187
FRL	0.482	0.914	0.530	0.5977	0.041
ELL	-1.550	2.354	-0.660	0.5105	-0.133
GRD8ELA	-0.015	0.024	-0.600	0.5467	-0.001
GRD8Math	-0.017	0.022	-0.780	0.4352	-0.001
OAGRD9	1.082	0.883	1.230	0.2207	0.093
GRD9CRD	-0.394	0.147	-2.670	0.0077	-0.034

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
GRD9ADA	0.143	0.035	4.030	<.0001	0.012
BeforeAdmission_CRD	-0.113	0.056	-2.020	0.0437	-0.010
AVGGRD8ELA	-0.078	0.068	-1.150	0.2554	-0.007
PFRL	0.168	0.085	1.960	0.0545	0.014
TRT	4.153	1.596	2.600	0.0222	0.356
Random Effects	**Estimate**	**SE**	**z-value**	***p*-value**	
Between-School Variance	0.511	0.964	0.530	0.298	
Within-School Variance	139.390	7.505	18.570	<.0001	

Table D.13. HLM results of the number of credits earned after admission for all students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.252	0.903	17.990	<.0001	--
Male	-1.308	0.907	-1.440	0.1498	-0.112
GRD9CRD	-0.398	0.144	-2.760	0.0059	-0.034
GRD9ADA	0.142	0.035	4.090	<.0001	0.012
BeforeAdmission_CRD	-0.124	0.055	-2.250	0.0249	-0.011
AVGGRD8ELA	-0.091	0.067	-1.350	0.1834	-0.008
PFRL	0.193	0.084	2.300	0.0249	0.017
TRT	4.304	1.562	2.760	0.0170	0.369
Random Effects	**Estimate**	**SE**	**z-value**	***p*-value**	
Between-School Variance	0.410	0.921	0.450	0.328	
Within-School Variance	140.610	7.570	18.570	<.0001	

Table D.14. Linear regression results of the number of core Regents exams passed after admission for all students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.371	0.186	7.390	<.0001	--
Male	0.306	0.208	1.470	0.1435	0.217
Hispanic	-0.041	0.323	-0.130	0.8978	-0.029
Black	0.376	0.382	0.990	0.3255	0.267
SpeEd	-0.941	0.321	-2.930	0.0038	-0.668
FRL	-0.365	0.210	-1.740	0.0844	-0.259
ELL	-0.822	0.549	-1.500	0.1364	-0.583
GRD8ELA	0.012	0.006	1.980	0.0494	0.008
GRD8Math	0.004	0.006	0.800	0.4221	0.003
OAGRD9	0.006	0.185	0.030	0.9761	0.004

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
GRD9CRD	-0.029	0.028	-1.020	0.3104	-0.020
GRD9ADA	0.002	0.009	0.250	0.8042	0.002
BeforeAdmission_#Passed	-0.479	0.113	-4.240	<.0001	-0.340
AVGGRD8ELA	-0.012	0.015	-0.790	0.4322	-0.009
PFRL	0.007	0.016	0.450	0.6513	0.005
TRT	0.188	0.316	0.590	0.5532	0.133

Table D.15. Linear regression results of the number of core Regents passed after admission for all students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.473	0.137	10.740	<.0001	--
Male	0.281	0.198	1.420	0.1573	0.199
SpeEd	-0.988	0.304	-3.250	0.0014	-0.701
FRL	-0.338	0.196	-1.720	0.0865	-0.240
ELL	-0.879	0.535	-1.640	0.1023	-0.624
GRD8ELA	0.013	0.006	2.260	0.0250	0.009
BeforeAdmission_#Passed	-0.481	0.100	-4.820	<.0001	-0.341
TRT	-0.016	0.195	-0.080	0.9326	-0.012

Table D.16. HGLM results of the enrollment vs. discharge status for all students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.051	0.241	-0.210	0.8380	--
Male	-0.298	0.215	-1.390	0.1664	0.742
Hispanic	0.047	0.326	0.140	0.8850	1.048
Black	0.387	0.413	0.940	0.3497	1.473
SpeEd	0.950	0.401	2.370	0.0183	2.584
FRL	0.278	0.216	1.290	0.1991	1.321
ELL	-0.079	0.528	-0.150	0.8816	0.924
GRD8ELA	0.005	0.006	0.840	0.4042	1.005
GRD8Math	0.008	0.005	1.510	0.1331	1.008
OAGRD9	-0.257	0.203	-1.270	0.2047	0.773
GRD9CRD	-0.027	0.030	-0.890	0.3717	0.973
GRD9ADA	0.015	0.008	1.850	0.0644	1.015
AVGGRD8ELA	-0.001	0.018	-0.060	0.9488	0.999
PFRL	-0.028	0.022	-1.260	0.2083	0.972
TRT	0.321	0.429	0.750	0.4552	1.378

Random Component	Estimate	SE
Intercept	0.066	0.095

Table D.17. HGLM results of the enrollment vs. discharge status for all students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.031	0.199	0.160	0.8795	--
Male	-0.312	0.207	-1.510	0.1328	0.732
SpeEd	0.757	0.377	2.010	0.0450	2.132
GRD8Math	0.008	0.005	1.700	0.0901	1.008
GRD9ADA	0.009	0.006	1.470	0.1418	1.009
TRT	0.224	0.366	0.610	0.5396	1.252
Random Component	Estimate		SE		
Intercept	0.144		0.148		

Table D.18. HGLM results of the graduation vs. discharge status for all students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.077	0.222	0.350	0.7369	--
Male	-0.203	0.207	-0.980	0.3272	0.817
Hispanic	-0.070	0.292	-0.240	0.8114	0.933
Black	-0.228	0.389	-0.590	0.5578	0.796
SpeEd	0.298	0.433	0.690	0.4908	1.348
FRL	0.194	0.201	0.970	0.3345	1.214
ELL	-0.530	0.499	-1.060	0.2891	0.589
GRD8ELA	-0.005	0.005	-0.950	0.3409	0.995
GRD8Math	0.005	0.005	1.080	0.2810	1.005
OAGRD9	0.092	0.200	0.460	0.6456	1.097
GRD9CRD	0.024	0.029	0.820	0.4103	1.024
GRD9ADA	0.020	0.008	2.480	0.0135	1.020
AVGGRD8ELA	-0.023	0.017	-1.390	0.1662	0.977
PFRL	0.007	0.020	0.360	0.7223	1.007
TRT	0.499	0.398	1.260	0.2101	1.647
Random Component	Estimate		SE		
Intercept	0.060		0.163		

Table D.19. HGLM results of the graduation vs. discharge status for all students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.129	0.197	0.650	0.5282	--
GRD9ADA	0.023	0.006	3.490	0.0005	1.023
AVGGRD8ELA	-0.018	0.012	-1.450	0.1485	0.982
TRT	0.386	0.341	1.130	0.2583	1.472
Random Component	Estimate		SE		
Intercept	0.047		0.113		

Table D.20. Linear regression results of average daily attendance for female students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	60.927	2.219	27.450	<.0001	--
Hispanic	-2.899	3.237	-0.900	0.3710	-0.130
Black	-1.745	4.164	-0.420	0.6754	-0.078
SpeEd	1.326	4.716	0.280	0.7787	0.060
FRL	-0.325	2.384	-0.140	0.8915	-0.015
ELL	3.945	7.238	0.540	0.5861	0.177
GRD8ELA	-0.066	0.064	-1.030	0.3050	-0.003
GRD8Math	-0.039	0.062	-0.640	0.5216	-0.002
OAGRD9	2.126	2.481	0.860	0.3921	0.095
GRD9CRD	-0.174	0.324	-0.540	0.5918	-0.008
GRD9ADA	0.344	0.090	3.830	0.0002	0.015
AVGGRD8ELA	0.139	0.182	0.770	0.4442	0.006
PFRL	-0.069	0.232	-0.300	0.7668	-0.003
TRT	1.830	3.953	0.460	0.6438	0.082

Table D.21. Linear regression results of average daily attendance for female students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	59.517	1.573	37.830	<.0001	--
GRD9ADA	0.316	0.073	4.350	<.0001	0.014
TRT	4.755	2.267	2.100	0.0367	0.213

Table D.22. Linear regression results of average daily attendance for male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	61.443	2.102	29.230	<.0001	--
Hispanic	-4.715	3.777	-1.250	0.2128	-0.228
Black	-3.962	4.616	-0.860	0.3914	-0.191
SpeEd	4.976	3.998	1.240	0.2142	0.240
FRL	-0.311	2.299	-0.140	0.8923	-0.015
ELL	-3.736	5.121	-0.730	0.4662	-0.180
GRD8ELA	-0.001	0.060	-0.020	0.9815	0.000
GRD8Math	-0.014	0.051	-0.270	0.7857	-0.001
OAGRD9	-1.091	2.050	-0.530	0.5951	-0.053
GRD9CRD	-0.386	0.325	-1.190	0.2363	-0.019

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
GRD9ADA	0.321	0.088	3.670	0.0003	0.016
AVGGRD8ELA	0.070	0.153	0.460	0.6460	0.003
PFRL	0.077	0.202	0.380	0.7026	0.004
TRT	4.312	3.430	1.260	0.2095	0.208

Table D.23. Linear regression results of average daily attendance for male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	60.613	1.600	37.880	<.0001	--
GRD9ADA	0.283	0.071	3.980	<.0001	0.014
TRT	5.910	2.221	2.660	0.0082	0.285

Table D.24. Linear regression results of average daily attendance for Black male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	63.530	6.075	10.460	<.0001	--
SpeEd	-3.504	11.558	-0.300	0.7632	-0.175
FRL	-9.235	6.211	-1.490	0.1444	-0.461
ELL	0.000	--	--	--	--
GRD8ELA	-0.101	0.195	-0.520	0.6062	-0.005
GRD8Math	0.019	0.149	0.120	0.9016	0.001
OAGRD9	-4.955	6.542	-0.760	0.4529	-0.247
GRD9CRD	0.202	1.119	0.180	0.8578	0.010
GRD9ADA	0.324	0.253	1.280	0.2074	0.016
AVGGRD8ELA	0.030	0.397	0.070	0.9407	0.001
PFRL	0.185	0.442	0.420	0.6779	0.009
TRT	-1.460	9.986	-0.150	0.8844	-0.073

Table D.25. Linear regression results of average daily attendance for Black male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	61.427	4.087	15.030	<.0001	--
GRD9ADA	-11.056	5.637	-1.960	0.0553	-0.552
TRT	2.455	5.590	0.440	0.6623	0.122

Table D.26. Linear regression results of average daily attendance for Hispanic male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	60.291	2.356	25.600	<.0001	--
SpeEd	7.432	4.451	1.670	0.0963	0.356
FRL	0.749	2.651	0.280	0.7778	0.036
ELL	-3.256	5.088	-0.640	0.5229	-0.156
GRD8ELA	0.056	0.070	0.810	0.4216	0.003
GRD8Math	-0.047	0.060	-0.790	0.4318	-0.002
OAGRD9	0.312	2.342	0.130	0.8942	0.015
GRD9CRD	-0.433	0.368	-1.180	0.2403	-0.021
GRD9ADA	0.306	0.097	3.160	0.0018	0.015
AVGGRD8ELA	0.076	0.174	0.440	0.6619	0.004
PFRL	0.110	0.255	0.430	0.6671	0.005
TRT	5.204	3.899	1.330	0.1833	0.249

Table D.27. Linear regression results of average daily attendance for Hispanic male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	59.457	1.815	32.760	<.0001	--
SepEd	6.918	4.074	1.700	0.0908	0.332
GRD9ADA	0.248	0.080	3.110	0.0021	0.012
TRT	6.852	2.552	2.690	0.0078	0.328

Table D.28. Linear regression results of average daily attendance for students with less than 11 credits at admission, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	56.164	3.009	18.660	<.0001	--
Male	2.351	2.990	0.790	0.4324	0.094
Hispanic	-4.887	4.385	-1.110	0.2662	-0.196
Black	-4.392	5.736	-0.770	0.4446	-0.176
SpeEd	6.029	5.933	1.020	0.3106	0.242
FRL	-0.936	2.988	-0.310	0.7544	-0.038
ELL	-5.177	7.640	-0.680	0.4987	-0.208
GRD8ELA	-0.047	0.086	-0.550	0.5832	-0.002
GRD8Math	-0.044	0.075	-0.580	0.5626	-0.002
OAGRD9	-2.948	2.868	-1.030	0.3051	-0.118
GRD9CRD	-1.049	0.629	-1.670	0.0964	-0.042

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
GRD9ADA	0.373	0.096	3.890	0.0001	0.015
AVGGRD8ELA	0.084	0.205	0.410	0.6818	0.003
PFRL	-0.057	0.257	-0.220	0.8242	-0.002
TRT	7.416	4.874	1.520	0.1294	0.298

Table D.29. Linear regression results of average daily attendance for students with less than 11 credits at admission, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	55.540	2.081	26.680	<.0001	--
GRD9CRD	-1.327	0.599	-2.220	0.0276	-0.053
GRD9ADA	0.426	0.089	4.800	<.0001	0.017
TRT	8.561	2.824	3.030	0.0027	0.344

Table D.30. HLM results of the number of suspensions for female students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.112	0.046	2.450	0.0370	--
Hispanic	-0.133	0.051	-2.590	0.0099	-0.315
Black	0.040	0.068	0.580	0.5617	0.093
SpeEd	0.061	0.074	0.820	0.4139	0.143
FRL	0.009	0.038	0.240	0.8102	0.021
ELL	0.116	0.115	1.010	0.3112	0.274
GRD8ELA	-0.001	0.001	-1.240	0.2155	-0.003
GRD8Math	0.002	0.001	1.830	0.0679	0.004
OAGRD9	0.026	0.039	0.650	0.5147	0.061
GRD9CRD	-0.012	0.005	-2.390	0.0174	-0.029
GRD9ADA	0.000	0.001	0.090	0.9246	0.000
AVGGRD8ELA	-0.004	0.003	-1.140	0.2769	-0.009
PFRL	0.007	0.004	1.670	0.1110	0.017
TRT	-0.008	0.087	-0.100	0.9276	-0.020

Random Effects	Estimate	SE	z-value	*p*-value
Between-School Variance	0.004	0.005	0.790	0.215
Within-School Variance	0.115	0.009	13.000	<.0001

Table D.31. HLM results of the number of suspensions for female students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.153	0.039	3.960	0.0029	--
Hispanic	-0.153	0.040	-3.820	0.0002	-0.361
GRD9CRD	-0.011	0.004	-2.550	0.0113	-0.026
TRT	-0.085	0.077	-1.100	0.3287	-0.200
Random Effects	**Estimate**	**SE**	**z-value**	***p*-value**	
Between-School Variance	0.007	0.007	1.100	0.135	
Within-School Variance	0.116	0.009	13.020	<.0001	

Table D.32. Linear regression results of the number of suspensions for male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.168	0.056	3.030	0.0027	--
Hispanic	-0.029	0.099	-0.290	0.7698	-0.042
Black	0.021	0.122	0.170	0.8620	0.030
SpeEd	0.092	0.107	0.860	0.3904	0.132
FRL	-0.091	0.062	-1.480	0.1412	-0.131
ELL	-0.146	0.138	-1.050	0.2928	-0.210
GRD8ELA	0.001	0.002	0.910	0.3639	0.002
GRD8Math	-0.001	0.001	-0.420	0.6782	-0.001
OAGRD9	0.008	0.055	0.150	0.8826	0.012
GRD9CRD	0.007	0.009	0.770	0.4392	0.010
GRD9ADA	0.000	0.002	-0.140	0.8875	0.000
AVGGRD8ELA	-0.006	0.004	-1.400	0.1612	-0.008
PFRL	0.007	0.005	1.390	0.1647	0.010
TRT	-0.040	0.091	-0.440	0.6584	-0.058

Table D.33. Linear regression results of the number of suspensions for male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.165	0.055	3.010	0.0028	--
AVGGRD8ELA	-0.005	0.004	-1.370	0.1713	-0.008
PFRL	0.007	0.005	1.380	0.1692	0.010
TRT	-0.034	0.089	-0.380	0.7009	-0.049

Table D.34. Linear regression results of the number of suspensions for Black male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.272	0.125	2.180	0.0349	--
SpeEd	-0.048	0.237	-0.200	0.8422	-0.098
FRL	-0.006	0.135	-0.040	0.9663	-0.012
ELL	0.000	--	--	--	--
GRD8ELA	-0.003	0.004	-0.840	0.4079	-0.007
GRD8Math	0.001	0.003	0.170	0.8637	0.001
OAGRD9	-0.060	0.145	-0.420	0.6786	-0.125
GRD9CRD	0.039	0.024	1.590	0.1179	0.080
GRD9ADA	-0.012	0.005	-2.240	0.0299	-0.025
AVGGRD8ELA	0.006	0.008	0.710	0.4821	0.012
PFRL	0.004	0.009	0.390	0.7009	0.007
TRT	-0.181	0.208	-0.870	0.3904	-0.374

Table D.35. Linear regression results of the number of suspensions for Black male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.184	0.087	2.110	0.0393	--
GRD9CRD	0.040	0.019	2.130	0.0380	0.082
GRD9ADA	-0.012	0.005	-2.650	0.0106	-0.025
TRT	-0.011	0.121	-0.090	0.9282	-0.023

Table D.36. Linear regression results of the number of suspensions for Hispanic male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.099	0.059	1.660	0.0980	--
SpeEd	0.149	0.112	1.330	0.1863	0.236
FRL	-0.113	0.067	-1.690	0.0924	-0.179
ELL	-0.117	0.129	-0.910	0.3650	-0.184
GRD8ELA	0.003	0.002	1.870	0.0631	0.005
GRD8Math	-0.001	0.002	-0.580	0.5609	-0.001
OAGRD9	-0.001	0.059	-0.020	0.9809	-0.002
GRD9CRD	0.011	0.009	1.190	0.2334	0.018
GRD9ADA	0.001	0.002	0.230	0.8221	0.001
AVGGRD8ELA	-0.010	0.004	-2.160	0.0316	-0.015
PFRL	0.001	0.006	0.190	0.8504	0.002
TRT	0.071	0.098	0.720	0.4723	0.112

