Service Synergy: Examining the Cumulative Effects of Community School Services

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Introduction

In the face of heightening accountability for student achievement, schools have been increasingly focused on improving academic outcomes, particularly for students from backgrounds with historically low rates of academic success. On the one hand, tougher accountability for academic achievement has forced schools and districts to focus school time on things that do link directly to math and English language arts (ELA) instruction, the subject areas to which accountability is attached (Center on Education Policy, 2008). At the same time, it is well documented that poverty, socioeconomic disadvantage, and other factors beyond instruction affect students' performance in school (Rothstein, 2004) and an accompanying recognition that improving achievement requires schools to address the needs of the whole child. Community schools, which turn traditional schools into full-service hubs of support services providing a variety of social and health-related supports for students and families, have become an increasingly popular strategy for addressing these needs for students. Although not solely targeting academic outcomes, the theory of change behind community schools is that by providing wrap-around supports for students' social, physical, cognitive, and economic needs in the short term, these schools can help students improve academic outcomes in the long term. Community schools have been implemented in large scale in several areas including New York and Chicago, whose former CEO, Arne Duncan, has advocated for the expansion of community schools nation-wide in his role as U.S. Secretary of Education (Shah, Brink, London, Masur, & Quihuis, 2009).

The community school initiative began in Redwood City, CA, in 2005 as an extension of a California Healthy Start grant that had established Family Resource Centers (FRCs) in four Redwood City School District (RCSD) schools in the mid-1990s. Redwood City 2020 (RWC 2020), a cross-agency collaborative of agencies that work to ensure the health and success of

children through collaboration, spearheaded the initiative. This unique collaborative includes partners from the City of Redwood City, the San Mateo County Human Services Agency, RCSD, and the high school district into which RCSD feeds. In partnership with RCSD, RWC 2020 helped to expand the services offered through the FRCs into full-service community schools beginning in 2003 (Roach & McLaughlin, 2007).

The John W. Gardner Center for Youth and Their Communities (JGC) at Stanford University had been working in partnership with the RCSD community schools since 2001, providing youth development programs and technical assistance related to data collection and analysis. In 2007, RWC 2020 and the Redwood City School District (RCSD) approached the John W. Gardner Center for Youth and Their Communities at Stanford University (JGC) wanting to better understand the effects that the four community schools in the district were having on students. The focus has evolved over the course of the research based on interim findings and feedback from partners at the schools and district. A key focus of the research effort has been helping stakeholders understand and utilize the research findings. To this end, the JGC has engaged with RCSD and RWC 2020 in a collaborative process in which the research plan for each year is developed collaboratively with partners and research findings are shared and discussed at bi-annual “data talks” with the community school coordinators as well as district staff.

For the 2009-10 school year, the main questions that guided the research were:

1. How many and which students and families participate in the programs and services that are offered at the community schools?
2. How do the programs and services at the community schools, and in what combinations, affect student academic achievement outcomes in the long-term?
3. What short-term outcomes of program participation lead to long-term academic outcomes?

Literature Review

Community school proponents hypothesize several different ways in which community schools link to improvements in student achievement. In the theory of change proposed by Shah et al (2009), programmatic inputs affect short-term outcomes like children entering school ready to learn, attending school more, and having engaged families; these then lead to long-term improvements in academic success and health for students as well as stable and healthy environments, all of which lead to students graduating ready for college and productive citizenship. There is an emphasis on the combination of supports working together at community schools as a means of addressing the needs of the whole child schools to foster positive effects for students (Blank & Berg, 2006). The community school model focuses not just on a set of programs and the students who participate in them but also on the effect that the community school has on the school culture, which effects even students who do not participate in supplemental programs outside of the school day (Shah et al., 2009).

However, the field is lacking research that shows how community schools affect outcomes for students as hypothesized in the logic model. Blank et al. (2003) cite several pieces of data that show improved academic achievement, school attendance, and school discipline for students at community schools. The Communities in Schools (CIS) national evaluation, one of the most thorough and rigorous evaluations of a community school model that has been conducted, shows positive effects in a variety of outcomes and links those outcomes to the program inputs and implementation of the CIS model (Communities in Schools, 2010). Also, there is a small literature on how community schools affect school climate. For example, an evaluation of the Chicago Full-Service School Initiative found an increase in parents' positive perceptions of the school

environment over time (Whalen, 2002). However, none of these studies show the relationship between short-term and long-term outcomes as defined in the community schools logic model but rather demonstrate different indicators of success at community schools disconnected from each other. One study that does show some evidence of a progression linking community schools to short-term and long-term outcomes conducted by Adams (2010) found that a collective sense of trust in community schools had a strong effect on student achievement scores and that community schools that were at a higher stage of development had a strong sense of trust. This is an important finding as it is has been similarly documented in other places, including other JGC research in Redwood City (Strobel, 2010), that students' sense of feeling cared for and connected to their schools affects motivation and achievement.

Another gap in the literature is a lack of studies that look at the effects of the wrap-around nature of community schools services, which is part of what make community schools unique compared to other initiatives. Much of the evidence cited to support community schools include evaluations of individual programs offered at community schools. For example, several of the community school evaluations cited by Blank, Melaville, and Shah (2003) actually focus on just one component of the community school model, such as an after school program. Aside from the community school literature, there is strong research behind the individual programmatic components that are a part of community schools. For example, there is there is a body of evidence showing at least an indirect effect of school-based health centers on academic outcomes through the mechanism of increased school attendance (Cusworth Walker, Kerns, Lyon, Bruns, & Cosgrove, 2010; Geierstanger, Amaral, Mansour, & Walters, 2004). Similarly, research has linked after school programs (Morrissey & Werner-Wilson, 2005; Vandell, Reisner, & Pierce, 2007) and family engagement (Henderson & Mapp, 2002) to improved academic and social outcomes for

students. But there is little research that shows the effects of multiple services working together as is inherent in the community school model.

