MONTGOMERY
COUNTY PUBLIC
SCHOOLS

Report on the Status of Students and Families Who Received Mental Health and Case Management Services at Linkages to Learning Sites, 2013–2014

Office of Shared Accountability

June 2016

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

Montgomery County Public Schools

OFFICE OF SHARED ACCOUNTABILITY

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

Mr. Larry A. Bowers	**Dr. Maria V. Navarro**
Interim Superintendent of Schools	*Chief Academic Officer*

Table of Contents

List of Tables

Executive Summary

The Office of Shared Accountability (OSA) conducted an evaluation of the Linkages to Learning initiative in Montgomery County Public Schools (MCPS). Linkages to Learning (LTL) is a collaborative initiative among the Montgomery County Department of Health and Human Services (MCDHHS), MCPS, and local non-profit agencies. The goal of the program is to address the social, economic, health, and emotional issues that interfere with the academic success of a child (MCDHHS, 2015). LTL focuses its services on addressing three broad areas of need:

- Student well-being. Services include assessment for social-emotional, behavioral concerns; consultation with teachers; child/family/group therapy; psychosocial skills development groups; primary care and treatment at LTL school-based health centers.
- Family services. Services include family needs assessments; family case management, linking to community resources; parenting groups; parent/guardian education.
- Community education and development. Services include community needs assessment; out-of-school-time activities; adult English literacy classes; other adult education; community-wide events.

This report, third in a series of studies addressing the implementation and outcomes of the Linkages to Learning initiative, examined whether students at LTL sites who received mental health services and/or had family members receive case management services demonstrated improvement in levels of well-being and school engagement. The study used a pre-post design: to assess change in status, relevant measures (student and family indicators) were analyzed at the time of intake for mental health or case management services or in the year prior to LTL participation, and after participation in these LTL services. Student outcomes were assessed with the use of nationally validated measures and MCPS student data; family outcomes were assessed with a matrix widely used by community action agencies to assess client needs and progress toward self-sufficiency, as well as locally developed measures.

The specific questions addressed in this report were:
- **To what extent did students who received mental health services and/or whose families received case management services at an LTL site show improvement on measures of well-being and school engagement?**
  - How did students rate their well-being at the start and end of participation in LTL child/family therapy services?
  - How did teachers rate the behavior of students at the start and end of participation in LTL child/family therapy services?
  - Was there a change in school attendance after participation in LTL mental health or family case management services?
  - Was there a change in Work Habits grades for elementary students during the year LTL mental health and/or family case management services were received?
  - Among middle school students who were suspended in 2013–2014 and received LTL mental health and/or family case management services, what was the rate of repeat suspension in 2014–2015?
- **After participating in Linkages to Learning case management services, to what extent did families show improvement in well-being and support of their child's education, and increased community participation?**

o Did parents/guardians show an increased capacity to meet basic needs?
o Did families show increased support of students' education at home and at school and increased community participation?

Summary of Findings
The key findings are summarized below.

1. Students who received mental health services at an LTL site showed improvement on some measures of well-being and school engagement. On self-ratings of self-concept at referral to LTL and when exiting, elementary students improved on five of six scales plus an overall measure, and middle school students improved on two of five scales plus an overall measure.
2. Teacher ratings of classroom behavior were not significantly different for students before and after they received mental health services through LTL.
3. Attendance (percentage of days attended) for elementary students who participated in recreation groups through LTL was statistically significantly higher during the year of LTL participation compared to the previous year. For middle school students whose families received case management services, attendance rate was significantly lower during the LTL service year, but among middle school students who participated in recreation activities through LTL, the number of unexcused absences was significantly fewer compared with the previous year. An examination of suspension rates for students who were suspended during the year they received LTL services showed that nearly three quarters of them (72%) were not suspended during the following school year.
4. Families who received case management services showed improvement on most areas of self-sufficiency. Ratings on health, nutrition, family development, income management, adult education, and community participation were statistically significantly higher after receiving LTL family case management services than at referral to LTL.
5. In an end-of-year LTL survey, large percentages of parents/guardians (more than 90%) agreed that LTL had helped them support their students' education and that LTL had helped their student and their family feel a part of school and become more engaged.

Recommendations

1. *Utilize technology to strengthen the process for therapists and case managers to receive daily feedback about the attendance of students with whom they are working.* Some evidence of improvements in attendance was observed for students receiving services in LTL sites, particularly for elementary students. Since school attendance is a key ingredient for academic success, closer, more real-time monitoring may strengthen LTL's impact on attendance. Currently, LTL staff have access via parent/guardian consent to the MCPS student database; however, the database is not updated in real time. As such, outside of bi-weekly team meetings and direct contact with students and family members being served, LTL staff rely on notification from teachers, counselors, or other school-based staff. Workgroups are underway between MCDHHS and MCPS to develop a data-sharing process that will allow relevant information to be accessed more efficiently.

2. *Explore ways to increase systematic collaboration between LTL service providers and teachers* to better understand specific issues and concerns of students who are not demonstrating skills associated with expected work habits. About one half of the students receiving mental health services and/or whose families were receiving case management at LTL sites were demonstrating the skills related to two report card work habits—Task Completion and Rules and Procedures—in marking period 4.

3. *Explore additional ways to support families in areas that appear most challenging to impact.* Many areas of family self-sufficiency showed statistically significant improvement after family members received LTL case management services. Some areas—such as employment and income management—did show improvement during LTL participation, but remain challenging for many families. Difficult problems such as these require additional resources and innovative approaches. LTL has been looking into new partnerships with Montgomery College to expand adult education opportunities offered on-site at LTL schools in hopes of improving opportunities for employment for parents/guardians. LTL should explore additional systemic partnerships to support outcomes in these areas.

4. *Institute more regular and consistent administration of LTL program assessments.* A relatively small number of students who exited LTL mental health services during the 2013-2014 school year completed measures of well-being at referral and when exiting LTL services; likewise, few students had behavior ratings completed by teachers. Ratings of family self-sufficiency also were completed for a relatively small number of families who received case management services at LTL sites, although larger numbers have been collected in subsequent years. (The year reviewed in this study was only the second year for administering the family self-sufficiency scale. In order to obtain consistent baseline measures, the scale was administered only with families who were new to the program at intake, not with families who had been previously receiving LTL case management services.) Obtaining LTL measures for all students and families who receive LTL services is needed so that a more reliable summary of the status of clients' well-being can be reported, more regular feedback can be provided to program staff, and additional information is available for monitoring and adjusting services. LTL is currently exploring the use of new electronic assessment measures in order to achieve this improvement.

5. *Increase means for feedback from students participating in LTL services.* At the time of data collection for this study, needs surveys were administered to parents/guardians in schools with an LTL site, satisfaction surveys were administered each year to parents/guardians who received (or their children received) any LTL services, data scales were collected from students who received behavioral health services, family self-sufficiency scales were collected with families receiving case management services, and surveys for specific events and programs were collected. However, no consistent satisfaction surveys of students receiving LTL services were conducted across the initiative. It is recommended that two versions of surveys be administered at all LTL sites: (1) to a sample of *all* students in the school to identify ways to make services more accessible and to target needs, interests, and ideas for groups and activities (to be coordinated with MCPS protocols for student survey administration); and (2) to students who have received any LTL service to ascertain what aspects of LTL have been most helpful and what additional services are needed. It should be noted that student needs and satisfaction

surveys are now in place at LTL middle school sites, with plans underway to expand to higher elementary school grades in the future.

Evaluation of Linkages to Learning: Report on the Status of Students and Families Who Received Mental Health and Family Case Management Services at Linkages to Learning Sites, 2013–2014

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

The Office of Shared Accountability (OSA) conducted an evaluation of the Linkages to Learning initiative in Montgomery County Public Schools (MCPS). This report, third in a series of studies addressing the implementation and outcomes of the Linkages to Learning initiative, examines whether students and family members who received mental health and family case management services at LTL sites demonstrated improvement in levels of well-being and school engagement.

Linkages to Learning (LTL) is a collaborative initiative among the Montgomery County Department of Health and Human Services (MCDHHS), (MCPS), and local non-profit agencies. The goal of the program is to address the social, economic, health, and emotional issues that interfere with the academic success of a child (MCDHHS, 2015). LTL's collaborative model brings together providers within Montgomery County to deliver services that are integrated, accessible, needs-driven, and community-based (Weast, 2005). For more than 20 years, LTL has provided accessible services to at-risk children and their families in MCPS, with the goals of improving student well-being and success at school, home, and in the community (MCDHHS, 2015). Parents/guardians 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. Prevention and early intervention services include health and behavioral health services, social services, and community education and development (including after-school and family programming, and adult education classes). Today the initiative includes 29 sites in the Clarksburg, Gaithersburg, Wheaton, and Rockville clusters, the Northeast Consortium, and the Downcounty Consortium. Twenty-three of the sites are in elementary schools and six are in middle schools. Schools with an LTL site are listed in Appendix A, Figure A-1.

Background

Overview of Services Provided at Linkages to Learning Sites

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; consultation with teachers; child/family/group therapy; psychosocial skill development groups; 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; parent/guardian education.
- **Community education and development.** Services include community needs assessment; out-of-school-time activities; adult English literacy classes; other adult education; community-wide events.

The three service areas that LTL addresses—student well-being, family services, and community education and development—became the framework for a logic model that was developed in 2013 in a collaboration of MCPS evaluators, the LTL Advisory Group Program & Planning Committee, and consultation and assistance from Casey Family Programs. The logic model is depicted in Appendix A. Within each of the service areas, Linkages to Learning provides a range of activities and services for students and their families. The implementation of the activities detailed in each service area is expected to contribute to the realization of a series of outputs and short- and long-term outcomes, as depicted in the logic model. Since this updated logic model was constructed *after* the initiative had been in place for many years, the model was retrofitted to incorporate the existing services and activities, and readily available data related to the model's outcomes were utilized for this evaluation. A description of services and activities provided at LTL sites is shown in Appendix B.

Staffing at LTL sites. LTL is staffed by a multidisciplinary team at each of the school sites. The full staffing model[1] includes one full-time community school coordinator, one full-time family case manager, and one full-time child/family therapist to work at each school in conjunction with school staff. The full staffing model at LTL School-Based Health Centers (SBHC) includes a part-time community services aide, though not all SBHC sites have this. Nine of the elementary schools with LTL have SBHCs (see Appendix C), where pediatric nurse practitioners work with a full-time school nurse and school health aide to provide primary health care services, including sick care, immunizations, and physical examinations.

Family case management services. The LTL family case manager works with families to help them become more able to provide for their basic needs. The family case manager conducts family needs assessments, links families to needed resources and benefits, helps families navigate the school system and become more engaged with their children's education, and helps families access support groups, parenting groups, adult English literacy classes, and adult education.