Table D.37. Linear regression results of the number of suspensions for Hispanic male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.101	0.058	1.740	0.0824	--
SpeEd	0.147	0.110	1.340	0.1827	0.232
FRL	-0.106	0.066	-1.600	0.1111	-0.168
GRD8ELA	0.003	0.001	2.090	0.0377	0.005
AVGGRD8ELA	-0.009	0.004	-2.440	0.0155	-0.015
TRT	0.067	0.095	0.710	0.4778	0.106

Table D.38. Linear regression results of the number of suspensions for students with less than 11 credits at admission, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.129	0.065	1.980	0.0486	--
Male	0.041	0.066	0.620	0.5330	0.061
Hispanic	-0.105	0.096	-1.090	0.2786	-0.155
Black	-0.072	0.126	-0.570	0.5685	-0.107
SpeEd	0.095	0.128	0.740	0.4588	0.140
FRL	-0.043	0.066	-0.650	0.5168	-0.063
ELL	-0.043	0.168	-0.260	0.7975	-0.064
GRD8ELA	-0.001	0.002	-0.750	0.4549	-0.002
GRD8Math	0.001	0.002	0.840	0.4007	0.002
OAGRD9	0.027	0.063	0.430	0.6710	0.040
GRD9CRD	-0.017	0.014	-1.260	0.2106	-0.026
GRD9ADA	0.001	0.002	0.610	0.5392	0.002
AVGGRD8ELA	-0.008	0.004	-1.900	0.0583	-0.012
PFRL	0.015	0.006	2.640	0.0088	0.021
TRT	-0.001	0.105	-0.010	0.9888	-0.002

Table D.39. Linear regression results of the number of suspensions for students with less than 11 credits at admission, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	0.151	0.063	2.380	0.0179	--
AVGGRD8ELA	-0.007	0.004	-1.720	0.0868	-0.011
PFRL	0.014	0.005	2.630	0.0091	0.020
TRT	-0.041	0.101	-0.400	0.6884	-0.060

Table D.40. HLM results of the number of credits earned after admission for female students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.077	1.236	13.010	<.0001	--
Hispanic	0.105	1.783	0.060	0.9529	0.009
Black	-2.188	2.337	-0.940	0.3499	-0.188
SpeEd	-3.341	2.596	-1.290	0.1990	-0.286
FRL	-0.776	1.316	-0.590	0.5559	-0.066
ELL	-0.981	3.978	-0.250	0.8053	-0.084
GRD8ELA	-0.020	0.035	-0.550	0.5805	-0.002
GRD8Math	-0.041	0.034	-1.210	0.2278	-0.004
OAGRD9	1.072	1.379	0.780	0.4374	0.092
GRD9CRD	-0.210	0.208	-1.010	0.3128	-0.018
GRD9ADA	0.121	0.050	2.440	0.0153	0.010
BeforeAdmission_CRD	-0.185	0.075	-2.460	0.0144	-0.016
AVGGRD8ELA	-0.159	0.099	-1.610	0.1148	-0.014
PFRL	0.263	0.125	2.110	0.0398	0.023
TRT	5.774	2.193	2.630	0.0211	0.495

Random Effects	Estimate	SE	z-value	*p*-value
Between-School Variance	0.198	1.678	0.120	0.453
Within-School Variance	140.420	10.626	13.220	<.0001

Table D.41. HLM results of the number of credits earned after admission for female students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.155	1.218	13.270	<.0001	--
GRD9ADA	0.102	0.044	2.300	0.0218	0.009
BeforeAdmission_CRD	-0.242	0.064	-3.770	0.0002	-0.021
AVGGRD8ELA	-0.133	0.097	-1.370	0.1757	-0.011
PFRL	0.247	0.122	2.020	0.0478	0.021
TRT	5.589	2.146	2.600	0.0199	0.479

Random Effects	Estimate	SE	z-value	*p*-value
Between-School Variance	0.015	1.432	0.010	0.496
Within-School Variance	143.320	10.822	13.240	<.0001

Table D.42. Linear regression results of the number of credits earned after admission for male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	15.992	1.205	13.270	<.0001	--
Hispanic	-2.955	2.173	-1.360	0.1749	-0.253
Black	-3.225	2.676	-1.200	0.2291	-0.276
SpeEd	-1.366	2.307	-0.590	0.5540	-0.117
FRL	1.243	1.341	0.930	0.3546	0.107
ELL	-1.737	2.992	-0.580	0.5620	-0.149
GRD8ELA	-0.007	0.035	-0.210	0.8318	-0.001
GRD8Math	0.001	0.030	0.020	0.9819	0.000
OAGRD9	1.025	1.194	0.860	0.3913	0.088
GRD9CRD	-0.596	0.215	-2.770	0.0058	-0.051
GRD9ADA	0.152	0.052	2.950	0.0035	0.013
BeforeAdmission_CRD	-0.008	0.085	-0.090	0.9251	-0.001
AVGGRD8ELA	-0.058	0.088	-0.660	0.5084	-0.005
PFRL	0.135	0.113	1.190	0.2331	0.012
TRT	3.442	1.969	1.750	0.0814	0.295

Table D.43. Linear regression results of the number of credits earned after admission for male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.375	0.926	17.690	<.0001	--
GRD9CRD	-0.592	0.182	-3.260	0.0012	-0.051
GRD9ADA	0.155	0.049	3.130	0.0019	0.013
TRT	2.700	1.289	2.090	0.0370	0.231

Table D.44. HLM results of the number of credits earned after admission for Black male students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.726	2.962	5.650	<.0001	--
SpeEd	-7.568	5.244	-1.440	0.1545	-0.616
FRL	-0.149	2.976	-0.050	0.9602	-0.012
ELL	0.000	--	--	--	--
GRD8ELA	-0.100	0.096	-1.040	0.3047	-0.008
GRD8Math	0.069	0.069	1.000	0.3223	0.006
OAGRD9	1.056	3.163	0.330	0.7400	0.086
GRD9CRD	-0.900	0.578	-1.560	0.1258	-0.073

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
GRD9ADA	0.460	0.120	3.840	0.0003	0.037
BeforeAdmission_CRD	0.092	0.169	0.540	0.5880	0.008
AVGGRD8ELA	-0.054	0.199	-0.270	0.7884	-0.004
PFRL	0.401	0.222	1.800	0.0849	0.033
TRT	0.886	5.181	0.170	0.8673	0.072
Random Effects	**Estimate**	**SE**	**z-value**	***p*-value**	
Between-School Variance	6.477	12.241	0.530	0.298	
Within-School Variance	105.200	21.576	4.880	<.0001	

Table D.45. HLM results of the number of credits earned after admission for Black male students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.964	2.405	7.050	<.0001	--
SpeEd	-8.148	5.161	-1.580	0.1201	-0.663
GRD9CRD	-0.665	0.459	-1.450	0.1531	-0.054
GRD9ADA	0.439	0.112	3.930	0.0002	0.036
PFRL	0.263	0.188	1.400	0.1781	0.021
TRT	0.393	3.968	0.100	0.9236	0.032
Random Effects	**Estimate**	**SE**	**z-value**	***p*-value**	
Between-School Variance	10.373	12.197	0.850	0.198	
Within-School Variance	107.280	21.510	4.990	<.0001	

Table D.46. Linear regression results of the number of credits earned after admission for Hispanic male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	15.770	1.397	11.290	<.0001	--
SpeEd	-0.196	2.617	-0.070	0.9403	-0.017
FRL	0.684	1.558	0.440	0.6609	0.061
ELL	-1.929	2.992	-0.640	0.5197	-0.171
GRD8ELA	0.002	0.041	0.050	0.9581	0.000
GRD8Math	-0.002	0.035	-0.060	0.9499	0.000
OAGRD9	1.593	1.375	1.160	0.2480	0.141
GRD9CRD	-0.551	0.241	-2.290	0.0229	-0.049
GRD9ADA	0.120	0.058	2.060	0.0406	0.011
BeforeAdmission_CRD	-0.069	0.100	-0.690	0.4925	-0.006
AVGGRD8ELA	-0.019	0.103	-0.180	0.8575	-0.002
PFRL	0.006	0.150	0.040	0.9671	0.001
TRT	3.051	2.322	1.310	0.1902	0.271

Table D.47. Linear regression results of the number of credits earned after admission for Hispanic male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	15.839	1.060	14.940	<.0001	--
GRD9CRD	-0.610	0.207	-2.950	0.0035	-0.054
GRD9ADA	0.109	0.056	1.950	0.0521	0.010
TRT	2.915	1.478	1.970	0.0497	0.259

Table D.48. HLM results of the number of credits earned after admission for students with less than 11 credits at admission, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.206	1.809	8.960	<.0001	--
Male	-1.844	1.742	-1.060	0.2909	-0.142
Hispanic	-0.721	2.566	-0.280	0.7790	-0.056
Black	-7.348	3.402	-2.160	0.0317	-0.567
SpeEd	-0.887	3.383	-0.260	0.7934	-0.068
FRL	0.303	1.733	0.170	0.8612	0.023
ELL	-5.643	4.430	-1.270	0.2039	-0.436
GRD8ELA	-0.021	0.050	-0.420	0.6781	-0.002
GRD8Math	-0.072	0.044	-1.640	0.1017	-0.006
OAGRD9	1.154	1.702	0.680	0.4982	0.089
GRD9CRD	-1.285	0.424	-3.030	0.0027	-0.099
GRD9ADA	0.138	0.056	2.460	0.0146	0.011
BeforeAdmission_CRD	1.034	0.344	3.000	0.0029	0.080
AVGGRD8ELA	-0.012	0.121	-0.100	0.9230	-0.001
PFRL	0.104	0.150	0.690	0.4922	0.008
TRT	5.102	2.997	1.700	0.1069	0.394

Random Effects	Estimate	SE	z-value	*p*-value
Between-School Variance	1.165	2.842	0.410	0.341
Within-School Variance	173.030	15.423	11.220	<.0001

Table D.49. HLM results of the number of credits earned after admission for students with less than 11 credits at admission, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	16.160	1.347	12.000	<.0001	--
Black	-6.802	2.335	-2.910	0.0039	-0.525
GRD8Math	-0.081	0.039	-2.050	0.0418	-0.006
GRD9CRD	-1.257	0.411	-3.060	0.0024	-0.097

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
GRD9ADA	0.130	0.053	2.430	0.0159	0.010
BeforeAdmission_CRD	1.010	0.336	3.010	0.0029	0.078
TRT	5.314	2.047	2.600	0.0351	0.410
Random Effects	**Estimate**	**SE**	**z-value**	***p*-value**	
Between-School Variance	2.037	3.414	0.600	0.275	
Within-School Variance	175.170	15.627	11.210	<.0001	

Table D.50. Linear regression results of the number of core Regents exams passed after admission for female students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.350	0.251	5.380	<.0001	--
Hispanic	0.209	0.457	0.460	0.6484	0.145
Black	0.641	0.521	1.230	0.2212	0.444
SpeEd	-0.796	0.501	-1.590	0.1151	-0.551
FRL	-0.101	0.301	-0.340	0.7365	-0.070
ELL	-0.917	0.897	-1.020	0.3091	-0.635
GRD8ELA	0.009	0.008	1.110	0.2689	0.006
GRD8Math	0.006	0.008	0.650	0.5184	0.004
OAGRD9	-0.114	0.277	-0.410	0.6828	-0.079
GRD9CRD	0.007	0.039	0.180	0.8561	0.005
GRD9ADA	-0.004	0.013	-0.340	0.7331	-0.003
BeforeAdmission_#Passed	-0.547	0.159	-3.440	0.0008	-0.379
AVGGRD8ELA	-0.015	0.021	-0.700	0.4829	-0.010
PFRL	-0.003	0.021	-0.160	0.8750	-0.002
TRT	0.056	0.448	0.130	0.9002	0.039

Table D.51. Linear regression results of the number of core Regents passed after admission for female students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.482	0.182	8.140	<.0001	--
SpeEd	-1.033	0.431	-2.390	0.0183	-0.716
BeforeAdmission_#Passed	-0.430	0.130	-3.300	0.0013	-0.298
TRT	-0.222	0.265	-0.840	0.4051	-0.153

Table D.52. Linear regression results of the number of core Regents exams passed after admission for male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.387	0.297	4.680	<.0001	--
Hispanic	-0.167	0.484	-0.340	0.7317	-0.121
Black	0.216	0.669	0.320	0.7482	0.157
SpeEd	-0.955	0.445	-2.150	0.0354	-0.696
FRL	-0.702	0.316	-2.220	0.0296	-0.512
ELL	-0.863	0.719	-1.200	0.2341	-0.630
GRD8ELA	0.013	0.009	1.540	0.1279	0.010
GRD8Math	0.001	0.008	0.170	0.8671	0.001
OAGRD9	0.064	0.274	0.230	0.8171	0.046
GRD9CRD	-0.087	0.045	-1.940	0.0571	-0.064
GRD9ADA	0.011	0.015	0.730	0.4694	0.008
BeforeAdmission_#Passed	-0.450	0.173	-2.600	0.0113	-0.328
AVGGRD8ELA	-0.009	0.026	-0.340	0.7317	-0.006
PFRL	0.030	0.026	1.160	0.2504	0.022
TRT	0.366	0.484	0.760	0.4522	0.267

Table D.53. Linear regression results of the number of core Regents passed after admission for male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.437	0.211	6.800	<.0001	--
SpeEd	-1.028	0.415	-2.480	0.0155	-0.749
FRL	-0.708	0.292	-2.430	0.0175	-0.516
GRD8ELA	0.016	0.008	1.980	0.0513	0.011
GRD9CRD	-0.065	0.036	-1.820	0.0734	-0.048
BeforeAdmission_#Passed	-0.422	0.159	-2.650	0.0098	-0.308
TRT	0.273	0.292	0.940	0.3527	0.199

Table D.54. Linear regression results of the number of core Regents exams passed after admission for Hispanic male students, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.166	0.339	3.440	0.0012	--
SpeEd	-0.615	0.525	-1.170	0.2470	-0.458
FRL	-0.805	0.384	-2.100	0.0407	-0.601
ELL	-0.871	0.759	-1.150	0.2563	-0.650
GRD8ELA	0.015	0.011	1.410	0.1636	0.011

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
GRD8Math	0.004	0.009	0.390	0.6993	0.003
OAGRD9	-0.064	0.327	-0.190	0.8465	-0.047
GRD9CRD	-0.082	0.054	-1.520	0.1341	-0.061
GRD9ADA	0.011	0.016	0.640	0.5224	0.008
BeforeAdmission_#Passed	-0.480	0.207	-2.320	0.0243	-0.358
AVGGRD8ELA	-0.014	0.031	-0.450	0.6518	-0.010
PFRL	0.035	0.032	1.090	0.2803	0.026
TRT	0.511	0.549	0.930	0.3563	0.381

Table D.55. Linear regression results of the number of core Regents passed after admission for Hispanic male students, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.232	0.253	4.870	<.0001	--
FRL	-0.736	0.352	-2.090	0.0407	-0.548
GRD8ELA	0.018	0.010	1.910	0.0608	0.014
BeforeAdmission_#Passed	-0.540	0.179	-3.010	0.0038	-0.403
TRT	0.386	0.351	1.100	0.2753	0.288

Table D.56. Linear regression results of the number of core Regents exams passed after admission for students with less than 11 credits at admission, 2011–13 (full model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.871	0.325	5.760	<.0001	--
Male	0.454	0.347	1.310	0.1954	0.271
Hispanic	-0.110	0.485	-0.230	0.8213	-0.066
Black	0.300	0.611	0.490	0.6259	0.179
SpeEd	-1.402	0.551	-2.540	0.0134	-0.837
FRL	-0.689	0.349	-1.970	0.0527	-0.411
ELL	-1.074	0.846	-1.270	0.2089	-0.641
GRD8ELA	0.015	0.012	1.300	0.1984	0.009
GRD8Math	0.003	0.011	0.280	0.7811	0.002
OAGRD9	-0.140	0.333	-0.420	0.6747	-0.084
GRD9CRD	-0.100	0.067	-1.490	0.1414	-0.060
GRD9ADA	0.017	0.014	1.240	0.2212	0.010
BeforeAdmission_#Passed	-0.918	0.344	-2.670	0.0096	-0.548
AVGGRD8ELA	-0.008	0.026	-0.310	0.7563	-0.005
PFRL	-0.003	0.025	-0.120	0.9068	-0.002
TRT	-0.207	0.539	-0.380	0.7024	-0.123

Table D.57. Linear regression results of the number of core Regents passed after admission for students with less than 11 credits at admission, 2011–13 (final model)

Predictors	Estimate	SE	*t*-ratio	*p*-value	Glass's Delta
Intercept	1.967	0.233	8.460	<.0001	--
SpeEd	-1.077	0.495	-2.180	0.0326	-0.643
FRL	-0.637	0.325	-1.960	0.0535	-0.380
GRD8ELA	0.023	0.010	2.370	0.0204	0.014
BeforeAdmission_#Passed	-0.897	0.323	-2.780	0.0069	-0.535
TRT	-0.390	0.325	-1.200	0.2340	-0.233

Table D.58. Logistic regression results of the enrollment vs. discharge status for female students, 2011–13 (full model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	0.006	0.293	0.000	0.9846	--
Hispanic	0.079	0.415	0.036	0.8491	1.082
Black	1.471	0.559	6.926	0.0085	4.353
SpeEd	0.623	0.618	1.015	0.3136	1.864
FRL	0.257	0.320	0.643	0.4225	1.293
ELL	0.337	0.923	0.133	0.7152	1.400
GRD8ELA	0.010	0.009	1.231	0.2673	1.010
GRD8Math	-0.002	0.008	0.088	0.7669	0.998
OAGRD9	-0.034	0.315	0.012	0.9130	0.966
GRD9CRD	0.002	0.042	0.003	0.9541	1.002
GRD9ADA	0.013	0.011	1.341	0.2469	1.013
AVGGRD8ELA	0.001	0.025	0.001	0.9750	1.001
PFRL	-0.040	0.032	1.543	0.2142	0.961
TRT	0.456	0.512	0.792	0.3734	1.577