The other type of study common in the community school literature consists of school-level descriptors of achievement or other outcomes between community schools and other schools (Blank et al., 2003; Coalition for Community Schools, 2009, 2010). These descriptive studies help to make a case for the importance of community schools by citing changes in school-level average achievement, attendance, or discipline instances. However, these analyses do not explain how and for whom community schools affect outcomes and attribute changes in outcomes to community schools when other contextual factors could also have had an influence. Even studies that control for certain school characteristics still fall short because they examine repeated cross-sections of different groups of students each year, which prevent the understanding of dynamic relationships associated with program effects or heterogeneity of samples over time (Frees, 2004). Determining an effect at the school level attributable to the community school is challenging to do reliably when there are so many contextual factors at a school that also effect outcomes and when it is known that the choice to become a community school is not random. For example, as previously noted, the community schools in Redwood City, which are the focus of the current paper, all became community schools after an initial period as Healthy Start sites and all had leadership who embraced the idea (Roach & McLaughlin, 2007).

Understanding the effects of community schools on student outcomes poses an inherent challenge for research. Community schools are a complex network of integrated services and programs provided to both students and their families that do not lend themselves to a traditional evaluation research design simply comparing outcomes for participants to non-participants. As the Children's Aid Society points out, community schools are a "strategy, not a program" (National

Center for Community Schools, n.d.). In addition, the fact that community schools involve programs and services from a variety of service providers who may collect data differently, input those data into different systems, and do not have an infrastructure for sharing data with other providers makes gathering consistent and complete data complicated. Also, a school is not simply either a community school or not one, so the Children's Aid Society provides a useful framework for thinking about the stages of development of community schools, going from exploring to emerging to maturing to excelling (Chu-Zhu, 2005). The heterogeneity of community school implementation makes it difficult to accurately examine outcomes related to community school attendance across sites. Possibly due to these challenges, there is little rigorous research on community schools and none that appears in peer-reviewed journals (Adams, 2010; Jacobson & Shah, 2010).

This paper seeks to fill the gaps in the current literature in several ways. First, the analysis examines participation in multiple services and combinations of services to understand how the different supports that community schools offer affect student outcomes. Second, the analysis looks separately at short-term and long-term outcomes and try to understand the relationship between them. Finally, the research design focuses on using rigorous methodology to measure as accurately as possible the effects of these services on students' outcomes independent of other individual and school-level factors.

Methods

The research design is guided by the Coalition for Community Schools' logic model. After the 2008-09 school year, this logic model was translated into the local context by RCSD community school leaders using the Coalition for Community Schools Evaluation Toolkit (Shah et al., 2009), as shown in Figure 1. The research uses the Youth Data Archive (YDA), a JGC

initiative that links individual-level data on youth across agencies that serve them in common in order to examine data in ways that the agencies would not be able to do independently. In this case, administrative data from the school district is linked to participation records from service providers at the community schools and district-wide student survey data collected by other JGC researchers.

Sample

Schools. The analysis includes data from all four RCSD community schools—two K-5 elementary schools, one K-8 school, and one 6-8 middle school. The schools ranged in size from 519 to 917 students in 2009-10.

Programs. With over 60 different programs and services operating at the four community schools, programs are categorized into three main strategy areas that are the basis for examining participation and related outcomes (Figure 2):

- family engagement, which includes parent education programs, volunteer opportunities, and parent leadership opportunities;
- extended learning, which includes after school and intercession programs; and
- support programs, which include student counseling and family social safety net supports like transportation passes, uniform help, and holiday gift cards.

Students. The data include 4,633 students who were enrolled in a community school in at least one year from 2007-08 to 2009-10. Most analyses utilize data on the 1,522 were enrolled in a community school all three years. Students enrolled at those schools were 87% Latino and 7% White, 71% received Free or Reduced Price Lunch (FRPL), and 64% were English learners in 2009-10. In comparison, students at the rest of the RCSD schools were 56% Latino and 25% White, 53% received FRPL, and 42% were English learners.

Measures

Student demographic characteristics. The analysis utilizes student demographic data from the administrative data collected by RCSD from the 2006-07 through 2009-10 academic years. Student demographic data available from each year include gender, ethnicity, English langue proficiency status, parent education level, FRPL participation, and special/gifted education status.

Program Attendance. The program attendance data is collected by both outside providers and school staff. The extent of participation data collected varied across programs. Family engagement and support program data is maintained in the district administrative data system, and participation in each of these programs is captured only as a dichotomous participation flag. After school program data are maintained by after school program providers and reported into a centralized data system administered by RCSD. This system contains daily attendance data for each program as well as student demographic data. This detailed data on extended learning attendance is only available starting in 2008-09; extended learning participation in 2007-08 was a dichotomous yes/no indicator. The data also contain records of students who received referrals for counseling services, but these data are not reliably maintained and are not included in analyses.

School Attendance. School attendance comes from the district administrative data system. These data provide the number of days students were present at school as well as the number of days enrolled in an RCSD school in each year.

Academic Achievement. The measure of academic achievement for the analysis is standardized test scores also provided from the district's administrative data. The analysis uses two different tests: the California Standards Test (CST) for math and English language arts (ELA), which all students take each year from grade 2 to 8; and the California English Language

Development Test (CELDT), which students who are not English proficient take starting in kindergarten until they are redesignated as English proficient. Because the CST and CELDT scores are not comparable across years or grades, all test scores are converted to standardized z-scores, normed on the mean and standard deviation of all students in the district by grade and year.

Sense of Care and Practices that Promote Care. Finally, the analysis uses data from two survey scales developed and collected by JGC researchers as part of a larger survey on students' beliefs and motivation related to learning and their experiences of related practices in the classroom. The survey included all sixth- through eighth-grade students in the district (N=2,352) and was administered in the spring of 2009 and 2010 (Strobel, 2010). Data was available on a total of 460 students who were enrolled in a community school and completed a survey in both 2008-09 and 2009-10. The two scales included are:

1. Students' sense of feeling cared for at school and their experiences of teacher practices that promote sense of care. This is a four-item scale (a=0.73) that asks about how connected students feel to other students and the school as a whole (e.g. "My school is like a family" and "Students at this school really care about each other.") (Solomon, Battistich, Watson, Schaps, & Lewis, 2000).
2. The second scale on students' experiences of teacher practices promoting care, adapted from Patrick, Ryan, and Kaplan (2007), includes four items (a=0.77) that ask about ways in which teachers promote mutual respect (e.g. "My teacher does not allow students to make fun of other students' ideas in class" and "My teacher wants us to respect each others' opinions.").