Child and family mental health services. The LTL child/family therapist works directly with students who are referred for individual/family therapy or participation in group therapeutic activities, such as self-esteem groups, psychosocial skills groups, or other groups based on student needs. Students are referred to the therapist either directly by the school counselor or by the collaborative problem solving team at each school site.

Purpose and Scope of the Study

This report is the third in a series of reports addressing the implementation and outcomes of the LTL initiative. The goal of this section of the evaluation was to examine potential progress in the well-being and engagement of students and families who received mental health services and/or family case management services at LTL sites. Separate reports addressed evaluation questions focused on the implementation of the initiative and school-level differences.

---

[1] Not all schools have the staff designated in this model. Relatively flat funding at older sites and budget cuts implemented during the recession have left many schools with some part-time staff.

The specific questions addressed in this report were:

- **To what extent did students who received mental health services and/or whose families received case management services at an LTL site show improvement on measures of well-being and school engagement?**
    - How did students rate their well-being at the start and end of participation in LTL child/family therapy services?
    - How did teachers rate the behavior of students at the start and end of participation in LTL child/family therapy services?
    - Was there a change in school attendance after participation in LTL mental health or family case management services?
    - Was there a change in Work Habits grades for elementary students during the year LTL mental health and/or family case management services were received?
    - Among middle school students who were suspended in 2013–2014 and received LTL mental health and/or family case management services, what was the rate of repeat suspension in 2014–2015?
- **After participating in Linkages to Learning case management services, to what extent did families show improvement in well-being and support of their students' education and increased community participation?**
    - Did parents/guardians show an increased capacity to meet basic needs?
    - Did families show increased support of students' education at home and at school and increased community participation?

Review of Selected Literature on School-Linked Services

Children living with social and economic challenges, such as poverty, physical and mental health problems, and unstable living conditions, are less likely to succeed in school and thrive intellectually, physically, and emotionally (Anderson-Butcher & Ashton, 2004; Barton & Coley, 2009; Morsy & Rothstein, 2015; Sandstrom & Huerta, 2013). Several approaches have emerged that aim to address the interconnected needs of students' learning and their physical and emotional health. A guiding premise of these efforts is the recognition that "the development of a child is affected by a range of proximal and distal influences and contexts, and that multiple influences can be leveraged to enhance the development of a child or adolescent over time" (Child Trends, 2014, p. 75).

Evaluation of Linkages to Learning in MCPS.
In 1999, researchers from the University of Maryland conducted an evaluation of LTL at one MCPS elementary school (Fox et al., 1999). The study compared academic (mathematics, reading, and writing) and nonacademic (positive and negative behaviors, emotional distress, parents'/guardians' mental health) outcomes for children and parents/guardians at an LTL school and a comparison school without LTL. Findings revealed a decrease in parent/guardian-reported negative behaviors for students in the LTL school, while the negative behaviors of students in the non-LTL school remained the same. Examination of academic outcomes suggested some positive effects of educational services provided by LTL. Students at the school with LTL and the comparison school without LTL had significantly higher math achievement scores at the end of the study, but students who received educational services through LTL improved significantly more than those at the same school who did not receive these services.

Evaluation of school-linked services.
Several recent reports provide findings for studies examining the impact of school-linked services on students' school engagement and academic performance. Castrechini and London (2012) studied community schools in Redwood City, California, where Family Resource Centers at the public elementary and middle schools provide integrated services to address students' and families' physical, social, emotional, and learning needs. To examine students' involvement across a range of programs and supports, the researchers classified the nearly 250 programs and activities into three main "strategy areas": family engagement, extended learning, and support. Analyses included examination of participation by demographic characteristics and number of strategy areas accessed. The study found a relationship between family engagement and English language proficiency, particularly in early grades, but no direct links between community school program participation and standardized mathematics and English language performance. Students who participated in community school programs, specifically in family engagement and extended learning, reported feeling more supported than students with no participation; and the researchers found that students' feelings of support had a significant effect on their motivation and confidence, suggesting a possible mediating effect. The researchers conclude that:

"Evidence in this study and others shows that when students feel connected to their schools, there are important positive implications for their academic motivation and confidence, both of which have strong links to academic performance….Findings showing a strong link between positive student attitudes and supplemental community school programs suggest that community schools, through the multiple opportunities they provide for positive interactions between students and their schools, could be a promising strategy for fostering positive attitudes that promote achievement" (Castrechini & London, 2012, p. 25).

An evaluation of Communities in Schools (CIS) examined the impact of CIS at the organizational level, the school level, and the student level using multiple measures and methods (ICF, 2010). Communities in Schools is a national organization with about 200 local affiliates serving more than 1 million students in more than 3,000 schools. The organization places a dedicated staff member inside partner schools who works with school staff to engage community partners and volunteers to effectively and efficiently address the academic and social service needs of students. This five-year national evaluation included a range of studies: an analysis of the level of implementation; a quasi-experimental study to analyze school-level outcomes; case studies; comparisons with peer organizations; and randomized controlled trials. The evaluation found positive effects (effect size greater than .25) for CIS schools on dropout and graduation rates, attendance in elementary schools, middle school math and reading performance, and student perception of personal responsibility. The strongest effects were seen in schools that implemented the model with the highest fidelity (ICF, 2010).

A review of the literature in school-community partnerships by Valli, Stefanski, and Jacobson (2014) examined student and family outcomes as well as organizational outcomes. Their study found that the most frequently studied outcome, and the one with the most consistently positive findings, was academic achievement, particularly in mathematics. Evidence for improvement in literacy, attendance, classroom behaviors, and attitude toward school also were seen across the

studies reviewed for their report. Valli, Stefanski, and Jacobson (2014) also described factors that were identified as important intervening variables for academic achievement, including fidelity of program implementation and continuity of the services over time, as well as trust in the schools and family engagement.

Predictors of educational achievement.
Much of the support provided by school-linked service approaches is not linked directly to academic outcomes. Instead, the programs target the needs of students and their families that would interfere with academic success. The Coalition for Community Schools' logic model (Coalition for Community Schools, 2009), for example, posits that providing services to support the social, physical, cognitive, and economic needs of students and their families will help ensure that the conditions necessary for learning are strengthened and students have greater chance for success.

A review of the literature on factors related to educational achievement conducted by Child Trends (Princiotta et al., 2014) identified the strongest predictors of educational success. The authors focused on factors that were malleable, so as to be amenable to programmatic or policy changes. The review identified factors concentrated in three domains: individual student factors, parent/guardian and family factors, and school factors. Those with the largest observed effects were:

Individual student factors
- Behavior in and out of class
- Attendance/engagement
- Academic self-concept/self-efficacy
- Social and emotional competence
- Health and well-being

Parent and family factors
- Parental expectations
- Parenting style
- Parenting behaviors

School factors
- Effectiveness of teachers
- School climate, including student-teacher relationships, academic press
- Average school achievement and attendance
- School-level poverty

This study examined some of these factors for students and parents/guardians receiving services at LTL sites.

Methodology

Evaluation Design
This study was designed to examine the extent to which students and family members who received mental health and/or case management services at LTL sites were making progress in

measures of well-being and engagement. The evaluation questions were addressed with a pre-post design: relevant measures (student and family indicators) were analyzed at baseline (at intake into services, or in the year prior to LTL participation) and after LTL participation (depending on measure, either approximately six months after intake or at end of treatment for the 2013–2014 school year) to assess potential change. When the number of students was sufficient, some data were analyzed and reported within school level (elementary and middle school) and by type of LTL services received.

Study Schools
Twenty-six of the current twenty-nine LTL schools had LTL in 2013–2014 and were included in the study (20 elementary schools and six middle schools). Three sites that opened in 2014 and 2015 (where LTL had been operating for less than one year) were not included in the study.

Study Sample
Information included in this study is specific to the students and families who received family case management or mental health services at an LTL site during the 2013–2014 school year. A total of 2,120 students and 1,025 family members had records of family case management and/or mental health services from LTL during the 2013–2014 school year.

Outcome Measures
Student and family outcomes were assessed with the use of nationally validated instruments as well as locally developed measures, and with MCPS student data. Some outcome measures, such as attendance, were examined for all students in the study, but some outcome measures were administered only to subsets of the students and family members with LTL service records. For example, the measure of student self-concept was administered only to children who received child or family therapy (not to those who only received group mental health services), and the instrument was not appropriate for children younger than second grade. The measure of family self-sufficiency was used only with families who were new to LTL services, not with families who were continuing services.

Student self-concept. The Piers-Harris Children's Self-Concept Scale, Second Edition (Piers-Harris 2; Piers, Harris, & Herzberg, 2002) was administered to students receiving mental health services at LTL sites to assess their self-perceived well-being at the time of intake and at planned discharge. The Piers-Harris 2 is a nationally normed measure of children's (age 7 to 18 years) psychological health.   The scale assesses student's behavioral adjustment, student's self-perception of intellectual and academic abilities, student's self-esteem, student's report of anxiety and dysphoric mood, and student's happiness and satisfaction with life. The instrument consists of 60 items to which the child responds "yes" or "no." Analyses of the psychometric properties of the scale yielded acceptable reliability and validity. A Chronbach's alpha of .91 was reported for the total scale, and values ranging from .74 to .81 were reported for the subscales. Convergent validity of the original Piers Harris scale was examined with correlational studies of related constructs; in general the results demonstrated that a positive self-concept is inversely related to measures that target psychological problems. LTL staff administered the form to students referred for child/family therapy at the time of intake, and whenever possible, at the time of discharge. Since some terminations are unplanned, not all post-LTL administrations of the instrument can be administered.

Student classroom behavior. Teachers rated the classroom behavior of students receiving child/family therapy services using the Sutter-Eyberg Student Behavior Inventory, Revised (SESBI-R; Eyberg & Pincus, 1999). The SESBI-R is used to assess conduct problems in youth aged 2 to 16. The SESBI-R has shown high internal consistency (Chronbach's alpha was .98 and .96 on two scales). The instrument consists of 38 items rated on a seven-point scale from "Never" to "Always," and a yes/no indication of whether the behavior is a problem for the rater (the teacher). LTL staff worked with classroom teachers to arrange for completion of the rating scale at the time of referral and when the student exited child/family therapy services. Some SESBI-R ratings were completed by different teachers at intake and discharge, so changes in student behavior may be confounded by variability in raters.

Work Habits grades. For elementary students, MCPS report card grades for Work Habits (Task Completion and Rules and Procedures) were used to examine student behavior from Marking Period 1 to Marking Period 4 of the year that LTL services were received (2013–2014). Grades on Work Habits reflect the effort and behaviors that affect learning Work Habits grades for the same year were used so that the grades at the two marking periods would be assigned by the same teacher; only grades for students who were receiving LTL services during both Marking Period 1 and Marking Period 4 were included in the analysis.

