UC Berkeley
Working Paper Series

Title

ReadyMade Analysis of Berkeley Scholars to Cal Program

Permalink

https://escholarship.org/uc/item/35v53265

Authors

Belohlav, Kate
Brown, Clair

Publication Date

2012-05-14

ReadyMade Analysis of Berkeley Scholars to Cal Program

Kate Belohlav and Clair Brown
Center for Work Technology and Society, IRLE
University of California, Berkeley

May 2012

Please send feedback to Clair Brown, cbrown@econ.berkeley.edu

ReadyMade Analysis of Berkeley Scholars to Cal Program[1]

Goal: Increase matriculation rates into top four-year university for high-performing African-American and Latino/Chicano students in Berkeley Unified School District.

Berkeley Scholars to Cal provides ongoing college preparation to promising African-American and Latino/Chicano students in Berkeley Unified School District (BUSD) for the eight years prior to their graduation from high school. This program provides ongoing case management, mentoring, Saturday and summer sessions and both academic and social goal setting. Without this comprehensive program, most of these students, who come from first generation, low-income, working class families, would not attend a top-tier university upon high school graduation; many would not graduate from high school in four years.

Since its inception in 2000, BSC has initiated four student cohorts, with the first cohort graduating in 2008.[2] One hundred percent of graduates from the first cohort went to college, with 90% of them matriculating at 4-year universities. African American students from the second cohort scored above national averages on the PSAT: 80 percent scored over the 50th national percentile, while nationally, only 5 percent of black students and 70 percent of white students score over 50 percent on the test.[3] These statistics indicate that the program has been successful at meeting its larger goal of preparing underserved students for applying to and being accepted at top universities.

The idea for the Berkeley Scholars to Cal program arose in the late 1990s, when administrators saw that Latino and African-American students who showed academic success and potential in their early grade school years were not able to maintain that success into middle

2 Cohorts are currently in grade 12, 8 and 6.

3 Edelstein, W. (2010, March 9). *Berkeley Scholars to Cal works to close the achievement gap.* Retrieved April 11, 2012, from UC Berkeley News Center: http://newscenter.berkeley.edu/2010/03/09/scholars/

and high school. Indeed, while 46% of Latino and African American 5th grade students in Berkeley Unified School District (BUSD) scored at the proficient or advanced levels on the California Standards Test (CST), only 18% of this group received a proficient score by the time they reached eighth grade.[4]

Here, we focus on the second cohort of students (BSC II), currently in high school. Our goal is to provide a pilot assessment of students after approximately 6 years in the program; i.e. after the students have had nearly full exposure.[5] The goal of this pilot is to provide information on the program and also to provide an example of how BSC can collect basic data to assess the impact of its programs on student academic outcomes.

BSC currently tracks student academic data, including GPAs, individual class grades, SATs and other standardized test scores. Working together with ReadyMade, BSC identified two important and measurable aspects of the program that are related to college admission: improved GPAs and standardized test scores. The key program components related to these primary outcomes include time with a mentor, problem solving capability, post-high school goals, time use, and involvement in extracurricular activities.

The main goal of this evaluation is to learn which aspects of the program provide reliable indicators of student success in high school and in getting into a top college. Because a student's GPA, SAT scores, and leadership activities are critical for success in college admissions and in college readiness, we ask: What components of the BSC program have an impact on student test scores and GPA?

---

4 Rebecca Cheung, Ed.D., Director- Berkeley Evaluation and Assessment, Berkeley Unified School District

5 Students took the survey during their sophomore or junior year of high school, which means that they would have been in the program for at least six years.

Description of Data on BSC II Student Cohort Members

In this report, we use data collected by the BSC program during academic year 2010/11 to do a ReadyMade Impact Assessment. David Stark, Executive Director of Stiles Hall, Justin Martin, Director of BSC II, and Dr. Clair Brown, Professor of Economics and Director of the Center for Work, Technology and Society at University of California, Berkeley, designed a survey for program participants.[6] The survey included questions on student time use, future goals, attitudes toward school, attendance, tardiness and family life.[7] This data was combined with students' grade point averages, SAT scores, and involvement in leadership roles—key indicators in top colleges' admissions decisions.