Procedure

The analysis uses longitudinal growth models, a form of multi-level modeling that nests time periods within students, to measure growth in student outcomes over time related to program participation. The individual growth models examine achievement scores and attendance from 2006-07 to 2009-10 and students' sense of care at school from 2008-09 to 2009-10. Because students first take the CST in 2nd grade, our models predicting CST scores only include students who were in 5th grade or higher in 2009-10, meaning that they would have four years of achievement data. The CELDT, however, is administered to students beginning in kindergarten, but we only include students who were in grade 4 or higher in 2009-10 because of wide variation in kindergarten scores. Our data set is arranged with one record per student per year, so there are four records per student and a time variable coded 0 to 3, with time being level 1 of the multi-level model. Students are level 2, and level 2 predictors in the models include student ethnicity, gender, FRPL participation, dichotomous indicators of participation in special education or gifted and talented education services, English language proficiency level, parent education level, and program participation as the featured predictor. All of these level 2 predictors are interacted with time at level 1. These interactions give estimates for the annual change in the outcome variable attributable to each predictor whereas the uninteracted terms give the effect of each predictor on the intercept, which is the outcome in the baseline year. Our models also include school paths—the combination of schools that students were in at the beginning and end of the study period—as a third level because we know from prior research in Redwood City that school contextual factors have a significant effect on achievement (London & Castrechini, 2009).

Results

Participation Patterns in Community School Programs

The first research question is addressed by examining participation numbers and demographic characteristics of participants in each strategy area as well as each possible combination of strategy area participation. Table 1 shows the participation rates in each of the three main community school strategy areas.[1] Participation has generally increased in each category across the three years for which we have data. In 2009-10, nearly 70% of all students enrolled at a community school participated or had a parent participate in at least some supplemental program or service offered at a community school. The highest levels of participation were in extended learning programs, with nearly half of all students participating in these programs in 2009-10.

Many students accessed programs from multiple strategy areas. As Table 1 shows, 14.3% of the total student population at the four community schools had parents who accessed family engagement programs, over half of those students (9.4% out of 14.3%) also participated in extended learning programs or support programs (8.5% out of 14.3%) in 2009-10, and nearly one-half (6.5% out of 14.3%) accessed programs from all three strategy areas. Similarly, approximately one-fourth of students who participated in support programs also had parents who participated in family engagement programs, over one-half also participated in extended learning, and almost one-fifth accessed all three program types.

Tests for significant differences between participants and non-participants use two-tailed t-tests. Table 2 shows the characteristics of students who participated in programs from each strategy area and combination of strategy areas compared to students who did not access any

[1] Descriptive statistics presented in the first section are out of the 2,960 students enrolled in a community schools in 2009-10.

supplemental programs at the community schools. Students who accessed programs generally had lower-SES backgrounds compared to students who did not access any programs. This was particularly true for participants in family engagement and support programs, who were most likely to be English learners, to receive FRPL, and to have parents who had not graduated from high school.

Program Participation and Long-Term Student Achievement

Analysis of the second research question about the link between program participation and student academic outcomes uses individual growth models predicting academic achievement scores over time. The analysis examines outcomes for students who participated in extended learning programs and then compares the effects of students who only accessed extended learning to those who also accessed family engagement and/or social support services along with extended learning. This approach specifically aims to understand how the community school model differs from the more common model of schools that only have after school programs.

Results of individual growth models predicting achievement based on community school program participation show some modest but significant effects on standardized test scores gains over time. Table 3 shows results predicting math standardized test scores. Looking at the uninteracted program participation variables for models predicting math scores, the students who accessed both extended learning and support services for two years (β=-0.21; p=0.03) or one year (β=-0.16; p=0.01) had significantly lower baseline (2006-07) math achievement compared to non-participants. As the program participation-by-time interactions show, there is no significant effect on change in math achievement over time for students based on extended learning participation. However, students who received the combination of extended learning and support for at least two

years had significantly higher annual improvement in math scores compared to students who had never received this combination (β=0.11; p=0.004). Math score growth for students with one year of extended learning and support compared to students who never had that tandem of services were small but approached significance (β=0.02; p=0.06). Not shown, there are no significant differences based on program participation predicting CST ELA scores.

Table 4 shows results of longitudinal growth models on the English Language Development Test for students who are English learners. Again, there are no significant results related to participation in extended learning participation on the change in the test scores over time. However, there is a significant effect on change in scores based on a combination of programs, but in this case it was extended learning coupled with family engagement. Students who received at least two years of this combination gained 0.06 standard deviations more annually than students with no years of this combination (p=0.04). The difference in growth between students with one year and no years of extended learning and family engagement is small and not significant (β=-0.02; p=0.54). Note that students who participated in extended learning for one year had slightly higher baseline scores compared to students with no years of participation (β=0.04; p=0.04), and students who participated in programs from all three strategy areas in one year had slightly lower baseline scores compared to those who had never participated in all three areas in one year (β=-0.16; p=0.03).

Links between Community School Programs and Short-Term Outcomes

Having established a link between achievement and combinations of services along with extended learning, the analysis examines the third research question about short-term outcomes that could help to explain these links. This analysis again uses individual growth models predicting

the two main short-term outcomes defined in the community schools logic model for which data are available—school attendance and students' sense of care at school—based on participation in each category.

For attendance, the models use days present as the outcome variable. The models only include students who were enrolled in a RCSD school for the entire year in each year of our analysis. Because attendance patterns vary by grade level, separate models of attendance growth are constructed for students in two different grade cohorts—3rd through 5th grade in 2009-10 and 6th through 8th grade in 2009-10. Because attendance has much more variation in later grades, only analyses of the older cohort of students are included in this paper. Table 5 shows the results of individual growth models predicting school attendance. There are no significant relationships associated with extended learning participation. However, students who had the combination of extended learning and support opportunities had significant gains in number of days attended each year compared to those who had never received this combination. Indeed, students with two or three years of this combination improved annually by 2.02 days of school attended (p=0.04) compared to students who had never received the two services in the same year. Similarly, students with one year of extended learning and support programs had significant gains in number of days attended over time (β=1.81; p=0.003). Note that this is the same program combination that showed significant improvement in math achievement. Also, not shown in the table, exploratory models testing for effects of just support services alone did not show a significant effect for students who received at least two years of support services compared to those had never received support services on change in attendance (β=1.03; p=0.13).