Table D.59. Logistic regression results of the enrollment vs. discharge status for female students, 2011–13 (final model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-0.007	0.202	0.001	0.9724	--
Black	1.404	0.428	10.782	0.0010	4.073
TRT	0.463	0.290	2.555	0.1100	1.589

Table D.60. HGLM results of the enrollment vs. discharge status for male students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.012	0.395	0.030	0.9773	--
Hispanic	-0.451	0.542	-0.830	0.4067	0.637
Black	-1.388	0.732	-1.900	0.0596	0.250
SpeEd	1.260	0.577	2.190	0.0302	3.526
FRL	0.422	0.334	1.260	0.2081	1.526
ELL	-0.434	0.684	-0.630	0.5267	0.648
GRD8ELA	0.002	0.009	0.250	0.8011	1.002
GRD8Math	0.021	0.008	2.560	0.0113	1.021
OAGRD9	-0.497	0.292	-1.700	0.0908	0.609
GRD9CRD	-0.063	0.047	-1.340	0.1826	0.939
GRD9ADA	0.014	0.013	1.080	0.2802	1.014
AVGGRD8ELA	0.000	0.027	0.000	0.9964	1.000
PFRL	-0.029	0.034	-0.830	0.4067	0.972
TRT	0.056	0.704	0.080	0.9371	1.057
Random Component	**Estimate**		**SE**		
Intercept	0.264		0.380		

Table D.61. HGLM results of the enrollment vs. discharge status for male students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.083	0.283	0.290	0.7748	--
Black	-0.772	0.468	-1.650	0.1003	0.462
SpeEd	1.197	0.543	2.200	0.0289	3.311
GRD8Math	0.019	0.007	2.740	0.0067	1.019
OAGRD9	-0.447	0.280	-1.600	0.1125	0.639
TRT	-0.085	0.484	-0.180	0.8610	0.919
Random Component	**Estimate**		**SE**		
Intercept	0.214		0.279		

Table D.62. HGLM results of the enrollment vs. discharge status for Hispanic male students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.148	0.476	0.310	0.7631	--
SpeEd	1.472	0.646	2.280	0.0245	4.357
FRL	0.508	0.368	1.380	0.1698	1.662
ELL	-0.498	0.692	-0.720	0.4728	0.608
GRD8ELA	0.003	0.010	0.280	0.7823	1.003
GRD8Math	0.018	0.009	1.990	0.0482	1.018

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
OAGRD9	-0.584	0.335	-1.750	0.0832	0.557
GRD9CRD	-0.047	0.053	-0.890	0.3731	0.954
GRD9ADA	0.006	0.015	0.420	0.6788	1.006
AVGGRD8ELA	0.002	0.032	0.050	0.9587	1.002
PFRL	0.003	0.042	0.070	0.9472	1.003
TRT	0.003	0.824	0.000	0.9975	1.003
Random Component	Estimate		SE		
Intercept	0.339		0.695		

Table D.63. HGLM results of the enrollment vs. discharge status for Hispanic male students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.025	0.283	0.090	0.9325	--
SpeEd	1.257	0.611	2.060	0.0417	3.515
FRL	0.531	0.354	1.500	0.1361	1.701
GRD8Math	0.016	0.007	2.210	0.0287	1.016
OAGRD9	-0.525	0.320	-1.640	0.1036	0.591
TRT	0.103	0.418	0.250	0.8053	1.109
Random Component	Estimate		SE		
Intercept	0.073		0.287		

Table D.64. HGLM results of the enrollment vs. discharge status for students with less than 11 credits at admission, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.211	0.407	0.520	0.6167	--
Male	-0.314	0.335	-0.940	0.3507	0.731
Hispanic	-0.321	0.497	-0.650	0.5186	0.725
Black	-0.065	0.673	-0.100	0.9234	0.937
SpeEd	1.623	0.719	2.260	0.0254	5.066
FRL	0.492	0.343	1.430	0.1537	1.636
ELL	0.621	0.848	0.730	0.4648	1.861
GRD8ELA	0.010	0.010	1.050	0.2975	1.010
GRD8Math	0.016	0.009	1.720	0.0884	1.016
OAGRD9	-0.408	0.320	-1.280	0.2041	0.665
GRD9CRD	-0.027	0.072	-0.380	0.7052	0.973
GRD9ADA	0.020	0.012	1.720	0.0876	1.020
AVGGRD8ELA	0.026	0.029	0.920	0.3578	1.027
PFRL	-0.015	0.035	-0.430	0.6692	0.985
TRT	-0.382	0.742	-0.510	0.6080	0.683
Random Component	Estimate		SE		
Intercept	0.239		0.317		

Table D.65. HGLM results of the enrollment vs. discharge status for students with less than 11 credits at admission, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.098	0.278	-0.350	0.7301	--
SpeEd	1.168	0.662	1.760	0.0795	3.217
FRL	0.469	0.330	1.420	0.1565	1.599
GRD8Math	0.015	0.008	1.890	0.0605	1.016
GRD9ADA	0.020	0.010	2.140	0.0341	1.021
TRT	0.183	0.469	0.390	0.6970	1.201
Random Component	Estimate		SE		
Intercept	0.178		0.229		

Table D.66. HGLM results of the graduation vs. discharge status for female students, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.220	0.355	-0.620	0.5503	--
Hispanic	0.390	0.397	0.980	0.3268	1.477
Black	-0.473	0.612	-0.770	0.4406	0.623
SpeEd	0.112	0.716	0.160	0.8755	1.119
FRL	0.167	0.302	0.550	0.5802	1.182
ELL	-0.919	0.805	-1.140	0.2549	0.399
GRD8ELA	-0.012	0.008	-1.450	0.1482	0.989
GRD8Math	0.009	0.008	1.150	0.2512	1.009
OAGRD9	0.065	0.327	0.200	0.8436	1.067
GRD9CRD	0.081	0.044	1.810	0.0713	1.084
GRD9ADA	0.015	0.012	1.270	0.2047	1.015
AVGGRD8ELA	-0.048	0.029	-1.650	0.1011	0.953
PFRL	0.048	0.036	1.330	0.1838	1.049
TRT	1.302	0.670	1.940	0.0533	3.678
Random Component	Estimate		SE		
Intercept	0.149		0.297		

Table D.67. HGLM results of the graduation vs. discharge status for female students, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.199	0.302	-0.660	0.5255	--
GRD9CRD	0.094	0.035	2.720	0.0071	1.099
AVGGRD8ELA	-0.045	0.026	-1.730	0.0848	0.956
PFRL	0.051	0.032	1.600	0.1117	1.052
TRT	1.228	0.560	2.190	0.0292	3.415
Random Component	Estimate		SE		
Intercept	0.050		0.180		

Table D.68. Logistic regression results of the graduation vs. discharge status for male students, 2011–13 (full model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	0.103	0.259	0.159	0.6900	--
Hispanic	-0.573	0.453	1.599	0.2061	0.564
Black	-0.285	0.556	0.262	0.6085	0.752
SpeEd	0.619	0.572	1.174	0.2785	1.858
FRL	0.205	0.297	0.476	0.4903	1.228
ELL	-0.171	0.658	0.068	0.7949	0.843
GRD8ELA	0.000	0.007	0.005	0.9444	1.000
GRD8Math	0.002	0.007	0.140	0.7081	1.002
OAGRD9	-0.023	0.267	0.007	0.9319	0.977
GRD9CRD	-0.006	0.042	0.021	0.8836	0.994
GRD9ADA	0.021	0.011	3.607	0.0575	1.021
AVGGRD8ELA	-0.020	0.019	1.114	0.2913	0.980
PFRL	-0.020	0.025	0.598	0.4394	0.980
TRT	0.243	0.421	0.333	0.5640	1.275

Table D.69. Logistic regression results of the graduation vs. discharge status for male students, 2011–13 (final model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	0.296	0.200	2.202	0.1378	--
GRD9ADA	0.020	0.009	5.156	0.0232	1.020
TRT	-0.145	0.275	0.276	0.5991	0.865

Table D.70. Logistic regression results of the graduation vs. discharge status for Hispanic male students, 2011–13 (full model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-0.251	0.304	0.683	0.4086	--
SpeEd	0.582	0.653	0.794	0.3731	1.789
FRL	0.183	0.365	0.253	0.6151	1.201
ELL	-0.002	0.664	0.000	0.9974	0.998
GRD8ELA	0.007	0.009	0.642	0.4231	1.007
GRD8Math	-0.004	0.008	0.225	0.6353	0.996
OAGRD9	0.011	0.318	0.001	0.9719	1.011
GRD9CRD	0.008	0.049	0.025	0.8752	1.008
GRD9ADA	0.009	0.013	0.515	0.4729	1.009
AVGGRD8ELA	-0.047	0.025	3.717	0.0539	0.954
PFRL	0.004	0.035	0.014	0.9059	1.004
TRT	0.703	0.509	1.910	0.1669	2.019

Table D.71. Logistic regression results of the graduation vs. discharge status for Hispanic male students, 2011–13 (final model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-0.221	0.294	0.564	0.4527	--
AVGGRD8ELA	-0.045	0.022	4.292	0.0383	0.956
TRT	0.637	0.488	1.710	0.1910	1.892

Table D.72. HGLM results of the graduation vs. discharge status for students with less than 11 credits at admission, 2011–13 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.648	0.411	-1.580	0.1658	--
Male	-0.206	0.366	-0.560	0.5752	0.814
Hispanic	0.167	0.507	0.330	0.7418	1.182
Black	-0.561	0.740	-0.760	0.4491	0.570
SpeEd	1.785	1.184	1.510	0.1338	5.957
FRL	0.414	0.366	1.130	0.2600	1.512
ELL	-0.497	0.941	-0.530	0.5984	0.608
GRD8ELA	-0.006	0.010	-0.640	0.5262	0.994
GRD8Math	-0.001	0.008	-0.170	0.8613	0.999
OAGRD9	-0.114	0.358	-0.320	0.7505	0.892
GRD9CRD	0.021	0.075	0.270	0.7844	1.021
GRD9ADA	0.007	0.011	0.670	0.5056	1.007
AVGGRD8ELA	-0.036	0.029	-1.250	0.2141	0.964
PFRL	0.049	0.042	1.180	0.2417	1.050
TRT	0.740	0.654	1.130	0.2600	2.095
Random Component	**Estimate**		**SE**		
Intercept	0.037		0.140		

Table D.73. HGLM results of the graduation vs. discharge status for students with less than 11 credits at admission, 2011–13 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.350	0.251	-1.390	0.2009	--
SpeEd	1.972	1.113	1.770	0.0785	7.181
TRT	0.215	0.335	0.640	0.5222	1.240
Random Component	**Estimate**		**SE**		
Intercept	0.005		0.095		

Appendix E: Regression Analysis Results, 2011–14

Full model specifications and regression analysis results for the 2011–2014 graduation and enrollment outcomes are presented below.[44] Due to the multiple dimensions of the data structure in this study (i.e., students nested within schools), hierarchical generalized linear modeling (HGLM) was conducted to account for the clustering effect and control for multiple covariates at each level within the same analysis. In cases where the between-school variance was zero (and therefore the corresponding random component estimate did not show up), logistic regressions were used to re-analyze the same sets of data and provide the final results. Note that in each regression model, all covariates were grand-mean centered, except for the treatment indicator.

Full Hierarchical Generalized Linear Regression Model

The two-level logistic regression model is given in terms of the logits of probabilities of the selected outcome equal to 1, i.e.,

$$\eta_{ij} = \log\left(\frac{\Pr(Y_{ij}=1)}{1-\Pr(Y_{ij}=1)}\right)$$

The full multilevel model can be specified as follows:

Level 1: Student level

$$\begin{aligned}\eta_{ij} = {} & \alpha_{0j} + \alpha_{1j}(\text{Male}_{ij} - \overline{\text{Male}..}) + \alpha_{2j}(\text{Hispanic}_{ij} - \overline{\text{Hispanic}..}) + \alpha_{3j}(\text{Black}_{ij} - \overline{\text{Black}..}) \\ & + \alpha_{4j}(\text{SpeEd}_{ij} - \overline{\text{SpeEd}..}) + \alpha_{5j}(\text{FRL}_{ij} - \overline{\text{FRL}..}) + \alpha_{6j}(\text{ELL}_{ij} - \overline{\text{ELL}..}) \\ & + \alpha_{7j}(\text{GRD8ELA}_{ij} - \overline{\text{GRD8ELA}..}) + \alpha_{8j}(\text{GRD8Math}_{ij} - \overline{\text{GRD8Math}..}) \\ & + \alpha_{9j}(\text{OAGRD9}_{ij} - \overline{\text{OAGRD9}..}) + \alpha_{10j}(\text{GRD9CRD}_{ij} - \overline{\text{GRD9CRD}..}) \\ & + \alpha_{11j}(\text{GRD9ADA}_{ij} - \overline{\text{GRD9ADA}..}) + r_{ij}\end{aligned}$$

where

α_{0j} represents the mean logit for school *j* adjusted for the student-level covariates;

[44] Specifically, in addition to the treatment indicator (TRT), the following covariates were included in each full model: student gender (Male), race/ethnicity (Hispanic, Black), free/reduced price lunch eligibility (FRL), English language learner (ELL) and special education status (SpeEd), New York State Grade 8 English Language Arts and Math exam scores (GRD8ELA, GRD8Math), number of years over-age when first enrolled in Grade 9 (OAGRD9), credits earned and average daily attendance (ADA) in Grade 9 (GRD9CRD, GRD9ADA), and percent low-income and average New York State Grade 8 ELA exam score at the school-level (PFRL, AVGGRD8ELA).

$\alpha_{1j} - \alpha_{11j}$ represent the regression coefficients for school *j*, associated with various student-level covariates; and

r_{ij} represents the random error associated with student *i* in school *j*.

Level 2: School level

$$\alpha_{0j} = \beta_{00} + \beta_{01}(\text{AVGGRD8ELA}_j - \overline{\text{AVGGRD8ELA}.}) + \beta_{02}(\text{PFRL}_j - \overline{\text{PFRL}.}) + \beta_{03}(\text{TRT}_j) + u_{0j}$$

$$\alpha_{1j} = \beta_{10}$$

$$\alpha_{2j} = \beta_{20}$$

$$\alpha_{3j} = \beta_{30}$$

$$\alpha_{4j} = \beta_{40}$$

$$\alpha_{5j} = \beta_{50}$$

$$\alpha_{6j} = \beta_{60}$$

$$\alpha_{7j} = \beta_{70}$$

$$\alpha_{8j} = \beta_{80}$$

$$\alpha_{9j} = \beta_{90}$$

$$\alpha_{10j} = \beta_{100}$$

$$\alpha_{11j} = \beta_{110}$$

Where

β_{00} represents the mean logit for the comparison schools;

$\beta_{01} - \beta_{02}$ represent the regression coefficients associated with the school-level covariates;

β_{03} represents the regression coefficient associated with the treatment indicator – it quantifies the treatment impact (the difference in the log-odds-ratio associated with being a treatment subject, as opposed to a comparison subject);

$\beta_{10} - \beta_{110}$ represent the common regression coefficients associated with various student-level covariates for each school; and

u_{0j} represents the random error associated with school *j*.

Full Logistic Regression Model

The logistic regression model is given in terms of the logits of probabilities of the selected outcome equal to 1, i.e.,

$$\eta_i = \log\left(\frac{\Pr(Y_i = 1)}{1 - \Pr(Y_i = 1)}\right)$$

The full model can be specified as follows:

$$\eta_i = \beta_0 + \beta_1 (\text{Male}_i - \overline{\text{Male}.}) + \beta_2 (\text{Hispanic}_i - \overline{\text{Hispanic}.}) + \beta_3 (\text{Black}_i - \overline{\text{Black}.})$$
$$+ \beta_4 (\text{SpeEd}_i - \overline{\text{SpeEd}.}) + \beta_5 (\text{FRL}_i - \overline{\text{FRL}.}) + \beta_6 (\text{ELL}_i - \overline{\text{ELL}.})$$
$$+ \beta_7 (\text{GRD8ELA}_i - \overline{\text{GRD8ELA}.}) + \beta_8 (\text{GRD8Math}_i - \overline{\text{GRD8Math}.})$$
$$+ \beta_9 (\text{OAGRD9}_i - \overline{\text{OAGRD9}.}) + \beta_{10} (\text{GRD9CRD}_i - \overline{\text{GRD9CRD}.})$$
$$+ \beta_{11} (\text{GRD9ADA}_i - \overline{\text{GRD9ADA}.}) + \beta_{12} (\text{AVGGRD8ELA}_i - \overline{\text{AVGGRD8ELA}.})$$
$$+ \beta_{13} (\text{PFRL}_i - \overline{\text{PFRL}.}) + \beta_{14} (\text{TRT}_i) + \varepsilon_i$$

where

Y_i represents the selected outcome for subject *i*;

η_i represents the logits of $\Pr(Y_i = 1)$

β_0 represents the mean logit for subject *i* adjusted for the covariates;

$\beta_1 - \beta_{13}$ represent the logistic regression coefficients associated with various covariates for subject *i*;

β_{14} represents the logistic regression coefficient associated with the treatment indicator – it quantifies the treatment impact (the difference in the log-odds-ratio associated with being a treatment subject, as opposed to a comparison subject);

ε_i represents the random error associated with subject *i*.