Among the BSC II group, 15 students completed the survey. The cohort has only 18 BUSD students, and a large majority of the cohort completed the survey, thereby providing a representative sample of the BCS program for statistical analysis.[8] Although the small number of cases may lead to less precise and potentially less reliable estimates, evaluating this group provides an indicator of the important components of the program and their relationship to academic outcomes. Finding statistically significant results with such a small group size indicate strong relationships among program components.

We begin by looking at how BSC students are spending their time after school, as this information provides an indicator of the students' decisions about activities and potential for future academic success. On average, BSC high school students reported spending approximately 10 hours per week doing their homework after school. Students within this cohort spend the least amount of their time after school using Facebook or watching TV (3 hours per week each, on average) and the most time on their cell phones (8 hours) or with friends (7 hours). (See Chart 1)

_____

6 Justin Martin, along with Program Coordinators Anthony Gamblin, Julienne Nunn, Cameron Smith, Segen Ketema and Branden Sigua administered surveys throughout the 2010/11 academic year. A copy of the survey can be found in the Appendix. BSC II students were in 11th grade at the time the surveys were administered.

7 15 out of 18 BUSD BSCII students completed the survey and 18 out of 23 BSCIV students completed the survey.

8 We obtained unweighted GPA data from students who did not take the survey and ran a t-test for difference between means between students who took the survey and who did not take the survey. We did not find a difference in unweighted GPA between these groups. Although this is just one data point, we believe that it is an important one within the context of this report, and therefore believe that our sample is representative of the overall group.

We look at the actual time spent on homework relative to the recommended amount of time students should spend on homework. Berkeley Unified School District recommends that students spend 2 hours per week studying outside of class for each class taken. We assume that each student is taking approximately 5 academic classes that require regular homework,[9] and therefore, that they should be studying for approximately 10 hours per week, or two hours per day.

We see that, on average, students are spending the recommended amount of time on their homework during the school week, and more if they study on the weekend. BSC staff members suggest that many students typically study one weekend day as well, which leads us to believe that students are actually spending more than 10 hours per week on homework. Based on the structure of students' classes and extracurricular schedules, weekends often provide an important opportunity for them to catch-up on homework and prepare projects.

We also know that students are very involved in extracurricular activities. BSC students are participating in summer academic enrichment programs, community service activities, internships, student government and music. BSC students also participate in a variety of sports, including basketball, football and karate. They are also serving at the highest levels of student government and volunteering with organizations like Youth Engagement Advocacy and Housing (YEAH), an organization that provides seasonal shelter to homeless youth in Berkeley. Over the summer, students have focused on academic enrichment, by participating in programs like the Breakthrough Collaborative, the Summer Math and Science Honors Academy at UC Berkeley and the Academic Talent Development Program at UC Berkeley. BSC students are involved in extra curricular activities throughout the year, in addition to the BSC program and their regular academic requirements.

One of the other purposes of the survey was to understand how students are able to independently address academic difficulties and challenges. The survey question addressing this issue asked, "How do you deal with difficult classes or challenging subjects?" Students provided answers in free form, which we coded and analyzed according to categories which ranged from 'avoided situation or deflected responsibility' to 'demonstrates independence, creativity, and a strong commitment to improvement by using multiple study strategies and/or creating a study

---

9 Some students take up to eight classes, but they don't all necessarily involve homework. Courses such as physical education don't typically require work outside of school.

group.' The majority of high school students demonstrated their initiative by asking for help, usually from a teacher or tutor, while 27% solicited help and devoted more attention to their work (Chart 2).

The survey also included questions about weekly hours spent with mentor, which reflects engagement in the program, and post high school goals, which provides an indicator of student attitudes. On average, high school students spend approximately 4 hours per week with their mentor. (s.d. 2.77) Although nearly 100% of BSC high school students stated that their top post high school goal was to attend college or a top college, they varied in their second post high school goal. (Chart 3) For more than 40% of the cohort, their second post high school goal was to attend graduate school. Twenty one percent of the cohort had goals related to their finances or leadership, such as 'Make a lot of money' or 'Complete a Public Project,' while another 21% of students were interested in jobs that do not require a degree, with responses such as 'modeling' and 'go pro in baseball.' Finally, 14% of the high school cohort students had goals related to their success in college, such as 'graduate from college.'