Models predicting students' sense of being cared for at school examine change in this survey scale from 2008-09 to 2009-10, the only two years for which survey data are available,

based on 2009-10 program participation. Because there are only two RCSD community schools that serve middle school students, the smaller numbers of students in the model and possible school paths did not allow us to include school path as a third level in our models. However, the models do include a dichotomous 2009-10 school flag as a control. The models additionally include a survey scale about mutual respect practices in the classroom that are known to promote students' sense of care. This allows the models to take into account the practices that students experience in their classrooms and more effectively determine the effects of the additional supports that community schools provide.

There was no significant effect on change in students' sense of care at school associated with only extended learning program participation (β=0.01; p=0.92) relative to students who did not participate in extended learning in 2009-10 (Table 6). However, the growth in sense of care for students who participated in extended learning themselves and had parents who accessed family engagement opportunities was positive and significant (β=0.40; p=.05). There is again a parallel with the previously reported achievement findings as the combination of extended learning and family engagement that was associated with improved English language development scores is also the only program combination associated with students' feelings of connectedness at school. Differences in baseline sense of care scale scores associated with any combination of program participation are not significant.

Discussion

The findings reported in this paper show a link between participation in services provided by four community schools and outcomes for students at those schools. Examining the first research question about participation patterns in community school programs, most of the students at the four community schools included in this study either participated in or had parents who

participated in the programs and services that the schools offer. As would be expected, those students who did access services have different characteristics from the students who did not, generally coming from lower socioeconomic backgrounds. A large proportion of the students at the community schools accessed multiple types of services, which speaks to the wraparound nature of community schools. Accessing multiple types of services is a key in understanding the relationship between services and student outcomes, which are the focus of the second and third research questions. There are no differences in achievement associated with just participation in extended learning programs. However, students who accessed extended learning and support saw gains in math scores over time, and English learner students who accessed extended learning and had parents who accessed family engagement programs saw gains in English language development scores. Results examining the third research question suggest two short-term outcomes that could explain these gains in long-term achievement. Students who accessed both support and extended learning had attendance gains over time that could be related to achievement gains, and students who got the combination of extended learning and family engagement reported higher feelings of being connected and cared for at school than students who did not receive this combination of services.

Although both plausible, the data analyzed in this research is not sufficient to completely support either of these explanatory pathways. Thus, this study should not be taken as proof that the community school model works according to the community schools logic model put forth by community school proponents that hypothesizes these links. There are several limitations to this study, such as the small number of schools in the district and our inability to differentiate frequency of participation for most programs. Also, there are issues of selection bias inherent in looking at outcomes based on participation in programs. Results show that there are significant

differences in the characteristics of participants and non-participants in various program areas, and there are likely to be additional underlying factors related to participation that are not captured in administrative data and, thus, not accounted for in regression models despite meticulously trying to accurately model outcomes attributable to community school inputs. It would have been preferable to conduct all analyses using a propensity score matched comparison group to students at other schools. However, because the four community schools serve populations that are different from the rest of the district, we could not make good matches. Another important missing piece of the analysis is qualitative data on the implementation of the community school model to complement the quantitative analyses presented in this paper. Although results suggest some possible theories explaining pathways through which community schools affect student outcomes in both the short and long term, more research will be needed to fully understand these links, particularly qualitative studies that look at the specific program practices at community schools that promote short-term outcomes for students, to provide robust evidence on the effects of community schools. Also, the integration of the different service providers on a community school campus among themselves and with the school staff would be an important factor to understand. This raises another important limitation, which is the segmentation of community schools into different program areas, which may be a false classification in a situation in which the community school has truly integrated the in-school and out-of-school supports. Also, community schools can look very different at each site, and the small sample of schools in this project makes it difficult to generalize beyond the local context to the larger community school movement.

What this paper does provide is some needed evidence linking community schools to quantitative outcomes as well as a methodology for understanding the complex network of programs and services that interact at a community school. Even if the results of this analysis

cannot show a causal relationship between program participation and achievement, they do rigorously show a relationship between the longitudinal achievement trajectories of students over and above individual and school contextual factors. Because of the partnership between the JGC and RCSD, the research was able to utilize data across all of the services provided at the community schools and add to the literature by being able to look at results linked to these combinations of services, providing an important middle ground between the individual program evaluations and whole-school outcome analyses that are predominant in the current community schools literature.

Another valuable contribution of this work is that it provides a methodology for assessing the effects of community schools in a way that is tied to a community school logic model. Our work is important because it attaches data to the hypothesized pathways through which community schools affect the ultimate goal of academic achievement for students. By linking the research to the logic model, this research is an important addition to the existing body of research that mostly does not differentiate or show the links between short-term and long-term outcomes of services provided at community schools. Tying the research to the logic model was also valuable to community partners. In this third year of our research partnership, they felt that linking the research design and reporting to the logic model helped them to see results in a way that accurately reflected their work as practitioners and that they could use to have conversations about improving policy and practice.

References

Adams, C. M. (2010). *The community school effect: Evidence from an evaluation of the Tulsa Area Community School Initiative*: Oklahoma Center for Education Policy.

Blank, M. J., & Berg, A. (2006). *All together now: Sharing responsibility for the whole child*. Washington, DC: Association for Supervision and Curriculum Development.

Blank, M. J., Melaville, A., & Shah, B. P. (2003). *Making the difference: Research and practice in community schools*. Washington, DC: Coalition for Community Schools.

Center on Education Policy. (2008). *Instructional time in elementary schools: A closer look at changes for specific subjects*. Washington, DC: Center on Education Policy.

Chu-Zhu, J. (2005). National and international adaptations of the Children's Aid Society model. In J. G. Dryfoos, J. Quinn & C. Barkin (Eds.), *Community schools in action: Lessons from a decade of practice*. New York: Oxford University Press.

Coalition for Community Schools. (2009). *Community schools research brief 09*. Washington, DC: Author.

Coalition for Community Schools. (2010). *Community schools--Results that turn around failing schools*. Washington, DC.

Communities in Schools. (2010). *Communities in schools national evaluation: Five year summary report*. Fairfax, VA: ICF International.

Cusworth Walker, S., Kerns, S. E. U., Lyon, A. R., Bruns, E. J., & Cosgrove, T. J. (2010). Impact of school-based health center use on academic outcomes. *Journal of Adolescent Health, 46*(3), 251-257.

