

# How Social Capital Varies among Charter Schools: Examining Relationships to Academic Rigor, Homework and Engagement from Students' Perspectives

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### **Abstract**

In this paper, we examine variation in social capital among “Crossroads” charter schools at the middle and high school levels. We define social capital as those social relationships between persons that provide resources for achieving certain goals, emphasizing the importance of social networks, obligations and trust, information flows, and social norms (Bryk and Schneider, 2002; Coleman, 1988). We address several questions: How do student a perceptions of social capital differ among charter schools in a large urban area? How do these perceptions differ by race-ethnicity and socioeconomic status? How are differences in social capital related to variation in instructional conditions reported by students? We examine several social capital constructs in our data, including caring adults in the school, personal relationships between teachers and students, students’ expectations, teacher expectations for students, and collaboration with classmates. Our analyses reveal a great deal of variability among charter schools in these constructs for social capital. Our multivariate analyses reveal consistent positive relationships between that our student-reported social capital measures and student engagement. Social capital measures do not show robust relationships with homework or academic rigor.

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**HOW SOCIAL CAPITAL VARIES AMONG CHARTER SCHOOLS:  
EXAMINING RELATIONSHIPS TO ACADEMIC RIGOR, HOMEWORK AND  
ENGAGEMENT FROM STUDENTS' PERSPECTIVES**

**Mark Berends, Christine Mokher & Genevieve Zottola**

Several researchers have argued that social capital is important for school reform efforts, social and academic learning environments, and student learning (Bryk and Schneider, 2002; Coleman, 1988; Furstenberg & Hughes, 1995; Portes, 1998). Within the context of school choice, research reveals that charter schools are comprised of parents with higher levels of social capital than traditional public schools (Schneider et al. 1997; Schneider et al., 2002; Teske & Schneider, 2001). Other research shows that parents from historically disadvantaged groups, such as some racial-ethnic groups or low income families, have lower levels of social capital (Kao, 2004; Schneider et al., 2000). Yet few studies have examined variation among charter schools in terms of social capital, race-ethnicity and socioeconomic status. Moreover, there is a dearth of research that has examined social capital in charter schools based on student perceptions.

In this paper, we examine variation in social capital among Crossroads charter schools at the middle and high school levels. We define social capital as those social relationships between persons that provide resources for achieving certain goals, emphasizing the importance of social networks, obligations and trust, information flows, and social norms (Bryk and Schneider, 2002; Coleman, 1988). We address several questions: How do student a perceptions of social capital differ among charter schools in a large urban area? How do these perceptions differ by race-ethnicity and socioeconomic status? How are differences in social capital related to variation in instructional conditions reported by students?

## **CROSSROADS**

In 2001, the mayor's office of Crossroads was given permission through state law to authorize charter schools. With only 17 percent of African American sixth graders passing the language arts test, and 25 percent passing math, the mayor of Crossroads faced a daunting task (Hassel, 2004). Now, seven years since the law's passing, 16 charters schools, serving almost 4,000 students are in operation (Accountability Report, 2007). These schools offer students a vast array of schooling choices including: curricula enriched with culture, history, economics, and anthropology relevant to Crossroads' urban communities, flexible learning settings, day-to-day operations with a college-bound focus, and learning environments specifically aimed at teaching ESL students (Hassel, 2004).

Crossroads charter schools have been considered an innovative part of the school choice movement. These charters, many of which are founded by Crossroads' most distinguished leaders and organizations, social service agencies, philanthropists, corporate representatives and government leaders, operate autonomously as separate legal and financial institutions (Hassel, 2004). Striving to improve public education through the provision of exceptional schooling alternatives, each of these schools undergoes a rigorous application and accountability process. As the recipient of Harvard's Innovations in American Government Award in 2006, Crossroads' Accountability System has been recognized as a unique part of the school reform movement in this country (Harris & Rotherharn, 2007).

