



Evaluation of Linkages to Learning in MCPS:

**Levels of Engagement and Other Specified
Social Emotional Learning Attributes of Students and
Parents: Comparison of Schools With and Without
Linkages to Learning**

Office of Shared Accountability

May 2015

Nyambura Maina, Ph.D., & Julie Wade, M.S.



OFFICE OF SHARED ACCOUNTABILITY

**850 Hungerford Drive
Rockville, Maryland 20850
301-279-3553**

Mr. Larry A. Bowers
Interim Superintendent of Schools

Dr. Maria V. Navarro
Chief Academic Officer

Table of Contents

Executive Summary	v
Methodology and Evaluation Questions	vi
Summary of Findings.....	vi
Evaluation Question 1	vi
Evaluation Question 2	vii
Recommendations.....	ix
Background.....	1
Methods of Intervention.....	1
Relationship Between the Linkages to Learning Collaborative and the Strategic Framework	2
Review of Select Literature on the Impact of School-Linked Services on the Measures of Interest.....	3
Review of Studies of Linkages to Learning in MCPS.....	3
Assessing the Evidence for Integrated Student Supports	4
Methodology.....	6
Evaluation Scope and Design	6
Evaluation Questions	7
Study Measures and Data Sources.....	7
School Readiness	8
Participation in Preschool Offerings.....	8
Participation in ELO SAIL	8
Daily Attendance, Absence, and Tardy Rates	9
Student Engagement	9
Student Service Learning Hours for Middle School Students.....	9
Parent Engagement	9
Demographic Characteristics	9
Study Schools and Samples	10
Elementary Schools	10
Middle Schools	10
Procedures for Data Analyses.....	11
Procedures for Analyses for Evaluation Question 1	12
Procedures for Analyses for Evaluation Question 2	13
Limitations	13

Results.....	14
Attendance Patterns in Elementary School.....	20
Characteristics of Students in Middle Schools	21
Attendance Patterns in Middle School.....	22
Grade 5 Student Engagement.....	23
Characteristics of Survey Respondents.....	26
Findings from Elementary School Parents	27
Findings from Middle School Parents	29
Summary.....	31
Discussion.....	32
Recommendations.....	33
Acknowledgments.....	35
References.....	36
Appendix A.....	40
Appendix B1	41
Appendix B2.....	42
Appendix C.....	43
Appendix D.....	48
Appendix E.....	50
Appendix F.....	51

List of Tables

Table 1 Demographic Characteristics of Kindergarten Students in Schools With and Without Linkages to Learning, Fall 2013	15
Table 2 Number and Percentage of Students Fully Ready in Domains of Learning, Fall 2013.....	16
Table 3 Odds Ratios for School Readiness in Domains of Learning, Effect of Presence of Linkages to Learning	17
Table 4 Number and Percentage of Students Fully Ready for Kindergarten All Students and by Subgroup, Fall 2013	17
Table 5 Odds Ratios for School Readiness: All Students and by Student Subgroups, Effect of Linkages to Learning	18
Table 6 Characteristics of Elementary Students Attending Schools With and Without Linkages to Learning 2013–2014	20
Table 7 Adjusted Means, Standard Error, Mean Difference, and Effect Sizes for Attendance Outcomes, Students Attending Elementary Schools With and Without Linkages to Learning	21
Table 8 Characteristics of Middle School Students Attending Schools With and Without Linkages to Learning 2013–2014	21
Table 9 Adjusted Marginal Means, Standard Error, Mean Difference, and Effect Sizes for Effect of Linkages to Learning on Attendance Measures for Middle Schools 22	
Table 10 ELO SAIL Participation by K–2 Students in LTL and non-LTL Title I Schools, Summer 2014.....	23
Table 11 Mean Survey Scores for Engagement, Hope, and Well-being for Grade 5 Students in Schools With and Without Linkages to Learning.....	23
Table 12 Means, Estimated Mean Difference, and Effect Sizes for Effect of Attending a School With Linkages to Learning on Student Service Learning Hours Earned in Middle School.....	24
Table 13 Description of Parent Engagement Survey Respondents	26
Table 14 Percentage Agreement on Parent Engagement Survey Items by Parents of Elementary School Students	28
Table 15 Percentage Agreement on Parent Engagement Survey Items by Parents of Middle School Students	30
Table C1a 2014 <i>Schools at a Glance</i> Information for Sample of Elementary Schools Without Linkages to Learning	44
Table C1b 2014 <i>Schools at a Glance</i> Information for Elementary Schools With Linkages to Learning.....	45
Table C1c 2014 <i>Schools at a Glance</i> Information for Middle Schools With and Without Linkages to Learning	46

Table C2 2014 Demographic Profile of Schools With and Without Linkages to Learning	47
Table D1 Division of Early Childhood Programs and Services 2014–2015 Head Start and Prekindergarten Locations (LTL and Comparison Schools)	49
Table E1 Number and Percentage of Students Who Registered and Attended ELO SAIL, Summer 2014 in Schools With and Without Linkages to Learning	50
Table F1 Parent Engagement Survey Items by Subgroups, Elementary Schools: Items With Statistically Significant Differences Between Schools With and Without Linkages to Learning	51
Table F2 Parent Engagement Survey Items by Subgroups, Middle Schools: Items With Statistically Significant Differences Between Schools With and Without Linkages to Learning	52

List of Figures

<i>Figure 1.</i> Percentage of students in schools with Linkages to Learning and those in schools without Linkages to Learning fully ready for school in fall 2013.	15
<i>Figure 2.</i> Early care and educational setting year prior to kindergarten in schools with and without Linkages to Learning.	19
<i>Figure 3.</i> Percentage of students who had completed required Student Service Learning hours by grade and type of school.	25

Executive Summary

Linkages to Learning (LTL) is a collaborative initiative bringing together the Montgomery County Department of Health & Human Services, Montgomery County Public Schools (MCPS), and local nonprofit agencies to provide a range of services at MCPS elementary and middle schools that have high percentages of families impacted by poverty. The collaborative planning was initiated in 1991 and the first three sites were opened in 1993.

The mission of LTL is to improve the well-being of Montgomery County's children and their families through a collaborative delivery of comprehensive school-based services that support success at home, in school, and in the community. The program offers prevention and intervention services that include behavioral health services, community education and development, and social services at 23 elementary schools and 6 middle schools in MCPS.

LTL focuses its services by addressing three broad areas of need depicted in the LTL Logic Model:

- **Student well-being.** Services include assessment for social emotional, behavioral concerns; classroom observation and consultation; child/family/group psychotherapy; psychosocial skills development groups; and primary care and treatment at LTL school-based health centers.
- **Family services.** Services include family needs assessment, family case management, linking to community resources, parenting groups, and parent education.
- **Community education and development.** Services include community needs assessment, out-of-school-time activities, adult English for Speakers of Other Languages (ESOL) classes, adult education, and communitywide events.

By working in schools and communities, the LTL collaborative looks to contribute to lasting and generalized improvements in the well-being of students and families as demonstrated through—

- an increase in parents' and students' ability to navigate the school system and resources;
- increased levels of school readiness;
- improvement in overall health status of students and families;
- an increase in families' and students' participation in school and community activities;
- an increase in students' feelings of hope, engagement, and well-being; and
- increased school attendance and decreased days absent due to illness.

The "typical" staffing model includes one full-time community school coordinator, one full-time family case manager, and one full-time child and family therapist to work at each school in conjunction with school staff, with a part-time community services aide at sites that are also School-Based Health Centers or in teams that work with a K–5 community across two paired schools. This staffing model of three full-time members and one part-time member at selected sites is not available at all schools; recent staff reductions have impacted education and development services at middle schools the most. Also, with current resources available, middle schools with LTL may devote only half of the staff time to community education and development services compared to elementary schools with LTL.

This report is the first in a series of three evaluation reports of LTL in MCPS. The purpose of this component of the evaluation was to a) examine levels of engagement and social emotional learning

outcomes of students and b) examine parent engagement in schools with LTL sites compared with those of peers in sample schools without LTL,

Methodology and Evaluation Questions

The evaluation addressed two key questions:

1. Is there a difference in levels of engagement and social emotional learning outcomes of students in schools with LTL and students in schools without LTL with comparable demographic characteristics in 2013–2014?
2. Is there a difference in the levels of parent engagement, as measured by the 2014 MCPS Parent Engagement Survey, between schools with LTL and schools without LTL?

To address the evaluation questions, this study used a rigorous quasi-experimental design to compare levels of engagement and specified social emotional learning outcomes for students in schools with LTL and students in similar schools without LTL for the 2013–2014 school year. Comparison schools were selected primarily based on percentage of students who were currently or previously eligible for Free and Reduced-price Meals System services (ever FARMS); a variety of other demographic characteristics were considered as well. The analyses described the levels of outcomes for the schools with LTL and the schools without LTL, and where applicable, tested whether any observed statistically significant differences were practically significant in an educational setting; that is, whether differences reached sufficient levels to warrant a change in policies or program activities.

Summary of Findings

Evaluation Question 1

Several measures were used to gauge the levels of engagement and social emotional learning attributes in the students who attend schools with LTL as compared to students who attend schools without LTL services.

Participation in preschool offerings. In MCPS, all eligible students are placed in a Head Start or MCPS prekindergarten. Students may attend Head Start or pre-K in a school that is not their home school. Head Start, MCPS pre-K Sessions, Judy Centers, or a combination were offered at 19 of the schools with LTL and 18 of the schools without LTL. Higher levels of participation in public preschool offerings were observed for students who started kindergarten in 2013–2014 in schools with LTL; close to one half of kindergarten students in schools with LTL were enrolled in Head Start or MCPS public prekindergarten the year prior to starting kindergarten compared with one third of students in schools without LTL.

School readiness. The positive significant effect of the LTL school community on overall school readiness and on each of the seven domains of learning was evident for all students in the study. On average, higher percentages of students who attended kindergarten in schools with LTL were fully ready for school—based on a composite score of seven domains of learning assessed by Maryland Model for School Readiness—compared with peers from schools without LTL.

Students attending schools with LTL were about two times as likely to be fully ready as peers in schools without LTL.

Daily attendance and tardies. There were statistically significantly more days attended and fewer overall absences, as well as fewer unexcused absences in 2013–2014 for K–5 students attending elementary schools with LTL compared to peers attending schools without LTL. Middle school students attending LTL schools were statistically more likely to be absent than peers attending non-LTL schools. However, the magnitudes of these differences in attendance at both the elementary and middle school levels were not practically significant or meaningful in an educational setting.

Participation in Extended Learning Opportunities Summer Adventures in Learning (ELO SAIL). ELO SAIL is offered in schools designated as federal Title I schools. In the summer of 2014, 15 of the LTL schools and 9 of the non-LTL schools were Title I schools and offered ELO SAIL for their K–2 students. Patterns of attendance in ELO SAIL were generally similar between the two groups of schools. On average, slightly over 40% of students eligible for ELO SAIL in schools with LTL or schools without LTL participated in ELO SAIL in 2014.

Engagement, hope, and well-being. The levels of engagement, hope, and well-being for Grade 5 students in schools with LTL and schools without LTL as measured by the 2013 Gallup poll did not differ statistically.

Student Service Learning hours earned by middle school students. Middle school students who attended schools with LTL earned statistically more Student Service Learning (SSL) hours in 2013–2014 than peers who attended schools without LTL. On average, students attending middle schools with LTL earned 20 hours compared with 17 hours for students attending schools without LTL. Further, a statistically higher proportion (11%) of students attending middle schools with LTL had met or exceeded the state graduation requirement of 75 SSL hours compared with 7% of students attending middle schools without LTL. These differences in SSL hours earned were practically meaningful for Grade 7 students and non-FARMS students. The differences in proportion of students that had met or exceeded the state graduation requirement were not practically significant between students attending schools with LTL and schools without LTL.

Evaluation Question 2

MCPS annually surveys a random sample of parents on their experiences at their child’s school; notably, the survey does not elicit information specifically about LTL or any other program or activity offered at the school. The surveys are an important way to involve the entire school community in school improvement planning and changes. Findings from the 2014 MCPS Parent Engagement Survey were used to measure levels of parent engagement in schools with and without LTL. The response rate for the Parent Engagement Survey for both schools with and without LTL was 24% or lower depending on the school level.

Parents of elementary students. A majority of responding parents of elementary students in schools with and without LTL alike reported high levels of agreement with statements on the 2014 Parent Engagement Survey. Responses from parents in elementary schools with and without LTL varied significantly on one item—respondents with children in elementary schools with LTL

were significantly more likely to report that “The school respects my family” (98% vs. 96%) than respondents with children in elementary schools without LTL.

When data were disaggregated by characteristics of parents, additional statistically and practically significant differences were observed. Parents of children in LTL schools who spoke Spanish at home were more likely to agree that their school informs them of educational opportunities that are available to their child than parents from schools without LTL. Further, the findings revealed that Hispanic/Latino parents from schools with LTL were more likely than Hispanic/Latino parents from non-LTL schools to agree that when they visited their child’s school, they were promptly and courteously received, that the school provided opportunities for them to voice their needs about their child’s education, or that they were comfortable talking with their child’s teachers. Parents of kindergarten students in schools with LTL were more likely to agree that there was an adult at school who will advocate for their child’s needs than parents of kindergarten students in schools without LTL.

Parents of middle school students. No statistically significant differences between parents in schools with LTL and those in schools without LTL emerged on any of the survey items when responses of all parents were examined. Particularly high percentages of middle school parents believed they played an important role in their child’s education, that teachers expected their child to do well in school, and that they were comfortable being advocates for their child. However, when data were disaggregated by race/ethnicity and grade level of student, statistically significant differences in response patterns emerged. Responding parents of Black or African American students in schools with LTL were less likely to agree with the statements: “When I visit my child’s school, I am promptly and courteously received”; “The school respects my family”; and “The school provides opportunities for me to voice my needs about my child’s education” than their counterparts in middle schools without LTL. Parents of White students in schools with LTL were less likely to agree that “There is an adult at the school who will advocate for my child’s needs,” than their counterparts in schools without LTL. Several additional statistically and practically meaningful differences emerged when data were examined by grade level.

Recommendations

The following recommendations are proposed based on the findings of this study:

- Continue to emphasize the benefits of participation in the structured schoolwide and communitywide opportunities available to parents, students, and the community.
- Continue to collaborate with school staff and administration to increase opportunities for parents to participate in their child's education.
- Increase LTL community education and development services at middle schools, with concerted outreach to parents of specific racial/ethnic groups that feel less engaged with the school community.
- Consider increasing the number of LTL sites at the middle school level.
- Communicate the findings of this report to schools with LTL, LTL program staff, and LTL partner and collaborating agencies.
- Establish systematic, common, and usable tools or structures for collecting and documenting information related to various activities and services provided at LTL sites.

Levels of Engagement and Other Specified Social Emotional Learning Attributes of Students and Parents: Comparison of Schools With and Without Linkages to Learning

Nyambura Maina, Ph.D. & Julie Wade, M.S.

Background

Linkages to Learning (LTL) is a collaboration among the Montgomery County Department of Health and Human Services (MCDHHS), Montgomery County Public Schools (MCPS), and local nonprofit agencies. The objective of LTL is to provide behavioral health services, community education and development, social services, and expanded health services at MCPS elementary and middle schools that are highly impacted by poverty. In 1991, the Montgomery County Council passed a resolution urging the County Executive and MCPS to create a network of school-based social, education, and mental health services aimed at supporting at-risk children and their families. The resolution cited a range of obstacles to success for children and families, including deep poverty, poor healthcare, lack of English, emotional issues, and unfamiliarity with American mental health and social service systems. In 1993, the first three sites were opened. Since then, the mission of LTL has been to improve the well-being of Montgomery County's children and their families through a collaborative delivery of comprehensive school-based services that support success at home, in school, and in the community (MCDHHS, 2014).

In 2013–2014, there were 28 LTL sites in the Gaithersburg, Wheaton, and Rockville clusters; the Northeast Consortium; and the Downcounty Consortium. There are 22 LTL sites in elementary schools and 6 LTL sites in middle schools (Appendix A). LTL sites are selected in MCPS schools primarily based on the percentage of low-income children attending a school, as measured by the number of its students ever eligible for the federal government's Free and Reduced-price Meals System (FARMS). The school's ever FARMS rate takes into account children who participated in FARMS in the past in addition to children who are currently receiving FARMS services. Selection of LTL sites also considers available funding and the school's readiness to devote space to LTL staff.

Methods of Intervention

The purpose of LTL is to improve the well-being of Montgomery County's children and their families through a collaborative delivery of comprehensive school-based services that support success at home, in school, and in the community. The long-term goal is to reduce the barriers to school success for students impacted by poverty by: a) boosting school readiness, daily attendance, student engagement, and student involvement in learning and in the school community; b) increasing parents' involvement in their children's education; and c) increasing schools' involvement with families and communities (Appendices B1 and B2). As such, the LTL program provides accessible services to at-risk children and their families to improve students' adjustment to and performance in school, home, and community (MCDHHS, 2014). Prevention and early intervention services include health and behavioral health services, social services, and community education/development (including after-school and family programming and adult education classes, such as English for Speakers of Other Languages [ESOL] for adults. Parents also serve as

leaders in LTL, working as partners with program staff to develop strengths-based, culturally appropriate solutions to the challenges confronting their children, schools, and communities.