Frees, E. W. (2004). *Longitudinal and panel data: An analysis and applicatoin in the social sciences*. New York: Cambridge University Press.

Geierstanger, S. P., Amaral, G., Mansour, M., & Walters, S. R. (2004). School-based health centers and academic performance: Research, challenges, and recommendations. *Journal of School Health, 74*(9), 347-352.

Henderson, A. T., & Mapp, K. L. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Austin, TX: National Center for Family and Community Connections with Schools, Southwest Educational Development Laboratory.

Jacobson, R., & Shah, S. C. (2010, April 8). *The community schools evaluation toolkit: Moving the research agenda forward.* Paper presented at the Coalition for Community Schools National Forum, Philadelphia, PA.

London, R. A., & Castrechini, S. (2009). *Exploring the link between physical fitness and academic achievement*. Stanford, CA: The John W. Gardner Center for Youth and Their Communities.

Morrissey, K. M., & Werner-Wilson, R. J. (2005). The relationship between out-of-school activities and positive youth development: An investigation of the influences of communities and families. *Adolescence, 40,* 67-85.

National Center for Community Schools. (n.d.). *What are community schools?* New York: The Children's Aid Society.

Patrick, H., Ryan, A. M., & Kaplan, A. (2007). Early adolescents' perceptions of the classroom social environment, motivational beliefs, and engagement. *Journal of Educational Psychology, 99*(1), 83-98.

Roach, C. M., & McLaughlin, M. W. (2007). *The Redwood City 2020 collaborative: Building capacity for community youth development*. Stanford, CA: The John W. Gardner Center for Youth and Their Communities.

Rothstein, R. (2004). *Class and schools: Using social, economic, and educational reform to close the Black–White achievement gap*. Washington, DC: Economic Policy Institute.

Shah, S. C., Brink, K., London, R., Masur, S., & Quihuis, G. (2009). *Community schools evaluation toolkit: A starter guide for community school staff who want to use data to tell their story and improve their community schools*. Washington, DC: Institute for Educational Leadership.

Solomon, D., Battistich, V., Watson, M., Schaps, E., & Lewis, C. (2000). A six-district study of educational change: Direct and mediated effects of the Child Development Project. *Social Psychology of Education, 4*(1), 3-51.

Strobel, K. (2010). *Practices that promote middle school students' motivation and achievement*. Stanford, CA: The John W. Gardner Center for Youth and Their Communities at Stanford University.

Vandell, D. L., Reisner, E. R., & Pierce, K. M. (2007). *Outcomes linked to high-quality afterschool programs: Longitudinal findings from the study of promising afterschool programs.* Washington, DC: Policy Studies Associates.

Whalen, S. P. (2002). *Report of the evaluation of the Polk Bros. Foundations's Full Service Schools Initiative*. Chicago: Chapin Hall Center for Children at the University of Chicago.

Figure 1. Redwood City Community Schools Logic Model

INPUTS	STRATEGIES	DELIVERABLES	SHORT -TERM OUTCOMES	LONG-TERM OUTCOMES
CS Coordinator Family Engagement Specialist Funding/Resources Relevant Partners Leadership Collaboration Structure	Family Engagement -Education -Leadership -Volunteerism Extended Learning Opportunities Mental Health/Social Services Support Social/Emotional Learning Professional Development School /partners collaborative	Supported and connected families Comprehensive learning supports Integrated service delivery (physical, emotional, social) *Indicator: participation in multiple services* High Quality programs Partner Integration into the school day	Children are ready to learn *Indicator: school attendance* Students are actively involved in learning and their community *Indicator: sense of care survey items* Students receive supports according to their needs *Indicator: demographic information linked to participation* Families are connected with the schools	Students succeed academically *Indicator: CST and CEDLT scores* Students and families are healthier -socially (*Indicator: discipline rates)* -physically (*Indicator: fitness test results)* -emotionally Schools are supportive of youth and families Communities are desirable places to live

Figure 2: Community school strategies and programs with participation rates, 2009-10