## **SOCIAL CAPITAL**

Because studies have provided evidence that social capital is related to student reform efforts and student outcomes (Bryk and Schneider, 2002; Coleman, 1988; Furstenberg & Hughes, 1995; Portes, 1998) and because social capital has become popularized (Putnam, 2000),

it is important to define it within the context of our study. As articulated by Coleman (1988) and Bourdieu (1986), *social capital* refers to the social relations between persons that provide resources for achieving certain goals (such as status attainments).<sup>1</sup> According to Coleman (1988: 102-105), several facets of social relations constitute social resources: (1) obligations and trust; (2) information; and (3) norms and sanctions. Coleman described the form of social capital characterized by obligations and trust:

If A does something for B and trusts B to reciprocate in the future, this establishes an expectation in A and an obligation on the part of B. This obligation can be conceived as a credit slip held by A for performance by B. If A holds a large number of these credit slips, for a number of persons with whom A has relations, then the analogy to financial capital is direct. These credit slips constitute a large body of credit that A can call in if necessary--unless, of course, the placement of trust has been unwise, and these are bad debts that will not be repaid. (p. 102)

Social capital in this form consists of an environment of trust in which a series of exchanges build up for individuals or groups, resulting in embedded obligations, expectations, and norms between them (see also Granovetter 1985)

The second facet of social relations relating to a form of social capital is the amount of information flowing between individuals or groups. Through associations with others, people can gain information that may be pertinent to certain goals, such as keeping up-to-date in one's professional area, learning about sales at a local retailer, or gaining information about the art or sporting scenes. This is a particularly important aspect of social capital for examining school transitions. When students enter a new situation like high school, they are likely to rely on the social capital of others for information about the daily routines and tasks of the new setting.

Although the transition to high school is not entirely foreign, since the student has been

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<sup>1</sup> Those familiar with the work of Bourdieu (1984, 1986, 1990) and the rational choice perspective of Coleman (1990) may question the conciliatory discussion of these two sociologists. However, this study focuses on the concept of social capital to further our understanding of schooling processes rather than testing the differences between Bourdieu's and Coleman's larger theoretical perspectives.

socialized in school for some time, there are some new aspects of social life in high school, including new teachers, class schedules, and subjects. The information provided by others during this transition may be related to changes in students' learning and school orientations (Hallinan 1983; Miller 1983).

A third facet of social capital, norms and sanctions, refers to the facilitation of some behaviors and attitudes and constraining of others. On the one hand, interaction with those who support and invest themselves in school may be positively associated with a student's academic achievement, attitudes, and behavior (Bidwell and Friedkin 1988; Brown 1989; Epstein 1983). On the other hand, associating with those who reject the norms of school may lead a student to reject further learning and mental labor to avoid negative stereotypes (Willis 1977; Fordham and Ogbu 1986). In short, social relations with others may have accompanying norms that pull students away or push them towards the school institution, depending on the expectations and norms of the group.

Networks of administrators, teachers, parents, and children generate social capital at the school level as means to create an educational setting conducive to the exchange of social norms and information (Lin, 1999; Aston & McLanahan, 1991). It can be understood as a group resource that promotes the success of students through the function of trust mechanisms (Goddard, 2003), such that all network members believe in the expectation that others will act reliably and confidently (Coleman, 1990). Schools that foster relationships bound by high degrees of social capital facilitate students' academic success (Goddard et al., 2001; Goddard, 2003); and social capital has been described as “the most proximal point of entry for reform efforts” directed at increasing the educational opportunities for at-risk youth (Connell et al., 1994).

Born out of a network of interpersonal trust and collaboration, charter schools are fundamentally enriched with social capital (Schneider et al. 1997). Within the context of school choice, research reveals that charter schools are comprised of parents with higher levels of social capital than traditional public schools (Schneider et al., 1997; Teske & Schneider, 2001). Other research shows that parents from historically disadvantaged groups, i.e. low-income, and ethnic and racial minorities, have lower levels of social capital (Kao, 2004; Schneider et al., 2000). However, less attention has been given to the variation of social capital across charter schools and its effect on students' perceptions of academic engagement and rigor.

Ackey (2006) found that for tenth and eleventh-graders, social capital components including teacher support, clear and consistent expectations and peer relationships, were significantly and positively related to engagement; and that students who reported higher levels of support from their teachers and a clearer understanding of the behavior expected of them also reported being more engaged. Also focusing on teachers' contributions to social capital, Havel (2003) determined that teachers establish routines and an academic culture that can help students shape their learner identity and create their individual learner behavior, including their decision to engage. The degree to which students are embedded in their school communities, determines the amount of effort they exert (Johnson et al., 2001); and keeping at-risk students engaged can prove to be essential to dropout prevention.

In this paper, we hypothesize that social capital measures are positively related to students' academic participation in school. In this paper, we focus on those constructs of academic participation that include students engaging in academically rigorous work, doing homework, and academic engagement.