Table E.1. Summary of regression results for overall impacts on intended outcomes (2011–14)

Outcomes	Sample Size (Matched Pairs x 2)	Unadjusted Probability of Success		Regression-Adjusted Probability of Success		Effect Size in Cox Index	*p*-value
		Comparison	Treatment	Comparison	Treatment		
Enrollment vs Discharge	155 x 2	0.265	0.297	0.263	0.309	0.135	0.6499
Graduation vs Discharge	291 x 2	0.512	0.622	0.514	0.630	0.287	0.0207

Table E.2. Summary of regression results for subgroup analyses of enrollment vs. discharge status (2011–14)

Subgroups	Sample Size	Unadjusted Probability of Success		Regression-Adjusted Probability of Success		Effect Size in Cox Index	*p*-value
		Comparison	Treatment	Comparison	Treatment		
Females	154	0.256	0.382	0.271	0.394	0.339	0.4132
Males	156	0.273	0.215	0.255	0.222	-0.110	0.6429
Black Males	22						
Hispanic Males	116	0.250	0.200	0.220	0.211	-0.033	0.9113
< 11 credits at admission	145	0.324	0.312	0.317	0.298	-0.055	0.8451

Table E.3. Summary of regression results for subgroup analyses of graduation vs. discharge status (2011–14)

Subgroups	Sample Size	Unadjusted Probability of Success		Regression-Adjusted Probability of Success		Effect Size in Cox Index	*p*-value
		Comparison	Treatment	Comparison	Treatment		
Females	298	0.532	0.662	0.532	0.678	0.374	0.0489
Males	284	0.489	0.584	0.494	0.582	0.216	0.1448
Black Males	43						
Hispanic Males	210	0.471	0.557	0.471	0.557	0.208	0.2160
< 11 credits at admission	208	0.356	0.525	0.356	0.526	0.423	0.0175

Table E.4. HGLM results of the enrollment vs. discharge status for all students, 2011–14 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.933	0.374	-2.490	0.0342	--
Male	-0.401	0.271	-1.480	0.1399	0.670
Hispanic	-0.386	0.401	-0.960	0.3375	0.680
Black	0.086	0.498	0.170	0.8628	1.090
SpeEd	-0.497	0.535	-0.930	0.3533	0.608
FRL	0.304	0.279	1.090	0.2777	1.355
ELL	-0.505	0.752	-0.670	0.5023	0.604
GRD8ELA	-0.010	0.006	-1.580	0.1158	0.990
GRD8Math	-0.001	0.007	-0.200	0.8446	0.999
OAGRD9	0.113	0.263	0.430	0.6667	1.120
GRD9CRD	-0.003	0.038	-0.070	0.9446	0.997
GRD9ADA	0.004	0.011	0.330	0.7398	1.004
AVGGRD8ELA	0.017	0.026	0.670	0.5065	1.018
PFRL	-0.050	0.029	-1.680	0.0933	0.952
TRT	-0.022	0.704	-0.030	0.9752	0.978

Random Component	Estimate	SE
Intercept	0.314	0.374

Table E.5. HGLM results of the enrollment vs. discharge status for all students, 2011–14 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-1.029	0.267	-3.850	0.0032	--
Male	-0.394	0.263	-1.500	0.1355	0.675
GRD8ELA	-0.008	0.005	-1.490	0.1370	0.992
PFRL	-0.038	0.022	-1.750	0.0807	0.963
TRT	0.223	0.490	0.450	0.6499	1.249

Random Component	Estimate	SE
Intercept	0.272	0.331

Table E.6. HGLM results of the graduation vs. discharge status for all students, 2011–14 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.028	0.183	0.150	0.8804	--
Male	-0.252	0.177	-1.420	0.1553	0.778
Hispanic	-0.081	0.268	-0.300	0.7622	0.922
Black	-0.001	0.340	0.000	0.9968	0.999
SpeEd	0.275	0.324	0.850	0.3967	1.316
FRL	0.073	0.175	0.420	0.6750	1.076

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
ELL	-0.067	0.427	-0.160	0.8746	0.935
GRD8ELA	0.001	0.005	0.180	0.8538	1.001
GRD8Math	0.003	0.004	0.780	0.4368	1.003
OAGRD9	-0.128	0.168	-0.760	0.4447	0.880
GRD9CRD	0.033	0.026	1.270	0.2043	1.034
GRD9ADA	0.014	0.007	1.950	0.0521	1.014
AVGGRD8ELA	-0.003	0.014	-0.230	0.8216	0.997
PFRL	-0.010	0.017	-0.560	0.5731	0.991
TRT	0.542	0.321	1.690	0.0921	1.720
Random Component	**Estimate**			**SE**	
Intercept	0.027			0.056	

Table E.7. HGLM results of the graduation vs. discharge status for all students, 2011–14 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.058	0.130	0.440	0.6673	--
Male	-0.274	0.172	-1.600	0.1110	0.760
GRD9ADA	0.019	0.006	3.280	0.0011	1.019
TRT	0.474	0.204	2.320	0.0207	1.606
Random Component	**Estimate**			**SE**	
Intercept	0.019			0.042	

Table E.8. HGLM results of the enrollment vs. discharge status for female students, 2011–14 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.982	0.607	-1.620	0.1445	--
Hispanic	-0.296	0.560	-0.530	0.5974	0.743
Black	0.415	0.665	0.620	0.5342	1.514
SpeEd	-0.848	0.847	-1.000	0.3186	0.428
FRL	0.580	0.412	1.410	0.1615	1.786
ELL	-0.386	1.043	-0.370	0.7121	0.680
GRD8ELA	-0.006	0.011	-0.570	0.5706	0.994
GRD8Math	-0.012	0.011	-1.150	0.2516	0.988
OAGRD9	0.187	0.399	0.470	0.6399	1.206
GRD9CRD	0.011	0.053	0.220	0.8294	1.012
GRD9ADA	0.009	0.015	0.600	0.5482	1.009
AVGGRD8ELA	0.009	0.043	0.200	0.8400	1.009
PFRL	-0.021	0.046	-0.450	0.6559	0.980
TRT	0.433	1.161	0.370	0.7101	1.541
Random Component	**Estimate**			**SE**	
Intercept	0.913			0.955	

Table E.9. HGLM results of the enrollment vs. discharge status for female students, 2011–14 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.987	0.374	-2.640	0.0246	--
FRL	0.633	0.369	1.720	0.0884	1.883
TRT	0.559	0.681	0.820	0.4132	1.749
Random Component	**Estimate**		**SE**		
Intercept	0.530		0.538		

Table E.10. Logistic regression results of the enrollment vs. discharge status for male students, 2011–14 (full model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-1.037	0.369	7.903	0.0049	--
Hispanic	-0.881	0.614	2.056	0.1516	0.415
Black	-0.854	0.850	1.009	0.3150	0.426
SpeEd	-0.292	0.781	0.140	0.7082	0.747
FRL	0.250	0.434	0.333	0.5637	1.285
ELL	-1.589	1.434	1.229	0.2676	0.204
GRD8ELA	-0.015	0.009	3.158	0.0756	0.985
GRD8Math	0.010	0.010	0.998	0.3177	1.010
OAGRD9	-0.037	0.397	0.009	0.9252	0.963
GRD9CRD	-0.009	0.059	0.021	0.8854	0.991
GRD9ADA	-0.011	0.016	0.414	0.5200	0.989
AVGGRD8ELA	0.017	0.027	0.405	0.5247	1.018
PFRL	-0.072	0.035	4.371	0.0366	0.930
TRT	-0.371	0.619	0.360	0.5484	0.690

Table E.11. Logistic regression results of the enrollment vs. discharge status for male students, 2011–14 (final model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-1.073	0.273	15.460	<.0001	--
PFRL	-0.049	0.027	3.362	0.0667	0.953
TRT	-0.182	0.391	0.215	0.6429	0.834

Table E.12. Logistic regression results of the enrollment vs. discharge status for Hispanic male students, 2011–14 (full model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-1.178	0.439	7.188	0.0073	--
SpeEd	0.245	0.842	0.085	0.7708	1.278
FRL	0.560	0.507	1.221	0.2692	1.750
ELL	-1.862	1.540	1.461	0.2268	0.155
GRD8ELA	-0.017	0.010	2.875	0.0900	0.983
GRD8Math	0.015	0.012	1.717	0.1901	1.016
OAGRD9	0.372	0.481	0.598	0.4395	1.451
GRD9CRD	-0.014	0.069	0.044	0.8335	0.986
GRD9ADA	-0.005	0.020	0.054	0.8165	0.995
AVGGRD8ELA	0.025	0.034	0.552	0.4575	1.025
PFRL	-0.091	0.044	4.333	0.0374	0.913
TRT	-0.383	0.713	0.289	0.5907	0.682

Table E.13. Logistic regression results of the enrollment vs. discharge status for Hispanic male students, 2011–14 (final model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-1.264	0.345	13.432	0.0002	--
PFRL	-0.069	0.036	3.598	0.0578	0.934
TRT	-0.054	0.483	0.012	0.9113	0.948

Table E.14. HGLM results of the enrollment vs. discharge status for students with less than 11 credits at admission, 2011–14 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.744	0.536	-1.390	0.1984	--
Male	0.042	0.399	0.100	0.9172	1.042
Hispanic	-0.449	0.582	-0.770	0.4420	0.638
Black	0.473	0.721	0.660	0.5135	1.604
SpeEd	0.859	0.944	0.910	0.3646	2.361
FRL	0.740	0.435	1.700	0.0917	2.095
ELL	0.115	1.199	0.100	0.9240	1.121
GRD8ELA	0.000	0.012	-0.020	0.9802	1.000
GRD8Math	0.019	0.012	1.500	0.1374	1.019
OAGRD9	0.357	0.405	0.880	0.3797	1.429
GRD9CRD	-0.012	0.086	-0.140	0.8874	0.988
GRD9ADA	0.038	0.016	2.280	0.0241	1.038
AVGGRD8ELA	0.018	0.038	0.480	0.6316	1.018

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
PFRL	-0.004	0.044	-0.100	0.9234	0.996
TRT	-0.190	1.010	-0.190	0.8510	0.827
Random Component	Estimate		SE		
Intercept	0.603		0.768		

Table E.15. HGLM results of the enrollment vs. discharge status for students with less than 11 credits at admission, 2011–14 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.768	0.296	-2.590	0.0250	--
FRL	0.788	0.395	1.990	0.0484	2.198
GRD8Math	0.015	0.010	1.410	0.1611	1.015
GRD9ADA	0.031	0.012	2.510	0.0132	1.032
TRT	-0.090	0.462	-0.200	0.8451	0.914
Random Component	Estimate		SE		
Intercept	0.110		0.294		

Table E.16. HGLM results of the graduation vs. discharge status for female students, 2011–14 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.178	0.295	0.600	0.5618	--
Hispanic	0.213	0.365	0.580	0.5592	1.238
Black	-0.264	0.484	-0.550	0.5853	0.768
SpeEd	-0.288	0.497	-0.580	0.5632	0.750
FRL	0.212	0.262	0.810	0.4199	1.236
ELL	-0.470	0.706	-0.670	0.5065	0.625
GRD8ELA	-0.002	0.007	-0.300	0.7652	0.998
GRD8Math	-0.002	0.006	-0.320	0.7524	0.998
OAGRD9	-0.043	0.271	-0.160	0.8756	0.958
GRD9CRD	0.084	0.039	2.160	0.0314	1.087
GRD9ADA	0.015	0.010	1.450	0.1476	1.015
AVGGRD8ELA	0.000	0.023	0.020	0.9848	1.000
PFRL	-0.007	0.026	-0.260	0.7923	0.993
TRT	0.574	0.562	1.020	0.3085	1.775
Random Component	Estimate		SE		
Intercept	0.154		0.180		

Table E.17. HGLM results of the graduation vs. discharge status for female students, 2011–14 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	0.129	0.186	0.690	0.5029	--
GRD9CRD	0.071	0.035	2.010	0.0458	1.073
GRD9ADA	0.014	0.010	1.480	0.1396	1.014
TRT	0.618	0.312	1.980	0.0489	1.854
Random Component	**Estimate**		**SE**		
Intercept	0.056		0.093		

Table E.18. Logistic regression results of the graduation vs. discharge status for male students, 2011–14 (full model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-0.094	0.233	0.164	0.6853	--
Hispanic	-0.494	0.422	1.365	0.2427	0.610
Black	-0.047	0.509	0.008	0.9272	0.955
SpeEd	0.771	0.451	2.926	0.0872	2.163
FRL	-0.085	0.251	0.114	0.7352	0.919
ELL	0.179	0.549	0.107	0.7441	1.196
GRD8ELA	0.003	0.007	0.176	0.6748	1.003
GRD8Math	0.008	0.006	2.095	0.1478	1.008
OAGRD9	-0.228	0.222	1.061	0.3029	0.796
GRD9CRD	-0.009	0.038	0.054	0.8165	0.991
GRD9ADA	0.014	0.010	1.884	0.1699	1.014
AVGGRD8ELA	-0.009	0.018	0.247	0.6191	0.991
PFRL	-0.019	0.024	0.629	0.4277	0.981
TRT	0.494	0.377	1.718	0.1899	1.639

Table E.19. Logistic regression results of the graduation vs. discharge status for male students, 2011–14 (final model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-0.025	0.175	0.021	0.8853	--
SpeEd	0.680	0.424	2.564	0.1093	1.973
GRD8Math	0.008	0.005	2.914	0.0878	1.008
GRD9ADA	0.013	0.008	2.582	0.1081	1.013
TRT	0.356	0.244	2.126	0.1448	1.428

Table E.20. Logistic regression results of the graduation vs. discharge status for Hispanic male students, 2011–14 (full model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-0.225	0.257	0.763	0.3824	--
SpeEd	0.671	0.494	1.846	0.1743	1.957
FRL	-0.212	0.292	0.527	0.4680	0.809
ELL	0.244	0.550	0.197	0.6572	1.276
GRD8ELA	0.008	0.008	1.138	0.2860	1.008
GRD8Math	0.003	0.007	0.256	0.6132	1.003
OAGRD9	-0.168	0.250	0.454	0.5006	0.845
GRD9CRD	0.007	0.043	0.023	0.8795	1.007
GRD9ADA	0.008	0.011	0.464	0.4960	1.008
AVGGRD8ELA	-0.014	0.019	0.539	0.4629	0.986
PFRL	0.001	0.030	0.001	0.9773	1.001
TRT	0.561	0.425	1.744	0.1866	1.752

Table E.21. Logistic regression results of the graduation vs. discharge status for Hispanic male students, 2011–14 (final model)

Predictors	Estimate	SE	Wald Chi-Square	*p*-value	Odds Ratio
Intercept	-0.116	0.196	0.346	0.5565	--
TRT	0.343	0.277	1.531	0.2160	1.409

Table E.22. HGLM results of the graduation vs. discharge status for students with less than 11 credits at admission, 2011–14 (full model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.824	0.335	-2.460	0.0363	--
Male	-0.037	0.303	-0.120	0.9031	0.964
Hispanic	-0.057	0.451	-0.130	0.9003	0.945
Black	-0.696	0.641	-1.090	0.2790	0.498
SpeEd	0.404	0.662	0.610	0.5423	1.498
FRL	-0.220	0.306	-0.720	0.4735	0.803
ELL	-0.269	0.716	-0.380	0.7074	0.764
GRD8ELA	0.005	0.008	0.580	0.5596	1.005
GRD8Math	-0.008	0.008	-1.000	0.3179	0.992
OAGRD9	0.107	0.307	0.350	0.7292	1.112
GRD9CRD	0.042	0.063	0.650	0.5136	1.042
GRD9ADA	0.005	0.010	0.560	0.5774	1.005
AVGGRD8ELA	-0.020	0.023	-0.880	0.3800	0.980
PFRL	0.004	0.028	0.150	0.8774	1.004

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
TRT	1.111	0.524	2.120	0.0354	3.038
Random Component	Estimate		SE		
Intercept	0.028		0.104		

Table E.23. HGLM results of the graduation vs. discharge status for students with less than 11 credits at admission, 2011–14 (final model)

Fixed Effects	Estimate	SE	*t*-ratio	*p*-value	Odds Ratio
Intercept	-0.593	0.222	-2.680	0.0215	--
TRT	0.698	0.291	2.400	0.0175	2.010
Random Component	Estimate		SE		
Intercept	0.003		0.072		

Appendix F: Development Assets Profile

The *Developmental Assets Profile* (DAP), developed by the Search Institute, has been used to evaluate the impact of youth development programs and other school-based interventions (Haggerty et al., 2011). It includes 58 items that measure eight asset categories, which are organized into an External context (support, empowerment, boundaries and expectations, and constructive use of time) and an Internal context (commitment to learning, positive values, social competencies, and positive identity). The items can also be regrouped into five scales that reflect the contexts of students' lives: Personal, Social, Family, School, and Community. Figure F.1 lists the categories of the developmental assets. Figure F.2 describes the categories and how they may be interpreted.

The Total assets score is the most global index that can be derived from the DAP. High total assets scores, in the excellent range, are related to positive outcomes, such as academic success, leadership, and protection against negative behaviors. Low Total assets scores are associated with negative behaviors, such as substance use/abuse, academic problems, peer conflict, and antisocial or violent behaviors.

Sub-scale scores are provided on a scale of 0-30, and the total DAP (the sum of the Internal and External sub-scale scores) is reported on a scale of 0-60. Score ranges based on positive youth development theory were established that describe at-risk, vulnerable, healthy, and thriving youth. Although those ranges were set theoretically and not empirically, research has shown that the four levels meaningfully differentiate youth at differing levels of well-being (Search Institute, 2005; Scales, 2011; Scales et al., 2012). Search Institute data indicate that the average young person experiences only 20 of the 40 assets (Benson, 2011).

Internal consistency for both the Internal/External assets and Social context areas within the DAP are good (Cronbach's α for assets measure = 0.81; Cronbach's α for social context area = 0.88). Further, Haggerty et al. (2011) indicated that the instrument has evidence of criterion and convergent validity.

The DAP has been found to be highly reliable and valid with U.S. samples, with internal consistency reliabilities in the 0.70s-0.80s, and stability reliabilities as measured by intraclass correlation coefficients in the 0.50s-0.80s, and most of its sub-scales have been found to be acceptably reliable and valid with international samples as well (Scales, 2011; Scales et al., 2012; Search Institute, 2005).

The DAP also has been correlated with indicators of college and career readiness (CCR), defined

as: 1) the frequency with which students experience "key cognitive strategies" (e.g., problem solving, reasoning, communication) in the core subjects of Math, English, and Science; 2) students' time management and study habits; 3) students' perception of the academic rigor of their core classes (the three subjects above, plus Social Studies); 4) the degree to which students are engaged in researching colleges; and 5) the level of support students get from school and family in learning about colleges and how to apply. All of these CCR outcome scales have score ranges from 10-40 except College Research, which ranges from 10-30, and all have acceptable internal consistency reliability in the 0.70s-0.90s in a Dallas Independent School District spring 2011 sample (Search Institute, 2012).