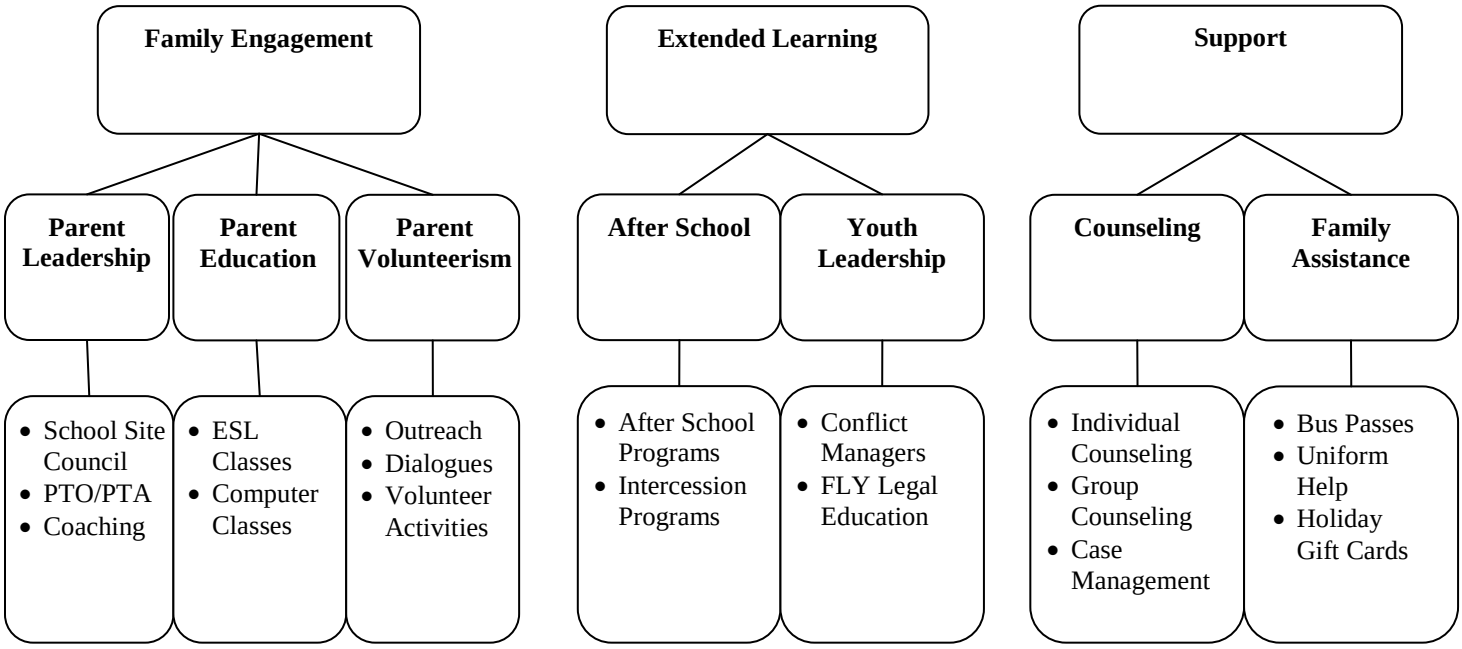

Table 1: Community School Program Participation Rates, 2007-08 to 2009-10

	2007-08	2008-09	2009-10
Family Engagement	14.3%	19.0%	14.3%
Extended Learning	38.2%	38.9%	47.5%
Support	7.0%	25.5%	38.9%
Family Engagement and Extended Learning	7.3%	11.1%	9.4%
Family Engagement and Support	1.6%	7.4%	8.5%
Extended Learning and Support	4.1%	12.2%	24.3%
All Three	0.9%	4.7%	6.5%
No Program Participation	52.5%	36.3%	32.0%
Total Number of Students	2,982	3,068	2,960

Table 2: Student Characteristics by Program Participation, 2009-10

	Family Engagement	Extended Learning	Support	Family Engagement and Extended Learning	Family Engagement and Support	Extended Learning and Support	All Three	No Program Participation
Female	51.9%	50.0%	47.8%	55.8%	51.4%	48.2%	52.9%	49.9%
Male	48.1%	50.0%	52.2%	44.2%	48.6%	51.8%	47.1%	50.1%
African American	0.2%**	2.2%	1.6%	0.4%*	0.0%*	1.5%	0.0%*	2.4%
Latino	96.9%***	87.6%*	92.0%***	97.1%***	98.8%***	92.9%***	99%***	83.9%
White	1.9%***	6.1%	3.1%***	2.2%**	1.2%***	2.5%***	1.0%**	7.2%
Other Ethnicity	0.9%***	4.1%**	3.3%***	0.4%***	0.0%***	3.1%**	0.0%***	6.4%
Special Education	8.5%*	10.0%	11.0%	7.6%*	7.1%*	10.9%	7.9%	12.2%
Gifted and Talented	2.4%	4.0%	1.5%*	2.9%	0.8%*	1.3%*	1.0%	3.0%
English learner	76.4%***	62.5%	72.7%***	73.0%*	79.8%***	73.4%***	79.1%***	65.5%
Free/Reduced Price Lunch	69.3%	67.4%	77.4%***	63.3%*	70.4%	71.3%	64.9%	70.3%
Parents HS grad	31.8%**	37.3%	31.5%***	31.3%*	29.6%**	32.5%**	29.8%*	39.6%
Parents not HS grad	58%**	52.2%	60.6%***	59.0%*	60.9%**	60.3%***	61.8%**	50.3%
Parents College	5.7%	7.3%	4.2%***	6.1%	5.1%	3.9%**	5.2%	7.7%
Math Proficient in 2008-09	51.4%	47.5%	45.1%	48.5%	48.9%	41.2%	43.5%	44.4%
ELA Proficient in 2008-09	37.0%	35.2%	32.0%	33.7%	33.8%	28.3%**	30.7%	36.8%
Total Number of Students	424	1406	1151	278	253	718	191	947

*** p <.001, ** p<.01, * p<.05

Table 3. Longitudinal Growth Models Predicting Math Scores by Program Participation, 2006-07 to 2009-10

	Program Participation Category							
	Extended Learning		Extended Learning and Family Engagement		Extended Learning and Support		All Three	
	β	SE	β	SE	β	SE	β	SE
Intercept	-0.2*	0.09	-0.47***	0.12	-0.42**	0.12	-0.47***	0.12
Not Interacted								
Participation - 2 or 3 Years	-0.01	0.05	-0.05	0.10	-0.21*	0.10	-0.32	0.21
Participation - 1 Year	0.02	0.02	-0.05	0.08	-0.16**	0.06	-0.18	0.10
Male	0.07	0.05	0.07	0.05	0.07	0.05	0.07	0.05
Latino	0.22*	0.09	0.4***	0.11	0.38***	0.11	0.41***	0.11
Other Ethnicity	0.43***	0.13	0.58***	0.15	0.56***	0.15	0.59***	0.15
English Learner	-0.8***	0.05	-0.73***	0.06	-0.72***	0.06	-0.73***	0.06
Special Education	-0.83***	0.07	-0.92***	0.08	-0.93***	0.08	-0.92***	0.08
Gifted and Talented	1.02***	0.10	0.08	0.06	0.08	0.05	0.09	0.06
Free/Reduced Lunch	0	0.07	0	0.08	0.02	0.08	0	0.08
Parent College Grad	0.1	0.09	0.14	0.11	0.14	0.11	0.15	0.11
Parent Not HS Grad	0	0.05	0.98***	0.11	0.97***	0.11	0.97***	0.11
Grade 5 2009-10	0.24***	0.06	0.23*	0.08	0.2*	0.08	0.24**	0.08
Grade 6 2009-10	0.29***	0.07	0.28**	0.08	0.25**	0.08	0.28**	0.08
Grade 7 2009-10	0.1	0.06	0.26**	0.08	0.27**	0.08	0.26**	0.08
Interacted with Time								
Participation - 2 or 3 Years	0.01	0.02	0.03	0.04	0.1**	0.03	0.13	0.07
Participation - 1 Year	-0.01	0.01	0.04	0.03	0.04*	0.02	0.07	0.04
Male	-0.02	0.02	-0.01	0.02	-0.02	0.02	-0.02	0.02
Latino	0.02	0.03	0.01	0.04	0.01	0.04	0	0.04
Other Ethnicity	-0.05	0.05	-0.06	0.05	-0.05	0.05	-0.06	0.05
English Learner	0.08***	0.02	0.05**	0.02	0.05*	0.02	0.06**	0.02
Special Education	0.2***	0.02	0.19***	0.03	0.2***	0.03	0.19***	0.03
Gifted and Talented	-0.11**	0.03	-0.11**	0.04	-0.11**	0.04	-0.11**	0.04
Free/Reduced Lunch	0	0.02	0.02	0.03	0.01	0.03	0.02	0.03
Parent College Grad	0.06*	0.03	0.02	0.04	0.02	0.04	0.02	0.04
Parent Not HS Grad	-0.01	0.02	-0.03	0.02	-0.03	0.02	-0.03	0.02
Grade 5 2009-10	-0.07*	0.03	-0.03	0.02	-0.03	0.02	-0.04	0.02
Grade 6 2009-10	-0.1***	0.03	-0.12***	0.03	-0.11***	0.03	-0.12***	0.03
Grade 7 2009-10	-0.04	0.02	-0.11***	0.03	-0.12***	0.03	-0.11***	0.03
Time	-0.01	0.04	-0.04	0.04	-0.04	0.04	-0.03	0.04