## **ACADEMIC RIGOR**

Rigorous classrooms promote students' enjoyment of learning and active participation in school. (Johnson & Johnson, 1985) To explore academic rigor in secondary schools, Newmann (1992) measured student perceptions of higher order thinking; and on a broader, more comprehensive scale considered qualities that promote thoughtfulness in school. Walsh & Paul (1987) whose research examined the processes students use when thinking in school, indicating that "for students to cope successfully with higher-order challenges, they need a combination of in-depth knowledge, intellectual skills, and attitudes or dispositions of thoughtfulness."

Dimensions used to measure rigor included: student perceptions of the degree to which classes incorporated higher order challenges; relevant and substantive lessons; challenging questions and activities; and student demands to provide a rationale for their conclusions.

## **HOMEWORK**

Among high school students, it is important to consider the impact of homework, a key factor associated with persistence. According to Hess and Lauber (1985), less than half of inner city high school students who enter school graduate; and dropouts have lower grades and test scores, they are more often absent, and they complete fewer homework assignments. Bryk and Thum (1989) found that among high school students, absenteeism is lower in schools where there is a strong press toward doing homework; and base dropout rates are lower in schools where there are more students in classes where students report having more homework.

Keith (1986) found that the amount of time spent on homework is positively related to achievement for high school students. Keith and Page (1985, 1982) argue that homework benefits both minorities and whites and is particularly helpful for low ability young people. Keith and colleagues (1986) also found that while intellectual ability had the strongest impact on

achievement, homework was the next strongest. Keith et al. (1996) reported that for eighth graders, time spent on homework had a positive effect on standardized test schools.

Cooper's (1989) research on homework effects compared two groups of students, those given homework and those not given homework. The findings from this study showed that on average a high school student in a class with homework would perform better than 75% of the students in a class without homework on both standardized tests and classroom grades. Cooper et al. (1998) found that for students in grades 6 through 10, time spent on homework did not impact standardized test scores, however, this same group of students showed an improvement in classroom grades as a result of time spent on homework. Also, Bents-Hill et al. (1988) reported that time spent on homework was positively correlated with achievement in among high school students.

## ACADEMIC ENGAGEMENT

Academic engagement has been defined as the degree of participation and intrinsic interest a student shows in school (Connell & Wellborn, 1991). A learning environment enhances the engagement of students at all grade levels, if it includes high levels of social capital including trust, fairness, safety and communication (Marks, 2000). According to the National Research Council (2003), schools that engage students do so by creating a nurturing social environment where adults show an interest in students' lives.

While research has shown only a modest connection between engagement and achievement among high school students, Newmann (1981) points to the problems associated with school relationships among disengaged students including detachment, powerlessness and isolation. Improving the degree of engagement could create more positive school relationships among high school students, thereby improving their quality of life. Dowson & McInerney

(2001) agree that students who are engaged are more effective learners, can retain more of the information, and feel more positive about school than their disengaged peers.

Newmann (1992) measured engagement on many levels including students' perceived level of effort and concentration (for both class work and homework). Student reports indicated that their level of engagement and their perception of academic rigor were correlated, in support of the hypothesis that students are more engaged when they are challenged. This study concluded that students exert more school effort, concentrate more and are interested in schooling when they are more challenged with rigorous demands in the classroom and engaged students are more involved in classroom and extracurricular activities which influence learning in a positive way (Newmann, 1992)

### **ENGAGEMENT, ACADEMIC RIGOR & SOCIAL CAPITAL**

Marks (2000) investigated the effects of engagement, authentic instructional work (rigorous curriculum), and social support (social capital) among all grade levels. Findings here indicated that a school's social support mechanism positively and substantially impacts the degree to which students are engaged. Authentic work, (defined in this study as class work that incorporates higher order thought, relevance of work to situations outside of school, and the use of challenging questions to interpret understanding of class topics) like social support also positively influenced student reports of being engaged (Marks, 2000).

Social capital is also a useful concept for thinking about the social support from significant others. During the time of secondary schooling, research suggests important social resources are provided by teachers and other school staff. By interacting with these significant others, students obtain information, develop trust and obligations, and generate norms and

sanctions. If these social relations support academic goals, students are more likely to develop as learners and actively participate in school.

## **DATA & METHODS**

In the spring of 2007, we surveyed all middle and high school students in 14 Crossroads charter schools. The survey was developed using content from the Gates Foundation national evaluation of small schools, with permission from the Bill & Melinda Gates Foundation. The overall response rate was 86.1 percent, with response rates for individual schools ranging from 50.1 to 94.6 percent. The resulting sample consisted of 655 middle school students and 656 high school students for a total of 1,311 students. Among the respondents, missing data for individual questions used in the analysis was between 1 and 25 percent.