To achieve its goals, LTL focuses its services on addressing three broad areas of need:

- **Student well-being.** Services include assessment for social emotional, behavioral concerns; classroom observation and consultation; child/family/group psychotherapy; psychosocial skills development groups; and primary health care and treatment at LTL school-based health centers.
- **Family services.** Services include family needs assessment, family case management, linking to community resources, parenting groups, and parent education.
- **Community education and development.** Services include community needs assessment, out-of-school-time activities, ESOL classes for adults, adult education, and communitywide events.

It should be noted that current resources allow middle schools with LTL to devote only half of the staff time to community education and development services compared to elementary schools with LTL.

Relationship Between the Linkages to Learning Collaborative and the Strategic Framework

The logic model for the LTL collaborative articulates the way the program is structured and operated (Appendix B). The model depicts the interrelationships among: a) components, target groups, and service areas of LTL; b) the approaches/means by which LTL expects to improve the well-being for students, family, and community; and c) the expected changes in students' or parents' behaviors, skills, or attitudes from receipt of services or participation in LTL activities. There is a logical sequential progression from short- to long-term outcomes.

The connections of LTL to the MCPS Strategic Planning Framework are explicit through the indicators of short-term and long-term outcomes of LTL with those of the key competency area of Social Emotional Learning and the foundational focus on Organizational Effectiveness (MCPS, 2015a). The specified outcomes of the MCPS Strategic Planning Framework include:

- MCPS staff will—
 - promote safety and social, emotional, and physical well-being;
 - foster respect for diversity, risk taking, collaboration, constructive debate, and productive conflict resolution; and
 - build on each other's and students' strengths.
- MCPS students will—
 - make constructive and healthy decisions that promote hope, personal well-being, and social behavior; and
 - enhance their social awareness, including building collaboration, empathy, and relationship-building skills.
- MCPS will—
 - engage collaboratively and respectfully with all partners, building a self-renewing learning community that reflects our values; and
 - provide the highest quality business operations and support services that are essential to the educational success of all students.

By working in schools and communities in the areas of student well-being, family services, community education, and development services, the LTL collaborative envisions lasting and generalized improvements in the well-being of students and families as demonstrated through—

- an increase in parents' and students' ability to navigate the school system and resources;
- increased levels of school readiness;
- improvement in overall health status of students and families;
- an increase in families' and students' participation in school and community activities;
- an increase in students' feelings of hope, engagement, and well-being; and
- increased school attendance and decreased days absent due to illness.

Review of Select Literature on the Impact of School-linked Services on the Measures of Interest

Review of Studies of Linkages to Learning in MCPS

In 1999, researchers from the University of Maryland, College Park conducted an evaluation of LTL at one MCPS elementary school (Fox, et al., 1999). This evaluation assessed children and families participating in the LTL program at Broad Acres Elementary School and a comparison group of children and families at another MCPS elementary school. Using cohort analysis, the researchers examined service utilization between 1996 and 1999 for students in kindergarten through Grade 2. A variety of instruments were used to assess the overall functioning of families (e.g., health and mental health functioning of parents, demographics, social supports, family environment, etc.); children's perceived social competencies, emotional distress, and exposure to violence; and peer relationships to assess positive and negative behaviors of each child in the class.

Findings revealed that parents at Broad Acres reported a significant decrease of their child's negative behaviors over three years, while an increase in negative behavior was reported by parents in the comparison school. Ratings from classroom teachers revealed that, over time, trends in children's negative behavior for LTL participants did not increase as they did with children at the comparison school. Baseline data revealed that children in the experimental school had significantly higher distress levels; but after three years, the distress scores for these children were lower than those in the comparison school. Data from parents also suggested a positive relationship between participation in LTL services and improved mental health, increased family cohesion, and gains in consistent parenting styles. In an examination of academic outcomes, findings revealed that in mathematics achievement children receiving educational services through the LTL program improved significantly more than those at the same school who did not receive services.

Assessing the Evidence for Integrated Student Supports

LTL falls into a group of programs commonly referred to as integrated student supports (ISS) (Moore & Emig, 2014; Child Trends, 2014). ISS are school-based approaches that promote students' academic success by developing, securing, and coordinating supports that address the whole child. The resources and supports range from provision of a broader set of supports, such as linking students to physical and mental health care and connecting their families to parent education, family counseling, food banks, or employment assistance, as well traditional supports such as tutoring and mentoring. While individual programs vary somewhat in the ways they provide ISS, integration and coordination of services with the school team is emphasized and all ISS providers employ common components (needs assessment, integration within schools, community partnerships, coordinated supports, and data tracking); all provide wrap-around supports to improve students' academic achievement and educational attainment; and all embrace the premise that academic outcomes are a result of both academic and nonacademic factors.

School readiness as a foundation for school success and social emotional learning. School readiness measures a variety of social emotional learning attributes. The Maryland Model for School Readiness (MMSR) defines school readiness as the state of early development that enables an individual child to engage in and benefit from early learning experiences. As a result of family nurturing and interactions with others, a young child in this stage has reached certain levels of social and emotional development, cognition and general knowledge, language development, and physical well-being and motor development (Maryland State Department of Education [MSDE], 2009). School readiness acknowledges individual approaches toward learning as well as the unique experiences and backgrounds of each child. The measure of school readiness is perceived as one way to gauge how the community outreach efforts may influence the health and well-being of students before they enter kindergarten (Montgomery County Office of Legislative Oversight, 2014; Isaac and Magnusson, 2012). Key influences on school readiness are believed to include preschool attendance, parenting behaviors, and parents' education (Isaac, 2012). Head Start, MCPS pre-K Sessions, Judy Centers or a combination were offered at 19 of the schools with LTL and 18 of the schools without LTL (MCPS, 2015b). In an analysis of data from seven random-assignment welfare and antipoverty studies, Duncan (2013) found that preschool and elementary school children's academic achievement was improved by programs that boosted both income and parental employment. Therefore, a solid understanding of attributes of school readiness is a critical step in preventing the achievement gap.

Attendance. Attendance is considered the single most important academic behavior because it has a strong relationship with academic performance. In addition, small differences in attendance are reported to have strong impacts on student grades and are predictive of course failure and overall career and college readiness than course grades (Farrington et al, 2012; MCPS, 2015a). Conversely, chronic absenteeism from kindergarten forward is reported to lower academic achievement, increase dropout rates, and weaken college and careers readiness (West, 2013). It is estimated that five million students across the U.S. do not attend school regularly. The findings from a study by Balfanz and Byrnes (2012) revealed that high-poverty students benefit the most from improved school attendance; students in high-poverty schools with interventions such as LTL were 15% less likely to be chronically absent than similar students at comparison schools.

Extended learning opportunities and closing the achievement gap. Extended Learning Opportunities (ELO) programs include summer school, before-/after-school, and weekend programs. In MCPS, ELO Summer Adventures in Learning (SAIL) is offered every summer to students in Title I schools (MCPS, 2015f). Such programs provide an increasingly important link between the needs of low-income students and the demands of standards-based educational reforms, as these programs support the academic and social development of students during nontraditional school hours. New research has shown that after-school activities can be a real solution linked to closing the achievement gap. If the quality is high, extended learning opportunities and programs are generally related to positive academic outcomes for K–12 students; structured and extended learning opportunities were associated with improved academic performance, gains in self-efficacy, improved grade point average, increased attendance, and fewer school absences (Redd et al., 2012; Clariana, Cladellas, Gotzens, Badia, & Dezcallar, 2014). Conversely, unstructured time with peers in the after-school hours is associated with lower GPA, more school absences, greater misconduct, or reduction in work habits and self-efficacy. This research demonstrates that more consistent time spent in after-school activities during the elementary school years is linked to narrowing the achievement gap. As such, the more rarely students participate in after-school activities, the wider the achievement gap.

Student engagement. Research supports the idea that hope (ideas and energy for the future), engagement (involvement with and enthusiasm for school), and well-being (how we think about and experience our lives) are actionable targets linked to student achievement, retention, and future employment (Gallup, Inc., 2015). Engagement is defined as positive conduct and involvement in learning and school-related tasks and predicts school achievement (Fredericks, Blumenfeld, & Paris, 2004). Consistent attendance in class—an aspect of behavioral engagement—was strongly associated with positive academic outcomes, statistically controlling for student and neighborhood demographic characteristics (Fredericks, et al., 2004). Similarly, Finn (1993) found that the more students participate in school by attending class, exhibiting positive classroom behavior, and getting involved beyond the typical academic program, the better their academic achievement. Fredericks et al., (2004) also distinguished two additional facets of engagement—cognitive engagement and emotional engagement. Cognitive engagement is defined as an investment in learning and preference for challenge. Emotional engagement refers to students' affective reactions in the classroom and feeling a sense of belonging in school. Students who are emotionally engaged in school perform better academically (Ladd & Dinella, 2009; Li, Bebiroglu, Phelps, & Lerner, 2009).

Student Service Learning (SSL) and academic success. In MCPS, SSL is designed to address recognized community needs and is connected to curriculum goals (MSDE, 2004; Maina, McGaughey, & Wade, 2013). LTL programs offer opportunities for middle school students to assist in a variety of roles in LTL activities, from tutoring/mentoring in homework clubs to assisting with childcare or administrative tasks at evening events. Preparation, action, and reflection are the three phases of service learning that distinguish SSL from traditional volunteering and community service. All service learning in the areas of indirect service, direct service, and advocacy include phases of preparation, action, and reflection. As such, quality service learning provides the student with knowledge, skills, attitudes, and career exploration opportunities that lead to effective citizenship in an increasingly diverse and interconnected world. The overall goal of SSL in MCPS is to promote a behavior of lifelong service to the community by providing the student with knowledge, skills, attitudes, and career exploration opportunities that lead to effective citizenship in an increasingly diverse and interconnected world (MCPS,

2015c). By addressing recognized needs in the community through SSL, students are encouraged to—

- explore careers,
- expand skills and knowledge,
- strengthen character,
- develop responsibility,
- achieve curricular objectives,
- connect to community organizations, and
- reflect throughout the experiences.

Service learning courses and programs have been positively linked to students' personal development, racial and cultural understanding, civic engagement, academic learning, and many other outcomes (Astin, Vogelgesang, Ikeda, & Yee, 2000; Eyler, Giles, & Gray, 1999). Due to the “authentic” approach to teaching and learning, the use of service learning has the potential to help meet both the academic and socioemotional goals to promote school success. As such, SSL appears to contribute to lessening the achievement gap, with low-income students who participate in SSL doing better academically than students who did not participate in service learning.

One analysis of a longitudinal sample followed from middle school (Grades 6–8) through high school (Grades 10–12) found that service to others during middle school was significantly related to the number of developmental assets students reported three years later (Scales & Roehlkepartain, 2004; Scales, Blyth, Berkas, & Kielsmeier, 2000; Center for Human Resources, 1999). Service learning, partly through its effects on students' sense of community and positive school climate, was said to help increase the engagement and motivation of disadvantaged students. These academic and civic impacts of service learning were greater for lower-income, minority, and more at-risk youths (Scales & Neal, 2005). Additionally, an evaluation of the National Service-Learning Initiative and the Generator Schools Project concluded that students who were most at risk or more disengaged from school when they got involved in service learning saw positive changes during the time of their involvement. By the end, they were more likely to: a) believe they were contributing to the community; b) be less bored than in traditional classrooms; c) be engaged in academic tasks and general learning; and d) be more accepting of diversity (Blyth, Saito, & Berkas, 1997).

Methodology

Evaluation Scope and Design

The purpose of this component of the LTL evaluation study was to describe the status of engagement and specified social emotional outcomes in 2013–2014 for students in schools with LTL compared with peers in a sample of schools without LTL with demographically similar student populations. This study used a rigorous quasi-experimental design to examine whether the students who attended schools with LTL: a) demonstrated higher levels of engagement and specified social emotional learning outcomes compared with students who attended similar schools without LTL; and b) whether parents in schools with LTL reported higher levels of engagement than parents in schools without LTL. The treatment group (schools with LTL sites) was compared with a nonequivalent comparison group (schools without LTL services) on levels of the following outcomes:

- Proportions of students fully ready for school
- Attendance at preschool
- Daily attendance, unexcused absences, and tardiness
- Participation in extended learning opportunities
- Hope, engagement, and well-being among Grade 5 students
- SSL hours earned by middle school students during 2013–2014
- Responses to MCPS Parent Engagement Survey

Evaluation Questions

The evaluation addressed the following questions:

1. Is there a difference in levels of engagement and social emotional learning outcomes of students in schools with LTL and students in schools without LTL with comparable demographic characteristics? Were outcomes similar for all students who attended schools with LTL, or did certain subgroups of students (e.g., race/ethnicity, grade level, FARMS, and ESOL) differentially benefit from attending schools with LTL?
 - a. Is there a difference in proportion of students fully ready for kindergarten in fall 2013 between schools with or without LTL?
 - b. Are outcomes similar for all students who attended schools with LTL, or did certain subgroups of students (e.g., ethnicity, FARMS, ESOL) differentially benefit from attending schools with LTL?
 - c. To what extent are students, enrolled in schools with LTL and schools without LTL, attending preschool offerings?
 - d. Is there a difference in average 2013–2014 daily attendance, daily absence, unexcused absence, excused absences, or tardies between students in schools with LTL and those schools without LTL?
 - e. To what extent are students in schools with LTL and students in schools without LTL participating in extended learning opportunities?
 - f. Is there a difference in 2013 average ratings of engagement, hope, and well-being of Grade 5 students in schools with and those without LTL?
 - g. Is there a difference in the average number of SSL hours earned in 2013–2014 by middle school students in schools with LTL and students in schools without LTL?
2. Is there a difference in the levels of parent engagement, as measured by the MCPS Parent Engagement Survey, between schools with LTL and those without LTL?

Study Measures and Data Sources

The Office of Shared Accountability researchers consulted extensively with LTL stakeholders to identify characteristics, conditions, and behaviors that were expected to change because of LTL. Then, measures for the selected outcomes with the following criteria were identified: are sensitive to change through the efforts of the LTL collaborative; are available in a usable fashion; and, are common to most students. In addition, to align the study with ongoing MCPS efforts, outcomes specified in the School Support and Improvement Framework (SSIF) (MCPS, 2015d) and data

points identified in the Early Warning Indicator model (MCPS, 2015e) were included when possible.

The following measures associated with LTL efforts were identified for this study.

School Readiness

School readiness is a child's ability to learn at the time he or she enters school. The MMSR, a common metric of school readiness is used by MSDE to assess readiness in the following seven domains: Social and Personal Development; Language and Literacy; Mathematical Thinking; Scientific Thinking; Social Studies; the Arts; and Physical Development. In each domain and overall, students are identified as:

- **Fully Ready:** The student consistently demonstrates the skills, behaviors, and abilities needed to meet kindergarten expectations.
- **Approaching Readiness:** The student inconsistently demonstrates the skills, behaviors, and abilities needed to meet kindergarten expectations successfully and requires targeted instructional support in specific areas.
- **Developing Readiness:** The student does not demonstrate the skills, behaviors, and abilities needed to meet kindergarten expectations successfully and requires considerable instructional support.

MMSR data for fall 2013 were used to create a dichotomous variable to identify students as “fully ready” or not fully ready (“approaching readiness” or “developing readiness”).

Participation in Preschool Offerings

MCPS prekindergarten and Head Start programs offer a high-quality educational experience to income-eligible children in order to prepare them with the foundational knowledge and skills necessary for school success in kindergarten and beyond. Prekindergarten and Head Start programs are located in 64 elementary schools in Montgomery County. Once children are registered, they are assigned to a school location. There are 107 prekindergarten classes and 33 Head Start classes throughout the county (MCPS, 2015b). Head Start, MCPS pre-K Sessions, Judy Centers, or a combination were offered at 19 of the schools with LTL and 18 of the schools without LTL (Appendix D, Table D1). Data on participation and type of early care and education setting during the year prior to enrollment in school as documented by MSDE (Appendix D) were analyzed: a) Head Start, b) Prekindergarten, c) Child Care Center, d) Family Child Care, e) Preschool programs with an “education” focus for 3- and 4-year-olds; approved or exempted by MSDE; usually part day, nine months a year, and f) Home/Informal Care or care by parent(s) or a relative.

Participation in ELO SAIL

ELO SAIL is an MCPS program designed to help students attending federally funded Title I schools who are entering kindergarten through Grade 2 to improve their reading and mathematics skills (MCPS, 2015f). During summer 2014, ELO SAIL was offered at 15 of the 22 elementary schools with LTL and 9 schools without LTL. Data on participation in ELO SAIL were obtained from the Title I program office. These data were used to measure levels of student involvement in school and extended learning opportunities. The ELO SAIL data were available only for schools with LTL or without LTL that were also designated as Title I schools.

Daily Attendance, Absence, and Tardy Rates

Daily attendance records show whether a student was present in school any given day. Data on average daily student attendance rates for 2013–2014 and patterns in excused absences, unexcused absences, and tardies for students in schools with LTL and schools without LTL were examined. These data were obtained from the official end-of-year attendance data reported to MSDE. This data point is part of the Early Warning Indicator system (MCPS, 2015e).