*** p <.001, ** p<.01, * p<.05

Note: The reference group are students who participated in each category for 2 or three years from 2006-07 to 2009-10

Table 4. Longitudinal Growth Models Predicting English Language Development Scores by Program Participation, 2006-07 to 2009-10

	Program Participation Category							
	Extended Learning		Extended Learning and Family Engagement		Extended Learning and Support		All Three	
	β	SE	β	SE	β	SE	β	SE
Intercept	0.03	0.42	0.35	0.43	0.34	0.43	0.33	0.43
Not Interacted								
Participation - 2 or 3 Years	0.02	0.05	-0.07	0.09	-0.04	0.08	-0.16	0.14
Participation - 1 Year	0.04*	0.02	0.00	0.07	-0.05	0.05	-0.16*	0.08
Male	0.03	0.05	0.00	0.05	0.00	0.05	0.00	0.05
Latino	0.39	0.40	0.15	0.41	0.17	0.41	0.18	0.41
Other Ethnicity	0.57	0.43	0.32	0.44	0.33	0.44	0.33	0.43
English Learner	-0.71***	0.05	-0.69***	0.05	-0.69***	0.05	-0.69***	0.05
Special Education	-0.53***	0.06	-0.54***	0.06	-0.55***	0.06	-0.55***	0.06
Gifted and Talented	0.26	0.13	0.27*	0.13	0.27*	0.13	0.27*	0.13
Free/Reduced Lunch	-0.03	0.09	-0.03	0.09	-0.02	0.09	-0.03	0.09
Parent College Grad	0.04	0.13	0.07	0.13	0.07	0.13	0.07	0.13
Parent Not HS Grad	-0.10*	0.05	-0.12*	0.05	-0.12*	0.05	-0.12*	0.05
Grade 4 2009-10	-0.28**	0.09	-0.28**	0.09	-0.29**	0.09	-0.28**	0.09
Grade 5 2009-10	-0.44***	0.09	-0.46***	0.09	-0.48***	0.09	-0.46***	0.09
Grade 6 2009-10	-0.06	0.09	-0.19*	0.09	-0.20*	0.09	-0.19*	0.09
Grade 7 2009-10	0.03	0.09	-0.03	0.09	-0.03	0.09	-0.03	0.09
Interacted with Time								
Participation - 2 or 3 Years	0.00	0.02	0.06*	0.03	0.01	0.03	0.08	0.05
Participation - 1 Year	0.00	0.01	-0.02	0.03	0.02	0.02	0.03	0.03
Male	0.03	0.02	0.04*	0.02	0.04*	0.02	0.04*	0.02
Latino	-0.4*	0.19	-0.37	0.19	-0.41*	0.19	-0.42*	0.19
Other Ethnicity	-0.43*	0.20	-0.43*	0.20	-0.46*	0.20	-0.48*	0.20
English Learner	-0.05*	0.02	-0.07**	0.02	-0.06**	0.02	-0.07**	0.02
Special Education	-0.13***	0.02	-0.13***	0.02	-0.13***	0.02	-0.13***	0.02
Gifted and Talented	0.08	0.06	0.08	0.06	0.08	0.06	0.08	0.06
Free/Reduced Lunch	-0.03	0.03	-0.01	0.03	-0.02	0.03	-0.01	0.03
Parent College Grad	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.06
Parent Not HS Grad	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.02
Grade 4 2009-10	-0.06*	0.03	-0.05*	0.03	-0.05	0.03	-0.05*	0.03
Grade 5 2009-10	0.01	0.03	0.02	0.03	0.03	0.03	0.02	0.03
Grade 6 2009-10	-0.04	0.03	0.00	0.03	0.00	0.03	0.00	0.03
Grade 7 2009-10	-0.05	0.03	-0.03	0.03	-0.03	0.03	-0.03	0.03
Time	0.61**	0.19	0.57**	0.20	0.6**	0.20	0.62**	0.20

*** p <.001, ** p<.01, * p<.05

Note: The reference group are students who participated in each category for 2 or three years from 2006-07 to 2009-10

Table 5. Longitudinal Growth Models Predicting Days of School Attended, 2006-07 to 2009-10