The survey included a series of questions about students' background characteristics including grade level, family structure, language spoken at home, parents' highest degree, gender, and race/ethnicity (see Table 1). Most of the charter schools in this study are relatively new and plan to add additional grades over time. As a result, the majority of middle school students are in grades six and seven, while the majority of high school students are in grades nine and ten. The smallest grade level surveyed was twelfth grade, which only comprised 1 percent of the sample.

The descriptive statistics for the student's background characteristics reveal that 45 percent of students live in single parent homes while the remaining 55 percent live in two parent homes. English is the predominant or only language spoken at home for 84 percent of students. The highest level of education received by either parent varied across schools from an average of 2.4 (midway between "graduated from high school but no college" and "went to college but did not graduate") and 3.6 (midway between "went to college but did not graduate" and "graduated

from a four-year college”) on a scale of 5. Across all schools, an average of 43 percent of respondents indicated that at least one of their parents had received a four-year degree or higher. Approximately one-third of middle school students and 16 percent of high school students skipped this question or indicated that they did not know the highest level of education completed by either parent.

There were slightly more females than males that participated in the survey (54 percent compared to 46 percent). The predominant racial group among the charter schools was African American or black, with more than 50 percent of respondents self-identifying themselves as black in seven of the fourteen schools in the student survey. Across all schools, the average racial/ethnic distribution consisted of approximately 53 percent black, 25 percent white, 14 percent multiracial, and 8 percent “other” students.

Table 1  
Characteristics of Survey Respondents (n=1,311)

Variable	N	%*	Variable	N	%*
Grade			Parents' Highest Degree		
Sixth	249	20%	Did not graduate from H.S.	97	10%
Seventh	223	18%	Graduated from H.S. or earned a GED	264	27%
Eighth	143	12%	Went to college, but did not graduate	206	21%
Ninth	272	22%	Graduated from a 4-year college	273	28%
Tenth	227	18%	Earned an advanced degree after college	144	15%
Eleventh	108	9%	Gender		
Twelfth	15	1%	Male	556	46%
Family Structure			Female	660	54%
Single Parent Home	562	45%	Race/ Ethnicity		
Two Parent Home	677	55%	White	312	25%
Language Spoken at Home			Black	657	53%
Predominantly or only English	1048	84%	Multiracial	180	14%
Predominately or only another language	202	16%	Other	94	8%

\* Percentages may not add up to 100% due to rounding

We created scales to measure five different indicators of social capital. We define social capital as those social relationships between persons that provide resources for achieving certain goals, emphasizing the importance of social networks, obligations and trust, information flows, and social norms (Bryk and Schneider, 2002; Coleman, 1988). All scales have a relatively high level of reliability with an alpha coefficient of 0.73 or higher. These social capital constructs can be summarized as follows (see Appendix A for a more detailed description of each construct):

- *Caring adults in school* ( $\alpha = 0.82$ ) includes items on a 3-point scale that indicate how much the teacher knows about the student's progress in school and the availability of other adults in the school to help the student.
- *Personal relationships* ( $\alpha = 0.73$ ) includes items on a 3-point scale that represent the level of interest that teachers have in the student's life outside of school and the trustworthiness of the teachers.
- *Learning expectations* ( $\alpha = 0.90$ ) is a 3-point scale with questions about the student's perceptions of how well the school is doing at helping the student to develop important skills.
- *Teacher expectations* ( $\alpha = 0.83$ ) is a 5-point scale that represents students' perceptions about how much teachers challenge their students and help them to improve their work.
- *Collaboration with classmates* ( $\alpha = 0.73$ ) includes items on a 6-point scale about the student's level of agreement with statements about their feelings of belonging to the school and respect among students.

This analysis includes three dependent variables representing academic rigor, time spent on homework, and student engagement (see Appendix B). The first outcome of academic rigor

was created with a scale for a series of questions indicating how often the student feels challenged in their classes for different subjects ( $\alpha = 0.71$ ). Responses were on a 5-point scale ranging from “never” to “almost every day.” The outcome for time spent on homework asked students to indicate how long they spent on homework each night on a 5-point scale ranging from “none” to “more than 2 hours.” Responses were recoded into a continuous variable using the midpoint for each response category. The third outcome of student engagement was a 5-point scale created by factor analysis indicating how often the student feels challenged at school and engages in different learning activities ( $\alpha = 0.81$ ). The questions included in this scale were only asked in the high school student survey, so the analysis for this outcome does not include middle school students.