Student school attendance. Student attendance data (percentage of days attended during school year; number of unexcused absences during school year) were used to measure attendance during the year prior to LTL services (2012–2013) and during the year of LTL services (2013–2014). Data for students in Grades 1 through 8 during 2013–2014 were included in the analysis.

Suspensions. Among middle school students who were suspended in 2013–2014 and received LTL services, the rate of repeat suspension in 2014–2015 was examined.

Family self-sufficiency rating. The Massachusetts Family Self-Sufficiency Scales and Ladders Assessment Form (Massachusetts Department of Housing and Community Development, 1999) was used with families receiving LTL case management services to assess their status in several key areas. The form was administered by the LTL case worker during the intake process and approximately every six months until the family exited services. Families were rated on a five-level scale from "in crisis" to "thriving" in areas of employment, child's education, adult education, health, childcare, youth and development, housing, income management, transportation, community participation, and nutrition.

Parent's/guardian's perceptions of student's engagement in school. The LTL parent survey assessed parent's/guardian's perceptions of student's engagement in school and attitude toward school, as well as parent's/guardian's engagement in student's education. Parents/guardians who received LTL services during 2013–2014 were asked to complete a survey; surveys were collected by LTL staff from April through June, 2014. Surveys were available in English and Spanish and were completed with paper and pencil; respondents were not identified by name. The estimated response rate was 23% (based on number of parents/guardians receiving services during 2013–2014).

Data Sources
LTL program records provided data for students and families who received LTL case management or mental health services during the 2013–2014 school year. Staff from LTL provided secure files containing LTL service records for analysis by OSA.

LTL program assessment data was used for analyses of student and family outcomes (student self-concept; teacher-rated student behavior; family self-sufficiency). Staff from LTL provided secure files containing pre- and post-LTL assessment data for analysis by OSA.

MCPS student records provided demographic data for the students and were used to examine student attendance, numbers of unexcused absences, behavioral measures/learning behaviors on elementary report cards, and suspension data for middle school students.

Analysis of Data
Paired t-tests were used with means (continuous data), and McNemar's tests[2] were used with percentages (dichotomous data) to address the first set of evaluation questions—students' measures of well-being and engagement. Descriptive statistics (percentages) and McNemar's tests were used to report findings related to the second set of evaluation questions—parent/guardian and family well-being and support of child's education and engagement. Specific analyses are described below for each evaluation question.

Evaluation Question: **To what extent did students who received mental health services and/or whose families received case management services at an LTL site show improvement on measures of well-being and school engagement?**

- Two sets of paired t-tests were conducted with student measures: (1) analysis of students' self-ratings of their well-being and (2) analysis of teachers' ratings of student behavior. Each of these measures were analyzed at two time periods: at referral to LTL and after receiving LTL services during the 2013–2014 school year. Ratings on the two instruments (dependent variables) were analyzed over the two time periods (independent variable).

- Attendance measures (mean percentage of days attended and mean number of unexcused absences during the school year) were analyzed with paired t-tests; the independent variable was time (previous school year and year of LTL service), and dependent variables were mean percentage of days attended and mean number of unexcused absences. Analyses were conducted separately for elementary and middle school students.

- Learning Skills (Work Habits and Rules and Procedures) were examined for elementary students at two points in time: Marking Period 1 and Marking Period 4, and the percentages of students demonstrating the skill at each time period were compared using McNemar's test. Only students who were receiving LTL services during the two marking periods were included in the analysis.

- The rate of repeat suspensions in 2014–2015 was examined descriptively for middle school students who were suspended in 2013–2014 and received LTL services.

---

[2] McNemar's test is a statistical procedure used on paired nominal data to test whether the two related samples have the same distribution.

Evaluation Question: **After participating in Linkages to Learning services, to what extent did families show improvement in well-being and support of their student's education and increased community participation?**

- Findings related to family well-being were reported descriptively and pre- and post-LTL ratings were compared with McNemar's test. The percentage of families rated at each of five levels of self-sufficiency at referral and after LTL services were reported. Change in ratings over the course of LTL involvement was analyzed by comparing the percentages of families rated Safe, Stable or Thriving at referral and after receiving LTL services, using McNemar's test.

- Percentages of parents/guardians agreeing with post-LTL survey items pertaining to a child's engagement in school were reported descriptively.

In addition to tests of statistical significance, effect sizes (Cohen's *d* statistic, see Appendix D) were calculated to estimate the magnitude of the change and whether the difference is meaningful in an educational setting (American Psychological Association, 2010; Cohen, 1988). Cohen (1988) suggested that $d = 0.2$ be considered a "small" effect size, 0.5 represents a "medium" effect size, and 0.8 a "large" effect size. In analyses of "paired" measures, such as pre- and post-service measures that compare the scores for the same subjects over time, the effect size must consider the correlation between the measurements; this correction is accomplished with a d_z statistic (Lakens, 2013).

Summary of Methodology

Table 1 outlines the outcome measures, instruments, data collection, and analytic procedures used in the study.

Table 1
Summary of Measures and Data Collection Procedures for
Students and Family Members Receiving LTL Services, 2013–2014

Outcome Measure	Instrument/ Data Source	Number and schedule of measures	Number of students/family members with data[a]	Analysis
To what extent do students who have received family case management and/or mental health services at an LTL site show improvement on measures of well-being and school engagement?				
Student self-concept	Piers-Harris Children's Self-Concept Scale; administered by LTL	2 administrations: at referral, after services	58 students	Pre-, post-LTL mean differences
Student classroom behavior	Sutter-Eyberg Student Behavior Inventory; administered by LTL	2 administrations: at referral, after services	66 students	Pre-, post-LTL mean differences
Student classroom work habits	Elementary report card grades on Task Completion, Rules, and Procedures; MCPS records	2 measurements: Marking periods (MP) 1 and 4	682 students in Grades 1–5 who were receiving LTL services during MP1 and MP4	% students demonstrating skill, MP 1, MP 4
School attendance	% days attended; number of unexcused absences; MCPS records	2 measurements: 2012–2013 and 2013–2014 school years	Elementary students: 1,090; Middle school students: 572	Pre-, post-LTL mean differences
Suspensions	Number and % students with suspension; number and % students repeating suspension after LTL year; MCPS records	Data reported for 2 school years: 2013–2014; 2014-2015	61 MS students who were suspended in 2013-2014 and received family case management and/or MH services	Descriptive, percentages
After participating in Linkages to Learning services, to what extent did families show improvement in well-being and support of their student's education, and increased community participation?				
Family self-sufficiency	The Massachusetts Family Self-Sufficiency Scales and Ladders Assessment Form; administered by LTL	2 administrations: at referral, after services	122 parents/guardians	Pre-, post-LTL % families rated safe or better
Parent engagement and perceptions of student's school engagement	LTL Parent Survey; administered by LTL	1 administration: at the end of the school year	299 parents/guardians	Descriptive, percentages or mean ratings

[a] Data for students and family members were included only when both pre- and post-LTL assessments or records were available.

Strengths and Limitations of the Methodology

Strengths. To ensure that the evaluation addressed the issues of most importance and interest to the administrators of the initiative, the evaluation plan was developed in collaboration with the Linkages leadership team, comprising administrators from HHS, MCPS, and the partner agencies. In addition, the stakeholder surveys were developed with input collected from LTL community school coordinators, who coordinate the Linkages services and activities at the school sites.

The evaluation used published measures and one locally developed survey. The Massachusetts Family Self-Sufficiency Scales and Ladders Assessment Form is a widely-used instrument for assessing levels of well-being in key life areas. The Piers-Harris Children's Self-Concept Scale is one of the most widely used measures of psychological health in children and adolescents, and the Sutter-Eyberg Student Behavior Inventory has been shown to be a reliable measure of student problem behaviors (Floyd et al., 2004). In addition, a parent/guardian survey was developed to obtain parents'/guardians' perceptions of their child's school engagement and their own involvement in their child's education. The survey was developed by evaluators in collaboration with LTL administrators.

In a program like LTL, with a wide array of services and activities, students and their families may participate in different services and combinations of services, and for different amounts of time. To ensure that students and families had a minimum of four months in LTL, analyses did not include those whose initial intake for LTL was April or later or for whom the number of months between intake and discharge was fewer than four. In addition, when the numbers of participants were sufficient, separate analyses were conducted for groups of students who received different types of services.

Limitations. The use of self-ratings on the Piers-Harris, teacher ratings on the Sutter-Eyberg, and case manager ratings on the Massachusetts Scales introduces the potential for bias, since all raters were aware that the student or family member being rated was referred to LTL, and subsequently received services from LTL.

Different amounts of services, over different amounts of time, were received by students and family members in LTL. In addition, the time between pre-LTL and post-LTL assessments varied. All students and family members in the study received services during the 2013–2014 school year, but they may have been referred at the start of the school year or later in the year (students and family members referred in April or later were not included). Some may have received services in a previous school year as well. Therefore, although the study included measures at two time periods, different amounts of services may have been received between the pre-LTL and post-LTL measures.

No appropriate comparison groups were available for the analyses in this report. Since the group of interest in this study comprised students or family members who received LTL services, the "defining characteristic"—the need for services—is not a characteristic that can be matched in a comparison group in this study. Therefore, the pre-post design was used, but it must be understood that observing changes in the study (LTL) group without an examination of change in an untreated

group leaves open the possibility that the change was due to other factors (e.g., maturation, time of year) and that it may have occurred without LTL.

In analyses of student self-concept, student classroom behavior, and family self-sufficiency, the number of students and family members who had pre- and post-LTL assessments was small compared with the number of those who received LTL services because the instruments or the scheduling of them were not appropriate for all who received services. As a result, the analyses of student or family progress using these measures were conducted using small numbers of ratings and did not allow separate analyses by type of service received.

Results

*Evaluation question***: To what extent do students who have received family case management or mental health services at an LTL site show improvement on measures of well-being and school engagement?**

The demographic characteristics of students who received LTL family case management or mental health services during the 2013–2014 school year are shown in Table 2.

Table 2
Demographic Characteristics of Elementary and Middle School Students
who Received Case Management or Mental Health Services at LTL sites, 2013–2014

Characteristics	$N = 2{,}125$	
Grade Level	*n*	*%*
Kindergarten, 1st, 2nd	560	26.4
3rd, 4th	509	23.9
5th	285	13.4
6th	257	12.1
7th	237	11.2
8th	192	9.0
9th [a]	85	4.0
Race/Ethnicity		
Black or African American	370	17.4
Asian American	38	1.8
Hispanic/Latino	1,556	73.2
White	107	5.0
Two or More Races	49	2.3
Gender		
Female	1,026	48.3
Male	1,099	51.7
Service Provided		
ESOL (current)	814	38.3
Spec. Educ. (current)	484	22.8
FARMS (current or prior)	1,994	93.9

Note. American Indian students were not included because *n* < 10.
[a] Students in 9th grade who received LTL family case management or mental health services were those who were referred previously in middle school and were still receiving services in 2013–2014.