ReadyMade Impact Assessment for BSC: Key Outcomes of Interest

Grades, SAT scores, and extracurricular involvement/leadership roles are key indicators used in colleges' admissions decisions. BSC already tracks their students' performance by collecting and analyzing information on student grade point averages, SAT scores, and extracurricular activities. We investigate the relationship between several aspects of the program and their relationships to test scores and GPA. Specifically, we look at variables indicative of

- student decision-making (time use and goals);

- student independence and initiative (ability to overcome academic difficulties);

As a first step in looking at the statistical relationships among key outcome variables and the other variables for program inputs and student characteristics, we review the correlations between variables.

Program Outcomes. In keeping with the ReadyMade approach to provide a simple analysis, we identified key outcome variables that affect college admission in order to provide measures of the BSC Program's performance. The key outcome variables should represent the student academic outcomes that can be linked to BSC program inputs. The first step of the ReadyMade process is to investigate if these variables move together or provide different information. We find that the key variables are correlated at the 0.6 level. Although weighted GPA (GPAW) and SAT scores perform statistically in a similar manner, their correlations with key program input variables vary.

Leadership is also an important component in the college admissions process. We did not, however, have reliable quantitative indicators to measure the relationship between leadership involvement and the program input variables. In order to measure the relationships between leadership and program variables in future cohorts, we recommend that the BSC program include a fill-in-the-blank question on future surveys that allows students to specify their leadership roles in sports, student government and volunteer activities.

Program Inputs. The BSC program provides a comprehensive suite of academic and social support to students through dedicated BSC program staff and UC Berkeley student volunteers. These support services are likely to influence behaviors and norms over time as the BSC program tutors students, teaches them how to manage their time and how to deal with problems they encounter in class. Importantly, BSC provides a peer group who shares the goal of excelling in school and going to college. Through individual coaching and case management, students learn how to be independent scholars and self-advocates in the classroom. The weekly study hall attendance requirement provides structure and help for homework completion, which is intended to improve grades and learning. Summer academies provide preparation for the next year's advanced math and English classes, as well as SAT preparation. College tours and relationships with UC Berkeley mentors motivate students to work hard and excel academically. BSC's program framework in Table 1 outlines the program activities and changes that BSC expects to see in students as a result of their participation in the program.

Several of the program's key input variables were collected through the survey, including the number of weekly hours spent with mentor (mentor), the ability to overcome academic difficulty (problemsolverhs/pshs),[10] number of hours spent on homework (homework), and the number of hours students studied in a quiet place (quietstudy). From correlations in Table 2, we see that number of hours spent on homework is highly correlated with weighted GPA (.56). The ability to overcome academic difficulty variable (pshs) is also highly correlated with SAT scores and weighted GPA. Time spent on homework and ability to overcome academic difficulty reflect key program inputs and are also important intermediate outcomes of the program. The BSC program provides the structure for students to do homework in the weekly study halls and

---

10 Student ability to overcome academic difficulty was measured using the *ProblemSolver* variable, which was coded based on students' written response to the question, "How do you deal with difficult classes or challenging subjects?" Students were said to not have overcome academic difficulty if in their response they avoided the situation or deflected responsibility. All other responses ranged from 1-3, where 1=solicits help, 2= solicits help and devotes more attention/effort to improvement, and 3= demonstrates independence, creativity, and a strong commitment to improvement by using multiple study strategies and/or creating a study group.

coaches them on how to overcome academic difficulties, and these two inputs are important intermediate outputs of the program, as they are the result of direct programmatic inputs and changes in behavior that would most likely occur after several years of program exposure.

Controls. We identified several key control variables for home life, student characteristics and extracurricular activities. To control for home life indicators, we looked at variables including the number of nights students eat dinner prepared at home (dinnerprep) and number of days student missed school (attendance). We include student time use indicators in order to control for student extracurricular activities, including number of hours spent playing sports (sport), number of hours spent talking or texting on cell phone and hanging out with friends (cellfriend), and the degree to which students felt that their extracurricular activities prevented them from doing their homework (timepress). Finally, we control for gender by including a dummy variable, 'sex' (female=0).