Ordinary least squares (OLS) regression was used to examine how the three student outcomes defined above differ by students' background characteristics and perceptions of social capital. The student background characteristics included in the model are gender, race/ethnicity, highest level of parents' education, family structure, language spoken at home, and grade level. All models include fixed effects at the school-level to account for unobserved differences in school characteristics that may affect student outcomes. Each model is specified as follows:

$$y_{is} = \beta_0 + \beta_1 X_{is} + \beta_2 X_{is} + \alpha_s + u_{is},$$

for each individual student  $i$  in charter school  $s$  where

$y_{is}$  = student outcome (academic rigor, time spent on homework, or student engagement)

$\beta_0$  = constant term

$\beta_1$  = vector of student background characteristics

$\beta_2$  = vector of student perceptions of social capital

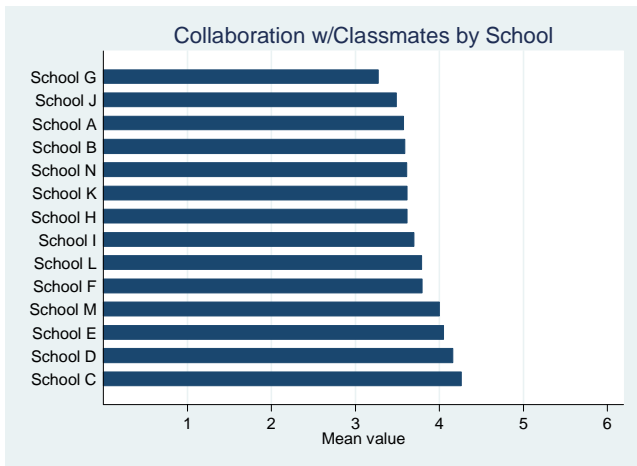
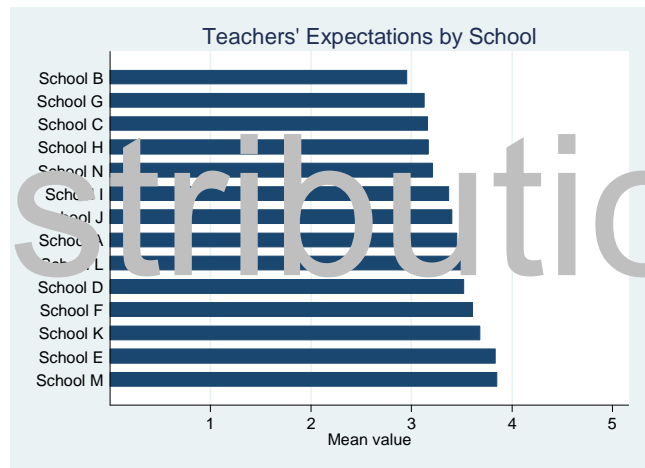
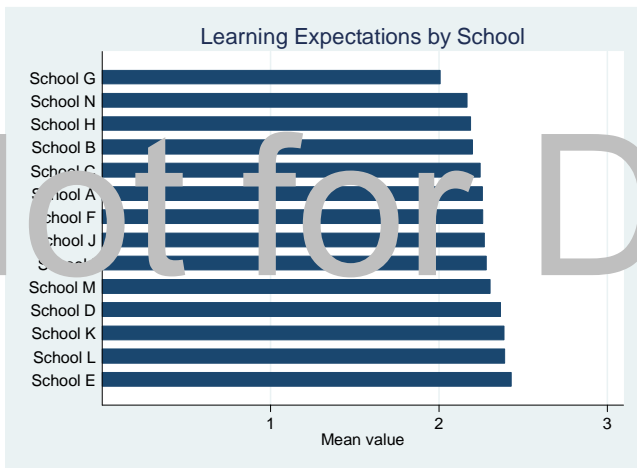
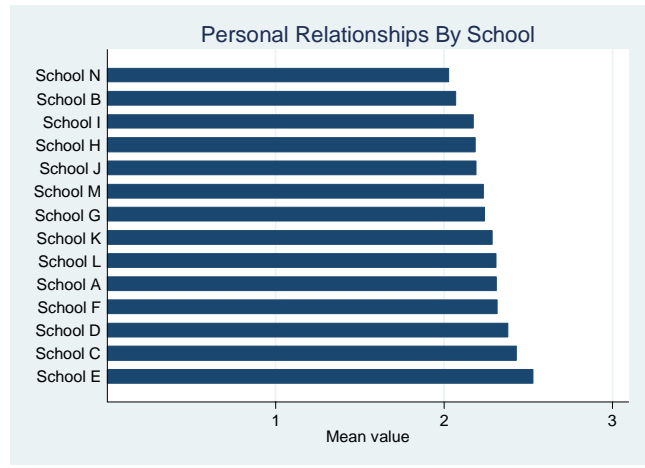
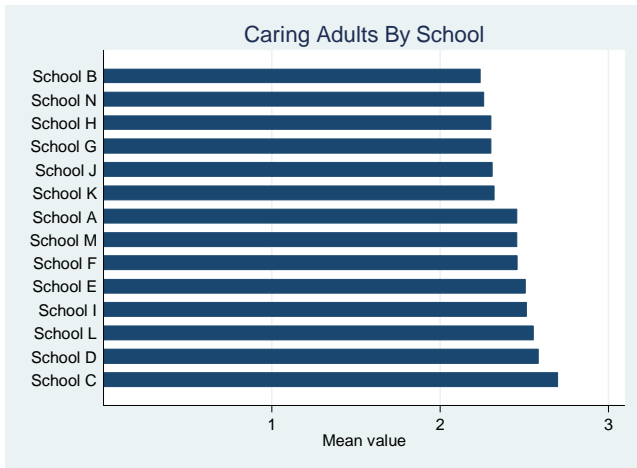
$\alpha_s$  = fixed effects for each charter school, and