The demographic characteristics of the students who received mental health or family case management services through LTL were similar to that of the school populations in the LTL sites, particularly compared with the segment of the school population receiving FARMS, which is the target group for services provided by LTL. A description of the characteristics of LTL schools and the students receiving services is included in a previous report (Wade & Maina, November 2015).

How do students rate their well-being at the start of and after LTL participation?
For a subset of students receiving mental health or family case management services at an LTL site ($N = 58$), self-ratings of their well-being were available at referral to LTL and after LTL participation. Table 3 shows the characteristics of the students with pre- and post-LTL ratings on the Piers-Harris 2.

Table 3
Demographic Characteristics of Elementary and Middle School Students With
Pre-LTL and Post-LTL Piers-Harris 2 Scores, 2013–2014

Characteristics	$N = 58$	
School Level	n	%
Elementary	30	51.7
Middle School	28	48.3
Race/Ethnicity		
Black or African American	14	24.1
Asian American	<5	---
Hispanic	36	62.1
White	<5	---
Two or More Races	<5	---
Gender		
Female	27	46.6
Male	31	53.4
Service Provided		
ESOL (current)	15	25.9
Spec. Educ. (current)	18	31.0
FARMS (current or prior)	57	98.3

The characteristics of the students with Piers-Harris 2 ratings were similar, for the most part, to the characteristics of all students who received LTL services (see Table 2). The LTL services received in 2013–2014 by the students with Piers-Harris 2 data are shown in Table 4. It should be remembered that students may have received more than one type of service, and each service may have been received multiple times. Most of the students with Piers-Harris 2 data received family case management services and individual psychotherapy; about two thirds received family therapy.

Table 4
Services Received by Students With Pre-LTL and Post-LTL Piers-Harris 2 Scores (N = 58)

Type of mental health or case management service	Number of students with service	% of students with service	Median times service received /participated[a]
Family case management	54	93.1	7
Family therapy	38	65.5	2
Individual therapy	56	96.6	20
Group therapy	23	39.7	6

[a] Number of service encounters includes services provided for students and family members; services were received during 2013–2014.

Responses of elementary students who completed the Piers-Harris 2 at referral to LTL and after LTL participation are shown in Table 5. Self-rated well-being scores were significantly higher (p < .05) after LTL participation on five of the six scales and on the total score representing "General self-concept" (p < .01). Effect sizes were in the small to medium range, using Cohen's criteria, indicating that the increases in Piers-Harris 2 scores were of practical significance. "Freedom from anxiety" had the largest effect size of the six scales for elementary students.

Table 5
Self-Ratings of Well-Being on Piers-Harris 2 by Elementary School Students With
LTL Services in 2013–2014 at Referral (Pre-Service) and After Participation (Post-Service)

Scales	N	Pre-Service T score Mean	Post-Service T score Mean	Paired Mean difference	Std. error	t	p	Effect size (d_z)
Total score/ General self-concept	30	49.73	56.43	6.70**	2.16	3.11	.004	.57
Behavioral adjustment/ Self-perception of positive and negative behaviors	30	50.80	54.90	4.10*	1.84	2.23	.034	.41
Intellectual status/ Self-assessment of intellectual and academic abilities	30	51.70	56.33	4.63*	2.00	2.31	.028	.42
Physical appearance & attributes/ Self-appraisal of appearance, leadership, ability to express ideas	30	49.87	53.80	3.93*	1.63	2.41	.023	.44
Freedom from anxiety/ Positive emotional states, not bothered by sadness, worry, unpleasant mood	30	49.57	55.03	5.47*	2.06	2.65	.013	.48
Popularity/ Self-evaluation of social functioning, peer relationships	30	46.33	50.87	4.53*	1.90	2.39	.024	.44
Happiness and satisfaction / Feelings of happiness and satisfaction with life	30	53.93	55.80	1.87	1.43	1.31	.200	.24

Note. T scores are standardized scores with a mean of 50 and a standard deviation of 10. On all Piers-Harris 2 scales except the total score, T scores from 40 to 55 are considered to be within the average range. On total score, T scores between 40 and 59 comprise the average range. On all scales and total score, higher scores represent higher ratings of well-being.
* p < .05; ** p < .01

Among the middle school students who completed Piers-Harris 2 at referral to LTL and after receiving services at LTL sites (Table 6), their wellbeing scores were significantly higher after receiving services on two of the six scales—"Freedom from anxiety" and "Happiness and satisfaction"—and on the total score representing "General self-concept" ($p < .05$). Effect sizes for differences on these three scales were between small and medium (.40 to .56), indicating that the differences were large enough to be of practical significance.

Table 6
Self-Ratings of Well-Being on the Piers-Harris 2 by Middle School Students
With LTL Services in 2013–2014 at Referral (Pre-Service) and After Participation (Post-Service)

		Pre-Service T Score	Post-Service T Score					
	N	Mean	Mean	Paired Mean difference	Std. error	t	p	Effect size (d_z)
Total score/ General self-concept*	28	44.50	48.50	4.00*	1.87	2.14	.042	.40
Behavioral adjustment/ Self-perception of positive and negative behaviors	28	47.43	47.50	0.07	1.38	0.05	.959	.01
Intellectual status/ Self-assessment of intellectual and academic abilities	28	45.43	45.64	0.21	1.27	0.17	.867	.03
Physical appearance & attributes/ Self-appraisal of appearance, leadership, ability to express ideas	28	48.39	49.14	0.75	1.36	0.55	.584	.10
Freedom from anxiety/ Positive emotional states, not bothered by sadness, worry, unpleasant mood states	28	46.36	51.00	4.64*	1.71	2.72	.011	.51
Popularity/ Self-evaluation of social functioning, peer relationships	28	47.86	50.79	2.93	1.72	1.70	.100	.32
Happiness and satisfaction / Feelings of happiness and satisfaction with life	28	47.25	51.18	3.93**	1.32	2.97	.006	.56

Note. T scores are standardized scores with a mean of 50 and a standard deviation of 10. On all Piers-Harris 2 scales except the total score, T scores from 40 to 55 are considered to be within the average range. On total score, T scores between 40 and 59 comprise the average range. On all scales and total score, higher scores represent higher ratings of well-being.
* p < .05; ** p < .01

How do teachers rate the classroom behavior of students at referral to LTL and after receiving services?

The classroom behavior of a subset of students ($N = 66$) was rated by teachers using the Sutter-Eyberg Student Behavior Inventory-Revised (SESBI-R). Teachers rated the students' behavior at referral to LTL and, during the same school year, after the student received mental health or family case management services at an LTL site. The therapist requested that the teacher complete the ratings; a total of 66 students were rated by their teachers at two time periods. Table 7 describes the students in this analysis.

Table 7
Characteristics of Elementary and Middle School Students With Pre- and Post-
LTL Behavior Ratings on the SESBI-R, 2013–2014

Characteristics	$N = 66$	
School Level	*n*	%
Elementary School	45	68.2
Middle School	21	31.8
Race/Ethnicity		
Black or African American	11	16.7
American Indian	<5	---
Asian American	<5	---
Hispanic/Latino	41	62.1
White	8	12.1
Two or More Races	<5	---
Gender		
Female	32	48.5
Male	34	51.5
Service Provided		
ESOL (current)	21	31.8
Spec. Educ. (current)	15	22.7
FARMS (current)	58	87.9

Overall, the demographic characteristics of the students with behavior ratings were similar to students who received LTL mental health and case management services (see Table 2). Table 8 summarizes the main types of LTL services received by students who had pre- and post-LTL behavior ratings. It should be remembered that students may have received more than one type of service, and each service may have been received multiple times. Most of the students with Piers-Harris 2 data received family case management services and individual psychotherapy; about two thirds received family therapy

Table 8
Services Received by Students With Pre- and Post-LTL Behavior Ratings on the SESBI-R, 2013–2014
(*N* = 66)

Type of mental health or case management service	Number of students with service	% of students with service	Median times service received /participated
Family case management	63	95.5	6
Family therapy	44	66.7	3
Individual therapy	66	100.0	22.5
Group therapy	21	31.8	8

* Number of service encounters includes services provided for students and family members; services were received during 2013–2014.

Table 9 shows the "Intensity" and "Problem" scale behavior ratings for elementary and middle school students at referral and after participation in LTL. The Intensity scale assesses the frequency with which the child displays problem behaviors. The Problem scale assesses the degree to which the rater (teacher) considers the behavior a problem.

Table 9
Classroom Behavior Ratings on the SESBI-R for Elementary and Middle School Students
With LTL Services in 2013–2014 at Referral (Pre-Service) and After Participation (Post-Service)

		Pre-Service T score	Post-Service T score					
Elementary School	*n*	*Mean*	*Mean*	*Paired Mean difference*	*Std. error*	*t*	*p*	*Effect size* (d_z)
Intensity (frequency of problem)	45	51.42	50.98	0.44	1.06	0.42	.68	.06
Problem (degree of problem)	45	51.00	49.80	1.20	1.11	1.08	.29	.16
Middle School								
Intensity (frequency of problem)	21	48.95	51.24	-2.29	1.90	-1.21	.24	-.11
Problem (degree of problem)	21	48.19	50.10	-1.91	2.06	-0.92	.37	-.08

Note. T scores are standardized scores with a mean of 50 and a standard deviation of 10. High scores indicate a greater level of conduct-disordered behavior (Intensity) and greater impact on the rater (teacher) (Problem). On both scales, T scores greater than or equal to 60 are considered clinically significant; T scores below 60 are within normal range.

Behavior ratings for elementary students decreased but were not statistically significantly different from the time of referral to after LTL services were received. Among middle school students, the ratings for the frequency of the behavior (Intensity) and the degree to which the behavior is a problem (Problem) increased over the course of the two ratings, but differences were not statistically significant (see Table 9). The mean ratings of both elementary and middle school groups, at referral and after LTL participation, were within the normal range (T scores < 60).

Ratings for some individual students were clinically significant; maximum T score was 75 for elementary students and 73 for middle school students.

Was there a change in school attendance after LTL participation?
The attendance rates and mean number of unexcused absences were measured for students who received mental health or case management services at LTL sites during the 2013–2014 school year and compared with their attendance measures the previous year. Table 10 summarizes attendance rates during 2013–2014 and the previous year for elementary and middle school students who received various LTL mental health and family case management services.