The correlation matrix shows that only a few of these controls are correlated with important program outcomes or inputs. Timepressure is highly correlated with GPAW, SAT and students' first post-high school goal.[11] Student gender and hours spent playing sports are also positively correlated with SAT scores. Neither the attendance nor the dinnerprep variables are correlated with the outcomes of interest, so we eliminate them from our analysis.

We see from the correlation matrix that not all of the variables collected by the BSC program indicate program performance or activities; however, program managers were interested in gaining a deeper understanding of how the students were spending their time afterschool and with their families. These descriptive statistics are helpful for BSC program staff in better understanding the BSCII student cohort, though not necessarily relevant for this analysis.

Table 1. BSC Program Framework					
Inputs	**Activities**	**Outputs**	**Short-Run Outcomes**	**Intermediate Outcomes**	**Long Run Outcomes**
	Connect with the "whole child" and develop an extended family	Students positioned for academic and social success	Students make better choices	Students do better in school and are more prepared for college	Graduation from top-tier college

_____

11 Goal 1 is a dummy variable, where college/top college=0 and 'other' = 1. Students were asked "What are your top two future goals after high school?" Responses from each category were coded based on students' responses.

• BUSD Student Cohort • UCB Mentors • Program Coordinators & Directors • Teachers • Extended Stiles Hall/Cal Black & Latino Family	• Tutoring and Social Support • Summer and Saturday Academies • Academic and Social Goal Setting • Ongoing Case Management • College Tour	• Student feels supported by family and BSC program staff • Student has positive role models in life • Parents more engaged • Student sees school as central to their identity • Student encouraged to aim high	• Achieves 3.3 GPA • Makes good choices about time allocation (Willing to attend Sat. Academy @ 9am and choose academics over sports, etc.) • College is top post high school goal • Takes initiative to advocate for him/herself and independently solve academic challenges	• Enrolled in AP/IB college track courses • Maintains 3.3 GPA • Involved in significant leadership roles • Completes A-G requirements • Competitive SAT Scores • Established peer group[12] that is "cool" and academically successful	• Admitted to top-tier universities • Perform we at top-tier universities • Attend a to graduate school • Become a leader in th state and g back

_____

12 Both within and outside of the BSC program; these students are playing a role in each others' success, by keeping each other accountable.

Table 2. Correlation Matrix, BSC II High School Students

	GPAW	SAT	Goal 1	PSHS	Mentor	Quiet study	Home work	Sex	Time press	Dinner prep	Atten dance	sport	Cell frien
GPAW	1												
SAT	0.67***	1											
Goal1	0.28	0.39	1										
PSHS	0.56**	0.43	-0.17	1									
Mentor	-0.12	-0.08	0.43	-0.20	1								
Quiet study	-0.03	-0.06	-0.37	0.34	0.14	1							
Home work	0.56**	0.26	-0.11	0.70***	0.23	0.29	1						
Sex	-0.11	0.38	0.24	-0.20	0.43	-0.05	0.14	1					
Time press	0.39	0.56**	0.41	0.01	0.19	-0.02	0.16	0.32	1				
Dinner prep	0.10	0.28	0.09	0.10	0.00	0.07	-0.19	-0.05	0.31	1			
Atten dance	0.02	0.01	0.04	0.15	-0.01	0.50	-0.09	-0.31	-0.23	-0.39	1		
Sports	0.37	0.17	-0.15	0.30	0.06	0.45	0.19	-0.39	-0.10	0.10	0.35	1	
Cell friend	-0.10	-0.34	0.34	-0.34	-0.08	-0.60**	-0.30	-0.38	0.09	-0.40	0.08	-0.29	

*** Significant at the 1% level
**Significant at the 5% level

Relationships between Program Components and Key Outcome Indicators

We know that, on average, BSC students from this cohort scored a 1566 on the SAT (s.d. 215), with 70% of the cohort scoring above the national median.[13] In addition, on average, this cohort earned a weighted GPA[14] above 3.3. Therefore, we investigate the extent to which components of the BSC program are related to these key outcome indicators and are able to help program participants become better college applicants.