$u_{is}$  = error term.

## RESULTS

Figure 1 provides a series of bar charts representing the average values of each social capital construct by school. For each construct, the difference in the average value between the highest and lowest ranked schools is at least one standard deviation. This indicates that there is considerable variation across schools in terms of students' perceptions of social capital. We also find that some charter schools consistently score high or low on all measures of social capital, while other charter schools show greater variability among the different constructs. For example, School D and School E are among the top five schools with the highest values for all social capital constructs, while School B and School N are among the bottom five schools for each construct. However, School I has a relatively high average score for the "presence of caring adults" and a relatively low average score for "personal responsibility." Thus, some charter schools may have high levels of social capital overall, while other charter schools may have mixed perceptions across different indicators of social capital. The next section will examine how differences in social capital relate to variation in instructional conditions reported by students.

Figure 1: Average values of social capital constructs, by school



## Academic Rigor

Our first outcome of interest is students' perceptions of academic rigor. The average value for this construct is 3.2 out of a 5-point scale, with a standard deviation of 1.0. Across all of the charter schools in our sample, the average values range between 3.0 and 3.5. OLS regression was used to examine the effects of students' background characteristics and perceptions of social capital on academic rigor. Among the student characteristics, we find that students in sixth grade tend to perceive lower levels of academic rigor relative to ninth graders. There is also some evidence that students from "other" racial/ethnic backgrounds tend to perceive lower levels of academic rigor relative to white students.<sup>2</sup> The variable for "teacher expectations" is the only social capital construct that has a statistically significant effect on students' perceptions of academic rigor. We find that students who believe that their teachers have high expectations experience a more rigorous academic climate, on average. There is no significant effect of caring adults in the school, personal relationships, learning expectations, or collaboration with classmates when other factors are held constant. The low R-squared value for the model indicates that student background characteristics and social capital do not explain much of the variation in student perceptions of academic rigor.

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<sup>2</sup> This finding is only significant at the 10 percent level. Parents' highest education level and English speaking home also reached statistical significance at the 10 percent level for some models, but these findings were not robust across multiple specifications.

Table 2  
*Ordinary Least Squares (OLS) Regression Results for Academic Rigor*

	Model 1a		Model 1b	
	$\beta$	SE	$\beta$	SE
<i>Student Characteristics</i>				
Female	0.06	0.07	0.04	0.07
Race: Black	-0.06	0.10	-0.05	0.10
Race: Multiracial	-0.12	0.13	-0.14	0.13
Race: Other	-0.27 ~	0.15	-0.29 ~	0.16
Parent's highest education level	-0.05	0.03	-0.05 ~	0.03
Two parent family	0.06	0.07	0.04	0.07
English speaking home	-0.17 ~	0.10	-0.15	0.10
Grade 6	-0.41 **	0.17	-0.41 *	0.17
Grade 7	-0.05	0.15	-0.07	0.16
Grade 8	0.08	0.15	0.06	0.15
Grade 10	0.16	0.11	0.15	0.11
Grade 11	0.2	0.14	0.19	0.15
Grade 12	0.14	0.35	0.03	0.6
<i>Social Capital Constructs</i>				
Caring Adults in School			-0.09	0.11
Personal Relationships			-0.02	0.11
Learning Expectations			0.07	0.10
Teacher Expectations			0.14 ~	0.07
Collaboration with Classmates			0.04	0.05
Constant	3.53 **	0.18	3.08 **	0.31
No. of observations	901		896	
R <sup>2</sup>	0.04		0.05	