Student Engagement

Student engagement was measured by ratings on measures of hope, engagement, and well-being on the 2013 MCPS Gallup Student Survey. The Gallup Student Survey is a 20-question survey that is designed to measure hope, engagement, and well-being of students in Grades 5–12 (MCPS, 2014). Data from the Gallup Student Survey were available only as aggregate school means for Grade 5 students at each school. This data point is on SSIF.

Student Service Learning Hours for Middle School Students

SSL hours earned by Grades 6–8 students during the 2013–2014 school year were obtained from official MCPS databases. This data point relates to the milestone of on-time graduation, being career and college ready.

Parent Engagement

Parent engagement was measured with the MCPS Parent Engagement Survey administered during the spring of 2014. The survey measures parents' level of engagement in their child's education. The survey is administered to a random sample of MCPS parents each year. This data point is an SSIF outcome.

The mean response rate to the 2014 Parent Engagement Survey was: 20% for the elementary schools with LTL; 21% for the elementary schools without LTL; 24% for the middle schools with LTL; and 17% for the middle schools without LTL.

Demographic Characteristics

Student information, including gender, race/ethnicity, ESOL level, and receipt of special education and FARMS services during the 2013–2014 school year were used to describe student groups and disaggregate data for analyses. Aggregate demographic data on schools were obtained from MCPS *Schools at a Glance* files and were used for 2-step cluster analysis procedures to select comparison schools without LTL.

Study Schools and Samples

A sample of schools without LTL was selected to provide a basis for comparison, allowing inferences about whether the LTL program contributed to better outcomes for students. The treatment sample included all 22 elementary and 6 middle schools with LTL sites. To draw a comparison sample of schools without LTL, a 2-step cluster analysis procedure was performed separately for each level to identify elementary and middle schools with student demographic compositions that approximated that of the schools with LTL (Appendix C).

Elementary Schools

To select elementary schools similar to the 22 schools with LTL sites from among the 105 schools without LTL, a 2-step cluster analysis procedure was performed using five variables: 1) percentage of ever FARMS, 2) percentage of students currently receiving ESOL services, 3) percentage of Hispanic/Latino students who were receiving FARMS services, 4) percentage of Hispanic/Latino students receiving ESOL services, and 5) percentage of Black or African American students who were receiving FARMS services. These variables were selected because 2013–2014 *Schools at a Glance* data showed that these mutually exclusive categories of student groupings also were represented in relatively higher proportions in schools with LTL. These variables were used in the cluster analysis procedures to maximize the similarity of composition of comparison schools and schools with LTL in other student characteristics besides the “ever FARMS” criterion. Then, the constitution of each cluster was examined. The schools that clustered with schools with LTL were rank ordered by percentage ever FARMS, percentage ESOL, percentage Hispanic/Latino, and percentage Hispanic/Latino and Black or African American students to select 21 schools that were closest to schools with LTL on these variables.

Middle Schools

To select middle schools that were highly impacted by poverty and as similar to the 6 schools with LTL as possible from among the 32 middle schools without LTL, a 2-step cluster analysis procedure was performed using three variables: 1) percentage of ever FARMS, 2) percentage of students currently receiving ESOL services, and 3) percentage of Hispanic/Latino students receiving FARMS services. Notably, these additional variables were used because in addition to ever FARMS, which is the key criterion for selecting LTL sites, students who were currently receiving FARMS and students who were Hispanic/Latino made up a significant proportion of students in middle schools with LTL. These two variables were included in the model to maximize the similarities of the student body in schools with LTL and schools without LTL. The schools that appeared in the same cluster as schools with LTL were rank ordered on the basis on these three variables to select six middle schools.

The resulting sample of schools without LTL consisted of schools with student profiles that were close approximates to those for schools with LTL, particularly with at least two thirds or more of the student population identified as ever FARMS. The schools with LTL and the comparison schools without LTL are listed in Tables C1a, C1b, and C1c in Appendix C. The demographic profiles of elementary and middle schools with and without LTL are displayed in Table C2 in Appendix C.

Demographic characteristics of elementary schools with and without LTL. About two thirds of students in schools with LTL (77%) and those in schools without LTL (67%) were or had previously received FARMS services. Thirty percent or more of students in schools with LTL (45%) and those in schools without LTL (30%) were receiving ESOL services. The combined total proportion of Black or African American and Hispanic/Latino students was 80% in elementary schools with LTL and 73% in elementary schools without LTL. These data also indicated that elementary schools with LTL housed a significantly higher proportion of Hispanic/Latino students receiving FARMS services (51% vs. 31%) or Hispanic/Latino students receiving ESOL services (37% vs. 20%) than elementary schools without LTL. In contrast, elementary schools with LTL had lower proportions of Black or African American students receiving FARMS services (15% vs. 23%) than elementary schools without LTL (Appendix C, Table C2).

Demographic characteristics of middle schools with and without LTL. On average, about two thirds of the students in middle schools with LTL and middle schools without LTL were identified as ever FARMS (63% vs. 76%). Slightly more than 10% were receiving ESOL services (13% for schools with LTL vs. 16% for schools without LTL). Overall, more than two thirds of the student population in middle schools with LTL and middle schools without LTL was made up of Black or African American and Hispanic/Latino (66% vs. 78%) students (Appendix C, Table C1).

Procedures for Data Analyses

The analytical sample and procedures varied by research question and measure. For each question, descriptive statistics were applied to summarize the characteristics of the sample and the measure being examined. Further, group differences in levels of social emotional learning attributes or parent engagement were examined using two-way contingency table analyses¹ (Pearson's chi-square), logistic regression, or analyses of covariance (ANCOVA). ANCOVA procedures were utilized when outcome measures were continuous, such as daily attendance or number of SSL hours earned. Binary logistic regression was used where the outcome variables were dichotomous (e.g., fully ready, or meet SSL requirements). A propensity score was computed using the demographic variables of FARMS status, receipt of ESOL, and race/ethnicity and used as a covariate to statistically control for preexisting differences between the two groups of schools (Luellen, Shadish, & Clark, 2005). The propensity scores were divided into five categories and used as covariates in the logistic and ANCOVA models (Rosenbaum & Rubin, 1983). Lastly, measurement of effect size was conducted to judge whether the observed differences in the outcomes or relationships were large enough to be of practical significance to educators (American Psychological Association, 2010). Effect size from ANCOVA was calculated with Cohen d (Cohen, 1988).² The effect size from logistic regression was calculated with logit d .³

¹ Evaluates whether a statistical relationship exists between two categorical variables.

² The formula for Cohen $d = (M_t - M_c)/SD$.

³ Effect size (logit d) = $\ln(\text{OR})/\pi/\sqrt{3}$.

In this study, an effect of 0.15 was considered an appropriate level for the threshold for practical significance. With integrated support systems such as LTL, it is critical to use a comprehensive approach to effect size interpretation that uses multiple criteria and benchmarks to determine when differences in outcomes are meaningful. Most studies compare the overall program effect size to Cohen's (1988) definitions of a small effect within the behavioral sciences, $d = 0.20$, and a large effect, $d = 0.80$. However, Cohen (1988) pointed out that the relatively small effects of around $d = 0.20$ were most representative of fields that are closely aligned with education, such as personality, social, and clinical psychology. Similarly, Lipsey and Wilson's (1993) compendium of meta-analyses concluded that psychological, educational, and behavioral treatment effects of modest values of even $d = 0.10$ to $d = 0.20$ should not be interpreted as trivial. Borman and D'Agostino (1996) found that across 346 comparisons of education programs for at-risk children, the average effect size, adjusted for methodological characteristics, was $d = 0.12$ (Borman, Hewes, Overman, & Brown, (2002).

Procedures for Analyses for Evaluation Question 1

- *School readiness.* To address question 1a, descriptive analyses were used to summarize fall 2013 MMSR data for students entering kindergarten in schools with LTL and schools without LTL. The proportion of fully ready students in schools with LTL was compared with the proportion of fully ready students in schools without LTL to determine whether those from a school community with LTL were more likely to be fully ready than students from a school community without LTL. Odds ratios from logistic regression were used to compute effect sizes to compare magnitude of differences in rates of students who were fully ready. Where applicable, the analyses examined how the proportions of fully ready students varied by student characteristics (FARMS, ESOL) and ethnicity (Hispanic/Latino or non-Hispanic/Latino).
- *Preschool participation.* To address question 1b, descriptive analyses were used to summarize 2013 MMSR data on preschool participation by students in schools with LTL and schools without LTL and by student demographic information.
- *Attendance measures, SSL hours, and engagement.* To address questions 1c, 1e, and 1f, ANCOVA procedures were used to compare mean daily attendance, daily absences, daily unexcused absences, and tardies, (excused and unexcused) for elementary and middle school students; students' SSL hours earned by middle school students; and Gallup poll measures of hope, engagement, and well-being⁴ for Grade 5 students in schools with LTL and those in schools without LTL. Standard mean differences were computed between students in schools with LTL and students in schools without LTL on these outcomes. Where significant differences were observed, effect sizes also were computed from adjusted mean score differences to establish the magnitude of differences in these measures. A separate analysis was completed for each measure and separately for elementary or middle school levels.
- *Participation in ELO SAIL.* To address question 1d, descriptive analyses were used to summarize school-level data on number and proportion of students in Title I schools who attended summer ELO SAIL in summer 2014.

⁴ Covariate was not used for Gallup measures because the data were not student-level measures.

Procedures for Analyses for Evaluation Question 2

- *Parent engagement survey.* To address question 2, the four response categories on the survey were combined into two nominal categories (strongly agree/agree and strongly disagree/disagree). The responses to the category of “do not know” were classified as missing. Following that, the parent engagement survey data were analyzed separately for elementary and middle schools. Descriptive statistics procedures were applied. In order to assess whether being part of a school with LTL was associated with respondents’ level of engagement, responses for the engagement survey for parents of students in schools with LTL or without LTL were examined using 2-way contingency table analyses⁵ (Pearson’s chi-square). Further analyses were used to examine the likelihood of agreeing on specified survey items by race/ethnicity, language used at home, and grade level of student.

Limitations

While samples of comparison schools (without LTL) were made up of a majority of students impacted by poverty (>60% ever FARMS), and had close approximates on additional demographic characteristics, drawing samples of schools with identical ever FARMS rates to schools with LTL could not be accomplished. The main criterion for opening LTL sites in schools is the percentage of students who have ever received FARMS services, which makes it difficult to identify many additional schools (especially at elementary school level) with similar percentages of students receiving FARMS services that are schools without LTL. At the same time, some schools with LTL and without LTL with comparable ever FARMS rates varied greatly in their proportions of students receiving ESOL services or Hispanic/Latino students, two groups that make up a high proportion of the students attending schools with LTL. In addition, the range in the proportions of ever FARMS among elementary schools with LTL was 48% to 96%. Further, several middle schools without LTL sites had higher rates of ever FARMS than schools with LTL. To address the slight variations in demographic composition of students in the schools with LTL and those in schools without LTL, a propensity score was calculated to statistically control for some of these differences; many of the analyses also were conducted within demographic subgroups (e.g., among ESOL students).

Because there is no random assignment to schools with LTL, the findings generated from the study will not establish a *causal* relationship between the LTL sites and levels of engagement and other socioemotional attributes of students and parents. Many of the schools with and without LTL are Title I schools and/or have instituted a variety of practices to address barriers to academic performance for students impacted by poverty.

In this study, there was limited information that would supplement and aid the interpretation of the quantitative measurements related to practices implemented at the middle school level to address attendance or document tardies. Therefore, information related to tardies at the middle school level was not included in the analyses for middle school students.

Student engagement—hope, engagement, and well-being—was assessed using measures from the 2013 Gallup survey. The survey data were available as school-level aggregate means for Grade 5

⁵ Evaluates whether a statistical relationship exists between two categorical variables.

students only. Therefore the data were not an indicator of level of engagement of all students in a school. Undoubtedly, a greater depth of information could have been obtained from analyses of raw survey data of all students at each school if the student-level data were available. Further, given that only school-level means were available, analyses at the subgroup level (e.g., disaggregated by FARMS or ESOL status) could not be conducted.

Parent engagement was assessed with the 2014 MCPS Parent Engagement Survey. These data were a measure of parents' engagement with the school community and not experiences with the LTL program per se. Data were available from all of the schools with and without LTL in the study. Surveys were sent to a sample of parents in all grades at the school. Nevertheless, the response rate for the Parent Engagement Survey in 2013–2014 was 28% among all elementary schools and 27% among all middle schools. Among the schools in the study, the average (mean) response rate for elementary schools with LTL was 20%; for elementary schools without LTL it was 21%. Among middle school parents, the mean response rate in schools with LTL was 24%, and in schools without LTL the rate was 17%. Although these response rates are typical for parent surveys in education, it should be remembered that the survey findings were not the responses of the whole school parent population. Therefore, the Parent Engagement Survey findings should be interpreted with caution and the school should question why the other 70% did not respond to the survey.

Results

The findings are organized by evaluation question. For each question, descriptive statistics are presented and, when appropriate, followed by additional analyses. Where applicable, results of differential effects of attending schools with LTL by subgroups of students (e.g., race/ethnicity, grade level, and FARMS, ESOL) also are reported.

Q1a. Is there a difference in proportion of students fully ready for kindergarten in fall 2013 between schools with or without LTL?

This section presents information on: a) characteristics of kindergarten students, and b) a comparison of proportions of students in schools with LTL and in schools without LTL who are fully ready for kindergarten in overall and in specific domains of learning as measured by the MMSR.

Characteristics of kindergarten students. Table 1 shows the demographic characteristics for kindergarten students in the schools with and without LTL in fall 2013. The sample of kindergarten students in schools with LTL was made up of higher proportions of Hispanic/Latino students (61% vs. 40%), students receiving FARMS services (72% vs. 63%), and students receiving ESOL services (63% vs. 45%) compared with peers in schools without LTL. Black or African American students constituted 19% of kindergarten students in schools with LTL compared with 35% in schools without LTL.

Table 1
Demographic Characteristics of Kindergarten Students in
Schools With and Without Linkages to Learning, Fall 2013

Characteristic		Schools with LTL		Schools without LTL	
		(N = 2,181)		(N = 1,996)	
		n	%	n	%
Gender	Female	1,048	48.1	928	46.5
	Male	1,133	51.9	1,068	53.5
Race/Ethnicity	Asian	144	6.6	179	9.0
	Black or African American	417	19.1	698	35.0
	White	206	9.4	233	11.7
	Hispanic/Latino	1,339	61.4	792	39.7
	Two or More Races	68	3.1	81	4.1
FARMS 2013–2014		1,576	72.3	1,254	62.8
English Language Learner 2013–2014		1,365	62.6	899	45.0

Note. American Indian and Pacific Islander race/ethnicity groups were not included in the table because the numbers of students in groups were fewer than 10.

Proportion of students fully ready. Figure 1 displays the proportion of students entering kindergarten who were fully school ready in the fall of the 2013–2014 school year. A higher proportion of students entering kindergarten in schools with LTL were fully ready compared with students entering schools without LTL (81% vs. 69%), OR = 2.29, $p < .001$). The findings suggest that students from school communities with LTL were two times as likely as peers from school communities without LTL to be fully ready for school.

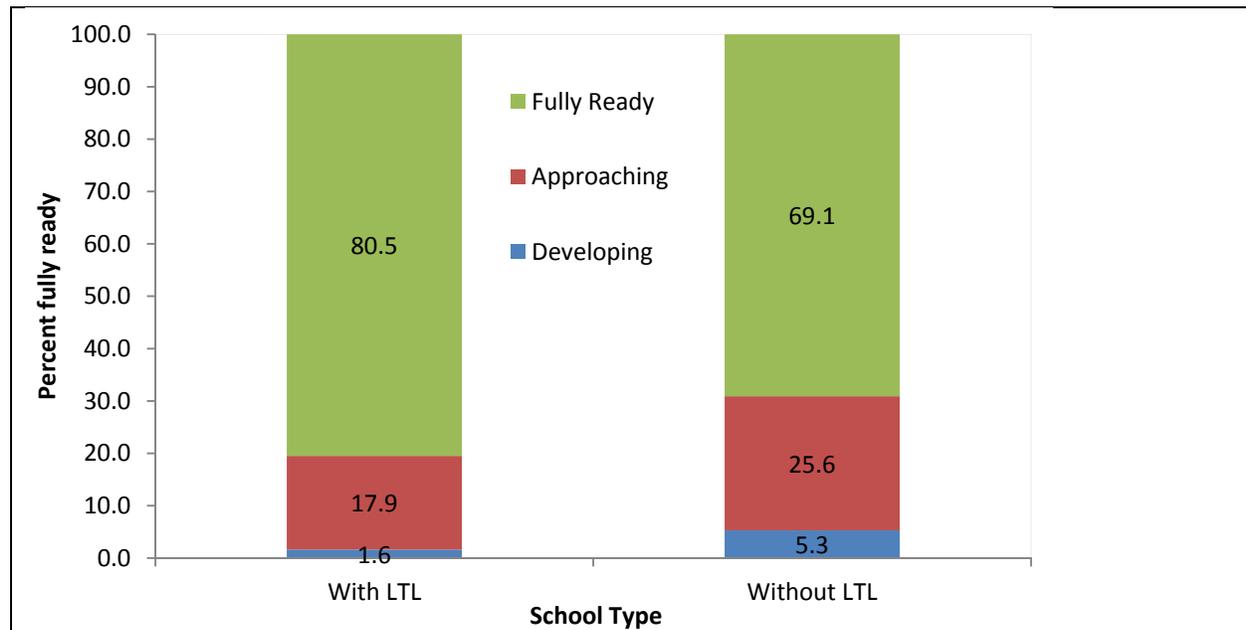


Figure 1. Percentage of students in schools with Linkages to Learning and those in schools without Linkages to Learning fully ready for school in fall 2013

School readiness by domains of learning. Table 2 presents the number and percentage of fully ready students in schools with and without LTL for each domain of learning assessed by the MMSR. Higher percentages of students in schools with LTL were fully ready in each of the domains of learning, compared with students in schools without LTL.