To look at the relationship between student performance and participation in the main components of the BSC program,[15] we ran simple linear regressions in order to control for

13 Nine out of thirteen BSC students took the SAT and scored above the 50th percentile of 1530. SAT percentile data accessed on 8 February 2012 from
http://www.collegeboard.com/prod_downloads/highered/ra/sat/SATPercentileRanks.pdf.

14 Weighted GPA takes into account enrollment in honors and AP courses. We choose to use the weighted GPA in this analysis because it provides a better indicator of student success by taking into account the more challenging coursework in which many BSC students are enrolled. In addition, universities use the weighted GPA when making admissions decisions.

gender and other relevant characteristics. Here we report the regressions that best represent the important relationships.

We begin by looking at an important component of the admissions criteria for top-tier universities: weighted GPA. We look at the relationship of weighted GPA and homework hours, which is a major program goal, controlling for gender and time pressure. In Table 3, we see that for every additional hour a BSC student spends on homework, his/her GPA increases by .04 points. The controls for sex (female = 0) and TimePressure (i.e., how much extra curricular activities interfere with their ability to do homework) are not statistically significant, which means that gender and time pressure do not have an independent impact on students' weighted GPAs.

Table 3. Linear Regression of Weighted GPA

GPAW	Coef.	Std. Err.	t
Sex	-0.307	0.227	-1.35
Homework	0.039**	0.16	2.47
TimePressure	0.173	0.099	1.74
Constant	3.03***	0.225	13.43
# Observations	15		
Prob > F	0.0519		
Adj R^2	0.3521		

*** Significant at the 1% level
**Significant at the 5% level
*Significant at the 10% level

---

15 Main components of BSC Program include mentoring and academic and social support activities, which contribute to shifts in student independence and good choices regarding time use.

Next, we look at SAT, another important component of college admissions, and the program inputs homework hours and problemsolver. Homework was not significantly related to SAT scores, most likely because SAT scores do not necessarily improve from students doing their homework, but rather, from participating in test preparation programs, and so we do not include homework in the regression reported in Table 4.[16] We ran a regression, controlling for gender, student ability to overcome academic difficulty and time pressure faced by students, each of which may independently influence outcomes. Table 4 shows a statistically significant relationship between students' ability to overcome academic difficulty with SAT scores, and reflects that increases in perceived time pressure also have an independent effect on SAT scores. We believe that the TimePressure variable acts as a proxy for highly conscientious students, primarily because we found that it tends to be associated with positive academic outcomes. If a student is very involved, and feels like he/she should be spending more time on homework, then he/she appears to be academically committed and conscientious. Gender was not a statistically significant control.

Table 4. Linear Regression of SAT score

SAT	Coef.	Std. Err.	T
Sex	118.52	99.89	1.19
ProblemSolver	110.97*	55.37	2.0
TimePressure	87.80*	47.02	1.87
Constant	1223.55***	118.29	10.34
# Observations	13		
Prob > F	0.055		
Adj R^2	0.4038		

*** Significant at the 1% level
**Significant at the 5% level
*Significant at the 10% level

Control Group Comparison

Although the BSC program was not able to administer surveys to a group of non-program participants, they were able to gather average GPA data from a control group. BUSD identified a group of African-American and Latino students one grade below the BSCII students, who had 4th

---

16 We in fact, ran several regressions, which included homework as a right hand side variable, and none of the regressions yielded a statistically significant result.

grade CST scores in the same range as BSCII students. The average weighted GPA among that group at the end of Fall, 2011 semester was 2.27, as compared to the 3.3 average among BSC students. Although this control group may be systematically different than the BSC cohort, this estimate provides a rough indicator of the difference in GPA-related outcomes between similar types of students, with and without program participation.