~p=0.10, \*p=0.05, \*\*p=0.01

### **Time Spent on Homework**

The second instructional condition we examined is the amount of time that students spend on homework each night. The average value was approximately 50 minutes per night, with a standard deviation of 36 minutes. There was considerable variation across schools with average values ranging from only 18 minutes per night at School G to 1 hour and 18 minutes per night at School I. The results from the multivariate analysis are presented in Table 3. Among the student characteristics, we find that females spend an average of 6 to 7 minutes more per night on homework than males. In addition, students in grades 6, 7, and 8 spend less time on homework per night relative to ninth graders; while students in grades 10 and 11 spend more time on homework than ninth graders. The construct for “personal relationships” is the only measure of social capital that has a significant effect on the amount of time that students spend on homework. We find that students who perceive strong personal relationships with their teachers tend to spend more time on homework each night than students lacking these personal relationships. Student perceptions of other caring adults in the school, learning expectations, teacher expectations, and collaboration with classmates have no effect on the amount of time spent on homework when other factors are held constant. Interestingly, these results suggest that teachers’ personal interests in their students may be more important for explaining variation in the amount of time students spend on homework than teachers’ academic expectations for their students.

Table 3  
*Ordinary Least Squares (OLS) Regression Results for Time Spent on Homework*

	Model 2a		Model 2b	
	$\beta$	SE	$\beta$	SE
<i>Student Characteristics</i>				
Female	0.11 **	0.03	0.10 **	0.03
Race: Black	0.02	0.05	0.03	0.05
Race: Multiracial	-0.05	0.06	-0.04	0.06
Race: Other	0.04	0.07	0.03	0.07
Parent's highest education level	0.00	0.01	0.00	0.01
Two parent family	0.05	0.03	0.04	0.03
English speaking home	-0.11 *	0.05	-0.10 *	0.05
Grade 6	-0.16 *	0.08	-0.18 *	0.08
Grade 7	-0.16 *	0.07	-0.18 *	0.07
Grade 8	-0.14 ~	0.07	-0.14 *	0.07
Grade 10	0.14 **	0.05	0.12 *	0.05
Grade 11	0.11 ~	0.07	0.12 ~	0.07
Grade 12	0.24 **	0.17	0.22 **	0.17
<i>Social Capital Constructs</i>				
Caring Adults in School			0.01	0.05
Personal Relationships			0.15 **	0.06
Learning Expectations			0.03	0.05
Teacher Expectations			0.02	0.03
Collaboration with Classmates			0.00	0.02
Constant	0.86 **	0.09	0.37 **	0.15
No. of observations	890		886	
R <sup>2</sup>	0.35		0.37	

~p=0.10, \*p=0.05, \*\*p=0.01

## Engagement in School

Students' level of engagement in school is the last instructional outcome examined in this study. The questions about school engagement were only asked on the high school student survey, so the findings only apply to the charter high schools in the sample. Overall, the average value for this construct is 3.4 on a 5-point scale, with a standard deviation of 0.7. Across schools, the average values for engagement range from 3.1 to 3.6. Table 4 presents the results from the multivariate analysis, which indicates how students' background characteristics and perceptions of social capital affect engagement in schools. Among the student background characteristics, females tend to be more engaged in school than males. We also find that students from two-parent homes report higher levels of engagement than students from single-parent homes, while students from English speaking homes report lower levels of engagement than students from non-English speaking homes. Almost all of the social capital constructs had a significant positive effect on engagement, which indicates that differences in social capital among students are very important for understanding variation in levels of engagement. Students who report high levels of personal relationships with their teachers, learning expectations, teacher expectations, and collaboration with classmates tend to be more engaged in school than their peers. Among all of the instructional conditions examined in this study, social capital appears to have the greatest effect on the level of student engagement in schools.