Table 2
Number and Percentage of Students Fully Ready in Domains of Learning, Fall 2013

Domain of Learning	In Schools With LTL (<i>N</i> = 2,181)		In Schools Without LTL (<i>N</i> = 1,996)	
	<i>n</i>	%	<i>n</i>	%
Language & Literacy	1,508	69.1	1,163	58.3
Physical Development	1,977	90.6	1,672	83.8
Social Studies	1,524	69.9	1,158	58.0
Scientific Thinking	1,412	64.7	1,011	50.7
Mathematical Thinking	1,613	74.0	1,220	61.1
The Arts	1,832	84.0	1,484	74.3
Social/Personal Development	1,666	76.4	1,401	70.2

Differences in levels of readiness on the domains of learning between students in school communities with LTL and those in school communities without LTL were examined using a series of logistic regression analyses, controlling for demographic characteristics (using a propensity score quintile). The dependent variable in each analysis was “full readiness” in the learning domain. For each domain of learning except for Social/Personal Development, students from school communities with LTL were two times as likely as peers from school communities without LTL to be fully ready. In each of the seven domains, the effects of LTL presence in a school reached the threshold for practical significance in education, ranging from $d = 0.18$ in Social/Personal Development to $d = 0.45$ in Mathematical Thinking.

Table 3
Odds Ratios for School Readiness in Domains of Learning, Effect of Presence of Linkages to Learning

Domain of Learning		<i>N</i>	Odds Ratio	<i>p</i> value	Effect Size (<i>d</i>) ^a
Language & Literacy	With LTL	2,181	2.05	.00	0.40
	Without LTL	1,996			
Physical Development	With LTL	2,181	1.98	.00	0.38
	Without LTL	1,996			
Social Studies	With LTL	2,181	2.05	.00	0.40
	Without LTL	1,996			
Scientific Thinking	With LTL	2,181	2.16	.00	0.43
	Without LTL	1,996			
Mathematical Thinking	With LTL	2,181	2.27	.00	0.45
	Without LTL	1,996			
The Arts	With LTL	2,181	1.97	.00	0.37
	Without LTL	1,996			
Social/Personal Development	With LTL	2,181	1.38	.00	0.18
	Without LTL	1,996			

^a Effect size (logit *d*) = ln(OR)/pi/sqrt 3.

Q1b. Are outcomes similar for all students who attended schools with LTL, or did certain subgroups of students (e.g., ethnicity, FARMS, ESOL) differentially benefit from attending schools with LTL?

Table 4 presents the number and percentage of fully ready students by student characteristics. In each of the student subgroups, higher percentages of students in schools with LTL were fully ready than their counterparts in schools without LTL.

Table 4
Number and Percentage of Students Fully Ready for Kindergarten
All Students and by Subgroup, Fall 2013

Student Group	Schools With LTL <i>N</i> = 2,181		Schools Without LTL <i>N</i> = 1,996	
	<i>n</i>	%	<i>n</i>	%
All students	1,746	80.5	1,376	69.1
FARMS	1,227	78.3	809	64.7
ESOL	1,033	75.7	555	61.8
Hispanic/Latino	1,020	76.3	484	61.3

Note. American Indian and Pacific Islander students are not included in the table because numbers were fewer than 10.

The effect of LTL on overall school readiness was further tested with logistic regression, for all students and for subgroups of students. Being part of the school community with LTL had a positive effect for all students (OR = 2.29, $d = 0.46$) as well as for subgroups of students (Table 5). Specifically, positive meaningful effects of attending schools with LTL were observable for students receiving FARMS or ESOL services and for Hispanic/Latino students; effect sizes ranged from $d = 0.42$ to $d = 0.47$. Within each of the student subgroups tested, students in LTL schools were about twice as likely as their peers in schools without LTL to be fully ready for kindergarten.

Table 5
Odds Ratios for School Readiness: All Students and by Student Subgroups,
Effect of Linkages to Learning

Student group		<i>N</i>	Odds ratio	<i>p</i> value	Effect size (<i>d</i>) ^a
All	With LTL	2,181	2.29	.00	0.46
	Without LTL	1,996			
FARMS	With LTL	1,576	2.33	.00	0.47
	Without LTL	1,254			
ESOL	With LTL	1,365	2.16	.00	0.42
	Without LTL	899			
Hispanic/Latino	With LTL	1,339	2.24	.00	0.45
	Without LTL	792			

^a Effect size (logit d) = $\ln(\text{OR})/\pi/\sqrt{3}$.

Q1c. To what extent are students in a school community with LTL attending preschool offerings?

Figure 2 shows the type of early care and education setting during the year prior to enrollment in school for students entering schools with or without LTL, as documented by MSDE in the MMSR data file (Appendix D). No information was available on preschool experiences for about a third of students attending schools with LTL (32%) and more than one quarter of students attending schools without LTL (28%). A notable difference between students entering schools with LTL and schools without LTL is the proportion of students who attended Head Start and public prekindergarten. Close to one half (49%) of students in schools with LTL attended Head Start or public prekindergarten, while 44% of students attending schools without LTL attended Head Start or public prekindergarten.

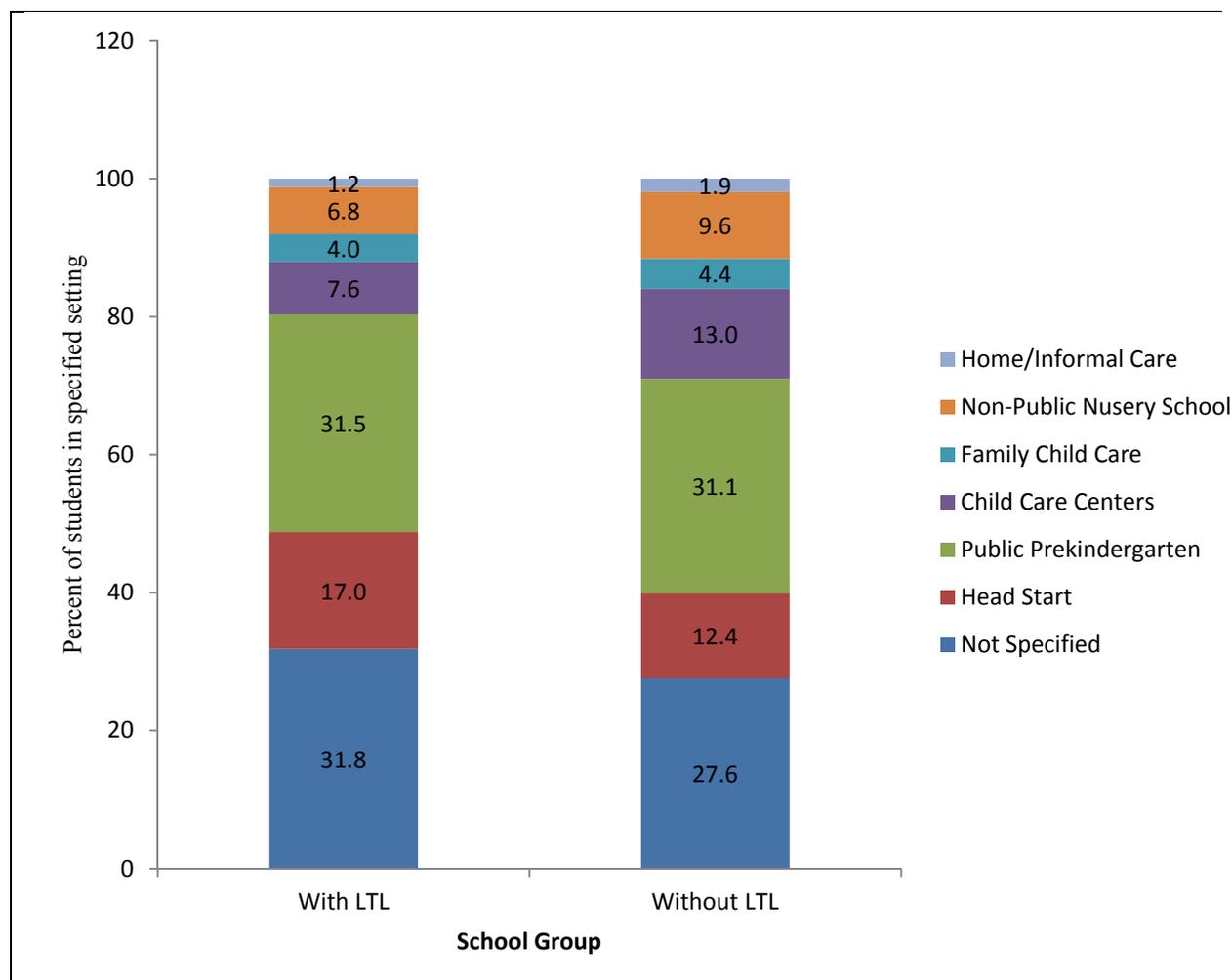


Figure 2. Early care and educational setting year prior to kindergarten in schools with and without Linkages to Learning

Q1d. Is there a difference in daily attendance, excused absences, or tardies between students in schools with and without LTL?

This section presents information on: a) characteristics of elementary students in schools with and without LTL; and b) a comparison of mean attendance outcomes of students in schools with LTL and in schools without LTL.

Characteristics of elementary students. Table 6 shows the demographic characteristics for elementary students in the schools with and without LTL in fall 2013. The sample of students in schools with LTL was made up of higher proportions of Hispanic/Latino students (59% vs. 40%), students receiving FARMS services (73% vs. 64%), and students receiving ESOL services (44% vs. 31%) compared with peers in schools without LTL. White students made up less than 10% of the elementary population in schools with LTL compared with 11% in schools without LTL. Black or African American students constituted 22% of students in schools with LTL compared with 35% in schools without LTL. Ten percent and 12 percent of students in schools with and without LTL, respectively, were enrolled in special education.

Table 6
 Characteristics of Elementary Students Attending Schools
 With and Without Linkages to Learning 2013–2014

Characteristics		With LTL (N = 12,983)		Without LTL (N = 12,657)	
		n	%	n	%
Grade	Kindergarten	2,386	18.5	2,311	18.3
	1	2,348	18.2	2,165	17.1
	2	2,261	17.5	2,110	16.7
	3	1,951	15.1	2,032	16.1
	4	2,001	15.5	2,036	16.1
	5	1,946	15.1	2,003	15.8
Gender	Female	6,244	48.4	6,107	48.2
	Male	6,649	51.6	6,550	51.8
MSDE Race	Asian	985	7.6	1,269	10.0
	Black or African American	2,812	21.8	4,482	35.4
	White	1,162	9.0	1,326	10.5
	Hispanic/Latino	7,570	58.7	5,046	39.9
	Two or More Races	328	2.5	487	3.8
FARMS	Received FARMS services, 2013–2014	9,378	72.7	8,038	63.5
ESOL*	Eligible for ESOL services, 2013–2014	5,629	43.7	3,965	31.3
Special Education	Received special education services, 2013–2014	1,323	10.3	1,468	11.6

Note. Pacific Islander and American Indian students were not included in table because the number was fewer than 10.

*All students eligible for ESOL services including those who refused ESOL instruction.

A series of four ANCOVA models were conducted using a propensity score to control for preexisting demographic characteristics. The independent variable was type of school (with LTL or without LTL); the dependent variables were either days attending, daily absences, number of excused absences, or number of tardies (excused and unexcused). The findings for this question are presented separately for elementary and middle schools.

Attendance Patterns in Elementary School

Table 7 presents the adjusted means, standard error, F values, and effect sizes for days attended, days absent, total unexcused daily absences, and number of tardies between students attending elementary schools with and without LTL. There was a significant difference in adjusted mean days attended between students attending schools with LTL (M = 155.6) and peers in schools without an LTL program (M = 153.6, [F (1, 25,550) = 18.4, $p = 0.000$]. At the same time, there were significantly lower adjusted mean days absent and mean days of unexcused absences for students attending schools with LTL compared to peers attending schools without LTL. ANCOVA also showed that the adjusted mean number of tardies and number of excused tardies for students in schools with LTL were significantly lower than for students in elementary schools without LTL. The effect sizes associated with the attendance patterns showed that none of the differences were meaningful in an educational setting.

Table 7
Adjusted Means, Standard Error, Mean Difference, and Effect Sizes for Attendance Outcomes, Students Attending Elementary Schools With and Without Linkages to Learning

Outcome	With LTL		Without LTL		Mean difference	F	sig	Effect Size
	Adj. Mean	Std Error	Adj. Mean	Std Error				
Days attended	155.61	0.34	153.56	0.34	2.05	18.40	.000	0.04
Days absent	7.37	0.07	7.69	0.07	-0.33	12.55	.00	-0.01
Days of unexcused absence	4.97	0.52	5.25	0.05	-0.28	14.02	.001	-0.02
Number of tardies	3.36	0.06	3.72	0.06	-0.36	16.37	.01	-0.07
Excused tardies	0.218	0.02	0.43	0.02	-0.22*	52.14	.000	-0.04

Characteristics of Students in Middle Schools

Table 8 shows the demographic characteristics of students in the six middle schools with LTL and six middle schools without LTL. Similar percentages of Hispanic/Latino students were enrolled in schools with and without LTL (43% in each); schools without LTL enrolled more Black or African American students (36%) than schools with (24%), more ever FARMS (77% in schools without LTL and 64% in schools with LTL), and more students currently receiving FARMS (65% in schools without LTL, 53% in schools with LTL).

Table 8
Characteristics of Middle School Students Attending Schools With and Without Linkages to Learning 2013–2014

Student Characteristics		School with LTL (N = 5,363)		School Without LTL (N = 5,010)	
		n	%	n	%
Grade	6	1,809	33.7	1,742	34.8
	7	1,790	33.4	1,646	32.9
	8	1,763	32.9	1,620	32.3
Gender	Female	2,746	51.2	2,379	47.5
	Male	2,616	48.8	2,630	52.5
MSDE Race code	Asian	576	10.7	489	9.8
	Black or African American	1,290	24.1	1,792	35.8
	White	971	18.1	392	7.8
	Hispanic/Latino	2,284	42.6	2,174	43.4
	Two or More Races	233	4.3	158	3.2
FARMS	FARMS in 2013–2014	2,845	53.1	3,231	64.5
	Ever FARMS	3,439	64.1	3,864	77.1
ESOL	ESOL in 2013–2014	801	14.9	896	17.9
	Ever ESOL	2,390	44.6	2,465	49.2
Special Education	Special Education in 2013–2014	686	12.8	561	11.2
	Ever Special Education	910	17.0	756	15.1

Note. American Indian and Pacific Islander students were not included in the table because the numbers were fewer than 10.

Attendance Patterns in Middle School

A one-way ANCOVA showed that the attendance patterns between middle school students in schools with and without LTL were different only for days absent. There were no significant differences in adjusted mean days attended or total days unexcused absences between students attending schools with and without LTL (Table 9). The adjusted mean days absent for students attending middle schools with LTL ($M = 7.27$) was significantly higher than schools without LTL ($M = 6.91$), [$F(1, 10371) = 5.179, p = 10.02$]. The effect size ($d = 0.02$) did not reach the threshold for practical significance, suggesting that the attendance patterns are similar for middle schools with and without LTL.

Table 9
Adjusted Marginal Means, Standard Error, Mean Difference, and Effect Sizes for
Effect of Linkages to Learning on Attendance Measures for Middle Schools

Attendance	With LTL		Without LTL		Mean difference	F	sig	Effect Size
	Adj. Mean	Std Error	Adj. Mean	Std Error				
Days attended	158.43	0.48	157.27	0.47	1.16	3.01	0.08	0.06
Days absent	7.27	0.11	6.91	0.11	0.36	5.18	0.02	0.02
Unexcused absences	4.43	0.08	4.39	0.09	0.04	0.11	0.97	-0.04

Q1d. To what extent did students in schools with LTL and without LTL participate in summer 2014 ELO SAIL?

In the summer of 2014, 15 of the schools with LTL and 9 of the schools without LTL ($N = 24$) offered ELO SAIL for their K–2 students. Table 10 shows summary statistics on the number of students who were eligible, percentage of eligible students who registered for ELO SAIL, percentage of eligible who attended, and percentage of registered students who attended. On average, 55% of eligible students in schools with LTL and 53% of eligible students in schools without LTL registered for ELO SAIL, and 45% and 43%, respectively, attended ELO SAIL in 2014. However, the majority of the students who registered to attend ELO SAIL, from either schools with LTL (81%) or schools without LTL (82%), attended. These findings suggest that getting students registered for ELO SAIL may be critical to participation in ELO SAIL. A list of schools with ELO SAIL and their registration and attendance rates is presented in Appendix E, Table E1.