Table 10
Attendance Rate for Current and Previous Year by LTL Services Received for Students Receiving
LTL Mental Health and Family Case Management Services During 2013–2014

Attendance Rate (% days attended)							
Elementary School	*N*	*2012–2013 Mean*	*2013–2014 Mean*	*Paired mean difference*	*Std. error*	*t*	*p*	*Effect size (d_z)*
Students whose families received case management	503	94.83	94.79	-0.05	0.21	0.64	.818	.04
Students who received family therapy	304	94.63	94.73	0.10	0.22	0.46	.645	.04
Students who received individual therapy	369	94.74	94.68	-0.05	0.20	0.26	.794	.02
Students who participated in therapeutic group	215	95.01	95.34	0.37	0.26	1.31	.193	.13
Students who participated in recreation group	278	94.96	95.53	0.57**	0.22	2.60	.010	.22
Middle School								
Students whose families received case management	240	93.53	92.66	-0.86*	0.43	-2.02	.044	-.18
Students who received family therapy	123	93.26	92.27	-0.99	0.69	-1.48	.142	-.19
Students who received individual therapy	144	92.85	91.85	-1.00	0.57	-1.76	.080	-.21
Students who participated in therapeutic group	141	93.61	93.71	0.10	0.61	0.17	.867	.02
Students who participated in recreation group	68	95.70	95.67	-0.03	0.40	-0.08	.933	-.01

Note. Only students who were enrolled in LTL for four months or more during 2013–2014 and were in Grades 1 through 8 with attendance data for 2012–2013 and 2013–2014 were included in the analysis.
* $p < .05$; ** $p < .01$

Among elementary students who received mental health and/or family case management services at LTL sites, attendance was significantly higher during 2013–2014 than the previous year for students who participated in a recreation group ($t = 2.60$, $p = .01$). The difference was about 0.6 percentage point, which is equal to about one day in a 180-day school year, and large enough to yield an effect size of practical significance ($d_z = .22$) (see Table 10).

Among middle school students who received mental health and family case management services at LTL sites, one subgroup—students whose families received case management—showed a

statistically significant *decrease* in attendance rate from 2012–2013 to 2013–2014 (from 93.5 to 92.7; t = -2.02, $p < .05$ [equivalent to about ¾ of one day in a 180-day year]), but the effect size ($d_z = .18$) did not reach the threshold for practical significance (see Table 10).

Table 11 shows the mean number of unexcused absences for elementary and middle school students who received mental health and family case management services at LTL sites in 2013–2014, compared with the number of unexcused absences the previous year.

Table 11

Number of Unexcused Absences for Current and Previous Year by Services Received for
Students Receiving LTL Mental Health and/or Family Case Management Services During 2013–2014

| | | Number of Unexcused Absences | | | | | | |
| | | *2012–2013* | *2013–2014* | *Mean* | *Std.* | | | *Effect* |
Elementary School	*N*	*Mean*	*Mean*	*difference*	*error*	*t*	*p*	*size (d$_z$)*
Students whose families received case management	506	5.64	5.95	-0.31	0.24	-1.28	.200	-.08
Students who received family therapy	304	5.79	6.19	-0.21	0.33	-0.64	.525	-.05
Students who received individual therapy	371	5.83	6.31	-0.49	0.29	-1.68	.093	-.12
Students who participated in therapeutic group	215	5.43	5.80	-0.37	0.40	-0.91	.362	-.09
Students who participated in recreation group	278	4.85	4.86	-0.01	0.31	-0.02	.981	.00
Middle School								
Students whose families received case management	242	7.25	7.21	0.03	0.58	0.05	.957	.00
Students who received family therapy	125	7.31	7.84	-0.53	0.88	-0.60	.550	-.08
Students who received individual therapy	145	8.06	8.52	-0.46	0.85	-0.54	.588	-.06
Students who participated in therapeutic group	142	7.25	6.32	0.93	0.82	1.13	.259	.13
Students who participated in recreation group	68	4.80	3.49	1.31*	0.65	2.00	.050	.34

Note. Only students who were enrolled in LTL for four months or more during 2013–2014 and were in Grades 1 through 8 with attendance data for 2012–2013 and 2013–2014 were included in the analysis.
* $p < .05$

Among elementary students who received LTL mental health and/or family case management services, differences in the number of unexcused absences were not statistically significantly different from 2012–2013 to 2013–2014 for any of the service subgroups. Among middle school students, however, analyses of unexcused absences revealed that students who participated in a recreation group through LTL had statistically significantly fewer unexcused absences in 2013–2014 than in the previous year (t = 2.0, p = .05); the effect size ($d_z = .34$) indicated the difference was large enough to be of practical significance (see Table 11).

Analyses of attendance measures also were conducted by grade level, and results are shown in Appendix E, Tables E-1 (attendance rate) and E-2 (unexcused absences). Among elementary students who received services in LTL, attendance gains (percentage of days attended) were

greatest in Grade 3 ($p < .10$); Grade 5 students, however, had higher rates of unexcused absences the year following LTL services (p < .05). Findings by grade also were mixed for middle school students: Grade 6 students had lower attendance rates during 2013–2014 compared with the previous year ($p < .05$); however, students in Grades 7 and 8 reduced their rate of unexcused absences ($p < .10$).

Was there a change in Work Habits grades for elementary students during the year LTL services were received?
Two work habits that are graded on Grades 1 through 5 elementary report cards at each marking period were examined for elementary students who received services in LTL: Task Completion and Rules and Procedures. For each marking period, teachers assign one of three grades to each of these two learning skills: Not yet evident; Progressing; or Demonstrating. To examine change from Marking Period 1 to Marking Period 4, the scores for each student were classified dichotomously as "Demonstrating" or "Not demonstrating" (i.e., not yet evident or progressing). Table 12 shows the percentage of students demonstrating each of the skills at Marking Period 1 and at Marking Period 4 by the LTL service received. Only students who were receiving LTL services during both Marking Period 1 and Marking Period 4 were included in the analysis.

Table 12
Percentage of Students Demonstrating Specified Work Habits in 1st and 4th Marking Periods:
Students Receiving LTL Services During 2013–2014 by Services Received

Work Habit		Number and Percentage Demonstrating Work Habit				McNemar's test
		Marking Period 1		Marking Period 4		
Task Completion	N	n	$\%$	n	$\%$	p
Students whose families received case management	333	150	45.0	156	46.8	.627
Students who received family therapy	210	85	40.5	100	47.6	.086
Students who received individual therapy	241	96	39.8	107	44.4	.278
Students who participated in therapeutic group	104	45	43.3	43	41.3	.851
Students who participated in recreation group	213	107	50.2	111	52.1	.699
Rules and Procedures						
Students whose families received case management	332	176	53.0	169	50.9	.515
Students who received family therapy	210	107	51.0	103	49.0	.678
Students who received individual therapy	241	111	46.1	109	45.2	.897
Students who participated in therapeutic group	104	55	52.9	52	50.0	.678
Students who participated in recreation group	213	119	55.9	121	56.8	.904

Note. Only students who were receiving LTL services during 1st and 4th marking periods were included in analysis.

On Task Completion, slightly higher percentages of students in four of the five service groups were demonstrating the work habit in Marking Period 4 than in Marking Period 1 of the year they received LTL services, but the differences were not statistically significant. On Rules and Procedures, differences in percentages of students demonstrating the work habit were even smaller, and percentages for most of the service groups were lower in Marking Period 4 than in Marking Period 1. On average, the percentage of students demonstrating Task Completion and Rules and Procedures were only around half, even at Marking Period 4.

Among middle school students who were suspended in 2013–2014 and received LTL services, what was the rate of repeat suspension in 2014–2015?
Among all middle school students who received mental health or family case management services in LTL during 2013–2014 ($N = 762$), the percentage who were suspended during that year was 8.0% ($n = 61$).

The data were examined to determine whether students who were suspended in 2013–2014 and who received LTL services, were also suspended in the year following (2014–2015). Table 13 shows the numbers of students suspended in 2013–2014 who were also suspended the following year.

Table 13
Number and Percentage of Students Suspended During 2013–2014 and the Year Following:
Middle School Students Receiving LTL Services During 2013–2014,
All Students, and by Services Received

Rules and Procedures		Suspended in 2013–2014		*Of students suspended in 2013–2014,* number suspended in 2014–2015
	N	*n*	*%*	*n*
All students who received family case management and mental health services	762	61	8.0	17
Students who received family therapy	150	15	10.0	4
Students who received individual therapy	171	27	15.8	6
Students who participated in therapeutic group	164	14	8.5	5
Students who participated in recreation group	79	<10	--	--

Note. Students whose intake dates were April 2014 or after were not included in analysis.

Of the middle school students in LTL who were suspended during 2013–2014 ($n = 61$), only 17 were suspended during the following school year. Although the numbers of students are small, when the suspensions are examined by services received, students who received individual therapy had the lowest percentage of repeat suspensions in the following year (6 of 27 = 22%).

Evaluation question: **After participating in Linkages to Learning services, to what extent did families show improvement in well-being and support of their student's education, and increased community participation?**

The demographic characteristics of family members who received LTL family case management or mental health services during the 2013–2014 school year are shown in Table 14. The demographic information reported in the table is based on LTL program records; race and ethnicity is recorded by the family case manager when a case is opened. More than three quarters of the family members who received LTL case management or mental health services in 2013–2014 were at elementary school LTL sites. Most of those who received LTL services were Hispanic/Latino (79%), and the largest race group served was white (57%), according to program records.

Table 14
Number and Percentage of Family Members
Who Received LTL Case Management Services, 2013–2014

Characteristics	$N = 1,025$	
School level of LTL site	n	%
Elementary School	834	81.4
Middle School	191	18.6
Race		
Black or African American	149	14.5
American Indian	4	0.4
Asian American	13	1.3
White	585	57.1
Information not captured	274	26.7
Ethnicity		
Hispanic/Latino	810	79.0
Non-Hispanic/Latino	159	15.5
Information not captured	56	5.5

Note. Race and ethnicity based on information collected by LTL program staff.

A subset of family members receiving LTL services ($N = 125$) had ratings on the Massachusetts Family Self-Sufficiency Scales and Ladders Assessment Form (referred to in this report as the Massachusetts Scales) at intake into LTL and after receiving case management services for approximately six months. Families were rated on a five-point scale from "In-crisis" to "Thriving" in areas of employment, health, childcare, family development, housing, income management, transportation, nutrition, child's education, adult education, and community participation. Table 15 provides a summary of the ratings of these 125 families at the time of their referral to LTL and after receiving LTL services, with ratings combined into "Thriving/Stable/Safe" or "At-risk/In-crisis." The percentage of families rated on all five levels of the Massachusetts Scales is shown in Appendix E, Table E-4.