Figure F.1. The 40 Developmental Assets

External Assets	
Category	Developmental Assets
Support	1. Family support
	2. Positive family communication
	3. Other adult relationships
	4. Caring neighborhood
	5. Caring school climate
	6. Parent involvement in schooling
Empowerment	7. Community values youth
	8. Youth as resources
	9. Service to others
	10. Safety
Boundaries and Expectations	11. Family boundaries
	12. School boundaries
	13. Neighborhood boundaries
	14. Adult role models
	15. Positive peer influence
	16. High expectations
Constructive Use of Time	17. Creative activities
	18. Youth programs
	19. Religious community
	20. Time at home

Internal Assets	
Category	Developmental Assets
Commitment to Learning	21. Achievement motivation
	22. School engagement
	23. Homework
	24. Bonding to school
	25. Reading for pleasure
Positive Values	26. Caring
	27. Equality and social justice
	28. Integrity
	29. Honesty
	30. Responsibility
	31. Restraint
Social Competencies	32. Planning and decision making
	33. Interpersonal competence
	34. Cultural competence
	35. Resistance skills
	36. Peaceful conflict resolution
Positive Identity	37. Personal power
	38. Self-esteem
	39. Sense of purpose
	40. Positive view of personal future

Figure F.2. DAP score interpretation by category and subscale

Category and Subscale		Description	Scoring Interpretation	
			Low	Excellent
External	Support	Parent-adolescent communication, family support, as well as caring, encouragement, and support outside the family from the neighborhood, school, and community	Lack of or infrequent support; increased risk for a range of negative outcomes, particularly school problems	High academic performance and thriving among males and females
	Empowerment	A general feeling of safety across many contexts; feeling valued, useful, and respected by others	Increased risk for depression, suicidal behavior, and violence	Reduced risk of depression, suicidal and self-injurious behaviors, and violence
	Boundaries and Expectations	Parental support; safety in a variety of settings; rules and consequences in a variety of settings; and role models among friends, family, and outside the family	Associated with an increased risk of depression, suicide, and antisocial behavior among all youth; increased risk of drug use and school problems among males	Strongly and consistently related to high academic achievement
	Constructive Use of Time	Involvement in extracurricular activities in one of four areas: (1) religious or spiritual; (2) sports, clubs, or other groups; (3) creative arts; and (4) family life	Increased risk for alcohol, tobacco, and drug problems as well as school problems among males	Associated with thriving; high degree of reported extracurricular involvement
Internal	Commitment to Learning	Motivation and rewards related to learning and active engagement in learning, both tied directly to school and extending outside of school	Poor academic performance, underachievement, and increased risk of dropout and school-related problems, as well as antisocial behavior among males	High degree of reported motivation to learn and active engagement in learning both in and out of school; strongly related to academic achievement
	Positive Values	Personal virtues such as honesty, integrity, responsibility, and restraint, as well as caring about others and working for equality and social justice	Lack of personal values, which is related to increased risk for alcohol, tobacco, and drug use; school problems; violence; and antisocial behaviors	Benefits to current and future decision-making skills; strong association with thriving and increased likelihood of significant community service and volunteerism
	Social Competencies	Planning and decision making, cultural competence, and social skills involving the ability to build friendships, resist negative peer pressure, and resolve conflicts peacefully	Increased risk behaviors, including peer conflict, antisocial behavior, and violence	Rich set of characteristics that promote thriving, particularly with diversity and leadership, and reduced risk of negative youth outcomes
	Positive Identity	Adolescent's emerging identity, including self-esteem, internal locus of control, optimism, and sense of purpose in life	Increased risk for anxiety, depression, suicide, or self-injurious behavior	Increased psychological resilience and reduced risk for psychological distress, such as anxiety and depression

A total of 119 new students entering the GSS transfer schools for the first time were asked to complete the DAP prior to the start of the 2012–13 school year, essentially representing baseline assets levels. Relatively small percentages of students were considered *at risk*, but the largest group of students was at the *vulnerable* level. About one-third (34%) scored at the *healthy* assets level, and *thriving* students accounted for 17 percent. (See Figure F.3). The levels reported by the Search Institute for its Dallas sample (see Appendix H), with 13 percent considered *at risk* and 34 percent *healthy*, were within the range of the levels of the GSS students. Compared to the GSS students, a slightly smaller percentage of Dallas students were considered *thriving* (11% to 17%) and a slightly larger percentage *vulnerable* (42% to 39%).

Figure F.3: Level of Developmental Assets, fall 2012 GSS incoming students and Search Institute Dallas sample

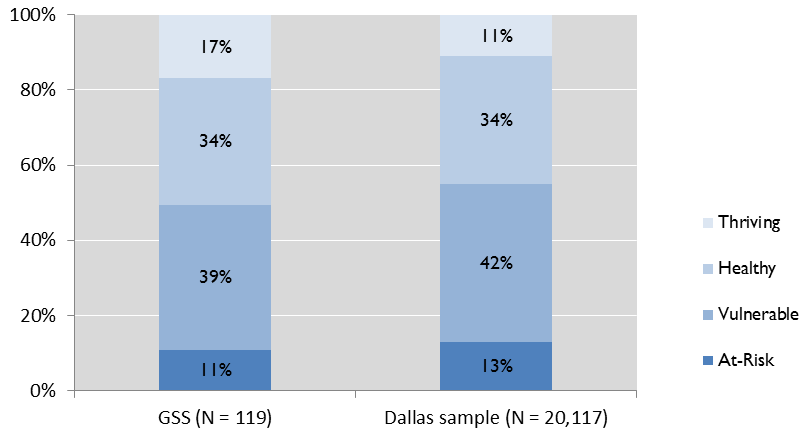

Table F.1 presents the mean fall 2012 and spring 2013 scale scores for the matched GSS transfer school students (those students with both a pre- and post- DAP score) as well as the corresponding means for the Dallas sample. For the group of GSS students with longitudinal data (N=75), mean DAP scale scores at baseline look somewhat similar to the Dallas sample, with most notable differences among the External subscales of Support, Boundaries and Expectations, and Constructive Use of Time. Although post score differences for the matched GSS group appear minimal, there is a statistically significant gain in Constructive Use of Time. This is notable, as the post-score in Constructive Use of Time is a closer match to the Dallas sample than the pre-score.

Table F.1. Mean DAP Scores, GSS transfer school students, fall 2012 and spring 2013, and Dallas sample

Category	Subscale	Mean scale scores		
		Dallas sample (N = 20,117)	GSS transfer school students (N = 75)	
			Fall 2012 (Pre)	Spring 2013 (Post)
External	Support	20.53	22.53	21.81
	Empowerment	20.44	21.39	22.27
	Boundaries and Expectations	20.42	22.80	22.16
	Constructive Use of Time	16.86	14.84	16.63*
Internal	Commitment to Learning	20.43	21.23	20.71
	Positive Values	20.51	20.47	20.71
	Social Competencies	20.72	21.76	21.26
	Positive Identity	21.61	20.80	21.53
Social contexts	Personal	21.24	21.10	21.44
	Social	20.91	21.32	21.20
	Family	22.67	23.43	22.22
	School	19.71	22.42	22.22
	Community	17.48	17.45	18.38
External		19.56	20.39	20.72
Internal		20.82	21.07	21.05
Total DAP		**40.39**	**41.46**	**41.77**

*The difference is statistically significant at the .05 level; effect size = .22

Table F.2 focuses specifically on the pre- and post- responses of GSS students to the External assets items on the DAP. Large percentage point differences (i.e., greater than 10) between pre and post items include *friends who set a good example for me* (+11), *involved in a religious group or activity*

(+17), *involved in a sport, club, or other group* (+11) and *involved in creative things such as music, theatre, or art* (+15). Note that the latter three of these four items fall within the Constructive Use of Time subscale.

Table F.2. Distribution of responses to DAP, External assets by subscale and item, fall 2012 and spring 2013

Subscales and Items		External assets								
		Fall 2012				Spring 2013				Percentage point change from 2012 to 2013 in responses: very/often + extremely/ almost always
		Not at all or rarely	Somewhat or sometimes	Very or often	Extremely or almost always	Not at all or rarely	Somewhat or sometimes	Very or often	Extremely or almost always	
Support	Seek advice from my parents.	11%	27%	27%	36%	11%	23%	31%	36%	4
	Parent(s) who try to help me succeed.	3%	3%	21%	73%	3%	9%	28%	60%	-7
	Good neighbors who care about me.	15%	25%	29%	31%	23%	25%	21%	31%	-8
	A school that cares about kids and encourages them.	1%	7%	37%	55%	4%	7%	31%	59%	-3
	Support from adults other than my parents.	3%	9%	41%	47%	3%	19%	28%	51%	-9
	A family that gives me love and support.	1%	8%	28%	63%	0%	12%	31%	57%	-3
	Parent(s) who are good at talking with me about things.	4%	20%	29%	47%	8%	17%	28%	47%	-1
Empowerment	Feel safe and secure at home.	0%	4%	28%	68%	0%	9%	28%	63%	-5
	Feel valued and appreciated by others.	5%	29%	40%	25%	3%	31%	32%	35%	1
	Feel safe at school.	1%	11%	44%	44%	3%	8%	31%	59%	1
	Included in family tasks and decisions.	3%	21%	45%	31%	3%	21%	36%	40%	0
	Given useful roles and responsibilities.	3%	23%	43%	31%	3%	16%	43%	39%	7
	A safe neighborhood.	3%	31%	35%	32%	5%	20%	36%	39%	8
Boundaries and Expectations	Friends who set good examples for me.	4%	36%	32%	28%	9%	20%	39%	32%	11
	A school that gives students clear rules.	3%	9%	39%	49%	4%	9%	39%	48%	-1
	Adults who are good role models for me.	0%	4%	43%	53%	3%	11%	33%	53%	-9
	Teachers who urge me to develop and	3%	12%	37%	48%	1%	5%	36%	57%	8

		External assets								
		Fall 2012				Spring 2013				Percentage point change from 2012 to 2013 in responses: very/often + extremely/ almost always
	Subscales and Items	Not at all or rarely	Somewhat or sometimes	Very or often	Extremely or almost always	Not at all or rarely	Somewhat or sometimes	Very or often	Extremely or almost always	
	achieve.									
	A family that provides me with clear rules.	1%	7%	39%	53%	5%	8%	40%	47%	-5
	Parent(s) who urge me to do well in school.	3%	4%	25%	68%	3%	7%	28%	63%	-3
	Neighbors who help watch out for me.	17%	24%	25%	33%	22%	24%	23%	31%	-5
	A school that enforces rules fairly.	3%	9%	40%	48%	5%	13%	36%	45%	-7
	A family that knows where I am and what I am doing.	1%	12%	28%	59%	4%	19%	29%	48%	-9
Constructive Use of Time	Involved in a religious group or activity.	47%	25%	13%	15%	37%	17%	19%	27%	17
	Involved in a sport, club, or other group.	41%	12%	20%	27%	31%	12%	23%	35%	11
	Involved in creative things such as music, theatre, or art.	26%	25%	22%	26%	17%	19%	32%	32%	15
	Spending quality time at home with my parent(s).	4%	24%	24%	48%	10%	26%	30%	35%	-7

Likewise, Table F.3 focuses on the pre- and post- responses of GSS students to the Internal assets items on the DAP. Large percentage point differences (i.e., greater than 10) between pre and post items include *enjoy reading or being read to* (+10), *care about school* (-11), *stay away from tobacco, alcohol, and other drugs* (-12), *serving others in my community* (+11) and *resolve conflicts without anyone getting hurt* (-10). Unlike the differences observed for the External scale, two of the larger differences between pre and post on the Internal scale were negative, and none were concentrated within a specific subscale.

Table F.3. Distribution of responses to DAP, Internal assets by subscale and item, fall 2012 and spring 2013

Subscales and Items		Internal assets								
		Fall 2012				Spring 2013				Percentage point change, 2012 to 2013 in very/often + extremely/ almost always
		Not at all or rarely	Somewhat or sometimes	Very or often	Extremely or almost always	Not at all or rarely	Somewhat or sometimes	Very or often	Extremely or almost always	
Commitment to Learning	Enjoy reading or being read to.	12%	43%	24%	20%	15%	31%	27%	28%	10
	Care about school.	1%	17%	36%	45%	1%	28%	31%	40%	-11
	Do my homework.	7%	34%	32%	27%	9%	32%	29%	29%	0
	Enjoy learning.	4%	19%	47%	31%	4%	27%	31%	39%	-8
	Actively engaged in learning new things.	0%	13%	41%	45%	0%	17%	47%	36%	-4
	Encouraged to try things that might be good for me.	0%	11%	42%	47%	1%	10%	47%	42%	0
	Eager to do well in school and other activities.	1%	4%	35%	60%	1%	7%	41%	51%	-3
Positive Values	Stand up for what I believe in.	1%	21%	35%	43%	0%	16%	23%	61%	6
	Stay away from tobacco, alcohol, and other drugs.	8%	27%	17%	48%	14%	33%	14%	40%	-12
	Think it is important to help other people.	0%	13%	43%	44%	0%	17%	35%	48%	-4
	Take responsibility for what I do.	0%	4%	35%	61%	0%	11%	29%	60%	-7
	Tell the truth even when it is not easy.	0%	20%	41%	39%	3%	12%	43%	42%	5
	Helping to make my community a better place.	7%	39%	26%	28%	12%	31%	28%	28%	3
	Developing good health habits.	4%	23%	45%	27%	4%	21%	44%	31%	2
	Encouraged to help others.	0%	23%	33%	44%	1%	19%	39%	41%	3
	Trying to help solve social problems.	11%	35%	34%	20%	13%	28%	29%	29%	4
	Developing respect for other people.	0%	7%	45%	48%	0%	15%	43%	43%	-8
	Serving others in my community.	28%	32%	27%	13%	21%	28%	29%	21%	11
Social Competen cies	Avoid things that are dangerous or unhealthy.	1%	22%	46%	31%	5%	25%	28%	41%	-8
	Building friendships with other people.	5%	24%	35%	35%	4%	26%	34%	37%	0
	Express my feelings in proper ways.	4%	29%	36%	31%	3%	29%	36%	32%	1

Subscales and Items		Internal assets								
		Fall 2012				Spring 2013				Percentage point change, 2012 to 2013 in very/often + extremely/ almost always
		Not at all or rarely	Somewhat or sometimes	Very or often	Extremely or almost always	Not at all or rarely	Somewhat or sometimes	Very or often	Extremely or almost always	
	Plan ahead and make good choices.	0%	15%	37%	48%	0%	20%	33%	47%	-5
	Resist bad influences.	1%	23%	35%	41%	4%	27%	32%	37%	-7
	Resolve conflicts without anyone getting hurt.	3%	15%	46%	37%	4%	23%	37%	36%	-10
	Accept people who are different from me.	0%	3%	31%	67%	1%	8%	24%	66%	-7
	Sensitive to the needs and feelings of others.	3%	24%	32%	41%	5%	20%	36%	39%	1
Positive Identity	Feel in control of my life and future.	1%	19%	44%	36%	1%	15%	37%	47%	4
	Feel good about myself.	1%	20%	36%	43%	1%	23%	29%	47%	-3
	Feel good about my future.	3%	12%	48%	37%	1%	19%	32%	48%	-5
	Deal with frustration in positive ways.	12%	28%	39%	21%	9%	28%	33%	29%	3
	Overcome challenges in positive ways.	4%	29%	39%	28%	3%	25%	37%	35%	5
	Developing a sense of purpose in my life.	0%	12%	43%	45%	0%	15%	43%	43%	-3

References

Benson, P. L., Scales, P. C., Roehlkepartain, E. C., & Leffert, N. (2011). *A fragile foundation. The state of developmental assets among American youth* (2nd ed.). Minneapolis, MN: Search Institute.

Haggerty, K., Elgin, J., & Woolley, A. (2011). *Social-emotional learning assessment measures for middle school youth.* University of Washington: Social Development Research Group. Retrieved from http://www.raikesfoundation.com/Documents/SELTools.pdf.

Scales, P. C. (2011). Youth developmental assets in global perspective: Results from international adaptations of the Developmental Assets Profile. *Child Indicators Research, 4*, 619–645.

Scales, Peter C., Pekel, K., & Roehlkepartain, E.C. (2012). *The relationship of Developmental Assets to college and career readiness among poor, urban middle and high school students*. Minneapolis, MN: Search Institute paper in progress.

Search Institute. (Nov. 26, 2012). *Supplemental analysis of the Dallas Developmental Assets Profile dataset*. Search Institute report to Good Shepherd Services, New York City:

Appendix G: Regression Results for the Development Assets Profile

While changes between pre- and post-items and scales provide some insight into socio-emotional changes students may go through during the school year, a bigger question is the extent to which student characteristics, school performance and behavior may be associated with DAP scale scores. To assess the relationship between select student characteristics and performance metrics and spring 2013 DAP scores, a series of multiple linear regressions were conducted for the same subgroup of individuals for whom longitudinal data were available (N=75). Data collected from both administrations of the DAP were merged with archival student data collected from the NYC DOE, internship participation data acquired from GSS, and responses to select spring 2013 student survey items related to engagement. Of note, 8th grade achievement data were considered for inclusion as predictors, but were eliminated due to several cases missing data. In total, 14 variables were modeled as predictors of spring 2013 Total DAP scores as well as subscale scores for External, Internal, School Context and Constructive Use of Time.