Table 10
ELO SAIL Participation by K–2 Students in LTL and non-LTL Title I Schools, Summer 2014

Participation	With LTL (<i>N</i> = 15 schools)				Without LTL (<i>N</i> = 9 schools)			
	Mean	SD	Median	Max	Mean	SD	Median	Max
Number of students eligible	327	82.7	320	445	288	91.5	260	443
Percent of eligible students who registered	55.0	8.0	57.7	65.1	53.4	7.8	53.6	67.3
Percent of eligible students who attended	44.6	7.4	44.3	52.9	43.4	5.8	43.1	54.4
Percent of registered students who attended	81.0	5.3	80.4	90.2	81.6	4.4	81.7	88.3

Source: MCPS Title I Program Office

Q1e. Is there a difference in mean survey scores for engagement, hope, and well-being for Grade 5 students in schools with LTL and without LTL?

Grade 5 Student Engagement

ANOVA was used to compare the school-level mean scores for hope, engagement, and well-being for Grade 5 students in schools with LTL and in schools without LTL (Table 11). On average, the engagement mean score for 5th graders in schools with LTL ($M = 4.41$, $SD = 0.11$) was comparable to the mean for schools without LTL ($M = 4.34$, $SD = 0.13$). The school-level hope mean score for 5th graders in the sample of schools with LTL ($M = 4.40$, $SD = 0.11$) was nearly identical to the score for 5th graders in schools without LTL ($M = 4.43$, $SD = 0.09$), and the school-level mean score for well-being in schools with LTL ($M = 8.41$, $SD = 0.33$) also was similar to that of schools without LTL ($M = 8.49$, $SD = 0.24$). Differences between mean scores for hope, engagement, and well-being for 5th graders in schools with and without LTL were not statistically significant.

Table 11
Mean Survey Scores for Engagement, Hope, and Well-being for
Grade 5 Students in Schools With and Without Linkages to Learning

Gallup Survey Measure	With LTL (<i>N</i> = 20 schools)		Without LTL (<i>N</i> = 21 schools)		F	Sig (P-value)
	Mean	SD	Mean	SD		
Engagement	4.41	0.11	4.34	0.13	1.29	0.26
Hope	4.40	0.11	4.43	0.09	3.32	0.08
Well-being	8.41	0.33	8.49	0.24	0.81	0.37

Source: <http://www.montgomeryschoolsmd.org/uploadedFiles/info/gallup/MontgomeryCountyPublicSchools-OverallStudent2013.pdf>. Only Grade 5 students were included in the analyses. Primary schools (K–2) are not included; thus, number of schools for each group is lower than total study sample.

Q1f. Is there a difference in the number of SSL hours earned by students in schools with LTL and students in schools without LTL?

ANOVA was conducted to compare the mean SSL hours earned by students in schools with and without LTL during the 2013–2014 school year. Table 12 presents the estimated means for SSL hours earned from beginning to end of the 2013–2014 school year. The findings showed that there was a significant difference in mean SSL hours earned by middle school students in schools with LTL ($M = 19.62$, $SD = 30.02$) compared with peers in a school without LTL ($M = 16.86$, $SD = 26.51$), [$F(1, 10,358) = 24.33$, $p < .05$]. Additional analyses also showed differences between students in schools with and without LTL by grade-level of students and FARMS receipt. Grade 7 students (schools with LTL = 19.54, schools without = 15.73), [$F(1, 10,358) = 17.40$, $p = .00$] and students not receiving FARMS services (with LTL = 23.01, without LTL = 18.63 [$F(1, 10,358) = 25.05$, $p = .00$]) from schools with LTL earned significantly higher SSL hours than their peers in schools without LTL did. These differences in SSL hours earned by Grade 7 ($d = 0.16$) or non-FARMS students ($d = 0.17$) are practically meaningful in an educational setting. While non-ESOL students in schools with LTL earned statistically significantly higher number of SSL hours than peers in schools without LTL, the difference in hours between the two groups of non-ESOL students were not practically meaningful in an educational setting.

Table 12
Means, Estimated Mean Difference, and Effect Sizes for Effect of Attending a School With Linkages to Learning on Student Service Learning Hours Earned in Middle School

Student group	With LTL			Without LTL			Mean difference	F value	p-value	Effect size
	Mean	n	SD	Mean	n	SD				
All in 2013–2014	19.62	5,375	30.02	16.86	4,983	26.51	2.75	24.33	0.00	0.10
Grade level										
Grade 6	15.32	1846	21.44	13.92	1747	17.41	1.407	4.43	0.032	0.08
Grade 7	19.54	1773	28.67	15.73	1639	24.20	3.810	17.4	0.00	0.16
Grade 8	24.21	1756	37.50	21.25	1597	35.09	2.96	5.54	0.19	0.08
Service Receipt										
FARMS	16.38	2746	28.90	15.78	3093	26.63	0.593	0.665	0.415	0.02
No FARMS	23.01	2629	30.80	18.63	1890	26.22	4.44	25.05	0.00	0.17
ESOL	10.00	769	16.94	10.19	846	14.77	-1.91	0.058	0.809	-0.01
No ESOL	24.21	1756	37.50	21.25	1597	35.09	2.99	21.88	0.00	0.08

Figure 3 presents the proportion of students that had met or exceeded their state requirement for SSL hours earned (≥ 75) by the end of the year. As a group and for each grade level represented, a significantly higher proportion of students attending the six middle schools with LTL had completed their graduation requirement of completing 75 SSL hours than students attending middle schools without LTL [$\chi^2(1, N = 10,358) = 33.52$, $p = .00$; OR = 1.49].

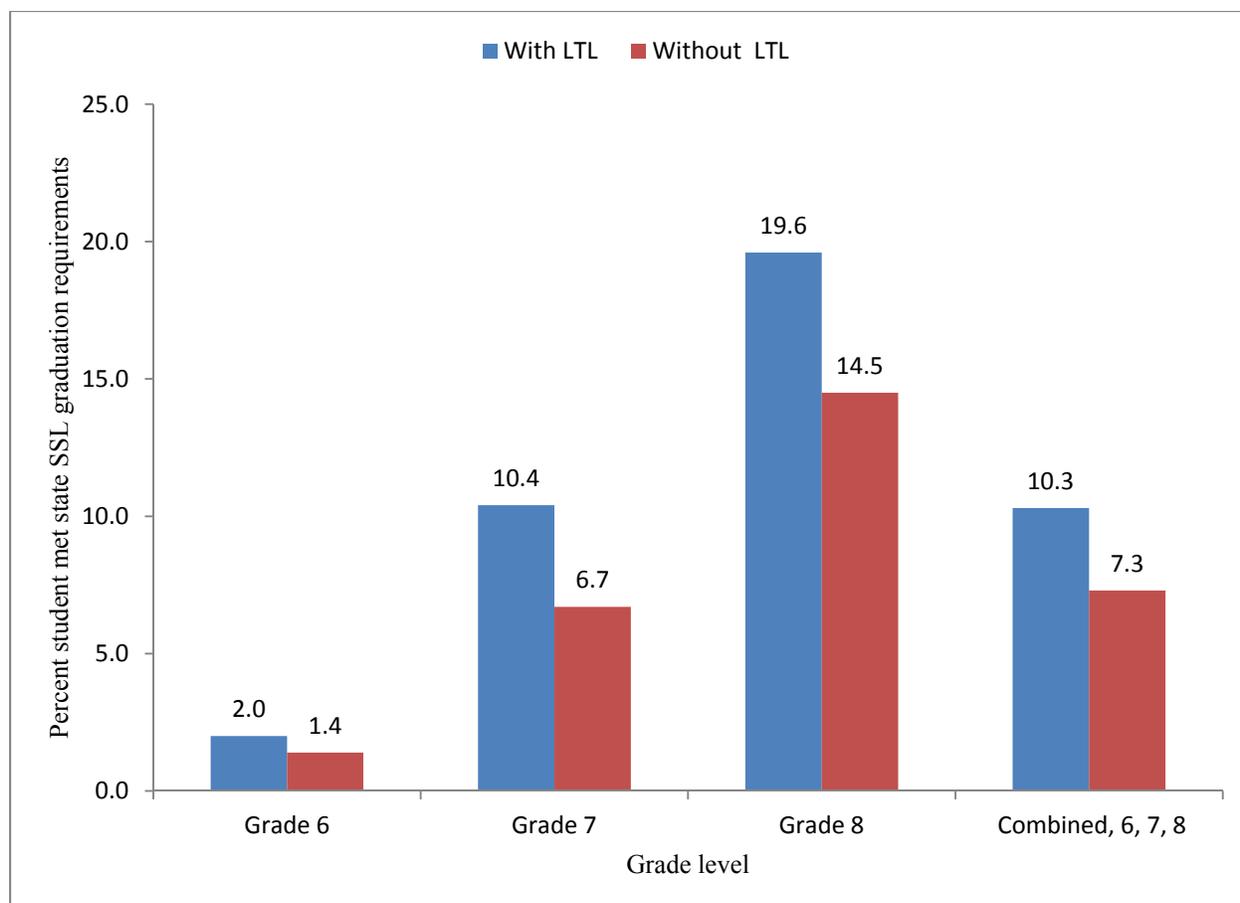


Figure 3. Percentage of students who had completed required Student Service Learning hours by grade and type of school

Even though students had until Grade 12 to complete their state requirement of 75 SSL hours, at the grade level, a significantly higher proportion of Grade 7 [$\chi^2(1, N = 3,412) = 15.48, p = .000$; OR = 1.64] and Grade 8 [$\chi^2(1, N = 3,353) = 16.03, p = .000$; OR = 1.45] students in middle schools with LTL had completed the required SSL hours compared with peers in middle schools without LTL. This finding suggests that students attending middle schools with LTL have a good start at meeting the SSL requirement by the time they complete high school. No significant differences between students attending schools with and without LTL were observed for students in Grade 6.

Q2. Is there a difference in the levels of parent engagement, as measured by the MCPS Parent Engagement Survey, between schools with and without LTL?

Data addressing parent involvement comprised responses to the 2014 MCPS Parent Engagement Survey from: a) 1,181 parents whose children attended an elementary school with LTL and 1,041 parents whose children attended an elementary school without LTL; and b) 499 parents whose children attended a middle school with LTL and 362 parents whose children attended a middle school without LTL. The survey data were analyzed and reported separately for elementary and middle school samples. Information on respondents' background is summarized in Table 13.

Table 13
Description of Parent Engagement Survey Respondents

Characteristic of parents		Elementary Schools				Middle Schools			
		With LTL (N = 1,115)		Without LTL (N = 1,041)		With LTL (N = 499)		Without LTL (N = 362)	
		n	%	n	%	n	%	n	%
Race/ethnicity	Asian	150	13.5	150	14.4	98	19.6	51	14.1
	Black or African American	257	23	359	34.5	106	21.2	132	36.5
	White	252	22.6	225	21.6	176	35.3	70	19.3
	Hispanic/Latino	451	40.4	302	28.5	119	23.8	108	29.8
	Two or More Races	45	4	50	4.6	29	5.8	15	4.1
Language Spoken at home*	English	701	62.9	758	72.8	359	71.9	233	64.4
	Chinese	21	1.9	7	0.7	14	2.8	3	0.8
	French	17	1.5	22	2.1	15	3	13	3.6
	Korean	4	0.4	4	0.4	0	0	1	0.3
	Spanish	327	29.3	217	20.8	89	17.8	95	26.2
	Vietnamese	22	2	17	1.6	12	2.4	9	2.5
	Amharic	23	2.1	16	1.5	10	2	8	2.2
Grade level of student for whom parent is completing survey	Kindergarten	208	19.8	208	22				
	1	185	17.7	184	19.5				
	2	202	19.3	167	17.7				
	3	124	11.8	156	16.5				
	4	159	15.2	108	11.4				
	5	138	13.2	123	13				
	6					151	31.3	105	31
	7					160	33.1	113	33.3
	8					162	33.5	109	32.2

Note. American Indian and Pacific Islander students were not included in the table because the numbers were fewer than 10.

*Languages specified on the parent survey

Characteristics of Survey Respondents

Overall, the demographic profiles of survey respondents whose children attended elementary schools from the schools with LTL and schools without LTL were similar in terms of grade levels represented. The majority (>60%) of the parents reported that they spoke English at home; an additional proportion of one third or fewer of the respondents from schools with or without LTL indicated that they spoke Spanish (29% vs. 21%). While the proportion of Hispanic/Latino respondents was higher among parents whose children attended a school with LTL than parents whose children attended a school without LTL (40% vs. 29%), the proportion of Black or African American parents (24% vs. 35%) and parents who spoke English (63% vs. 73%) at home was lower among parents with students at a school with LTL than among parents with students at a school without LTL.

Findings from Elementary School Parents

In general, an overwhelming majority of respondents with children in schools with and without LTL reported very high levels of agreement with statements specified on the Parent Engagement Survey (Table 14). In particular, nearly all elementary school parents believed they played an important role in their child's education, that teachers expect their child to do well in school, that they are comfortable being advocates for their children, and that the schools respect their families. While still favorably rated by more than four fifths of the parents, the items with lower ratings for elementary school parents with LTL at their child's school included: "The school has a clear process for me to provide feedback about my child's education" (86% and 85% of parents with children at schools with LTL and without LTL, respectively); "The school informs me of resources available so that I can help my child with his/her homework, tests, and projects" (88%, both parent groups); and "The school has a clear process for addressing my needs" (89%, both parent groups).

The responses from elementary schools with LTL and without LTL varied on only one survey item. Respondents with children in elementary schools with LTL were significantly more likely than parents of children in schools without LTL to report that "The school respects my family" (98% vs. 96%; $\chi^2 = 6.87$, $df = 1$, $p < .05$).

Respondents from elementary schools with LTL who spoke Spanish at home were more likely to report that: "I am comfortable talking to my child's teachers about my child's education"; "There is an adult at the school who will advocate for my child's needs"; "The school provides information about resources in the school and community that are available to my child and family"; and "The school informs me of educational opportunities that are available to my child" than parents from schools without LTL who spoke Spanish at home (Appendix F, Table F1). Further, the findings revealed that Hispanic/Latino parents from schools with LTL were more likely to agree with 6 of the 21 survey items than their counterparts in schools without LTL, including: "When I visit my child's school, I am promptly and courteously received" (95% vs. 91%); "The school provides opportunities for me to voice my needs about my child's education" (94% vs. 90%); and "There is an adult at the school who will advocate for my child's needs" (96% vs. 91%) (Appendix F, Table 1). Among parents of students in kindergarten who responded to the survey, higher percentages of parents from schools with LTL than parents from schools without LTL agreed with two survey items, including a difference of nine percentage points in response to "There is an adult at school who will advocate for my child's needs." However, a lower percentage of parents of students in kindergarten from schools with LTL compared with parents from schools without LTL agreed that "I believe my child is safe at school." (Appendix F, Table F1).

Table 14
Percentage Agreement on Parent Engagement Survey Items by Parents of Elementary School Students

Statement	With LTL (N = 1,115)		Without LTL (N = 1,041)	
	n	%	n	%
1. I believe I play an important role in my child's education.	1,078	99.0	1,008	99.2
2. My child's teachers expect my child to do well in school.	1,062	98.2	986	98.0
3. I am comfortable being an advocate for my child. ^b	1,059	97.9	971	97.6
4. The school respects my family.*, b, c	1,031	97.7	948	95.7
5. I am comfortable talking to my child's teachers about my child's education. a, b	1,052	96.7	981	96.0
6. I feel welcomed at my child's school.	1,038	95.0	978	95.4
7. When I visit my child's school, I am promptly and courteously received. ^b	1,027	94.7	960	94.0
8. The school considers me a partner in my child's education.	971	94.5	906	94.2
9. School staff members are responsive to my concerns about my child.	989	94.4	913	93.4
10. I believe my child is safe at school. ^c	989	93.8	944	95.6
11. I would recommend this school to others.	967	93.3	877	92.4
12. I am informed in a timely manner about events and activities occurring at my child's school.	1,018	93.3	957	93.5
13. The school informs me about my child's education in a timely manner.	1,002	92.4	936	92.3
14. The school provides information about resources in the school and community that are available to my child and family. ^a	945	91.8	866	90.4
15. The school provides opportunities for me to voice my needs about my child's education. a, b	945	91.1	859	90.1
16. There is an adult at the school who will advocate for my child's needs. ^{a, c}	771	90.1	688	88.5
17. The school informs me of educational opportunities that are available to my child. ^a	939	90.0	840	87.7
18. The school welcomes my input on how my child's educational experience can be improved. ^b	873	89.9	808	89.3
19. The school has a clear process for addressing my needs.	857	88.7	809	88.7
20. The school informs me of resources that are available so I can help my child with his/her homework, tests, and projects.	940	88.3	865	88.3
21. The school has a clear process for me to provide feedback about my child's education. ^b	861	86.4	794	85.3

*Parents of students at a school with LTL were significantly more likely to agree than parents students at a schools without LTL.

^aAmong parents who reported they speak Spanish at home, those with children attending a school with LTL were more likely to agree than those whose children attended a school without LTL.

^bAmong parents of Hispanic students, those with children attending a school with LTL were more likely to agree than those whose children attended a school without LTL.