Alternative Comparison Group: BSC IV, 5th Grade Students

In addition to collecting data on the BSCII cohort, the BSC program also administered surveys to BSC Cohort IV, in 5th grade at the time of survey administration. Analyzing data from the youngest cohort provides a baseline to use for comparison purposes, which allows us to explore how the length and intensity of the program instills behavioral changes in students over time. One of the overarching goals of the program is to make academic success and attendance at top-tier universities a part of the BSC student culture. Students who are just entering the BSC program have not yet experienced the same paradigm shift expected of students with 7 years of program participation. With future data collection, the performance of the 5th grade cohort can be compared to their actual outcomes in the 12th grade.

We have identified time spent on homework and ability to overcome academic difficulty to be significantly related to student academic success among the BSC high school cohort. Having established these components as important aspects of the program, we now seek to assess the extent to which years of participation in the program affect programmatic outcomes.

BSC Cohort IV, in 5th grade at the time of survey administration, recently started the program. This cohort is a good comparison group against the 12th grade cohort for several reasons. First, the 5th graders are similar to the high school cohort in terms of their demonstrated academic potential, as evidenced by CST scores. In addition, similar to the BSCII cohort, this group of fifth graders comes from traditionally underserved groups in terms of race, socioeconomic status and residential status. Finally, the program aspires to shift behavior and norms, which takes several years to affect students. The program shifts norms through several pathways. The summer and Saturday academies not only provide students with more exposure to academic subjects, but they also allow students to develop academic and social relationships with other BSC students, who come from similar racial and socio-economic backgrounds. A peer group, based on academic success and college goals, forms; this peer group of students encourage each other to push themselves and to be academically successful. We believe that in many cases, BSC students are exposed to a different type of peer pressure (academic rather than

social) by being involved with the BSC program. In addition, individual tutoring and social support increases independent problem solving abilities while the college tours and mentor relationships encourage and push students to set challenging goals and to 'aim high.' Although some differences reflect maturity and experiences as students' age, we think that the 5th grade cohort acts as a good comparison group on some of these factors.

As a first step in understanding the 5th grader data, we reviewed correlations between key outcome variables, program inputs and controls. At the time of analysis, GPA and test score data were not available for the BSCIV cohort, so we focus here on looking at relationships between post-high school goals (college=0), the intermediate outcome variables of time spent on homework and ability to overcome academic difficulty, with the same controls used for high school students. We see a negative relationship between post high school goals and student ability to overcome academic difficulty (ProblemSolver5/PS5) (-.30) and quietstudy (-.33); and a positive relationship between post high school goals and time spent with friends and on the cell phone (.31). (Table 5)

Table 5. Correlation Matrix BSCIV, 5th Grade Students

	goal1	PS5	Mentor	Quiet study	Home work	Sex	Time press	Dinner prep	Atten dance	Spo rt	Cell friend
goal1	1										
PS5	-0.30	1									
mentor	-0.28	0.07	1								
Quiet study	-0.33	-0.18	-0.26	1							
Home work	-0.18	0.44	-0.14	-0.06	1						
Sex	0.05	-0.47**	0.13	-0.27	-0.07	1					
Time Press	0.32	-0.10	-0.43	-0.27	0.22	0.10	1				
Dinner prep	-0.17	0.05	0.02	-0.11	-0.43	0.13	0.02	1			
Atten dance	0.09	-0.08	0.02	0.24	-0.20	-0.14	0.15	0.08	1		
Sport	0.14	0.16	0.30	-0.59**	0.16	0.21	0.21	0.31	-0.14	1	
Cell friend	0.31	-0.15	-0.03	0.07	0.07	-0.12	0.20	-0.25	0.62**	0.29	1

*** Significant at the 1% level
**Significant at the 5% level

Based on the program's framework and an analysis of the statistical relationships of the two groups, we identified three variables that indicate the development of behaviors and norms over time as a student participates in BSC and provide good standards of comparison [17]

- Top Post High School Goal

- Time Spent on Homework

- Ability to Overcome Academic Difficulties

We first looked at the top post high school goals, as identified by students.[18] While 92% of the high school students identified going to "college" or a "top college" as their top post high school goal, only 63% of 5th grade students identified going to college as their top goal. We ran a t-test for the difference between proportions to verify that this difference did not happen by chance and found a statistically significant result that there was a greater proportion of high school students who identified college as their top high school goal ($p<.05$).