	Program Participation Category							
	Extended Learning		Extended Learning and Family Engagement		Extended Learning and Support		All Three	
	β	SE	β	SE	β	SE	β	SE
Intercept	152.20***	4.75	152.76***	4.73	153.94***	4.76	155.82***	5.81
Not Interacted								
Participation - 2 or 3 Years	0.86	0.84	2.91	1.62	-1.05	1.48	-2.55	3.28
Participation - 1 Year	0.52	0.35	2.39*	1.19	-1.71	0.95	-1.48	3.47
Male	0.34	0.76	0.34	0.76	0.43	0.76	0.34	0.76
Latino	11.97***	1.66	11.88***	1.66	11.70***	1.66	11.78***	1.66
Other Ethnicity	8.74***	2.29	8.55***	2.28	7.97***	2.29	8.33***	2.28
English Learner	-0.78	0.85	-0.8	0.85	-0.69	0.85	-0.72	0.85
Special Education	-3.31**	1.15	-3.28**	1.15	-3.44**	1.15	-3.37**	1.15
Gifted and Talented	-0.3	1.71	-0.22	1.72	-0.45	1.71	-0.30	1.71
Free/Reduced Lunch	-4.06**	1.25	-4.08**	1.25	-3.97**	1.25	-4.11**	1.26
Parent College Grad	1.42	1.74	1.49	1.74	1.66	1.74	1.44	1.74
Parent Not HS Grad	0.50	0.84	0.41	0.84	0.44	0.84	0.46	0.84
Grade 5 2009-10	3.40*	1.49	2.93	1.49	2.35	1.55	3.11	1.49
Grade 6 2009-10	2.35	1.30	2.1	1.30	1.81	1.32	2.24	1.30
Grade 7 2009-10	4.1**	1.27	4.32**	1.26	4.2**	1.27	4.32**	1.26
Interacted with Time								
Participation - 2 or 3 Years	0.50	0.54	0.29	1.06	2.02*	0.96	-0.15	2.12
Participation - 1 Year	0.16	0.23	0.03	0.78	1.81**	0.62	0.23	2.25
Male	-0.36	0.49	-0.33	0.49	-0.41	0.49	-0.36	0.50
Latino	-3.02**	1.08	-3.06**	1.08	-2.84**	1.08	-3.05**	1.08
Other Ethnicity	-1.20	1.49	-1.4	1.49	-0.97	1.49	-1.39	1.49
English Learner	0.39	0.55	0.43	0.55	0.36	0.55	0.43	0.55
Special Education	0.58	0.75	0.55	0.75	0.63	0.75	0.54	0.75
Gifted and Talented	0.37	0.55	0.34	0.55	0.37	0.55	0.35	0.55
Free/Reduced Lunch	1.17	0.82	1.15	0.82	0.96	0.82	1.17	0.83
Parent College Grad	0.58	1.11	0.6	1.12	0.43	1.12	0.61	1.12
Parent Not HS Grad	1.03	1.11	1.02	1.12	1.17	1.11	1.04	1.11
Grade 5 2009-10	-0.48	0.96	-0.59	0.97	0.26	1.00	-0.59	0.97
Grade 6 2009-10	0.34	0.85	0.32	0.85	0.85	0.86	0.31	0.85
Grade 7 2009-10	-3.43***	0.82	-3.32***	0.82	-3.26***	0.82	-3.32***	0.82
Time	5.59*	2.24	6.00**	2.21	5.20*	2.21	6.14*	3.09

*** p <.001, ** p<.01, * p<.05

Note: The reference group are students who participated in each category for 2 or three years from 2006-07 to 2009-10

Table 6. Longitudinal Growth Models Predicting Sense of Care Scale, 2008-09 to 2009-10

	Program Participation Category							
	Extended Learning		Extended Learning and Family Engagement		Extended Learning and Support		All Three	
	β	SE	β	SE	β	SE	β	SE
Intercept	1.64***	0.18	1.65***	0.18	1.65***	0.18	1.65***	0.18
Not Interacted								
Participation in 2009-10	0.04	0.08	-0.03	0.13	0.05	0.09	0	0.17
Male	0.02	0.06	0.02	0.06	0.02	0.06	0.02	0.06
Latino	0.27*	0.11	0.27*	0.11	0.27*	0.11	0.27*	0.11
Other Ethnicity	0.32*	0.15	0.31*	0.15	0.32*	0.15	0.31*	0.15
English Learner	-0.04	0.08	-0.04	0.08	-0.04	0.08	-0.04	0.08
Special Education	0.02	0.09	0.02	0.09	0.02	0.09	0.02	0.09
Gifted and Talented	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Free/Reduced Lunch	-0.02	0.10	-0.02	0.10	-0.03	0.10	-0.02	0.10
Parent College Grad	0.09	0.11	0.09	0.11	0.08	0.11	0.09	0.11
Parent Not HS Grad	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Grade 7 2009-10	0.03	0.06	0.03	0.06	0.04	0.06	0.04	0.06
Hoover School	-0.19*	0.08	-0.2*	0.08	-0.23*	0.10	-0.2*	0.08
High Sense of Care 2008-09	1.71***	0.07	1.71***	0.07	1.71***	0.07	1.71***	0.07
Mutual Respect practices 2008-09	0.13***	0.03	0.13***	0.03	0.13***	0.03	0.13***	0.03
Mutual Respect practices 2009-10	0.09**	0.03	0.09**	0.03	0.09**	0.03	0.09**	0.03
Interacted with Time								
Participation in 2009-10	0.01	0.12	0.4*	0.20	0.04	0.14	0.41	0.27
Male	-0.18	0.10	-0.19*	0.10	-0.18	0.10	-0.19*	0.10
Latino	0.14	0.17	0.12	0.17	0.13	0.17	0.11	0.17
Other Ethnicity	0.15	0.24	0.16	0.24	0.16	0.24	0.16	0.24
English Learner	-0.05	0.12	-0.05	0.12	-0.06	0.12	-0.05	0.12
Special Education	0.19	0.15	0.19	0.15	0.19	0.15	0.19	0.15
Gifted and Talented	0.23	0.20	0.22	0.20	0.23	0.20	0.22	0.20
Free/Reduced Lunch	0.07	0.15	0.06	0.15	0.07	0.15	0.06	0.15
Parent College Grad	-0.14	0.17	-0.14	0.17	-0.14	0.17	-0.15	0.17
Hoover School	0.68***	0.13	0.69***	0.13	0.65***	0.15	0.68***	0.13
Parent Not HS Grad	-0.21	0.12	-0.2	0.12	-0.22	0.12	-0.21	0.12
High Sense of Care 2008-09	-1.27***	0.12	-1.29***	0.11	-1.27***	0.12	-1.28***	0.11
Grade 7 2009-10	-0.15	0.10	-0.13	0.10	-0.14	0.10	-0.14	0.10
Mutual Respect practices 2008-09	0.2***	0.04	0.2***	0.04	0.2***	0.04	0.2***	0.04
Mutual Respect practices 2009-10	-0.08	0.05	-0.09	0.05	-0.08	0.05	-0.08	0.05
Time	-0.32	0.29	-0.29	0.28	-0.32	0.28	-0.29	0.28

*** p <.001, ** p<.01, * p<.05

Note: The reference group is students with no participation in each category in 2009-10