^cAmong parents of kindergarten students, those with children attending a school with LTL were more likely to agree than those whose children attended a school without LTL (see Appendix F, Table F1).

Findings from Middle School Parents

A substantial majority of respondents with children in middle schools with and without LTL reported very high levels of agreement with statements on the Parent Engagement Survey to the same extent (Table 15). In particular, nearly all middle school parents believed they played an important role in their child's education, teachers expected their child to do well in school, they were comfortable being advocates for their child, and they were comfortable talking to their child's teachers about their child's education. While still favorably rated by more than four fifths of the parents, the items with about 15% or more of parents with children in middle schools with LTL disagreeing with the statements included: "The school informed me of resources available so that I can help my child with his/her homework, tests, and projects" (79%); "The school has a clear process for me to provide feedback about my child's education" (83%); "There is an adult in the school who will advocate for my child's needs" (83%); "The school provides information about resources in the school and community that are available to my child and family" (84%); and "The school informs me of educational opportunities that are available to my child" (85%).

Differences in the levels of agreement were observed only when data were disaggregated by race/ethnicity and grade level of student (Appendix F, Table F2). Among parents who indicated that their ethnicity was Black or African American, respondents from schools with LTL were less likely to report that: "When I visit my child's school, I am promptly and courteously received"; "The school respects my family"; and "The school provides opportunities for me to voice my needs about my child's education" than their counterparts in schools without LTL. At the grade level, parents of Grade 6 students were more likely to report that: "Staff members are responsive to my concerns about my child"; and "I would recommend this school to others" than Grade 6 parents in schools without LTL. A significantly lower proportion of parents of Grade 7 students in schools with LTL agreed with the statements: "The school provides opportunities for me to voice my needs about my child's education" (85% vs. 95%) or "The school welcomes my input on how my child's educational experience can be improved" (81% vs. 91%). In addition, a significantly lower proportion of parents of Grade 8 students in schools with LTL agreed with statements that: "I am comfortable talking to my child's teachers about my child's education (90% vs. 98%); or that when they visit their child's school, they are "promptly and courteously received" (86% vs. 94%) than their counterparts whose children attended schools without LTL.

Table 15
Percentage Agreement on Parent Engagement Survey Items by Parents of Middle School Students

Statement on Survey	With LTL (N = 499)		Without LTL (N = 362)	
	n	%	n	%
1. I believe I play an important role in my child's education.	480	99.0	344	98.3
2. My child's teachers expect my child to do well in school.	458	97.0	333	97.1
3. I am comfortable being an advocate for my child.	467	96.1	336	97.1
4. The school respects my family. ^b	439	95.2	314	96.3
5. I am comfortable talking to my child's teachers about my child's education ^{a, d}	453	93.8	331	95.9
6. I feel welcomed at my child's school.	452	93.0	327	94.0
7. I believe my child is safe at school.	432	91.9	295	89.4
8. School staff members are responsive to my concerns about my child. ^d	423	91.8	305	90.2
9. I would recommend this school to others. ^{c, d}	418	91.1	287	90.0
10. I am informed in a timely manner about events and activities occurring at my child's school.	446	91.0	320	92.0
11. The school considers me a partner in my child's education.	394	90.6	284	91.6
12. When I visit my child's school, I am promptly and courteously received. ^{b, d}	436	90.3	326	93.9
13. The school has a clear process for addressing my needs.	366	88.0	284	89.9
14. The school provides opportunities for me to voice my needs about my child's education. ^{b, d}	390	87.1	301	91.2
15. The school informs me about my child's education in a timely manner.	417	86.7	302	86.8
16. The school informs me of educational opportunities that are available to my child.	380	84.6	263	80.7
17. The school provides information about resources in the school and community that are available to my child and family.	365	83.9	264	84.1
18. The school welcomes my input on how my child's educational experiences can be improved. ^d	344	83.5	275	87.9
19. There is an adult at the school who will advocate for my child's needs. ^c	299	83.1	243	87.4
20. The school has a clear process for me to provide feedback about my child's education.	356	82.8	261	84.7
21. The school informs me of resources that are available so I can help my child with his/her homework, tests, and projects.	368	78.6	272	81.4

^aAmong parents who reported they speak English at home, those with children attending a school with LTL were less likely to agree than those whose children attended a school without LTL.

^bAmong parents of African American students, those with children attending a school with LTL were less likely to agree than those whose children attended a school without LTL.

^cAmong parents of white students, those with children attending a school with LTL were less likely to agree than those whose children attended a school without LTL.

^dSignificant differences within grade level subgroups (see Appendix F, Table F2)

Summary

On average, higher percentages of students who attended schools with LTL were fully ready for school—based on a composite score of seven domains of learning assessed by MMSR—compared with peers from schools without LTL. Students attending schools with LTL were about two times as likely to be fully ready as peers in schools without LTL. Higher levels of participation in public preschool offerings were observed for students who attended schools with LTL; patterns of ELO SAIL attendance were generally similar between the two groups of schools.

There were statistically significantly more days attended and fewer overall absences, as well as fewer unexcused absences in 2013–2014 for K–5 students attending elementary schools with LTL compared to peers attending schools without LTL. Middle school students attending schools with LTL were statistically more likely to be absent than peers attending schools without LTL. However, the effect sizes for attendance in elementary schools and in middle schools did not reach the threshold for practical significance (i.e., these differences were not practically significant).

Students attending middle schools with LTL have a good start at working toward the state SSL requirement by the time they complete high school. Even though students had until Grade 12 to complete their state requirement of 75 SSL hours, a statistically significant higher proportion of students (11%) attending middle schools with LTL had met or exceeded the state graduation requirement of 75 SSL hours compared with 7% of students attending middle schools without LTL. These differences, however, were not practically significant.

Parents' responses to the 2014 MCPS Parent Engagement Survey revealed high levels of agreement with survey statements among parents whose children attended schools with and without LTL. Among elementary parents, higher percentages of parents whose children attended schools with LTL than parents whose children attended schools without LTL agreed that "The school respects my family." In addition, parents whose children attended a school with LTL who spoke Spanish at home had higher percentages of agreement with several items than their counterparts did in schools without LTL, and Hispanic/Latino parents whose children attended schools with LTL had higher percentages of agreement on several items than Hispanic/Latino parents from schools without LTL. Among middle school parents, differences between the responses of parents whose children attended schools with and without LTL were observed only when data were examined for subgroups of parents. For all subgroup comparisons except parents of Grade 6 students, parents with children in a school without LTL had higher levels of agreement than parents whose children attended a school with LTL on survey items where differences were observed.

Discussion

This evaluation examined the levels of engagement and social emotional attributes of students attending schools with LTL programs onsite compared with peers in a sample of similar schools without LTL. Taken together, the findings from this study demonstrate that the presence of LTL at the schools—through a coordinated system of supports and approaches—contributed to fostering positive outcomes in students and parents across a variety of nonacademic/socioemotional measures. The findings demonstrated that a higher proportion of students from the LTL school community were entering kindergarten fully ready for school. In addition, a higher proportion of students attending schools with LTL had participated in preschool offerings through Head Start and public pre-kindergarten the year prior to kindergarten than peers attending schools without LTL. These findings related to the preschool experiences and school readiness of children in schools with LTL suggest that being part of an LTL community adds benefits for all family members, including parents and preschool-age children. Evidence of other benefits of attending a school with LTL were demonstrated by the number of SSL hours earned by middle school students. Students attending middle schools with LTL earned more SSL hours than peers attending schools without LTL, suggesting that these students had a good start at earning their SSL requirements early on. This finding is of particular importance for the LTL community, because service-learning courses and programs have been positively linked to students’ personal development, racial and cultural understanding, civic engagement, academic learning, and many other outcomes (Astin et al., 2000; Billig, 2000; Eyer et al., 1999; Eyer, Giles, & Braxton, 1997).

The findings from this study also highlighted areas needing attention. One of LTL’s stated goals is to make schools more open to the community and encourage families to participate in decision making about their child’s learning. While the Parent Engagement Survey does not elicit information specific to LTL or any other program or activities offered at the schools per se, the surveys are an important way to involve the entire school community in school improvement planning and changes. The response rate for the Parent Engagement Survey for schools with LTL and schools without LTL was 24% or lower depending on the school level. In general, the items on the Parent Engagement Survey where the parents in schools with LTL showed less agreement than those in schools without LTL were concerned with: a) opportunities to voice their needs about their child’s education; b) level of comfort talking to teachers about their child’s education; or c) the perception that they were not promptly and courteously received at the school; d) that the school respects their family; and e) that there is an adult at school who will advocate for their child. Also, these findings provide some indication that parents of Black or African American students attending middle schools with LTL also were less likely to report that: “The school respects my family”; “The school provides opportunities for me to voice my needs about my child’s education”; or that “When I visit my child’s school, I am promptly and courteously received” than their counterparts in schools without LTL. This survey finding suggests that Black or African American families who responded to the survey, particularly in the middle schools with LTL, may be feeling alienated. The composition of the schools with LTL is about two thirds Hispanic/Latino, a fifth Black or African American, and the remaining proportion all other races. These are some of the areas that LTL is positioned to address through community education and parent involvement.

Although some significant relationships emerged, information about how the program may have brought about or contributed to the current status of the outcome measures needs further attention. In particular, the very nature of LTL makes it difficult to adequately measure the effects of LTL

on all its target beneficiaries. For example, LTL programs offer opportunities for middle school students to assist in a variety of roles in LTL activities, from tutoring/mentoring in homework clubs to assisting with childcare or administrative tasks at evening events. Well-documented and quantifiable measures of evidence of the extent to which LTL enhances each aspect of short- and long-term nonacademic social emotional outcomes from a variety of target audiences were limited. A complete understanding of when, how, and for whom LTL offers benefits cannot be adequately addressed by the data in this report. The other components of the study, to be addressed in upcoming reports, aim to further that understanding.

Recommendations

The following recommendations are proposed based on the findings of this study:

- *Continue to emphasize the benefits of participation in the structured schoolwide and communitywide opportunities available to parents, students, and the community.* Research beyond this study shows that participation in these opportunities promotes student well-being, academic success, and increased parent engagement in community and school. This study found that positive outcomes were associated with being part of the LTL school community on several measures, including participation in Head Start and public pre-K offerings, school readiness, attendance in elementary schools, getting a good start at and making greater progress toward meeting the state requirement for SSL hours while still in middle school, and greater levels of trust and connection between elementary parents and schools with LTL services. Particularly, a variety of community education and development services are offered to parents at elementary schools with LTL (parent coffees, parent workshops, parenting classes, family literacy programs, adult ESOL classes, etc.) in addition to family case management/social services. Similarly, increased opportunities for SSL hours are created by LTL community education and development activities, providing additional ways for students to earn SSL hours. LTL programs offer opportunities for middle school students to assist in a variety of roles in LTL activities, from tutoring/mentoring in homework clubs to assisting with childcare or administrative tasks at evening events.
- *Continue to collaborate with school staff and administration to increase opportunities for parents to participate in their child's education.* One of LTL's stated goals is to make schools more open to the community and encourage families to participate in decision-making about their child's learning. Middle school parents in schools with LTL were less likely to report that the school provided them with opportunities to voice their needs about their child's education or that the school welcomed their input on how their child's education can be improved. These are areas that LTL is positioned to address through community education and parent involvement.

- *Increase LTL community education and development services at middle schools, with concerted outreach to parents of specific racial/ethnic groups that feel less engaged with the school community.* Responses to the Parent Engagement Survey indicated parents of Black or African American students in middle schools with LTL were less likely to agree that they are promptly and courteously received; the school respects their family; or the school provides them opportunities to voice their needs about their child's education than their counterparts in middle schools without LTL. It should be noted that current resources allow middle schools with LTL to devote only half of the staff time to community education and development services compared to elementary schools with LTL.
- *Consider increasing the number of LTL sites at the middle school level.* Some of the middle schools in the comparison sample of schools without LTL had higher proportions of ever FARMS rates than current middle schools with LTL. It has been nine years since a new LTL program has been added to a middle school site, and demographics have shifted substantially since then.
- *Communicate the findings of this report to schools with LTL, LTL program staff, and LTL partner and collaborating agencies.* The findings will serve as an additional resource as schools with LTL reflect on the progress made by LTL in communities and areas needing improvements, as well as for enhancing the organizational structure and day-to-day functioning of the LTL collaborative. In particular, consider updating the Logic Model for LTL on a regular basis to reflect the dynamic nature of the supports and services provided by LTL. A logic model illustrates how day-to-day activities connect to the results or outcomes the program is trying to achieve. Biannual or annual updates will help build ongoing consensus and clarity among LTL staff and other stakeholders about essential program activities and expected outcomes. In particular, such updates would clarify the manner, amount, and quality of activities needed to bring about the expected long-term changes.
- *Establish systematic, common, and usable tools or structures for collecting and documenting information related to various activities and services at LTL sites.* Establishing robust evidence of short- or long-term changes associated with the LTL collaborative is dependent on data that are systematic and comparable across schools. Even with the methodological rigor applied in the study, several data elements were not available for analysis by the researchers. For example, data on parent volunteers at the school level or the extent to which parents attend school-based activities and the extent to which students participate in after-school activities also would provide useful information for documenting the impact of LTL.

Acknowledgments

The authors would like to thank Dr. Shahpar Modarresi, supervisor, Program Evaluation Unit (PEU), for her guidance through the planning of the evaluation and review of the report; Ms. Maria Allendes, office assistant, PEU, for technical support; Mr. Tung T. Do, data systems operator, Title I Programs, for availing data on ELO SAIL attendance; Mrs. Cynthia L. Loeb, logistics support specialist, and Dr. Kecia Addison Scott, supervisor, Applied Research Unit, for availing data on the Parent Engagement Survey; Mr. Kai Liu, former accountability support specialist, Testing Unit, for compiling data on Student Service Learning hours; Dr. Hufang Zhao, coordinator; Mr. Seong Jang, evaluation support specialist; and Dr. Elizabeth Cooper-Martin, evaluation specialist, PEU, for technical review of the report. In addition, the authors would like to thank the Linkages Resource Team—Ms. Monica Martin, administrator, Linkages to Learning, Regional Youth Services & Related Child/Adolescent Programs, MCDHHS; Ms. Alyssa Sanders, administrator, Partner Agencies, Linkages to Learning; and Ms. June L. Zillich, supervisor, Chief Engagement and Partnership Officer, for their collaboration in planning for the evaluation of the LTL program and providing feedback to the draft report.

References

- American Psychological Association. (2010). *Publication manual of the APA (6th ed.)*. Washington, DC: Author.
- Astin, A.W., Vogelgesang, L.J., Ikeda, E.K., & Yee, J. (2000). How service learning affects students. Retrieved January 25, 2015, from <http://heri.ucla.edu/pdfs/hslas/hslas.pdf>.
- Balfanz, R., & Byrnes, V. (2012). Chronic absenteeism: Summarizing what we know from nationally available data. Baltimore: Johns Hopkins University Center for Social Organization of Schools.
- Billig, S.H. (2002). The effects of service learning. *Service Learning, General*. Paper 42. <http://digitalcommons.unomaha.edu/slceslgen/42>.
- Blyth, Dale A., Saito, Rebecca, & Berkas, Tom. (1997). A quantitative study of the impact of service-learning programs. In Alan S. Waterman, ed., *Service-learning: Applications from the research*. Mahwah, NJ: Lawrence Erlbaum Associates, 39–56.
- Borman, G.D., & D'Agostino, J.V. (1996) Title I and student achievement: A meta-analysis of federal evaluation results. *Educational Evaluation and Policy Analysis* 4:309–326.
- Borman, G.D., Hewes, G.M., Overman, L., & Brown, S. (2002). Comprehensive school reform and student achievement: A meta-analysis. The Center for Research of Students Place at Risk (CRESPAR). U.S. Department of Education. Retrieved on December 5, 2011, from <http://www.csos.jhu.edu>.
- Center for Human Resources. (1999). Summary report: National evaluation of Learn and Serve America. Waltham, MA: CHR, Brandeis University.
- Child Trends. (2014). Making the grade: Assessing the evidence for integrated student supports. Publication #2014-07. Available at <http://www.childtrends.org>.
- Clariana, M., Cladellas, R., Gotzens, C., Badia, M., & Dezcallar, T. (2014). Typology of extra-curricular activities and academic procrastination among primary education students. *Electronic Journal of Research in Educational Psychology*, 12(2), S419–445, September 2014.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Duncan, A. (2013). *Community schools: An essential strategy to support student success*. Washington, DC: Coalition for Community Schools. Cited in Harris, E., and Wilkes, S. (2013) Partnerships for Learning: Community support for youth success. Harvard Family Research Project.