The amount of time spent on homework also is much higher for high school students than for the 5th graders: the high school students averaged 10 hours per week (s.d. 6.91), while the 5th grade students averaged only 3 hours per week (s.d. 2.80). (Chart 5) To evaluate this difference in homework hours, we checked what BUSD recommends that high school and 5th grade students spend on weekly homework: BUSD suggests that high school students spend approximately ten hours on homework during the school week, and that fifth grade students spend 4-5 hours per week on homework during the school week.[19] Fifth grade BSC students are studying approximately 1 hour less on average than the district's recommended 4-5 weekly hours and nearly 80% of them study less than the recommended minimum of four hours per week.

---

17 We also considered using the mentor hours variable and the GPA variable. GPA data was not readily available at the time of analysis, so we did not use it as a standard for comparison. In addition, we found inconsistencies in the way that fifth grade students interpreted the question, "How many hours per week do you interact with college student(s)?" Although most acknowledged that they had a mentor, many also left the number of hours spent with college students blank. In all cases, the BSC student mentors are University of California, Berkeley college student. We believe there might have been some confusion among the fifth grade students in distinguishing between 'college students' and 'mentors' and will correct for this in future questionnaires.

18 Students responded to the question, "What are your top two future goals after finishing high school?" by filling in a blank. Results were coded as College or Top College=0 and School/Personal Goal/Uncertain = 1.

19 Berkeley Unified School District recommends that 5th grade students spend 45 minutes to an hour per day on homework, which totals approximately 4-5 hours per week.

We created a variable, 'shortfall,' to identify the proportion of time that students are spending on homework relative to BUSD's recommendation.[20] On average, high school students are studying for 98% of the recommended time (s.d. .18), while 5th grade students are studying approximately 63% of the recommended time (s.d. .14). We ran a t-test for the difference in means to test this result and found that the BSC 5th grade students are indeed studying for less time relative to the District's recommendation than the high school students (p<.10). Although there may be other behavioral changes occurring over time among the entire student population, this finding suggests that the BSC program may instill behavioral changes over time. This additional indication that the BSC program increases the amount of student time spent on homework is important because homework has an important positive influence on grades and subsequently, on going to college.

Finally, we compared the ability to overcome academic difficulty variable, *ProblemSolver*, which reflects the problem solving techniques used by the students. To make this comparison, we created a single problem-solving variable, Problem Solver Total (PST)[21], that directly compares the capabilities of the two groups of students. PST reveals that the high school students are more capable in solving problems and display greater independence and initiative than the 5th graders, as reflected in a t-test for the difference in means, which resulted in a statistically significant difference between the two groups (p<.01). When confronted with a problem, the 5th graders typically spend more time on the subject, while the high school students typically ask for help and spend more time on the subject. In addition, none of the fifth graders demonstrated the highest level of independence and problem solving capability, while 21% of high school students demonstrated it, through independence, creativity, and a strong commitment to improvement by using multiple study strategies and/or creating a study group. This finding

---

20 Using 4.5 as the recommended hours for BSC 5th grade students.

21 PST stands for ProblemSolver Total. PST uses the same scale as the ProblemSolver5 variable, and specifically includes the following categories: 0 = Do Nothing, 1 = Spend More Time/Effort on subject/homework, 2 = Ask for help, 3 = Ask for help and spend more time on subject/work, 4 = Demonstrate independence, creativity, and a strong commitment to improvement by using multiple study strategies and/or creating a study group.

aligns with the work that BSC does to encourage students to advocate for themselves and approach the teacher for help before coming to BSC program staff for help.

The simple ReadyMade approach used here can be criticized in many ways, such as limited measurement of program outputs, lack of control group nonrandom selection of program participants, and over time it can be improved in a variety of ways. For the time and money invested in the collection and analysis of data, BSC is pleased with what they learned, and will continue to collect ReadyMade data for periodic analyses. BSC will use the results both for internal discussions and improvements, external fundraising and for people who would like to replicate BSC.