Table 15
Ratings of Family Members' Self-Sufficiency at Referral to LTL and After Receiving LTL
Services During 2013–2014

Self-Sufficiency Rating [a]		At Intake		After 6 months			
Basic needs	*N*	Thriving/ Stable/Safe %	At Risk/ In-crisis %	Thriving/ Stable/Safe %	At Risk/ In-crisis %	Change in % Safe/+	McNemar Test *p* =
Employment	121	43.0	57.0	58.7	41.3	15.7	.001
Health	119	75.6	24.4	88.2	11.8	2.6	.004
Childcare	117	77.8	22.2	91.5	8.5	13.7	.000
Family Dev. (safety, support)	117	83.8	16.2	93.2	6.8	9.4	.007
Housing	120	79.2	20.8	85.8	14.2	6.6	.077
Income Management	116	49.1	50.9	66.4	33.6	17.3	.000
Transportation	120	73.3	26.7	81.7	18.3	8.4	.041
Nutrition	119	78.2	21.8	92.4	7.6	14.2	.000
Education and community participation							
Education and Literacy: Child	121	84.3	15.7	91.7	8.3	7.4	.049
Education and Literacy: Adult	121	42.1	57.9	52.9	47.1	10.8	.007
Community Participation	120	63.3	36.7	80.8	19.2	17.5	.000

[a] Only families with at least two ratings are included.

In the areas of employment, income management, and adult education and literacy, more than half of the family members with Massachusetts Scales ratings were rated "at-risk" or "in-crisis" at the time of intake to LTL. Other areas in which more than 20% of the family members were rated "at-risk" or "in-crisis" at referral were health, childcare, housing, transportation, nutrition, and community participation (Table 15).

Do families show an increased capacity to meet basic needs?
Table 15 also shows ratings of family members in areas of basic needs after six months in LTL. The mean number of months between the two ratings was 7.05 (median = 6.2).

Improvement in family self-sufficiency ratings was evident in nearly all of the areas, with positive changes in the percentage of families rated "Safe" or better ranging from 3 to 17 percentage points. On seven of the eight areas of basic needs, the percentage of families who were rated "Safe," "Stable," or "Thriving" was significantly larger after LTL services compared to ratings at intake (McNemar test, $p < .05$).   The areas with the largest increase in the percentage of families rated

"Safe" or better between intake and after receiving LTL services—ten percentage points or more— were employment (43% at intake compared to 59% at 6 months), income management (49% compared to 66%), childcare (78% compared to 91%), and nutrition (78% compared to 92%) (see Table 15). Two of those areas—employment and income management—were areas with the highest percentage of "at-risk" or "in-crisis" ratings at the time of referral.

Do families show increased support of student's education at home and at school and increased community participation?
Massachusetts Scales ratings. Table 15 shows the family members' ratings in areas of education and community participation after receiving LTL services. Statistically significantly larger percentages of families were rated "Safe," "Stable," or "Thriving" in ratings after six months compared with ratings at intake to LTL in all three areas. The largest change was observed in community participation: 81% were rated "Safe," "Stable," or "Thriving" after receiving LTL services, compared with 63% at intake, a change of 18 percentage points.

Parent/guardian surveys. In their responses to the end-of-year LTL survey, parents/guardians indicated their agreement that LTL helped them support their child's education. Table 16 summarizes responses to questions about these aspects of LTL participation.

Table 16
Level of Agreement With Statements on LTL Survey by Elementary and Middle School Parents:
Support for Child's Education

	Elementary School			Middle School		
	Responded Agree or Strongly Agree [a]			Responded Agree or Strongly Agree [a]		
Survey statement	*N*	*n*	%	*N*	*n*	%
LTL has helped me know how to communicate with teachers.	286	269	94.1	92	88	95.7
LTL has helped me learn ways to help with schoolwork.	291	274	94.2	90	83	92.2

[a] Parents responded to survey statements on a five-point scale: "Strongly Agree," "Agree," "Not Sure," "Disagree," and "Strongly Disagree." The percentage who responded "Strongly Agree" or "Agree" are shown here.

More than 90% of responding parents/guardians, both with students in elementary school and middle school, agreed that LTL helped them communicate with teachers and that LTL has helped them learn ways to help their children with schoolwork (see Table 16).

Parents'/guardians' responses to the LTL survey also indicated that their participation in LTL was helpful for their children and for their families in terms of their involvement and feelings toward school. Table 17 summarizes parents'/guardians' responses.

Table 17
Level of Agreement With Statements on LTL Survey by Elementary and Middle School Parents:
Engagement in School by Student and Family

| | Elementary School | | | Middle School | | |
| | Responded Agree or Strongly Agree[a] | | | Responded Agree or Strongly Agree[a] | | |
Survey Statement	N	n	%	N	n	%
LTL has helped my child feel a part of the school.	294	281	95.6	92	89	96.7
LTL has helped our family feel a part of the school.	299	289	96.7	91	87	95.6
LTL has helped my child feel good about going to school.	297	281	94.6	86	82	95.3
LTL has helped my child to get more involved in school activities.	297	283	95.3	57	52	91.2

[a] Parents responded to survey statements on a five-point scale: Strongly Agree, Agree, Not Sure, Disagree, and
     Strongly Disagree. The percentage who responded "Strongly Agree" or "Agree" are shown here.

Finally, although the data reporting participation in community education and development activities do not allow a determination of *increased* school engagement and support of students' education, an examination of these data shows that LTL schools provided a range of programs and activities for parents/guardians, and a large number of parents/guardians participated in them. Table 18 shows attendance at activities supporting parents'/guardians' involvement in education during 2013–2014.

Table 18
Community Education and Development Activities Provided by LTL During 2013–2014
School Year and Attendance by Families

Program Type	Examples of Activities	Number of Sites Offering (25 reporting[a])	Total Number of Sessions Offered by All Sites	Total Attendance, All Sessions
Adult education, skill development	Description of MCPS resources, GED, legal presentation, computer classes, literacy	18	279	782
Adult ESOL classes	Level I, Level II, Basic, intermediate conversation	16	675	2,525
Parent education and support	Parent coffees, parenting skills, empowerment, positive discipline	22	400	2,975

[a] Records were provided by 25 sites; two were combined programs (two sites serve two elementary schools each), and one
     middle school had limited staffing to provide programming for 2013–2014.
Note. Activities listed for each program type are examples but are not all-inclusive. For some activities, the attendance
     counts were duplicative (participants were counted each time they attended an activity).

Summary

Students who received mental health or family case management services at an LTL site showed improvement on some measures of well-being and school engagement. Specifically, on self-ratings of well-being before and after participation in LTL child/family therapy, elementary students improved on five of six scales plus an overall measure, and middle school students improved on two of five scales, plus an overall measure. Teacher ratings of students' classroom behavior were not significantly different before and after students received child/family therapy through LTL

Elementary report card grades on Work Habits were not statistically significantly different from Marking Period 1 to Marking Period 4 for students who were receiving mental health and/or family case management services in LTL during 2013–2014. Overall, only about half of the students receiving LTL services were demonstrating the Work Habits in Marking Period 4, a rate similar to Marking Period 1.

Attendance (percentage of days attended) for elementary students who participated in a recreation group through LTL was statistically significantly higher during the year of LTL participation compared to the previous year. For middle school students whose families received case management services, attendance rate was significantly lower during the LTL service year, but among middle school students who participated in recreation activities through LTL, the number of unexcused absences was significantly fewer compared with the previous year. An examination of suspension rates for students who were suspended during the year they received LTL services showed that nearly three quarters of them (72%) were not suspended during the following school year.

Families who received case management services showed improvement on several areas of self-sufficiency. Ratings on health, nutrition, family development, income management, adult education and community participation were significantly higher after receiving LTL family case management services than at referral to LTL. In addition, in response to a survey at the end of the school year, large percentages of parents/guardians (more than 90%) agreed that LTL had helped them support their student's education and feel part of the school and that LTL had helped their student feel part of school and become more involved in school activities.

Discussion

Assessing the impact of an initiative such as LTL, which provides a range of services in varying combinations and amounts according to the needs of the students or their families, is full of challenges, and several of these were discussed earlier in the Limitations section. With these challenges in mind, however, the study did provide some evidence of progress on two indicators of student well-being and engagement: ratings of self-concept and school attendance. On ratings of self-concept, effects for elementary students were more pronounced than effects for middle school students. On attendance, effects differed for elementary and middle school students. Several factors may contribute to these varied findings. First, the services provided for elementary

students and middle school students may have differed in nature and in amount. The mean number of encounters within some of the LTL services differed for elementary and middle school students (see Appendix F, Table F-1). In addition, the middle school LTL sites have fewer full-time staff and larger school communities, so some services are by necessity scarcer. Finally, some differences in observed impact between elementary and middle school students, such as well-being and attendance, may be related to developmental differences. It is possible that some behaviors may be more readily improved with elementary students than with middle school students, particularly when the intervention includes working with parents/guardians.

Measures of family self-sufficiency before and after involvement in LTL services indicated that family members made progress in nearly all areas measured. Some areas, however, appear difficult to impact—specifically, employment, income management, and adult literacy. More than a third of the family members were still at risk or in crisis in these areas after LTL participation. These findings reinforce the understanding that families served by LTL bring challenging and complicated circumstances to the program. A unique strength of the program is its capacity to respond to multiple and changing needs of students and their families.

Recommendations

1. *Utilize technology to strengthen the process for therapist and case manager to receive daily feedback about the attendance of students with whom they are working.* Some evidence of improvements in attendance was observed for students receiving services in LTL sites, particularly for elementary students. Since school attendance is a key ingredient for academic success, closer, more real-time monitoring may strengthen LTL's impact on attendance. Currently, LTL staff have access via parent/guardian consent to the MCPS student database; however, the database is not updated in real time. As such, outside of biweekly team meetings and direct contact with students and family members being served, LTL staff rely on notification from teachers, counselors, or other school-based staff. Workgroups are underway between MCDHHS and MCPS to develop a data-sharing process that will allow relevant information to be accessed more efficiently.

2. *Explore ways to increase systematic collaboration between LTL service providers and teachers* to better understand specific issues and concerns of students who are not demonstrating skills associated with expected work habits. About one half of the students receiving mental health services and/or whose families were receiving case management at LTL sites were demonstrating the skills related to two report card work habits—Task Completion and Rules and Procedures—in Marking Period 4, a rate similar to Marking Period 1.

3. *Explore additional ways to support families in areas that appear most challenging to impact.* Many areas of family self-sufficiency showed statistically significant improvement after family members received LTL case management services. Some areas—such as employment and income management—did show improvement during LTL participation but remain challenging for many families. Difficult problems such as these require additional resources and innovative approaches. LTL has been looking into new partnerships with Montgomery College to expand adult education opportunities offered on-site at LTL schools in hopes of improving opportunities for employment for parents/guardians. LTL should explore additional systemic partnerships to support outcomes in these areas.