The complete list of predictor variables were:

- Pre DAP Score
- Grade Level in 2013
- Sex *(0=Female, 1=Male)*
- Race/Ethnicity
    - Black vs other races *(0=Other, 1=Black)*
    - Hispanic vs other races *(0=Other, 1=Hispanic)*
- English Language Learner Status 2013 *(0=Not ELL, 1=ELL)*
- Eligibility for Free/Reduced Price Lunch 2013 *(0=Not Eligible, 1=Eligible)*
- Special Education Status 2013 *(0=Not Special Ed, 1=Special Ed)*
- Average Daily Attendance 2013
- Credits Taken in 2013
- Credits Earned in 2013
- Age at Start of SY 2012–13
- Had an Internship during SY 2012–13 *(0=No, 1=Yes)*
- Student Survey items (from spring 2013 administration)
    - Q3a. I led an activity (discussion group, service project) *(0=No, 1=Yes)*
    - Q3c. I helped plan a program activity or event *(0=No, 1=Yes)*
    - Q3g. I contributed solutions for a community problem *(0=No, 1=Yes)*

All regression models were conducted using a stepwise approach, wherein only those variables that predict outcomes with statistical significance were included in final models. The resulting models are presented below in Tables G.1 through G.5. Each table presents the predictor variable(s) included in the final predictive model, the variable's standard deviation change associated with a full standard deviation change in the outcome (standardized beta, negative predictors denoted in red), and the proportion of variance explained (change in r^2) by inclusion of the variable in the model.

Overall, the resultant models had strong predictive value for spring 2013 DAP scores, with three of the five explaining over half (0.5) of the variance in the outcome (Total, Internal and Constructive Use of Time) and one explaining over 40% (0.433 – External) as measured by model r^2 values. These four models all included fall 2012 DAP scores and affirmative responses to contributing solutions to a community problem. The three models explaining over half of the variance also included credits earned in 2013. The final model, explaining just under a third of the variance (0.304 – school context), only included the fall 2012 DAP score.

It should also be noted that participants of other races appeared to be associated with higher levels of total assets than Black participants. As the same relationship was not observed for the other DAP subscales, this finding may be a statistical anomaly. However, the result may warrant some further investigation regarding possible differential socio-emotional effects or service delivery biases that may result in lower levels of assets for Black participants.

Overall, the regression findings seem to confirm the relationship between academic progress—as measured by credits earned—and Total assets, Internal assets and assets related to Constructive Use of Time. Also notable is the apparent relationship between asset levels and contributions to community solutions for Total, Internal, External and Constructive Use of Time assets—a sense of community that may very well have been fostered by the "family" experience to which participants referred in focus groups.

Table G.1. Model 1 – Predicted Post Total DAP Scale Score (N=70, r^2=0.546)

Variable	Standardized β	r^2 Change
Pre DAP Total Scale Score	0.590	0.432
Q3g. I contributed solutions for a community problem	0.202	0.048
Credits Earned in 2013	0.216	0.037
Black vs Other Races	-0.173	0.029
Constant	*5.648*	

Table G.2. Model 2 – Predicted Post DAP External Assets Scale Score (N=70, r^2=0.433)

Variable	Standardized β	r^2 Change
Pre DAP External Assets Scale Score	0.569	0.394
Q3g. I contributed solutions for a community problem	0.205	0.039
Constant	*2.489*	

Table G.3. Model 3 – Predicted Post DAP Internal Assets Scale Score (N=70, r^2=0.528)

Variable	Standardized β	r^2 Change
Pre DAP Internal Assets Scale Score	0.551	0.443
Credits Earned in 2013	0.229	0.055
Q3g. I contributed solutions for a community problem	0.239	0.050
Constant	*3.383*	

Table G.4. Model 4 – Predicted Post DAP School Context Scale Score (N=70, r^2=0.304)

Variable	Standardized β	r^2 Change
Pre DAP School Context Scale Score	0.551	0.304
Constant	*7.985*	

Table G.5. Model 5 – Predicted Post DAP Constructive Use of Time Scale Score (N=70, r^2=0.573)

Variable	Standardized β	r^2 Change
Pre DAP Constructive Use of Time Scale Score	0.620	0.483
Q3g. I contributed solutions for a community problem	0.250	0.063
Credits Earned in 2013	0.163	0.026
Constant	*-0.488*	

Appendix H: Search Institute Report on the Dallas Sample

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Search Institute Report to Good Shepherd Services, New York City:
Supplemental Analysis of the Dallas *Developmental Assets Profile* Dataset
Nov. 26, 2012

Background
Good Shepherd Services is a youth development and family services organization serving more than 20,000 vulnerable children and youth per year in high-poverty communities in the Bronx and Brooklyn, in New York City. They provide wrap-around services that focus on keeping young people connected with school and strengthening families and neighborhoods. GSS has retained Metis Associates, a research and evaluation firm, to evaluate the success of GSS transfer high schools in South and West Brooklyn. As part of the evaluation, GSS and Metis plan to include Search Institute's *Developmental Assets Profile* (DAP).

At the request of the W.T. Grant Foundation, Search Institute provided some initial consultation to the GSS team on the DAP. Subsequently, GSS requested Search Institute to conduct supplemental analysis of a large DAP dataset that could provide GSS and Metis with comparison data to utilize in the evaluation.

Description of Sample
GSS requested analysis on a sample that is comparable to its transfer samples in key demographics. Search Institute analyzed DAP data gathered in spring 2011 in the Dallas Independent School District, from more than 40,000 6^{th}-12^{th} grade students. This report focuses on the high school part of the sample that is of most interest to GSS.

The high school sample included 20,241 students, of whom 68% are Hispanic, 24% African American, 6% white, and 3% other, mostly Asian, and among whom 85% are poor, as defined by their eligibility for free or reduced price meals. This compares with the GSS schools' sample across two Brooklyn, New York schools that is 64%-73% Hispanic, 9%-21% African American, 3%-17% white, and 1%-9% other, mostly Asian,

and among whom 68%-80% are poor. Thus, the Dallas sample is demographically quite similar to the GSS samples in race/ethnicity and poverty level, and therefore provides an appropriate source of comparison.[45]

Research Questions

Search Institute conducted analyses to answer two questions:

1. What is the level of developmental assets among the Dallas high school students, specifically, among Hispanic and African American students, among girls as compared with boys, and, by individual grades within the high school sample?
2. What is the relationship of the level of developmental assets to educational outcomes among these students?

These questions were designed to provide GSS with guidance for the level of developmental assets they might realistically expect from their Brooklyn evaluation samples, and for the kind of relationship they might expect to see between assets and important educational outcomes. The latter is important because they key goal of the GSS transfer schools is to increase the school success of those students. If the level of assets is highly correlated with educational outcomes in the demographically similar Dallas sample, then the same relationships should be apparent in the GSS schools, suggesting the possible value of intentionally attempting to raise students' assets levels.

Analyses Conducted

Below, we provide simple frequencies and cross-tabulations to answer the first question (specifically, we provide the mean scores for the overall DAP and its various sub-scales, and the percentage of Dallas students scoring at each of four levels of the DAP: at risk, vulnerable, healthy, and thriving). To answer the second question, we conducted a series of cross-tabulations and analyses of variance. These provide, specifically, the percentage of students who attain criterion levels of the educational outcomes (described below; criterion level was defined as being at or above the median score for a given outcome), by level of DAP score (i.e., at risk, vulnerable, healthy, and thriving), and the significance of differences in the means of those educational outcomes, by level of the overall DAP score. Analyses of variance are provided separately by race/ethnicity, grade, and gender.

[45] For the data reported by race/ethnicity, the "Other" race/ethnicity category was dropped, because the presence of multiple races/ethnicities in that category makes it difficult to clearly interpret the results. The final sample for those specific analyses was then 19,254 high school youth, 69% Hispanic, 25% Black, and 6% white.

Measures

The *Developmental Assets Profile* is a 58-item survey that asks young people about the frequency or intensity with which they experience a variety of relationships, opportunities, values, skills, and self-perceptions—developmental assets—which studies of more than 3.5 million youth have shown concurrently and longitudinally predict numerous academic, psychological, socio-emotional, and behavioral outcomes, both in the U.S. and globally (Benson, Scales, & Syvertsen, 2011; Benson, Scales, Roehlkepartain, & Leffert, 2011; Scales, Roehlkepartain, & Fraher, 2012). Items reflect eight categories of developmental assets: Support, Empowerment, Boundaries & Expectations, and Constructive Use of Time are "external" strengths provided by adults and peers, and Commitment to Learning, Positive Values, Social Competencies, and Positive Identity are strengths young people gradually develop as they become more self-regulating. The items can be re-grouped to form five scales that reflect the various contexts of students' lives: Personal, Social, Family, School, and Community.

Students answer each item on a four-point scale: Not at All/Rarely, Somewhat/Sometimes, Very/Often, and Extremely/Almost Always. Sub-scale scores are provided on a scale of 0-30, and the total DAP (the sum of the Internal and External sub-scale scores) is reported on a scale of 0-60. Score ranges based on positive youth development theory were established that describe at-risk, vulnerable, healthy, and thriving youth. Although those ranges were set theoretically and not empirically, research has shown that the four levels meaningfully differentiate youth at differing levels of well-being (Search Institute, 2005; Scales, 2011; Scales et al., 2012). The DAP has been found to be highly reliable and valid with U.S. samples, with internal consistency reliabilities in the .70s-.80s, and stability reliabilities as measured by intraclass correlation coefficients in the .50s-.80s, and most of its sub-scales have been found to be acceptably reliable and valid with international samples as well (Scales, 2011; Scales et al., 2012; Search Institute, 2005).

The educational outcomes examined in these analyses were used as indicators of "college and career readiness" (CCR): 1) the frequency with which students experience "key cognitive strategies" (e.g., problem solving, reasoning, communication) in the core subjects of Math, English, and Science; 2) students' time management and study habits; 3) students' perception of the academic rigor of their core classes (the three subjects above, plus Social Studies); 4) the degree to which students are engaged in researching colleges; and 5) the level of support students get from school and family in learning about colleges and how to apply. All these CCR outcome scales have score ranges from 10-40 except College Research, which ranges from 10-30, and all have acceptable internal consistency reliability in the .70s-.90s in the Dallas ISD spring 2011 sample.

Results

A. Level of Developmental Assets

Race/Ethnicity

Tables 1 (percentages of students in each of the four levels of total DAP scores) and 2 (mean scores on all 16 DAP scales) show that, by race/ethnicity, Black and white students reported roughly comparable levels of assets, with Hispanic students reporting the lowest levels of assets.

By way of comparison, the Dallas sample had almost exactly the same total percentage of students in the combined at risk and vulnerable levels—55%—as did the original 2005, more white and suburban sample of high school students on which the DAP was field-tested (56%). Likewise, the total Dallas percentage that would be considered as experiencing adequate developmental nourishment by virtue of being in the combined healthy and thriving levels—45%—was not materially different from the percentage of healthy plus thriving students in that more white and suburban field test sample (44%).

Table 2 shows that Hispanic students scored especially low on Constructive Use of Time, and although the differences were less extreme, Hispanic students also were lower than Black or white students on Empowerment, Commitment to Learning, and Positive Values, and also had low scores in the parallel School and Community contexts. Black students were especially strong in their Positive Identity and the parallel Personal context, and white students scored especially well in the Social Competencies category, and the parallel Social context.

Grade Level

The percentages of students in each grade that were in the four assets levels were not especially different, as seen in Table 1, with a slight tendency for 9th grade students to be more at risk, and 12th grade students more thriving.

Table 2, presenting the DAP sub-scale means by grade, provides a bit more perspective. Although these are cross-sectional data, and so trends over time cannot be inferred, examination of the means from 9th-12th grade shows that there was a general tendency for 12th graders' asset scores to be higher than 9th graders' scores on Commitment to Learning, Positive Values, Social Competencies, the Social context, and the overall DAP score. Smaller but still positive differences favoring 12th graders over 9th graders were seen for Empowerment and Positive Identity, and for the Personal, School, and Community contexts, as well as the Internal assets scale.

Although cross-sectional, these data are consistent with longitudinal data from a study of a suburban Minneapolis community, in which it was found that assets scores declined

sharply over middle school (grades 6-8) on into the 9th grade, and then generally rebounded slightly by the 11th and especially the 12th grade (Roehlkepartain, Benson, & Sesma, 2003).

Gender

There were not large differences by gender in the proportions of students in each level of developmental assets, as seen in Table 1. However, Table 2 shows that females had a higher overall mean DAP score, with their largest advantages over males being in the asset categories of Commitment to Learning, and Social Competencies, and the parallel Social context. This finding mirrors previous research as well, since girls consistently are found to report more assets than boys report (Benson, Scales, & Syvertsen, 2011).

B. Relation of Assets Level to College and Career Readiness

Tables 3a-c and 4a-c display in two different ways the relation of assets level to the college and career readiness indicators. Tables 3a-3c show the percentage of students scoring at or above the median score for each indicator, by DAP quartiles within race/ethnicity, grade, and gender. Tables 4a-4c show the differences in mean scores for each CCR indicator, also by DAP quartiles within race/ethnicity, grade, and gender. Significance tests were conducted on the results in Tables 4a-4c.

These two sets of tables show that, regardless of students' race/ethnicity, gender, or grade, higher levels of developmental assets are associated with better college and career readiness outcomes. These associations mirror those consistently found across U.S. and global samples of youth and young adults, regardless of differences in the assets surveys used, or sample differences in race/ethnicity, age, gender, urbanicity, or socioeconomic composition.

Mean CCR Differences by Race/Ethnicity

Table 4a shows that, among Hispanic and African American students, for *all* eight CCR measures for high school students, *each* successive increase in DAP assets level (i.e., from at risk to vulnerable, vulnerable to healthy, and healthy to thriving) was associated with a significant increase in college and career readiness.[46]

[46] All of the mean differences displayed in Tables 4a-4c were significant at $p \leq .0001$. We applied a Bonferonni correction to the standard .05 significance level, to adjust for the fact that conducting multiple simultaneous significance tests can produce false significance results simply by chance. The correction (.05 level/8 simultaneous tests per demographic category) still leaves the revised required p level at .006, a level easily surpassed by the results reported here.

White students almost showed the same complete linear trend. Among white high school students, *each* successive increase in DAP assets level was associated with a significant increase in *six of the eight* college and career readiness measures, and students in the highest asset level had better College Research, and Perception of Academic Rigor scores than white students at the other assets levels.
In terms of the possible compensatory role of higher levels of assets, two CCR indicators showed either no change across race/ethnicity going from at-risk levels to thriving levels (Science KCS), or an expansion of *in*equity (white students reported greater Perception of Academic Rigor in their classes at the thriving level, relative to Black and Hispanic students, where there had been less of a difference in the overall mean, or the means at lower asset levels).

However, on most of the other CCR indicators, Hispanic students may have benefitted the most from experiencing higher assets levels. On Math and English KCS, both school and family College Knowledge (support for learning about college), and, especially, Time Management and Study Habits, and College Research, Hispanic students at the highest assets level closed or erased CCR gaps with Black or white students that had existed overall or at lower assets levels.

Mean CCR Differences by Grade
Table 4b shows that, by grades, students in grades 11 and 12 generally had higher scores on all but two of the CCR measures (Math and Science KCS, which were essentially equal across grades 9-12). As seen for race/ethnicity, regardless of grade, each level of increase in developmental assets was associated with a parallel significant increase in mean CCR indicator score, for all eight indicators. Seniors in the highest assets level made a bigger jump in Perception of Academic Rigor than did all other students, in moving from the lowest (at risk) to the highest (thriving) assets level.

At the lowest assets level, the grades were essentially equal in their Science KCS, but moving to the highest assets level was linked to a greater increase in Science KCS score for freshmen and sophomores than for juniors and seniors. For the remaining CCR indicators, freshmen and sophomores in the thriving assets level either closed the gap with juniors or seniors that existed at the at-risk assets level (English KCS, Time Management and Study Habits, and College Research), or eliminated that gap entirely (Math KCS). These results suggest that the compensatory role of assets may be greater for 9th and 10th graders, who generally are at the highest risk of becoming high school dropouts.

Mean CCR Differences by Gender
Table 4c shows that, by gender, the same pattern is seen as was found for results by race/ethnicity and grade: For both females and males, the higher the assets level, the better students do on these measures of college and career readiness. In fact, females had a slight advantage on most of the indicators, both overall and at the lowest level of assets.

But on all but the College Research CCR indicator (on which there were no meaningful differences between the sexes), males at the highest level of assets either closed or erased the difference favoring females.

Males at the "Thriving" assets level were equal to females, erasing the gap between them, on Math and Science KCS, and on both school and family College Knowledge (supports for learning about college). They closed the gender gap on English KCS, Time Management and Study Habits, and Perception of Academic Rigor in their core classes. These results suggest that increasing students' developmental assets may play a particularly compensatory role for male students.

Conclusions

Several conclusions are apparent from these data that might be helpful to Good Shepherd Services and Metis Associates in using the DAP and interpreting DAP results.[47]

1. In this large sample of urban, overwhelmingly poor, primarily Hispanic and Black high school students, 55% were either at-risk or vulnerable, based on their assets scores, with Hispanic students more likely to be in those less-than-desirable assets levels (59% v. 46 for Black youth).

2. So, if the future GSS samples share these demographics (as the current GSS samples do), having more than half those students score at the at-risk or vulnerable levels—especially prior to specific interventions intended to raise their assets—would not be surprising. Nor would it be surprising if Hispanic students reported a more at-risk assets profile than did Black students.

3. On the other hand, even if this Dallas profile is more or less mirrored in GSS's Brooklyn samples, that means there is still likely to be a considerable percentage of GSS students who, despite living in low-income or poor settings, report having a healthy or even a thriving assets environment.

4. Thus, if these findings are roughly paralleled in the GSS samples, then strategies will be needed to **maintain and build on** the strengths up to half the sample may already be experiencing, as well as to **enrich and improve on** asset areas on which half or more of the sample may be under-nourished.

---

[47] Should the GSS data reveal much less association between assets levels and educational outcomes than reported here, then the overwhelming evidence from this and prior research, domestically and internationally, across diversities of cultures and samples of students, would argue that something quite unusual is then occurring in the GSS schools or the students' environments. This would help GSS and Metis set more locally realistic expectations for improvement from that observed baseline, as well as direct them to examining additional data to help explain findings that ran so counter to previous research.