Conclusions

The ReadyMade analysis provides a simple statistical analysis of how BSC changes student behavior and enhances student academic outcomes. Using the 5th grade cohort as a comparison group, we found that BSC II high school students spend more time on homework, are better able to overcome academic difficulty and are more likely to identify college attendance as their top post high school goals. The statistical analysis indicates that homework hours and ability to overcome academic difficulty are positively related to student GPAs and test scores. Observations among BSCII program staff corroborate these findings. In addition, we found that time spent in the program is positively related with behaviors and attitudes among student participants.

Based on these findings, we see that students are well-positioned for admittance into top colleges. Their GPAs, SAT tests scores and extracurricular activities generally reflect a group of students who are academically-committed and civically-engaged. Although students may feel that they are not spending enough time on their homework, they are managing to maintain a GPA of 3.3 or higher while engaging in community service activities, student government and sports, among others. These students are outperforming their high school minority peer group, as measured by GPA differences among a racial group who demonstrated the same potential as the BSC students did prior to starting the program. The findings suggest that BSC II program is associated with changes in student behavior, enhanced student outcomes, and that it guides students on the challenging path from 5th grade to college.

As a ReadyMade evaluation, the BSC program is an example of a challenging program to evaluate because of its small group of participants, its multiple program components, and its multifaceted impact on student lives. Although a ReadyMade statistical analysis can only capture part of the impact of a programs such as BSC, we are pleased to learn that the ReadyMade

evaluation provides useful information about the program's impact, which complements the qualitative data provided by the participants and their teachers and mentors.

UPDATE: 100% of the Berkeley Scholars to Cal seniors were accepted to four-year colleges, including U.C. Berkeley, Penn, Cornell, NYU, Loyola, Boston University, Howard, Moorehouse and more. Ten of the Berkeley Scholars to Cal middle school students achieved a 4.0 GPA this

last semester.**Appendix**

Berkeley Scholars to Cal Student Questionnaire

Dear Students,

Please fill out this questionnaire to the best of your ability.

People who give money to the program are interested in understanding its impact.

We will compare your (anonymous) answers to a similar high potential group of students not in BSC so we can statistically measure the effectiveness of the Berkeley Scholars to Cal Program. We'll let you know the results.

Thanks! Dave Stark

Grade: ____

School: ____

Male___ Female___

Student Activities

How many hours in the past week after school did you spend on:

(say you have 8 free hours daily after school, or 40 hours Mon-Fri)

        Facebook/Computer games _____hours

        Sports _____hours

        Homework _____hours

        Talk/Text on Cell _____hours

        Hang out with friends _____hours

        Watch TV _____hours

What do you like about school?

_____
_

What do you not like about school?

_____
_

How do you deal with difficult classes or challenging subjects?

_____
_

What are your top two future goals after finishing high school?

  1. _____ 2._____

How many times were you absent without your parent's permission this semester? _____

How many times have you not turned in your homework in the last month?   _____

Family Activities

How many times in the past week did your parent(s) ask about homework?   _____

How many times in this last semester has your parent(s) contacted your teacher

(in person, by a note or email)?   _____

How many days in the past week did you do your homework in a quiet place?   _____

How many days in the past week was dinner prepared for you?   _____

How many times in the past week were you late getting to school?   _____

This semester, do activities outside of school (sports, music, dance, etc)

interfere with having adequate time to do your homework?

Yes: ___   Almost daily____   Frequently____   Once a week or less____

No: ____

About how many hours per week do you talk to your parents about homework or other activities?

Homework _____ hours
Other Activities _____ hours
Comments:

_____
Berkeley Scholars to Cal Program
How many hours a week do you interact with college student(s)? _____ hours
Does your mentor come from similar background to you? _____ Yes _____No
Comments:

_____
_
Does the Director check regularly with your teachers and parents about your progress?
_____ Yes _____No
What memorable activities and trips have you done with the program in the last year?
School
Do you have any subjects or classes that are:
Too easy (name them):_____
Too hard (name them):_____
Have your teacher(s) ignored you or not called on you compared to other students?
_____ No
_____ Yes, Explain:_____
Have you been sent to detention or suspension more than other students?
_____ No
_____ Yes, Explain:_____

Thanks for helping us evaluate the program!