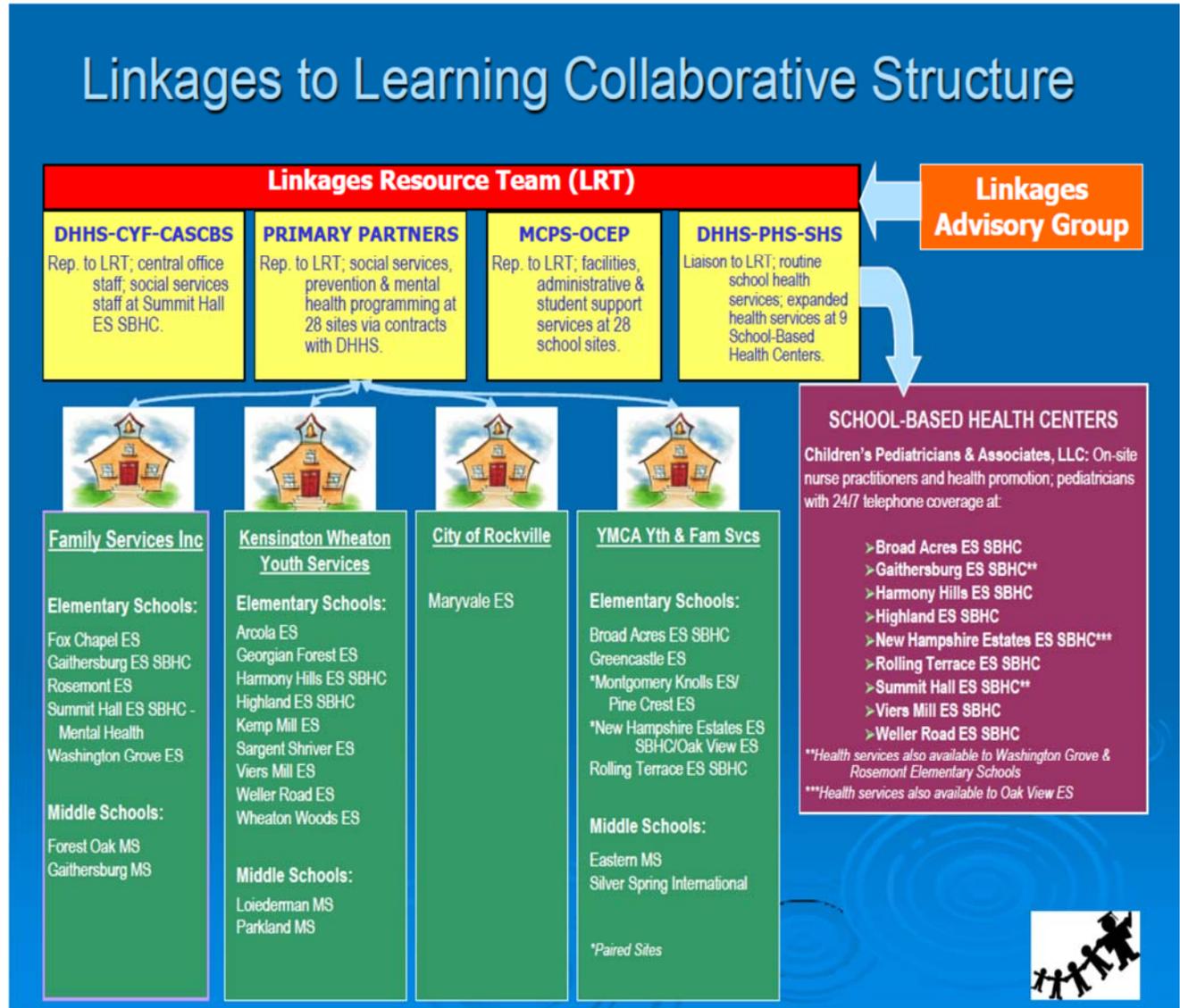
- Eyler, J.S., Giles, D.E., & Braxton, J. (1997). The impact of service-learning on college students. *Michigan Journal of Community Service Learning*, 4, 5–15.
- Eyler, J.S., Giles, D.E., & Gray, C.J. (1999). What we know about the effects of service-learning on students, faculty, institutions and communities, 1993–1999. <http://digitalcommons.unomaha.edu/slcebibliography/5>.
- Farrington, C.A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T.S., Johnson, D.W., & Beechum, N.O. (2012). Teaching adolescents to become learners. *The role of noncognitive factors in shaping school performance: A critical literature review*. Chicago: University of Chicago Consortium on Chicago School Research.
- Finn, F. (1993). School engagement and students at risk. Report for National Center for Educational Statistics.
- Fox, N., Leone, P., Rubin, K., Oppenheim, J., Miller, M., & Friedman, K. (1999). Final report on the Linkages to Learning program and evaluation at Broad Acres Elementary School. College Park: University of Maryland, Department of Special Education.
- Fredericks, J.A., Blumenfeld, P., & Paris, A.H. (2004). School engagement: potential of the concept, state of the evidence. *Review of Educational Research*, Vol. 74, No. 1 (Spring, 2004), pp. 59–109. Published by: American Educational Research Association.
- Gallup, Inc. (2015). Gallup student poll: Measuring student hope, engagement, and well-being. <http://www.gallupstudentpoll.com/home.aspx>.
- Isaac, J.B., & Magnuson, K. (2012). Income and education as predictors of children's school readiness. <http://www.brookings.edu/research/reports/2011/12/15-school-readiness-isaacs>.
- Isaac, J.B. (2012). Starting school at a disadvantage: The school readiness of poor children. http://www.brookings.edu/~media/research/files/papers/2012/3/19%20school%20disadvantage%20isaacs/0319_school_disadvantage_isaacs.pdf.
- Ladd, G.W., & Dinella, L.M. (2009). Continuity and change in early school engagement: Predictive of children's achievement trajectories from first to eighth grade? *Journal of Educational Psychology*, 101(1), 190–206. doi: 10.1037/a0013153.
- Li, Y., Bebiroglu, N., Phelps, E., & Lerner, R.M. (2009). Out-of-school time activity participation, school engagement and positive youth development: Findings from the 4-H study of positive youth development. *Journal of Youth Development*, 3(3). doi: 080303FA001
- Lipsey, M.W., & Wilson, D.B. (1993). The efficacy of psychological, educational, and behavioral treatment. *American Psychologist*, 48, 1181–1201.
- Luellen, J.K., Shadish, W.R., & Clark, M.H. (2005). Propensity scores: an introduction and experimental test. *Evaluation Review*, 29(6), 530–558.
- Maina, S.N., McGaughey, T., & Wade, J. (2013). Supporting the academic excellence, engagement, and college readiness of high school ESOL students through ESOL student service learning clubs. Rockville, MD: Montgomery County Public Schools.

- Maryland State Department of Education Maryland Student Service Alliance. (2004). The middle school service-learning instructional framework. Retrieved June 23, 2014, from http://www.marylandpublicschools.org/nr/rdonlyres/30dac98c-ccb6-45f6-8ec9-b568a850421c/3534/middle_school_guide.pdf.
- Maryland State Department of Education. (2009). Maryland Model for School Readiness (MMSR): Framework and standards for prekindergarten, revised edition. Baltimore, MD: Maryland State Department of Education.
- Montgomery County Department of Health and Human Services. (2014). *Linkages to Learning Montgomery County, MD: Addressing non-academic barriers to learning*. Rockville, MD: Author.
- Montgomery County Office of Legislative Oversight. (2014). The achievement gap in Montgomery County: A FY 2013 Update.
- Montgomery County Public Schools. (2013). Gallup student and staff engagement survey. Rockville, MD: Author.
- Montgomery County Public Schools. (2015a). Building our future together: Strategic planning framework. Rockville, MD: Author.
- Montgomery County Public Schools. (2015b). Early childhood programs and services: Prekindergarten & Head Start. Rockville, MD: Author.
- Montgomery County Public Schools. (2015c). Student service learning (SSL). Rockville, MD: Author.
- Montgomery County Public Schools. (2015d). School support and improvement framework. Rockville, MD: Author.
- Montgomery County Public Schools. (2015e). Early warning indicators system. Rockville, MD: Author.
- Montgomery County Public Schools. (2015f). Extended learning opportunities summer adventures in learning. Rockville, MD: Author.
- Moore, K., & Emig, C. (2014). Integrated student supports: A summary of the evidence base for policymakers. Washington, DC: Child Trends. <http://www.childtrends.org/wp-content/uploads/2014/02/2014-05ISSWhitePaper3.pdf>.
- Redd, Z., Boccanfuso, C., Walker, K., Princiotta, D., Knewstubb, D., & Moore, K. (2012). Expanding time for learning both inside and outside the classroom: A review of the evidence base. Washington, DC: Child Trends. <http://eric.ed.gov/?id=ED534555>.

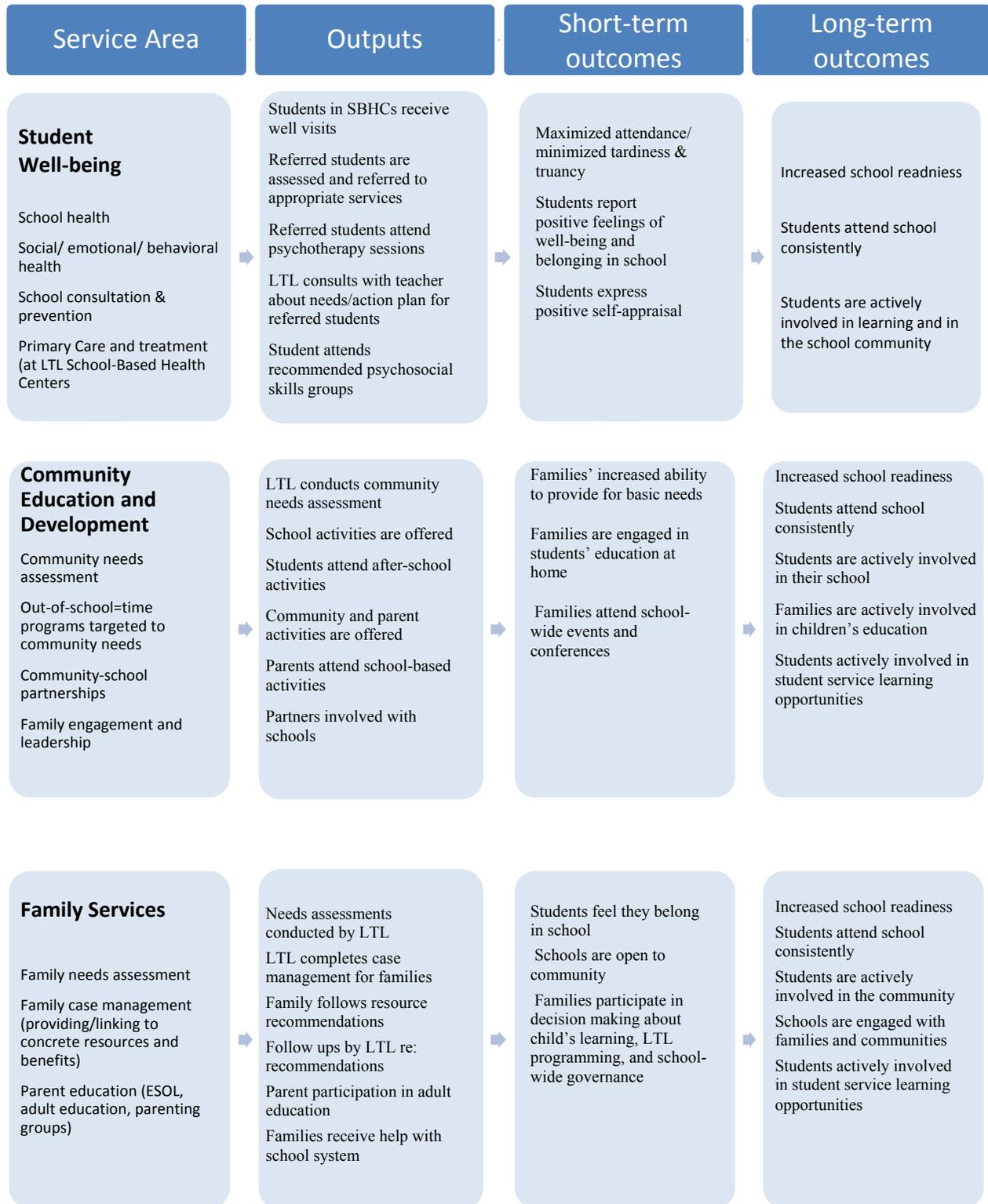
- Scales, K., & Neal, R. (2005). Can service-learning help reduce the achievement gap? New research points toward the potential of service-learning for low-income students. <http://www.marylandpublicschools.org/NR/rdonlyres/CEFD2869-9129-46A3-91CE-443928D1ED6C/24873/CanServiceLearningHelpReducetheAchievementGap.pdf>.
- Scales, P.C., & Roehlkepartain, E.C. (2004). Service to others: A 'gateway' asset for school success and healthy development. In *National Youth Leadership Council*. Growing to Greatness 2004 (pp. 26–32). St. Paul, MN: Author.
- Scales, P.C., Blyth, D.A., Berkas, T.H., & Kielsmeier, J.C. (2000). The effects of service-learning on middle school students' social responsibility and academic success. *Journal of Early Adolescence*, 20(3), 332–358.
- Rosenbaum, P., & Rubin, D. (1983). *Biometrika*, Vol. 70 (1). (Apr., 1983), 41–55.
- West, C. (2013). Just the right mix: Identifying potential dropouts in Montgomery County Public Schools using an early warning indicators approach. Rockville, MD: Montgomery County Public Schools.

Appendix A

Organization of Linkages to Learning



Appendix B1 Logic Model of Linkages to Learning Collaborative



Logic model for Linkages to Learning (OSA and MCPS Linkages to Learning Resource Team, Model developed 2013)

Appendix B2

FY'14 LTL Community Education Activities Related to School Readiness

Activities	# Sessions	# Youth Participants	# Parents	# Child Care
Conferences/trainings for parents on achieving educational success for their children	5	15	40	12
Adult English Classes for Parents	650	28	643	292
Child Development Workshops for Parents	2		65	
Child Link Workshops for Parents	2		8	
Parent Coffees with School-Readiness Related Topics (How to Help Your Children Succeed in School, Family Involvement in Title I Committees, education on Headstart/pre-K/ELO opportunities, etc.)	171	18	475	46
Parenting Classes (w/early childhood or “educating for success”/”reaching for success” themes, family learning nights, etc.)	61	69	195	137
Family Literacy Events	126	65	155	184
GED Classes for Parents	50	12	56	20
Tutoring/HW Clubs (including “Homework Clubs for the Family”)	361	345	94	
TOTALS	1428	509	1731	387

Source. MCDHHS : Linkages to Learning, Regional Youth Services & Related Child/Adolescent Programs

Appendix C

Identifying Comparison Samples: 2-Step Cluster Analysis

Cluster Analysis (CA) procedures were performed to identify elementary and middle schools with comparable student demographic composition to LTL sites. CA is the statistical method of partitioning a sample into homogeneous classes to produce an operational classification. As such, a cluster is a group of relatively homogeneous cases or observations. To avoid representation of insignificant clustering variables, the 2013–2014 *Schools at a Glance* (SAAG) data were explored to identify other characteristics that were distinctive of student population attending LTL elementary and middle schools. CA is an exploratory data analysis tool for organizing observed data (e.g., people, things, events, schools) into meaningful taxonomies, groups, or clusters, based on combinations of independent variables, which maximizes the similarity of cases within each cluster while maximizing the dissimilarity between groups that are initially unknown. Schools in each cluster are similar in some ways to each other and dissimilar to those in other clusters.

Elementary schools. Preliminary exploration of SAAG data revealed that elementary schools with LTL also were more likely to house higher percentages of ESOL students, Hispanic/Latino students receiving ESOL services, Hispanic/Latino students receiving FARMS services, and Black or African American students receiving FARMS services. Therefore, to select elementary schools similar to the 22 schools with LTL from 105 schools without LTL, a 2-step cluster analysis procedure was performed on the 105 schools without LTL using five variables: percentage ever FARMS, percentage of students receiving ESOL services, percentage Hispanic/Latino students receiving FARMS services, percentage ESOL students who are Hispanic/Latino, and percentage Black or African American students receiving FARMS services. Then, the composition of each cluster of schools was examined. The cluster analysis produced three clusters, between which the variables were significantly different. The first cluster was predominant and characterized by schools with very low ever FARMS or ESOL students. The third cluster of schools was essentially high in ever FARMS, ESOL, and Hispanic/Latino students. The middle cluster had mainly average positions on the clustering variables. The schools that clustered with LTL schools were rank ordered based on these variables. The cluster with the schools with distributions of highest percentage of ever FARMS, percentage ESOL, percentage Hispanic/Latino, and percentage combined total proportion of Black or African American and Hispanic/Latino students included schools with and without LTL sites. On average, the 21 elementary schools in the comparison sample fit the following criteria:

- a. $\geq 50\%$ ever FARMS
- b. $\geq 15\%$ of students receiving ESOL services
- c. $\geq 50\%$ combined total Hispanic/Latino and Black or African American students
- d. $\geq 20\%$ ESOL students who are Hispanic/Latino
- e. $\geq 10\%$ Black or African American students receiving FARMS services

Middle schools. To select middle schools comparable to the 6 middle schools with LTL from among the 32 middle schools without LTL, a 2-step cluster analysis procedure was performed using three variables: a) percentage ever FARMS, b) percentage ESOL, and c) percentage Hispanic/Latino students receiving FARMS services. Then, the composition of each cluster of schools was examined. The cluster of schools with distributions of highest percentage of ever FARMS, percentage ESOL, and percentage Hispanic/Latino receiving FARMS services comprised of schools with LTL and several schools without LTL. The schools that clustered with

middle schools with LTL were rank ordered based on these variables to select six schools. On average, the comparison middle schools had $\geq 60\%$ ever FARMS, $\geq 10\%$ ESOL, and $\geq 30\%$ Hispanic/Latino students receiving FARMS services.