5. Focused interventions to strengthen students' experience of the weaker asset areas could result in a meaningful improvement in the overall assets profile of GSS students. Consider that 37% of Black students and 44% of Hispanic students in the Dallas sample scored in the "vulnerable" level. If GSS interventions can achieve an average change from "somewhat or sometimes" to "very or often" in how much or how often students feel or experience those assets, this would lift the average "vulnerable" student into the "healthy" level.

6. Achieving that kind of impact (students going from "vulnerable" to "healthy") is likely to have a substantial effect on students' well-being, academic and otherwise. Numerous studies have found that every increase in assets level brings with it significant improvements in key youth outcomes, from better school attendance and better grades, to greater volunteering and other positive behaviors, and lessened engagement in substance use, violence, and a host of other high-risk behaviors (see the references cited in this report). Practically every psychological, socio-emotional, and behavioral outcome thus improved by students' experiencing higher assets levels also has an indirect association with promoting better orientation to school, greater effort, and stronger academic performance.

7. On top of these well-documented general effects of higher assets levels on overall youth well-being, the Dallas data specifically show that, for virtually every demographic group, on every one of the college and career outcomes studied, every increase in assets level experienced was associated with a statistically significant increase in that indicator of college and career readiness. GSS students similar to this sample demographically would be expected to show a similar positive correlation of assets with educational outcomes, thus making an increase in assets level over time a key supplemental indicator of possible GSS effectiveness in promoting greater academic success for its students.

8. Although speculative without further analysis, these results also suggest that student experience of developmental assets may be especially valuable to Hispanic, male, and 9th and 10th grade students; In general, students from those groups who were at the "thriving" assets level had college and career readiness means that were closer or equal to those of females, Blacks and whites, and juniors and seniors, eliminating or erasing gaps that had existed overall or at lower assets levels among those groups. This is especially important because even in this poor urban population, some students are still *more* vulnerable than others, and these results suggest that increasing students developmental assets might be the most helpful to these more vulnerable students.

A Final Note

The more assets these students reported, the more they used problem-solving and critical thinking skills in their classroom work in Math, English, and Science, the more they were required to hypothesize and explain, to present their work to others, and the more academically challenging they found their coursework to be. In addition, the higher their level of assets, the more they aspired to go to college, the more research they undertook on colleges, and the more support they got from family and school in learning about colleges, admission requirements, and financial aid. These results were obtained, not in an affluent, suburban, white population, but in a poor, urban, Hispanic and African American population. Thus, it is reasonable for GSS to anticipate finding similar relations between assets levels and key educational outcomes in their work with Brooklyn students who have a similar demographic profile to these Dallas students.

Clearly, there is a correlation between higher assets levels and improved student college and career readiness indicators. But the mechanism of this relationship may have both direct and indirect components. Directly, in terms of effects on students, higher assets levels reflect more student engagement and more support from others, at the least.

But indirectly, higher student assets levels may affect *teachers* as well. Since this was just a cross-sectional and not a longitudinal study, it could well be that students who are challenged and supported to use higher-order thinking skills, and who experience their teachers expecting more of them, report more assets as a result. But given that developmental cause-effect relations are typically bi-directional (Benson, Scales, Hamilton, & Sesma, 2006), it is at least as likely that students who first have higher levels of assets also produce an effect on their teachers, encouraging their teachers to feel more capable and motivated, and therefore to become better, more effective educators. As we write in a paper in progress on these data (Scales, Pekel, & Roehlkepartain, 2012),

"Teachers might become *better* teachers (as reflected in students having higher scores on the key cognitive skills being experienced in their classrooms) in part because their students have the developmental supports that make them good partners in the teaching and learning collaboration. Beyond the effect that individual students' or a classroom's level of assets may have, there may be structural effects of a school community that has a commitment to building student assets. For example, a recent study found that, in *schools* that were characterized by a stronger culture of building students' assets, teachers in turn felt more motivated as educators and had greater job satisfaction, both of which are linked to better pedagogical performance (Butler, 2010). It has been noted that schools that are "great places to learn" also are great places to teach (Starkman, Scales, & Roberts, 2006), and these results would appear to support that contention."

The combined strength of these associations found in a sample very similar to the GSS samples demographically, and the substantial literature finding similar associations between assets and positive outcomes across wide diversities of demographics and

outcomes, suggests that GSS students are highly likely also to show a significant linkage between their assets levels and a variety of school success outcomes. This suggests that the *Developmental Assets Profile* can be a compelling data source for both stimulating and documenting change in students' strengths and outcomes, and therefore a valuable resource for helping to demonstrate the contribution of GSS programming to improvement of students' educational success.

References

Benson, P. L., Scales, P. C., Hamilton, S. F., & Sesma, A. (2006). Positive youth development: Theory, research, and applications. In W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology* (6th ed., pp. 894–941). New York: John Wiley.

Benson, P. L., Scales, P. C., Roehlkepartain, E. C., & Leffert, N. (2011). *A fragile foundation: The state of developmental assets among American youth, 2nd ed.* Minneapolis, MN: Search Institute.

Benson, P.L., Scales, P.C., & Syvertsen, A.K. (2011). The Contribution of the Developmental Assets Framework to Positive Youth Development Theory and Practice. In Richard M. Lerner, Jacqueline V. Lerner, & Janette B. Benson, Eds., *Advances in Child Development and Behavior: Positive youth Development Research and Applications for Promoting Thriving in Adolescence* (pp. 198-232). London, UK: Elsevier.

Butler, S.G. (2010). *Analysis of a conceptual framework to express teacher job satisfaction*. Lincoln, NE: University of Nebraska Graduate College, Ed.D. Dissertation.

Roehlkepartain, E.C., Benson, P.L., & Sesma, A. (2003). *Signs of progress in putting children first: Developmental assets among youth in St. Louis Park, 1997-2001*. Minneapolis: Search Institute, Report to St. Louis Park's Children First Initiative.

Scales, P.C. (2011). Youth Developmental Assets in Global Perspective: Results from International Adaptations of the *Developmental Assets Profile*. *Child Indicators Research* (Advance online publication DOI: 10.1007/s12187-011-9112-8).

Scales, P.C., Pekel, K., & Roehlkepartain, E.C. (2012). *The relationship of Developmental Assets to college and career readiness among poor, urban middle and high school students*. Minneapolis: Search Institute paper in progress.

Scales, P.C., Roehlkepartain, E.C., & Fraher, K. (2012). *Do Developmental Assets make a difference in majority-world contexts? A preliminary study of the relationships between Developmental Assets and international development priorities* (2012). Minneapolis:

Search Institute, Final Report to United States Agency for International Development (USAID) and Education Development Center (EDC).

Search Institute. (2005). *Developmental Assets Profile: User manual.* Minneapolis, MN: Search Institute.

Starkman, N. A., Scales, P. C., & Roberts, C. R. (2006). *Great places to learn: How asset-building schools help students succeed* (2nd ed.). Minneapolis: Search Institute.

Figure 1

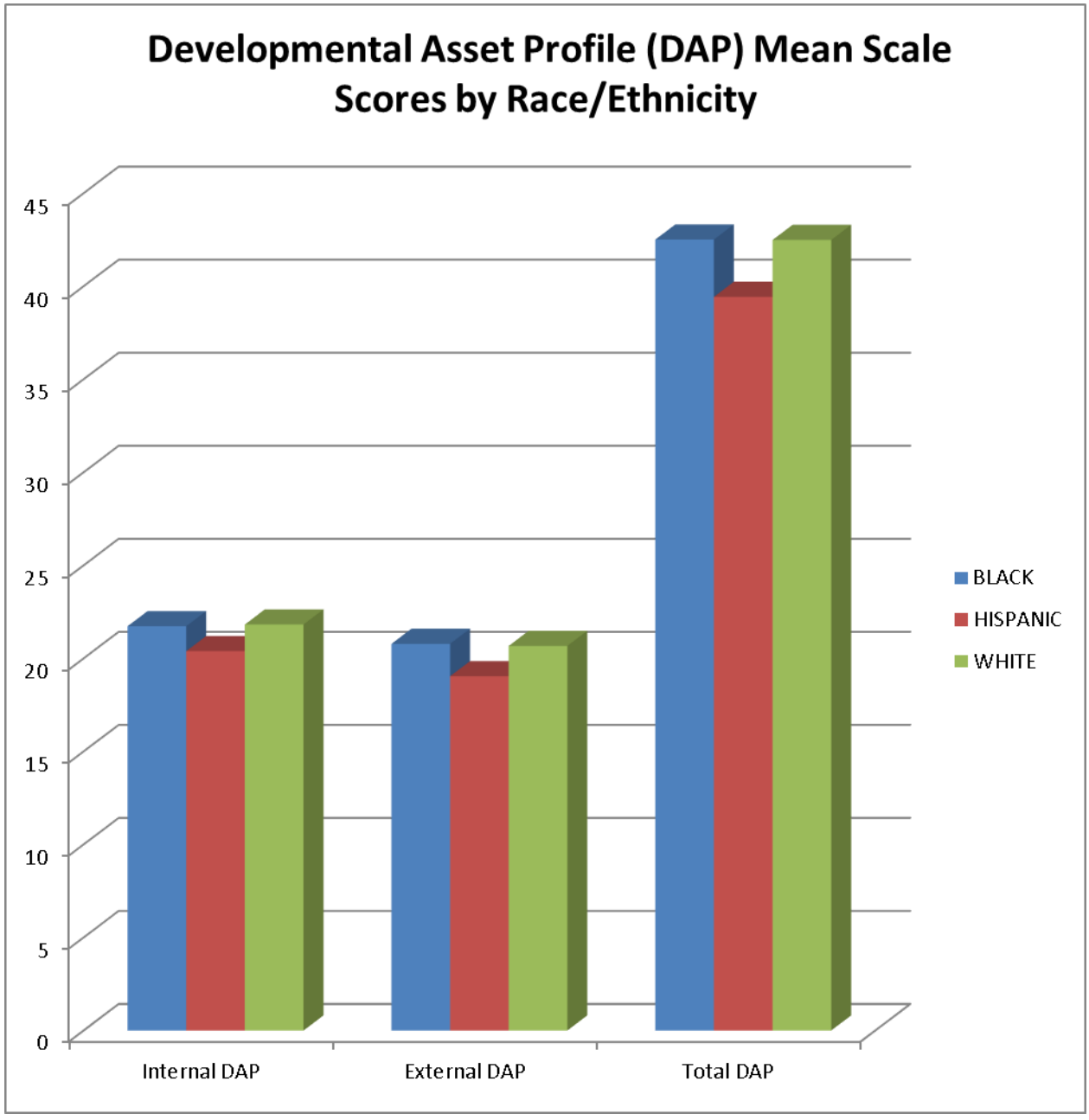
Developmental Asset Profile (DAP) Mean Scale Scores by Race/Ethnicity
45
40
35
30
25
20
15
10
5
0
Internal DAP
External DAP
Total DAP
BLACK
HISPANIC
WHITE

Figure 2

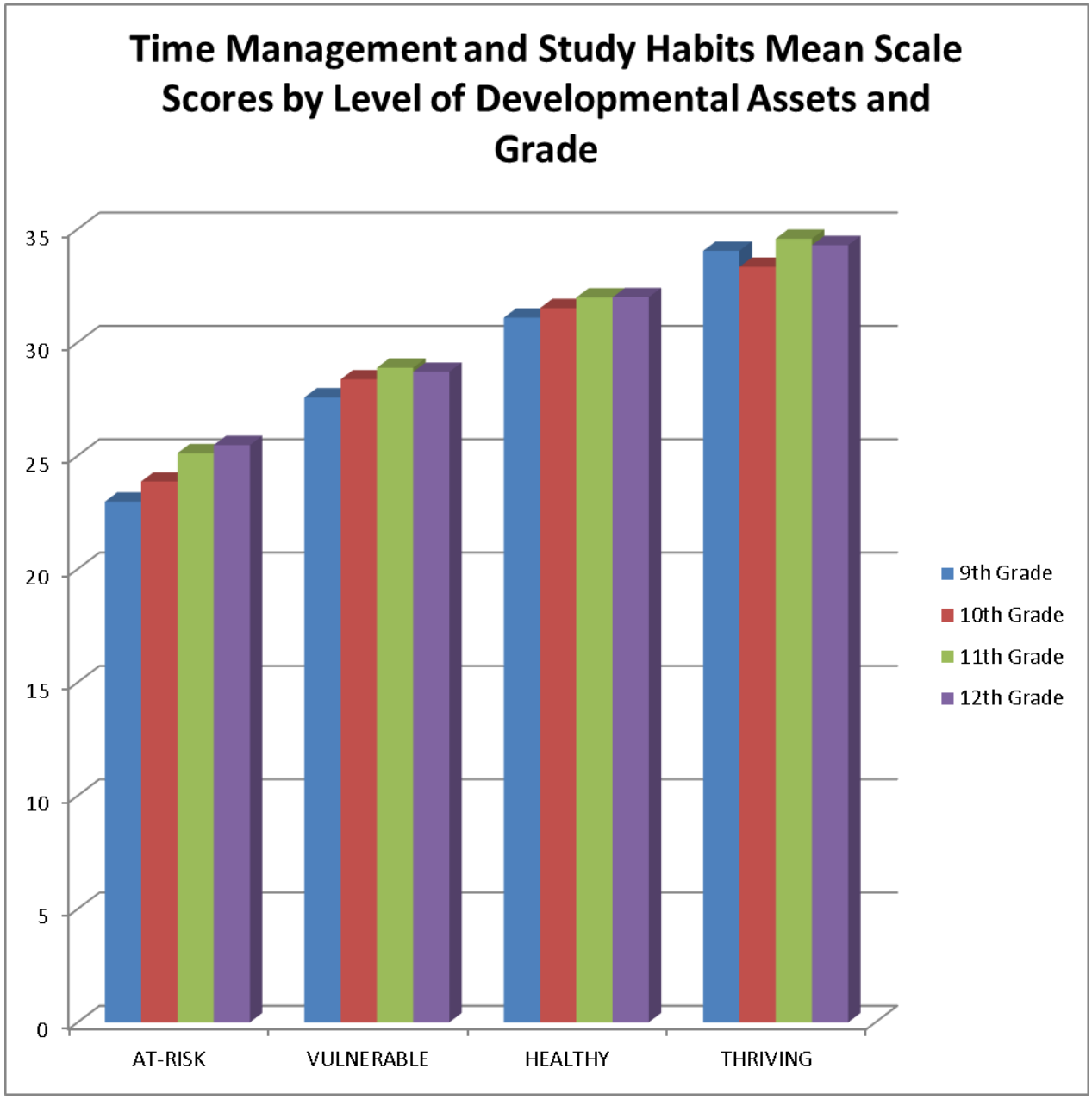
Time Management and Study Habits Mean Scale Scores by Level of Developmental Assets and Grade
35
30
25
20
15
10
5
0
AT-RISK
VULNERABLE
HEALTHY
THRIVING
9th Grade
10th Grade
11th Grade
12th Grade

Figure 3

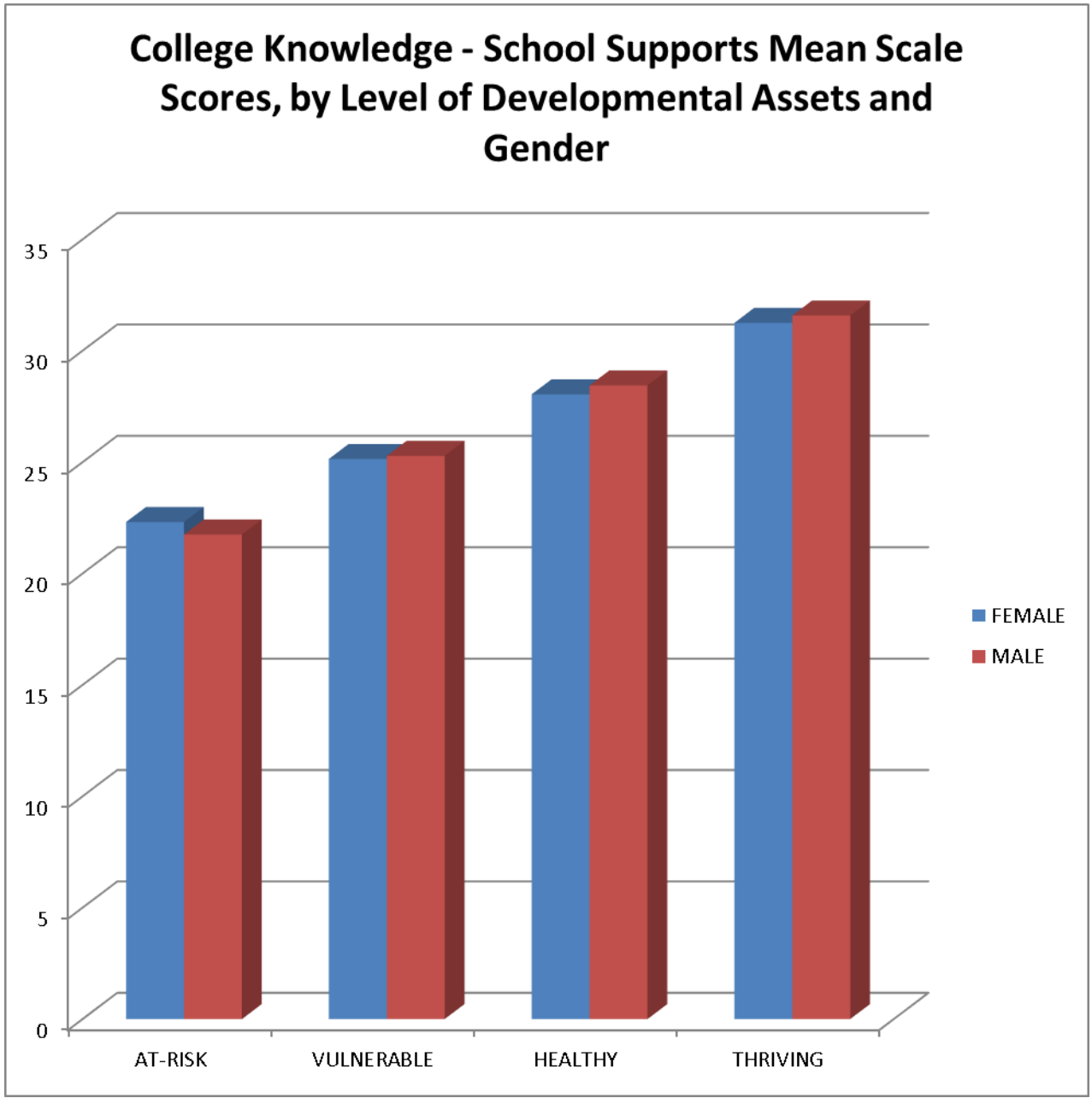
College Knowledge - School Supports Mean Scale Scores, by Level of Developmental Assets and Gender
35
30
25
20
15
10
5
0
AT-RISK
VULNERABLE
HEALTHY
THRIVING
FEMALE
MALE

Table 1

Percentage of Dallas ISD High School Students in Developmental Assets Levels, Total, and by Race/Ethnicity, Gender, and Grade[48]

	At-Risk	Vulnerable	Healthy	Thriving
Dallas ISD Overall	**13**	**42**	**34**	**11**
U.S. Field Test Study (2005) (HS only, N=706)	16	40	34	10
Race/Ethnicity				
Black (N=4773)	9	37	40	15
Hispanic N=13,361)	15	44	32	9
White (N=1,120)	9	36	38	16
Gender				
Female (N=10,593)	12	41	36	11
Male (N=9,524)	15	43	32	10
Grade				
9th (N=6,323)	15	42	34	10
10th (N=5,778)	14	42	34	10
11th (N=4,469)	12	43	35	11
12th (N=3,547)	12	40	35	12

Total N=20,117

[48] To keep the tables as simple as possible, sub-cell sample sizes are not reported here. However, the large overall sample size meant that the smallest sub-cell size in all these analyses was n ≥ 135, with the smallest sub-cell sizes in any one table typically several times larger than that. Thus, the percentages and means reported here do not have the substantial error that would be the case if they were based on small sub-cells of < 100 or even fewer students.