4. *Institute more regular and consistent administration of LTL program assessments.* A relatively small number of students who exited LTL mental health services during the 2013-2014 school year completed measures of well-being at referral and when exiting LTL services; likewise, few students had behavior ratings completed by teachers. Ratings of family self-sufficiency also were completed for a relatively small number of families who received case management services at LTL sites, although larger numbers have been collected in subsequent years. (The year reviewed in this study was only the second year for administering the family self-sufficiency scale. In order to obtain consistent baseline measures, the scale was administered only with families who were new to the program at intake, not with families who had been previously receiving LTL case management services.) Obtaining LTL measures for all students and families who receive LTL services is needed so that a more reliable summary of the status of clients' well-being can be reported, more regular feedback can be provided to program staff, and additional information is available for monitoring and adjusting services.

LTL is currently exploring the use of new electronic assessment measures in order to achieve this improvement.

5. *Increase means for feedback from students participating in LTL services.* At the time of data collection for this study, needs surveys were administered to parents/guardians in schools with an LTL site, satisfaction surveys were administered each year to parents/guardians who received (or their children received) any LTL services, data scales were collected from students who received behavioral health services, family self-sufficiency scales were collected with families receiving case management services, and surveys for specific events and programs were collected. However, no consistent satisfaction surveys of students receiving LTL service were conducted across the initiative. It is recommended that two versions of surveys be administered at all LTL sites: (1) to a sample of *all* students in the school to identify ways to make services more accessible and target needs, interests, and ideas for groups and activities (to be coordinated with MCPS protocols for student survey administration); and (2) to students who have received any LTL service to ascertain what aspects of LTL have been most helpful and what additional services are needed. It should be noted that student needs and satisfaction surveys are now in place at LTL middle school sites, with plans underway to expand to higher elementary school grades in the future.

References

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

Anderson-Butcher, D., & Ashton, D. (2004). Innovative models of collaboration to serve children, youths, families, and communities. *Children & Schools*, Vol. 26 (1).

Barton, P. E., & Coley, R. J. (2009). *Parsing the achievement gap II.* Princeton, NJ: Educational Testing Service.

Castrechini, S., and London, R. A. (2012). *Positive student outcomes in community schools.* Center for American Progress and John W. Gardner Center for Youth and Their Communities. Retrieved February 10, 2014, from www.americanprogress.org.

Child Trends. (2014). Making the Grade: Assessing the Evidence for Integrated Student Supports. Publication #2014-07. Available at http://www.childtrends.org.

Coalition for Community Schools, *Community Schools Evaluation Toolkit.* (2009). Available at http://www.communityschools.org/resources/community_schools_evaluation_toolkit.aspx.

Cohen, J. (1988*). Statistical power for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Eyberg, S., & Pincus, D. (1999). Eyberg Child Behavior Inventory & Sutter-Eyberg Student Behavior Inventory-Revised: Professional Manual. Odessa, FL: Psychological Assessment Resources.

Floyd, E. M., Rayfield, A., Eyberg, S. M., & Riley, J. L. (2004). Psychometric properties of the Sutter-Eyberg Student Behavior Inventory with rural middle school and high school children. *Assessment*, *11*(1), 64–72.

ICF International. (2010). *Communities in Schools National Evaluation: Five Year Summary.*

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, 4:863.

Lipsey, M. W., & Wilson, D. B. (1993). The efficacy of psychological, educational, and behavioral treatment: Confirmation from meta-analysis. *American Psychologist*, 48(12), 1181-1209.

Massachusetts Department of Housing and Community Development. (1999). *Massachusetts Family Self-Sufficiency Scales and Ladders Assessment Form.* Retrieved June 20, 2015, from http://www.urbanministry.org/wiki/ma-family-self-sufficiency-scales-and-ladders-assessment-form.

Montgomery County, Maryland, Department of Health and Human Services. (2015). Linkages to Learning. Retrieved June 8, 2015, from http://www.montgomerycountymd.gov/ HHS-Program/Program.aspx?id=CYF/CYFLinkagestolearning-p225.html.

Morsy, L., & Rothstein, R. (2015). Five social disadvantages that depress student performance: Why schools alone can't close achievement gaps. Economic Policy Institute, Washington, D.C., June 10, 2015. http://www.epi.org.

Piers, E. V., Harris, D. B., & Herzberg, D. S. (2002). *Piers-Harris Children's Self-Concept Scale, 2nd Edution.* Western Psychological Services.

Princiotta, D., Ryberg, R., Moore, K. A., Nuenks, K., Schmitz, H., & Lippman, L. (2014). Chapter III: Review of Research. In Making the Grade: Assessing the Evidence for Integrated Student Supports. Child Trends Publication #2014-07. Available at http://www.childtrends.org.

Rosenthal, R. (1991). *Meta-analytic procedures for social research.* Newbury Park, CA: SAGE Publications, Incorporated.

Sandstrom, H., & Huerta, S. (2013). The negative effects of instability on child development: A research synthesis. The Urban Institute, Discussion Paper 3, Low-Income Working Families.

Valli, L., Stefanski, A., & Jacobson, R. (2014). *School-community partnerships: A typology for guiding systemic educational reform.* College Park, MD: Maryland Equity Project, University of Maryland.

Wade, J., & Maina, N. (2015). *Evaluation of the Implementation of Linkages to Learning: Status of the Initiative in MCPS.* Rockville, MD.

Weast, J. D. (2005). *Mental health task force report.* Memorandum to the Montgomery County Board of Education, May 10, 2005. Rockville, MD: Montgomery County Public Schools. Retrieved from http://www.montgomeryschoolsmd.org/boe/meetings/agenda/2004-05/2005-0510/mentalhealth.pdf.

Acknowledgements

Appendix A: Logic Model of Linkages to Learning

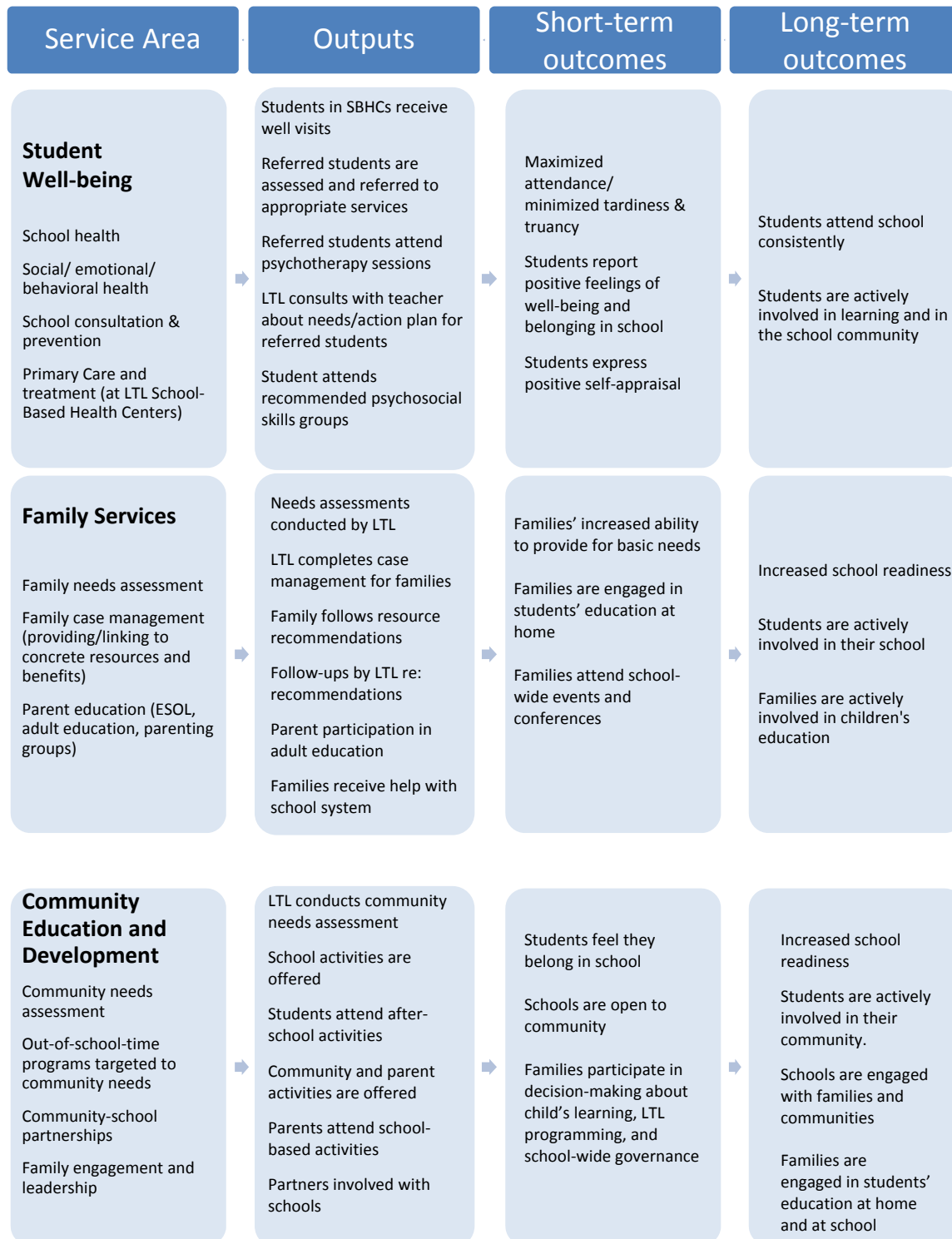| Service Area	Outputs	Short-term outcomes	Long-term outcomes
Student Well-being School health Social/ emotional/ behavioral health School consultation & prevention Primary Care and treatment (at LTL School-Based Health Centers)	Students in SBHCs receive well visits Referred students are assessed and referred to appropriate services Referred students attend psychotherapy sessions LTL consults with teacher about needs/action plan for referred students Student attends recommended psychosocial skills groups	Maximized attendance/ minimized tardiness & truancy Students report positive feelings of well-being and belonging in school Students express positive self-appraisal	Students attend school consistently Students are actively involved in learning and in the school community
Family Services Family needs assessment Family case management (providing/linking to concrete resources and benefits) Parent education (ESOL, adult education, parenting groups)	Needs assessments conducted by LTL LTL completes case management for families Family follows resource recommendations Follow-ups by LTL re: recommendations Parent participation in adult education Families receive help with school system	Families' increased ability to provide for basic needs Families are engaged in students' education at home Families attend school-wide events and conferences	Increased school readiness Students are actively involved in their school Families are actively involved in children's education
Community Education and Development Community needs assessment Out-of-school-time programs targeted to community needs Community-school partnerships Family engagement and leadership	LTL conducts community needs assessment School activities are offered Students attend after-school activities Community and parent activities are offered Parents attend school-based activities Partners involved with schools	Students feel they belong in school Schools are open to community Families participate in decision-making about child's learning, LTL programming, and school-wide governance	Increased school readiness Students are actively involved in their community. Schools are engaged with families and communities Families are engaged in students' education at home and at school