Table C1a

2014 Schools at a Glance Information for Sample of Elementary Schools Without Linkages to Learning

Comparison School	% Ever FARMS	% FARMS	% FARMS HI	% FARMS BL	% ESOL	% ESOL HI	% HI	% Combined BL and HI
South Lake	88.5	80.1	48.1	24.6	48.1	36.8	55.5	86.3
Cresthaven	82.1	73.1	38.4	26.3	24.9	17.7	46.4	83.0
Jackson Road	79.4	74.1	30.0	36.7	29.0	16.3	33.1	84.2
Clopper Mill	77.2	67.9	33.9	26.8	25.7	22.0	44.3	83.4
Watkins Mill	75.6	68.9	34.8	23.9	37.4	26.1	43.1	78.3
Twinbrook	73.7	65.5	45.6	8.1	46.7	35.2	57.4	69.2
Brown Station	73.0	69.4	36.8	24.6	24.2	17.8	42.2	76.0
Bel Pre	72.4	70.5	33.1	31.4	44.0	28.9	38.9	82.0
Burnt Mills	71.8	67.3	13.3	50.0	22.6	6.3	18.1	85.9
Brookhaven	71.6	66.7	37.0	22.8	38.1	25.4	48.1	80.3
Glenallan	70.8	65.7	39.6	18.0	30.6	20.7	46.4	77.1
Glen Haven	70.6	66.9	41.1	11.3	32.0	24.0	49.6	71.0
Flower Hill	70.0	64.0	36.8	17.9	33.2	26.2	44.9	72.0
Whetstone	68.3	61.9	38.2	16.9	33.6	27.3	49.0	75.3
Galway	67.1	58.8	15.0	36.3	25.5	9.6	22.3	80.1
Cannon Road	66.6	60.5	29.4	23.8	15.9	9.4	40.7	77.1
Stedwick	65.0	59.7	27.6	26.3	30.6	19.7	35.4	72.9
Judith Resnik	61.9	56.5	30.5	17.9	30.0	21.3	39.4	68.6
Sequoyah	60.8	53.4	35.2	11.2	33.0	28.3	44.8	62.1
Burtonsville	58.9	52.1	7.4	36.8	16.8	4.9	12.3	73.5
Mill Creek Towne	51.4	46.4	32.2	7.5	31.2	22.4	42.6	57.1
Forest Knolls	47.5	43.2	31.8	5.7	28.5	23.7	43.2	56.8

Note. FARMS = Free and Reduced-price Meals System; HI = Hispanic/Latino; BL = Black or African American; ESOL = English for Speakers of Other Languages

Table C1b
 2014 *Schools at a Glance* Information for Elementary Schools With Linkages to Learning

LTL School	% Ever FARMS	% FARMS	% FARMS HI	% FARMS BL	% ESOL	% ESOL HI	% HI	% Combined BL and HI
Broad Acres	96.3	94.3	77.6	11.5	66.4	57.1	80.1	93.6
New Hampshire Estates	95.1	93.5	79.1	11.2	72.6	65.8	81.5	94.9
Harmony Hills	90.0	85.2	65.0	13.3	49.5	43.5	72.6	89.4
Wheaton Woods	88.4	84.8	51.1	23.8	51.7	36.9	57.3	84.8
Highland	88.1	83.5	67.8	9.9	53.5	49.6	75.7	88.6
Sargent Shriver	87.5	82.3	63.5	11.8	52.6	46.4	72.7	86.6
Gaithersburg	85.4	83.1	67.7	10.7	47.9	45.2	73.9	87.6
Weller Road	85.0	77.5	59.8	8.4	51.5	44.8	72.7	83.9
Summit Hall	83.9	78.6	57.1	15.6	51.7	44.4	67.1	89.2
Georgian Forest	83.5	79.6	42.7	28.5	30.9	24.9	49.1	83.4
Arcola	82.6	75.6	55.9	12.3	44.8	38.6	68.5	86.0
Kemp Mill	82.2	77.6	59.5	13.6	53.5	47.1	70.9	89.8
Oak View	76.6	70.3	51.4	11.1	38.3	30.9	56.6	74.3
Washington Grove	73.5	73.5	53.5	10.8	53.0	43.2	61.4	77.1
Viers Mill	73.3	70.1	52.7	9.6	43.8	37.8	61.3	73.0
Greencastle	72.2	64.6	15.5	44.8	15.7	7.9	19.9	87.8
Rolling Terrace	70.8	68.1	54.6	10.6	48.7	42.1	62.7	77.6
Rosemont	63.3	56.5	34.0	14.0	36.7	26.0	43.4	68.8
Montgomery Knolls	61.8	59.2	39.4	16.1	44.8	35.5	46.8	71.1
Fox Chapel	58.9	52.6	31.6	15.5	31.6	25.0	41.5	65.9
Pine Crest	53.1	46.9	29.1	11.7	20.5	15.6	37.0	55.3
Maryvale	48.4	44.1	21.4	16.5	26.9	16.5	30.7	59.7

Note. FARMS = Free and Reduced-price Meals System; HI = Hispanic/Latino; BL = Black or African American; ESOL = English for Speakers of Other Languages

Table C1c
2014 *Schools at a Glance* Information for Middle Schools With and Without Linkages to Learning

School	% Ever FARMS	% FARMS	% FARMS HI	% ESOL
Schools Without LTL (N = 6)				
White Oak	71.0	56.5	32.2	17.3
Argyle	74.2	61.7	34.3	13.7
Montgomery Village	74.8	61.5	30.8	17.6
Neelsville	77.7	63.6	33.3	16.8
Lee	78.1	61.6	39.0	21.6
Key	78.7	65.3	29.4	13.6
Schools With LTL (N = 6)				
Silver Spring International	54.0	44.8	26.0	13.4
Gaithersburg	55.7	42.6	25.7	12.0
Eastern	60.3	47.8	29.5	13.9
Parkland	65.1	50.7	31.8	9.5
Forest Oak	70.8	56.6	34.0	14.7
Loiederman	74.0	59.6	37.5	15.5

Note. FARMS = Free and Reduced-price Meals System; HI = Hispanic/Latino; ESOL = English for Speakers of Other Languages

Table C2
2014 Demographic Profile of Schools With and Without Linkages to Learning

		Elementary		Middle School	
		With LTL (N = 22)	Without LTL (N = 22)	With LTL (N = 6)	Without LTL (N = 6)
Ever FARMS	Mean	77.3	69.3	63.3	75.8
	Standard Deviation	13.3	9.4	8.1	3.0
	Median	82.4	70.7	62.7	76.3
	Maximum	96.3	88.5	74.0	78.7
	Range	47.9	41.0	20.0	7.7
FARMS	Mean	72.8	63.3	50.4	61.7
	Standard Deviation	14.0	9.0	6.7	3.0
	Median	76.5	65.6	49.3	61.7
	Maximum	94.3	80.1	59.6	65.3
	Range	50.2	36.8	17.1	8.9
ESOL	Mean	44.8	31.0	13.2	16.8
	Standard Deviation	13.7	8.4	2.1	2.9
	Median	48.3	30.6	13.6	17.0
	Maximum	72.6	48.1	15.5	21.6
	Range	57.0	32.2	5.9	7.9
Black or African American and Hispanic/Latino	Mean	80.4	75.1	65.9	78.2
	Standard Deviation	11.0	8.5	7.8	2.9
	Median	84.4	76.5	64.5	78.8
	Maximum	94.9	86.3	77.5	81.0
	Range	39.6	29.5	19.6	7.5
Male	Mean	51.6	52.1	48.3	52.7
	Standard Deviation	2.8	2.5	4.1	2.3
	Median	51.6	51.6	49.3	52.9
	Maximum	58.6	56.5	53.0	55.1
	Range	12.0	8.4	10.7	5.7
FARMS Hispanic/Latino	Mean	51.4	32.5	30.8	33.2
	Standard Deviation	17.1	9.8	4.6	3.4
	Median	54.0	34.3	30.7	32.7
	Maximum	79.1	48.1	37.5	39.0
	Range	63.6	40.7	11.8	9.7
ESOL Hispanic/Latino	Mean	37.5	21.4	10.2	12.5
	Standard Deviation	13.9	8.4	1.7	3.1
	Median	40.3	22.2	10.0	12.8
	Maximum	65.8	36.8	12.9	17.0
	Range	57.9	31.8	4.9	9.4
FARMS Black or African American	Mean	15.1	22.9	14.2	21.9
	Standard Deviation	8.1	11.0	2.3	4.5
	Median	12.1	23.9	13.4	22.5
	Maximum	44.8	50.0	17.3	28.2
	Range	36.4	44.4	5.7	12.5
Special Education	Mean	9.7	12.2	12.5	10.7
	Standard Deviation	3.6	4.4	3.7	2.5
	Median	8.9	11.6	12.5	10.0
	Maximum	19.0	24.3	18.9	14.0
	Range	14.0	19.2	10.8	6.1

Appendix D

Definitions of Prior Care of Kindergarten Students

Prior Care. The categories of early care and education are considered as they affect school readiness. Prior care reflects kindergarten students' enrollment within 12 months prior to starting kindergarten. The prior care types are as follows:

1. *Head Start.* A federal preschool program for 2- to 5-year-olds from low-income families; funded by the U.S. Department of Health and Human Services and licensed by the MSDE/Collaboration and Program Development Branch, and/or local boards of education.
2. *Prekindergarten.* Public school prekindergarten education for four-year-old children; administered by local boards of education and regulated by MSDE.
3. *Child Care Center.* Child care provided in a facility, usually non-residential, for part or all of the day that provides care to children in the absence of the parent. The centers are licensed by MSDE/Office of Child Care.
4. *Family Child Care.* Regulated care given to a child younger than 13 years old, in place of parental care for less than 24 hours a day, in a residence other than the child's residence, and for which the provider is paid. Family child care is regulated by MSDE/Office of Child Care Non-Public Nursery School.
5. *Preschool Programs* with an "education" focus for 3- and 4-year-olds; approved or exempted by MSDE; usually part day, nine months a year.
6. *Home/Informal Care.* Care by parent(s) or a relative.

Table D1
 Division of Early Childhood Programs and Services
 2014–2015 Head Start and Prekindergarten Locations (LTL and Comparison Schools)

School	Federal Head Start Sessions		Pre-K		FY 2015
	Capacity 3's&4's	Capacity 4's	Capacity	Sessions	
Broad Acres Elementary School		20	60	3	full day
Brown Station Elementary School ♦		20	40	2	full day
Clopper Mill Elementary School		20	40	2	full day
Harmony Hills Elementary School		20	40	2	full day
Highland Elementary School		20	40	2	full day
Georgian Forest Elementary School		20	40	2	full day
Kemp Mill Elementary School		20	40	2	full day
New Hamp.Est. Elementary School	X	60	45	2	full day
Rolling Terrace Elementary School (Judy Ctr)		20	40	2	full day
South Lake Elementary School		20	40	2	full day
Summit Hall Elementary School (Judy Ctr)		20	40	2	full day
Viers Mill Elementary School ♦		20	40	2	full day
Wash.Grove Elementary School ♦ (Judy Ctr)		20	60	3	full day
Watkins Mill Elementary School		20	20	1	full day
Weller Road Elementary School		20	40	2	full day
Wheaton Woods Elementary School		20	40	2	full day
East Silver Spring Elem. School (mixed age)		17	40	2	
Fairland Elementary School		20	20		
Glenallan Elementary School ♦		14	0	0	
Maryvale Elementary School	X	20	40	2	
Mont.Knolls Elementary School ♦		20	40	2	
Twinbrook Elementary School		20	40	2	
Bel Pre Elementary School			80	4	
Brooke Grove Elementary School			20	1	
Brookhaven Elementary School ♦			40	2	
Burnt Mills Elementary School			40	2	
Drew Elementary School			60	3	
Flower Hill Elementary School			40	2	
Forest Knolls Elementary School			40	2	
Fox Chapel Elementary School			40	2	
Gaithersburg Elementary School			40	2	
Galway Elementary School			40	2	
Glen Haven Elementary School			40	2	
Greencastle Elementary School ♦			40	2	
Jackson Road Elementary School ♦			40	2	
Mill Creek Towne Elementary School ♦			20	1	
Oakland Terrace Elementary School ♦			20	1	
Resnik Elementary School ♦			40	2	
Rosemont Elementary School ♦ (Judy Ctr)			40	2	
Sargent Shriver Elementary School			40	2	
Stedwick Elementary School			40	2	
Whetstone Elementary School ♦			40	2	

♦ Preschool Special Education Collaboration Sites 2013–2014

Source. Division of Early Childhood Programs and Services, April 2015

Appendix E

Table E1
Number and Percentage of Students Who Registered and Attended ELO SAIL, Summer 2014 in
Schools With and Without Linkages to Learning

Elementary School	Number Students Eligible	% Eligible Students Registered	% Eligible Students Attended	% Registered Students Attended	With LTL or Without LTL
Arcola	379	37	29	78	With LTL
Bel Pre	429	47	40	85	Without LTL
Broad Acres	352	65	49	76	With LTL
Brookhaven	179	54	43	80	Without LTL
Brown Station	228	58	45	77	Without LTL
Burnt Mills	248	59	43	73	Without LTL
Clopper Mill	217	51	45	88	Without LTL
Gaithersburg	445	56	44	79	With LTL
Georgian Forest	248	58	42	72	With LTL
Glen Haven	260	51	42	83	Without LTL
Harmony Hills	376	63	50	79	With LTL
Highland	277	59	49	83	With LTL
Jackson Road	298	54	46	85	Without LTL
Kemp Mill	277	60	51	84	With LTL
New Hampshire Estates	416	60	51	85	With LTL
Rolling Terrace	432	41	31	75	With LTL
Sargent Shriver	393	51	42	83	With LTL
South Lake	443	67	54	81	Without LTL
Summit Hall	310	62	53	85	With LTL
Viers Mill	320	51	39	76	With LTL
Washington Grove	141	59	52	89	With LTL
Watkins Mill	289	40	33	82	Without LTL
Weller Road	294	54	43	80	With LTL
Wheaton Woods	252	49	44	90	With LTL

Appendix F

Table F1
Parent Engagement Survey Items by Subgroups, Elementary Schools:
Items With Statistically Significant Differences Between Schools With and Without Linkages to Learning

Subgroup/ Survey Statement	With LTL		Without LTL	
	<i>n</i>	%	<i>n</i>	%
Hispanic/Latino (MSDE race/ethnicity group)				
When I visit my child's school, I am promptly and courteously received.**	436	95.4	270	91.2
The school respects my family.*	442	98.4	277	96.2
I am comfortable talking to my child's teachers about my child's education.**	446	98.0	276	94.5
The school provides opportunities for me to voice my needs about my child's education.*	420	93.8	250	89.9
The school welcomes my input on how my child's educational experience can be improved.**	401	94.8	242	92.0
The school has a clear process for me to provide feedback about my child's education.**	404	93.5	230	87.1
Speak Spanish at home				
I am comfortable talking to my child's teachers about my child's education**	311	98.7	196	93.8
The school provides information and resources in the school and community that are available to my child and family.*	312	97.2	173	88.7
There is an adult at the school who will advocate for my child's needs.*	251	95.8	164	91.1
The school informs me of educational opportunities that are available to my child.**	291	94.5	174	87.4
Parents of students in kindergarten				
The school respects my family.*	192	98.5	186	93.0
I believe my child is safe at school.*	183	93.8	196	98.0
There is an adult at school who will advocate for my child's needs.**	153	95.0	128	85.9

*p < .05; **p < .01; ***p < .001

Table F2

Parent Engagement Survey Items by Subgroups, Middle Schools:
Items With Statistically Significant Differences Between Schools With and Without Linkages to Learning

Subgroup/Survey Statement	With LTL		Without LTL	
	<i>n</i>	%	<i>n</i>	%
Black or African American (MSDE race/ethnicity group)				
When I visit my child's school, I am promptly and courteously received.*	79	86.8	112	94.9
The school respects my family.*	79	94.0	106	99.1
The school provides opportunities for me to voice my needs about my child's education.*	75	86.2	108	95.6
White (MSDE race/ethnicity group)				
There is an adult at the school who will advocate for my child's needs.*	93	77.5	44	91.7
Speak English at home				
I am comfortable talking to my child's teachers about my child's education.*	322	92.0	217	96.4
Parents of students in Grade 6				
School staff members are responsive to my concerns about my child.*	128	95.5	87	87.9
I would recommend this school to others.**	131	93.6	82	85.4
Parents of students in Grade 7				
The school provides opportunities for me to voice my needs about my child's education.*	119	84.4	94	94.9
The school welcomes my input on how my child's educational experience can be improved.*	101	81.4	82	91.1
Parents of students in Grade 8				
When I visit my child's school, I am promptly and courteously received.*	134	85.9	101	94.4
I am comfortable talking to my child's teachers about my child's education.*	142	90.4	102	98.1

* $p < .05$; ** $p < .01$; *** $p < .001$

^aChi square test revealed that four items were significantly ($p < .05$) higher in LTL schools.