Table 2
Dallas High School Students' Mean Developmental Assets Profile Scale Scores, by Gender, Race/Ethnicity, and Grade

	Overall Mean	Gender		Race/Ethnicity			Grade			
		Female	Male	Black	Hispanic	White	9	10	11	12
Support	20.53	20.82	20.21	21.38	20.19	21.06	20.69	20.46	20.39	20.51
Empower-ment	20.44	20.80	20.05	21.28	**20.03**	21.88	20.26	20.30	20.54	20.89
Boundaries & Expectations	20.42	20.77	20.03	20.89	20.20	20.82	20.63	20.36	20.28	20.31
Constructive Use of Time	16.86	16.85	16.87	19.58	**15.71**	18.92	16.89	16.78	16.93	16.83
Commitment to Learning	20.43	**21.16**	19.62	21.67	**19.84**	21.68	19.80	20.21	21.03	21.14
Positive Values	20.51	21.00	19.96	21.27	**20.10**	21.85	19.99	20.37	20.91	21.17
Social Competencies	20.72	**21.40**	19.95	20.77	20.53	**22.37**	20.20	20.54	21.11	21.42
Positive Identity	21.61	21.41	21.83	**23.21**	21.10	21.39	21.24	21.54	21.91	22.02
Personal	21.24	21.43	21.03	**22.50**	20.77	21.64	20.84	21.18	21.54	21.67
Social	20.91	**21.54**	20.22	21.36	20.62	**22.35**	20.49	20.71	21.26	21.55
Family	22.67	23.08	22.21	23.40	22.43	22.67	22.64	22.75	22.69	22.55
School	19.71	20.08	19.31	20.32	**19.36**	20.68	19.57	19.50	19.88	20.10
Community	17.48	17.79	17.14	18.95	**16.77**	19.64	17.31	17.28	17.65	17.92
External	19.56	19.81	19.29	20.78	**19.04**	20.67	19.62	19.48	19.54	19.64
Internal	20.82	21.24	20.34	21.73	**20.39**	21.82	20.31	20.67	21.24	21.44
Total DAP	40.39	**41.05**	39.63	42.51	**39.43**	42.49	39.92	40.14	40.78	41.07

Table 3a

Differences in Percentage of Dallas High School Students At or Above Median Mean College and Career Readiness (CCR) Scale Score, by Level of Developmental Assets (Total DAP Score), Total, and by Race/Ethnicity

Asset Levels

(N=20,241)	At-Risk	Vulnerable	Healthy	Thriving
Math KCS*	**28**	**41**	**57**	**71**
Black	27	42	59	72
Hispanic	28	42	59	72
White	28	30	45	63
English/Language Arts KCS	**24**	**41**	**59**	**74**
Black	25	40	61	73
Hispanic	24	41	58	73
White	24	49	65	79
Science KCS	**27**	**41**	**57**	**70**
Black	31	42	57	69
Hispanic	27	41	57	71
White	16	43	58	68
Time Management & Study Habits	**17**	**40**	**67**	**82**
Black	21	42	68	79
Hispanic	16	39	66	82
White	18	43	73	91
Perception of Academic Rigor	**46**	**52**	**59**	**64**
Black	38	46	55	60
Hispanic	48	54	60	65
White	42	51	57	75
College Research	**39**	**47**	**55**	**65**
Black	49	57	63	70
Hispanic	36	43	50	62
White	35	51	57	58
College Knowledge School Supports	**25**	**38**	**52**	**65**
Black	30	42	55	69
Hispanic	25	37	52	65
White	14	33	47	60
College Knowledge Family Supports	**25**	**39**	**55**	**68**
Black	29	49	63	74
Hispanic	25	37	52	65
White	21	44	58	65

*KCS=Key Cognitive Strategies

Table 3b

Differences in Percentage of Dallas High School Students At or Above Median Mean College and Career Readiness (CCR) Scale Score, by Level of Developmental Assets (Total DAP Score), Total, and by Grade

	Asset Levels			
(N=20,241)	At-Risk	Vulnerable	Healthy	Thriving
Math KCS*	**28**	**41**	**57**	**71**
9th Grade	26	41	58	72
10th Grade	26	41	59	72
11th Grade	32	44	58	71
12th Grade	29	40	57	69
English/Language Arts KCS	**24**	**41**	**59**	**74**
9th Grade	19	35	56	68
10th Grade	23	41	58	75
11th Grade	33	47	65	77
12th Grade	27	44	62	76
Science KCS	**27**	**41**	**57**	**70**
9th Grade	28	42	61	74
10th Grade	26	41	58	71
11th Grade	27	40	51	64
12th Grade	29	41	56	70
Time Management & Study Habits	**17**	**40**	**67**	**82**
9th Grade	13	34	64	81
10th Grade	16	40	66	81
11th Grade	23	46	71	84
12th Grade	18	44	70	82
Perception of Academic Rigor	**46**	**52**	**59**	**64**
9th Grade	45	49	65	62
10th Grade	47	53	59	64
11th Grade	51	57	64	66
12th Grade	43	52	59	66
College Research	**39**	**47**	**55**	**65**
9th Grade	29	34	40	48
10th Grade	33	40	49	59
11th Grade	44	55	62	74
12th Grade	59	70	77	85

(Continued on next page)

Table 3b (cont)

(N=20,241)	At-Risk	Vulnerable	Healthy	Thriving
College Knowledge School Supports	**25**	**38**	**52**	**65**
9th Grade	21	28	42	56
10th Grade	21	31	46	60
11th Grade	28	43	56	68
12th Grade	41	61	76	84
College Knowledge Family Supports	**25**	**39**	**55**	**68**
9th Grade	22	33	46	57
10th Grade	25	36	51	65
11th Grade	28	41	59	70
12th Grade	32	56	74	85

*KCS=Key Cognitive Strategies

Table 3c

Differences in Percentage of Dallas High School Students At or Above Median Mean College and Career Readiness (CCR) Scale Score, by Level of Developmental Assets (Total DAP Score), Total, and by Gender

Asset Levels

(N=20,241)	At-Risk	Vulnerable	Healthy	Thriving
Math KCS*	**28**	**41**	**57**	**71**
Female	31	43	58	69
Male	25	40	58	74
English/Language Arts KCS	**24**	**41**	**59**	**74**
Female	29	47	64	78
Male	20	35	55	68
Science KCS	**27**	**41**	**57**	**70**
Female	31	41	57	70
Male	25	41	57	71
Time Management & Study Habits	**17**	**40**	**67**	**82**
Female	21	46	72	86
Male	13	33	60	77
Perception of Academic Rigor	**46**	**52**	**59**	**64**
Female	50	54	60	64
Male	43	51	58	64
College Research	**39**	**47**	**55**	**65**
Female	37	46	54	64
Male	39	48	55	66
College Knowledge School Supports	**25**	**38**	**52**	**65**
Female	27	38	52	65
Male	24	38	54	67
College Knowledge Family Supports	**25**	**39**	**55**	**68**
Female	25	38	55	68
Male	26	41	56	68

*KCS=Key Cognitive Strategies

Table 4a

Differences in Mean College and Career Readiness (CCR) Scale Scores,* by Level of Developmental Assets (Total DAP Score) and Race/Ethnicity, Dallas High School Students**

			Overall Mean				
		F		At-Risk	Vulnerable	Healthy	Thriving
Math KCS***	Black	(3,4440)=159.99	28.33	24.17d	26.71c	29.41b	31.75a
	Hispanic	(3,12966)=497.27	27.14	23.95d	26.66c	29.12b	31.58a
	White	(3,1079)=33.49	26.38	23.11d	25.00c	26.98b	29.33a
English KCS	Black	(3,4473)=190.34	31.29	26.14d	29.56c	32.58b	34.96a
	Hispanic	(3,12922)=1301.80	30.19	25.52d	29.45c	32.22b	34.85a
	White	(3,1093)=61.17	31.66	25.34d	30.28c	32.86b	35.45a
Science KCS	Black	(3,4442)=111.52	28.84	24.80d	27.35c	29.81b	32.11a
	Hispanic	(3,12773)=392.34	28.17	24.52d	27.38c	29.93b	32.07a
	White	(3,1090)=41.09	28.63	23.32d	27.12c	29.88b	32.03a
Time Mgt & Study Habits	Black	(3,4331)=412.56	30.40	25.04d	28.55c	31.83b	34.19a
	Hispanic	(3,12701)=1517.75	28.99	23.64d	28.13c	31.35b	34.13a
	White	(3,1068)=150.28	30.44	23.50d	28.53c	31.97b	35.11a
College Research****	Black	(3,4210)=35.44	20.45	22.09d	21.05c	20.03b	19.27a
	Hispanic	(3,12085)=146.16	22.27	29.94d	22.65c	21.55b	20.14a
	White	(3,1044)=17.67	20.99	24.39d	21.21b	20.27a	20.34a
Perception of Academic Rigor	Black	(3,4533)=37.92	28.70	26.75d	27.84c	29.25b	30.48a
	Hispanic	(3,12969)=82.13	29.15	27.57d	28.88c	29.87b	30.67a
	White	(3,1089)=21.55	29.18	27.30c	28.02b,c	29.51b	32.11a
College Knowledge - School Supports	Black	(3,4019)=156.32	28.05	23.37d	26.15c	28.99b	32.69a
	Hispanic	(3,11671)=460.35	25.99	21.83d	24.94c	28.02b	31.00a
	White	(3,1015)=42.44	25.81	20.01d	24.56c	26.78b	29.81a
College Knowledge - Family Supports	Black	(3,4203)=232.75	28.13	21.35d	25.85c	29.57b	33.65a
	Hispanic	(3,11994)=507.82	24.48	19.83d	23.18c	26.88b	30.26a
	White	(3,1026)=50.87	26.36	19.30d	24.47c	28.01b	30.78a

* Within the same row of means by DAP quartile, means with differing superscripts (a,b,c,d) are statistically different from each other. Yellow-highlighted superscripts indicate where significant differences in means did not follow a strict linear correlation with rise in assets level.

**"Other" racial/ethnic category not shown, since multiple races/ethnicities are represented, and the results are therefore not clearly interpretable

***KCS=Key Cognitive Strategies

****Lower score indicates students were more involved in researching colleges.

Table 4b

Differences in Mean College and Career Readiness (CCR) Scale Scores,* by Level of Developmental Assets (Total DAP Score) and Grade, Dallas High School Students

			Overall				
		F	Mean	At-Risk	Vulnerable	Healthy	Thriving
Math KCS**	9th	(3,5953)=264.06	27.46	23.50d	26.57c	29.13b	31.53a
	10th	(3,5468)=235.04	27.63	23.77d	26.69c	29.24b	31.61a
	11th	(3,4267)=128.83	27.94	24.68d	26.98c	29.13b	31.42a
	12th	(3,3309)=98.69	27.42	24.35d	26.04c	28.66b	31.29a
English KCS	9th	(3,5941)=307.84	29.57	24.50d	28.51c	31.63b	33.99a
	10th	(3,5434)=276.55	30.38	25.43d	29.41c	32.21b	35.01a
	11th	(3,4285)=168.20	31.56	27.18d	30.46c	33.09b	35.66a
	12th	(3,3372)=146.70	31.48	26.60d	30.44c	32.95b	35.37a
Science KCS	9th	(3,5850)=229.79	28.77	24.80d	27.72c	30.61b	32.79a
	10th	(3,5404)=186.60	28.34	24.29d	27.36c	29.99b	32.27a
	11th	(3,4238)=88.64	27.96	24.60d	27.02c	29.21b	31.20a
	12th	(3,3360)=85.58	28.24	24.31d	27.16c	29.52b	31.80a
Time Mgt & Study Habits	9th	(3,5811)=773.32	28.72	22.97d	27.57c	31.09b	34.04a
	10th	(3,5338)=644.43	29.41	23.86d	28.37c	31.51b	33.33a
	11th	(3,4187)=432.59	30.13	25.11d	28.88c	31.98b	34.57a
	12th	(3,3297)=374.52	30.07	25.47d	28.70c	31.99b	34.29a
College Research***	9th	(3,5561)=65.04	23.60	24.94d	24.15c	22.91b	21.69a
	10th	(3,5104)=80.27	22.45	24.48d	22.95c	21.59b	20.59a
	11th	(3,4013)=54.50	20.53	22.49d	21.00c	19.89b	19.69a
	12th	(3,3182)=29.22	18.87	20.49d	19.14c	18.46b	17.72a
Perception of Academic Rigor	9th	(3,5975)=31.42	28.63	27.33d	28.21c	29.27b	30.12a
	10th	(3,5530)=37.54	29.03	27.31d	28.72c	29.68b	30.54a
	11th	(3,4298)=25.79	29.63	28.30c	29.14c	30.52b	31.40a
	12th	(3,3341)=35.50	29.21	27.09d	28.59c	29.89b	31.38a
College Knowledge-School Supports	9th	(3,5324)=192.34	24.43	20.70d	23.26c	26.13b	29.16a
	10th	(3,4917)=206.18	25.17	20.96d	24.02c	26.79b	30.24a
	11th	(3,3859)=138.72	27.28	23.17d	25.97c	28.88b	31.57a
	12th	(3,3105)=128.55	31.11	25.47d	29.72	32.81b	35.60a
College Knowledge—Family Supports	9th	(3,5481)=207.85	24.02	19.50d	22.79c	26.01b	29.06a
	10th	(3,5063)=221.76	24.65	19.88d	23.13c	26.80b	30.14a
	11th	(3,3978)=207.43	25.76	20.47d	23.75c	28.05b	31.73a
	12th	(3,3218)=253.11	28.96	21.25d	26.85c	31.44b	35.56a

* Within the same row of means by DAP quartile, means with differing superscripts (a,b,c,d) are statistically different from each other. Yellow-highlighted superscripts indicate where significant differences in means did not follow a strict linear correlation with rise in assets level.
**KCS=Key Cognitive Strategies
***Lower score indicates students were more involved in researching colleges

Table 4c

Differences in Mean College and Career Readiness (CCR) Scale Scores,* by Level of Developmental Assets (Total DAP Score) and Gender, Dallas High School Students

			Overall				
		F	Mean	At-Risk	Vulnerable	Healthy	Thriving
Math KCS**	Female	(3,9994)=291.52	27.90	24.70d	26.84c	29.05b	31.29a
	Male	(3,9005)=419.50	27.29	23.32d	26.36c	29.12b	31.72a
English KCS	Female	(3,10060)=395.19	31.56	27.13d	30.49c	32.89b	35.57a
	Male	(3,8974)=482.55	29.45	24.40d	28.55c	31.71b	34.10a
Science KCS	Female	(3,9970)=248.70	28.67	25.16d	27.49c	29.98b	32.11a
	Male	(3,8884)=318.97	28.04	23.99d	27.22c	29.83b	32.04a
Time Mgt & Study Habits	Female	(3,34)=172.34	30.46	25.12d	29.13c	32.23b	34.82a
	Male	(3,881)=1032.43	28.37	22.88d	27.41c	30.71b	33.59a
College Research***	Female	(3,9521)=127.63	21.63	23.56d	22.21c	20.97b	19.85a
	Male	(3,8341)=106.89	21.86	23.69d	22.24c	21.08b	19.90a
Perception of Academic Rigor	Female	(3,10092)=145.42	29.43	28.29d	28.99c	29.80b	30.94a
	Male	(3,9054)=82.33	28.67	26.79d	28.25c	29.56b	30.59a
College Knowledge-School Supports	Female	(3,9202)=325.97	26.60	22.31d	25.14c	28.04b	31.25a
	Male	(3,8005)=382.41	26.36	21.75d	25.28c	28.44b	31.58a
College Knowledge—Family Supports	Female	(3,9461)=446.56	25.59	20.08d	23.67c	27.59b	31.24a
	Male	(3,8281)=435.17	25.37	20.07d	23.97c	27.90b	31.51a

* Within the same row of means by DAP quartile, means with differing superscripts (a,b,c,d) are statistically different from each other. Yellow-highlighted superscripts indicate where significant differences in means did not follow a strict linear correlation with rise in assets level.
**KCS=Key Cognitive Strategies
***Lower score indicates students were more involved in researching colleges.