Figure A-1. Logic model for Linkages to Learning (Office of Shared Accountability, MCPS Linkages to Learning Resource Team and Casey Family Programs, model developed 2013)

Appendix B

Table B-1
Services and Activities Offered at Linkages Sites

Student well-being

- Diagnostic assessment for social-emotional, behavioral concerns
- Child/family/group psychotherapy
- Classroom observation, teacher consultation
- Homework club, tutoring, mentoring
- Psychosocial skills development groups
- Referral and case management for children with physical and medical issues
- At SBHCs: Provision of services addressing mental health, preventive dental, and mental health needs

Family services

- Family needs assessments
- Family case management (providing/linking to concrete resources and benefits, such as: assistance obtaining clothing, furniture, food, housing; assistance with legal/immigration; medical/dental referrals; employment needs; translation and transportation assistance; assistance accessing day care)
- Parenting groups
- Help navigating school system
- Help navigating community resources

Community education and development

- Community needs assessment
- ESOL classes, adult education, family literacy programs
- Summer camp programs
- Food/clothing/toy and book drives
- Communitywide events
- After-school and evening educational support programs
- School system and community orientations for parents who are new Americans

Appendix C
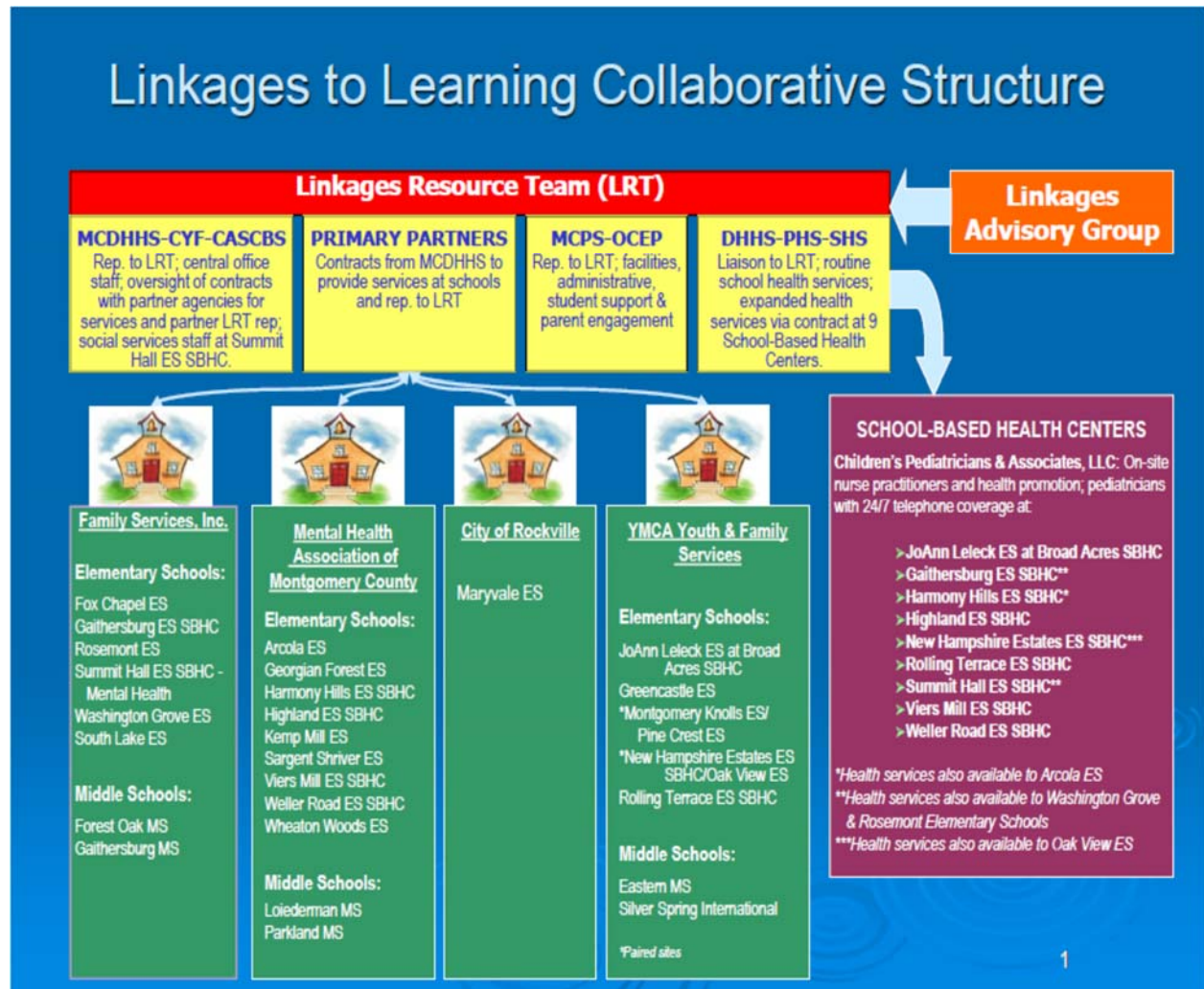
Figure C-1. Linkages to Learning collaborative structure

Appendix D

Calculation of Effect Sizes

Cohen (1988) provides these guidelines for interpretation: $d = .20$ is considered a small effect; $d = .50$ is considered a medium effect; $d = .80$ is considered a large effect.

Cohen's d_z was used as an effect size estimate for the paired-samples differences.
Cohen's d_z was calculated based on the paired t-test value (Rosenthal, 1991).

$$d_z = t / \sqrt{n}$$

Appendix E

Table E-1
Attendance Rate for Current and Previous Year by Grade
Students Receiving LTL Mental Health and Family Case Management Services, 2013–2014

Elementary School	N	2012-2013 Mean	2013–2014 (LTL Service) Mean	Paired Mean difference	Std. error	t	p	Effect size (dz)
Grade 1	139	94.24	94.79	0.56	0.39	1.44	.154	.17
Grade 2	212	94.61	94.72	0.11	0.28	0.40	.691	.04
Grade 3	212	94.73	95.21	0.48	0.26	1.85	.065	.18
Grade 4	238	95.37	95.35	-0.02	0.35	-0.06	.953	.00
Grade 5	246	95.29	95.22	-0.07	0.21	-0.35	.729	-.03
Middle School								
Grade 6	202	95.65	95.04	-0.61*	0.31	-1.99	.048	-.20
Grade 7	185	94.61	94.39	-0.23	0.30	-0.75	.452	-.08
Grade 8	158	92.69	92.66	-0.04	0.54	-0.07	.944	.00

Note. Students whose intake dates were April 2014 or after were not included in analysis, and only students with attendance data for 2012–2013 and 2013–2014 were included. Previous year data for kindergarten was available only for students who attended MCPS pre-K.

Table E-2
Number of Unexcused Absences for Current and Previous Year by Grade
for Students Receiving LTL Mental Health and Family Case Management Services, 2013–2014

Elementary School	N	2012-2013 Mean	2013–2014 (LTL Service) Mean	Paired Mean difference	Std. error	t	p	Effect size (dz)
Grade 1	140	5.51	6.16	-0.65	0.47	-1.38	.169	-.17
Grade 2	213	4.95	5.65	-0.69	0.38	-1.80	.073	-.17
Grade 3	213	5.61	5.29	0.33	0.38	0.85	.395	.08
Grade 4	240	5.31	5.23	0.08	0.37	0.21	.835	-.02
Grade 5	248	5.26	5.93	-0.67	0.31	-2.17	.031	-.20
Middle School								
Grade 6	203	5.05	5.11	-0.06	0.45	-0.14	.886	-.01
Grade 7	187	6.48	5.40	1.08	0.58	1.86	.064	.14
Grade 8	161	8.30	7.00	1.30	0.73	1.78	.077	.14

Note. Students whose intake dates were April 2014 or after were not included in analysis, and only students with attendance data for 2012–2013 and 2013–2014 were included. Previous year data for kindergarten were available only for students who attended MCPS pre-K.

Table E-3
Ratings of Family Members' Self-Sufficiency at Referral to LTL and After Receiving LTL Services
During 2013–2014

			Thriving	Stable	Safe	At-risk	In-crisis
Self-Sufficiency Rating [a]		*N*	%	%	%	%	%
Basic needs							
Employment	At intake	121	4.1	11.5	27.9	43.4	13.1
	After LTL services		5.8	13.2	39.7	35.5	5.8
Health	At intake	120	19.0	19.8	36.4	17.4	7.4
	After LTL services		18.3	35.0	35.0	8.3	3.3
Childcare	At referral	118	25.8	40.8	10.8	15.0	7.5
	After LTL services		29.7	44.1	17.8	8.5	0.0
Family Dev. (Safety, relationships, support)	At intake	118	10.7	28.9	42.1	15.7	2.5
	After LTL services		16.9	36.4	39.8	6.8	0.0
Housing	At intake	121	6.6	24.8	47.9	18.2	2.5
	After LTL services		9.9	28.9	47.1	11.6	2.5
Income Management	At intake	118	1.7	8.5	39.0	35.6	15.3
	After LTL services		0.0	21.8	44.5	27.7	5.9
Transportation	At intake	120	17.2	26.2	29.5	22.1	4.9
	After LTL services		20.0	32.5	29.2	14.2	4.2
Nutrition	At intake	119	7.7	11.8	58.8	21.0	0.8
	After LTL services		15.6	12.3	64.8	7.4	0.0
Education and community participation							
Education and Literacy: Child	At intake	121	17.4	39.7	27.3	14.0	1.7
	After LTL services		22.1	42.6	27.0	8.2	0.0
Education and Literacy: Adult	At intake	121	7.4	9.1	25.6	41.3	16.5
	After LTL services		8.2	17.2	27.0	40.2	7.4
Community Participation	At intake	120	2.5	12.5	48.3	33.3	3.3
	After LTL services		5.7	18.00	56.6	19.7	0.0

[a] Only families with at least two ratings are included.

Appendix F

Table F-1
Number of Elementary and Middle School Students Receiving Mental Health and Family Case
Management Services and Mean Number of Encounters per Service

| | Elementary | | Middle | |
Type of Service	*n*	Mean number encounters	*n*	Mean number encounters
Students received family therapy	354	5.2	150	3.2
Students received individual therapy	439	17.2	172	16.1
Students participated in therapeutic group	256	8.7	165	6.4
Students participated in recreation group	342	10.5	80	3.6
Student's family received family case management/consultation	635	6.4	295	8.6