## DISCUSSION

*forthcoming*

Table 4

*Ordinary Least Squares (OLS) Regression Results for Student Engagement*

	Model 3a		Model 3b	
	$\beta$	SE	$\beta$	SE
<i>Student Characteristics</i>				
Female	0.19 **	0.05	0.17 **	0.04
Race: Black	-0.02	0.07	0.06	0.05
Race: Multiracial	0.03	0.10	-0.02	0.08
Race: Other	0.01	0.11	-0.05	0.09
Parent's highest education level	0.04	0.02	0.04	0.02
Two parent family	0.10 ~	0.05	0.07 *	0.04
English speaking home	-0.19 *	0.08	-0.16 *	0.06
Grade 10	0.09	0.06	0.02	0.05
Grade 11	0.21 *	0.08	0.10	0.07
Grade 12	0.36 ~	0.20	0.25	0.17
<i>Social Capital Constructs</i>				
Care in Adults in School			0.07	0.06
Personal Relationships			0.19 **	0.07
Learning Expectations			0.26 **	0.06
Teacher Expectations			0.19 **	0.05
Collaboration with Classmates			0.17 **	0.03
Constant	3.20 **	0.12	0.71 **	0.19
No. of observations	525		522	
R <sup>2</sup>	0.15		0.46	

~p=0.10, \*p=0.05, \*\*p=0.01

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**Appendix A**

## Summary of Exploratory Factor Analysis Results for Social Capital Constructs

<b>Social Capital Construct</b>	<b>Construct Questions</b>	<b>Alpha reliability</b>
Caring Adults in School	Teacher knows how well you are doing in school Number of other adults who would give extra help with your schoolwork Number of other adults who would help you with a personal problem Number of other adults who really care how well you are doing in school Number of other adults who help you to prepare for college or career	0.76
Personal Relationships with Teachers	Teacher knows what you are interested in Teacher knows who your friends are Teacher knows what your life at home is like Teacher knows what you want to do after high school My teachers respect me. My teachers can't be trusted (reverse) My teachers keep their promises. My teachers care about what I think.	0.73
Learning Expectations	School is teaching you to be a good reader School is teaching you to speak clearly and effectively School is teaching you to write clearly and effectively School is teaching you to analyze and solve math problems School is teaching you to learn effectively on your own School is teaching you to understand your strengths, weaknesses, and interests School is teaching you to be a responsible member of your community School is teaching you to understand the rights of people living in the US School is teaching you to respect opinions of people from different backgrounds School is teaching you to prepare for work or attending college School is teaching you to do things to help your community School is teaching you to think critically about ideas, problems, current events	0.90

Social Capital Construct	Construct Questions	Alpha reliability
Teacher Expectations	My teachers believe that all students in this school can do well My teachers have given up on some of their students (reverse) My teachers expect very little from students (reverse) My teachers work hard to make sure that all students are learning Teachers expected me to be able to teach others about topics learned My teachers have often shown examples of work they consider good or poor My teachers have often made clear to students what they should know My teachers have often assigned projects that let students show they've learned My teachers have often let students decide on topics they will work on My teachers have often let students decide how to work on their assignments My teachers have often returned assignments with helpful feedback My teachers have often given feedback and let me improve my work	0.83
Collaboration with Classmates	I am happy to be at this school. I feel like I am a part of this school. I don't fit in with most of the other students in this school (reverse) I participate in a lot of extracurricular activities in this school People at this school are like family to me. I feel like an outsider at this school (reverse) People notice if I am not at school. Many students in this school don't respect one another (reverse) There are groups of students in this school who don't get along (reverse) Students feel comfortable saying what they think Students respect what other students say, even when they disagree	.73

## Appendix B

## Summary of Outcome Measures

<b>Outcome</b>	<b>Outcome Questions</b>	<b>Alpha reliability</b>
Academic Rigor	Often feel challenged in math Often feel challenged in English Often feel challenged in history Often feel challenged in science	0.71
Time Spent on Homework	How much time do you typically spend on school homework each night? Responses range from "none" to "more than 2 hours".	N/A
Engagement in School	I got frustrated and gave up when my schoolwork became too hard (reverse) When schoolwork became difficult, I found a way to get help I gave extra effort to challenging assignments or projects I kept trying to do well on my schoolwork even when it wasn't interesting I tried really hard to do a good job I really found my schoolwork interesting. I really did not care too much about my schoolwork (reverse) I talked to my family about what I am working on in school I asked my friends for advice about work for school I asked questions in class or contributed to class discussions I have come to school without completing the assigned readings (reverse) I have worked with classmates outside of class on schoolwork I asked my teachers to meet to talk about grades or assignments I have cut or skipped classes or school (reverse)	0.81

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