



MLDS CENTER

Maryland Longitudinal Data System

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MEMORANDUM

TO: MLDS Governing Board
FROM: Mr. Ross Goldstein, Executive Director
DATE: June 7, 2024
SUBJECT: Project Approvals and Updates

Purpose

This agenda item is to update the Board on projects that have been reviewed and approved by the Executive Director under *Project Approval and Management Procedures*; projects that, when necessary, require Board review and approval; and updates on ongoing projects. Please note that in addition to the information presented for each new project, this memorandum also includes the complete project abstract submitted by the researcher for your further information and review.

Projects for Consideration

ERA # 86	An Evaluation of Intensive High School Mentorship for Youth at Risk of Dropping Out
Researcher	Dr. Sarah Kroeger Wilson Sheehan Lab for Economics Opportunities University of Notre Dame
Research Questions	<ol style="list-style-type: none"> 1) What is the impact of community-based, long-term mentoring of underperforming students on high school performance (attendance, disciplinary events, test scores, grades), on-time high school graduation, juvenile arrests and placements, post-secondary enrollment and completion, early adulthood employment and earnings, and early mortality? 2) How does program impact vary across the following (pre-randomization) baseline student characteristics? <ol style="list-style-type: none"> a) academic performance b) school engagement c) social connectedness d) gender
RPB Review	The RPB had clarifying questions and suggested additional inquiries to strengthen the project. The recommendation from RPB was for the project to be approved by the Executive Director.

Exec. Dir. Determination	Approved. The subject of this project is responsive to the Research Agenda, provides information about student performance that can be used to improve the state's education system, requires the use of longitudinal cross sector data, and is being conducted by a qualified researcher. The researcher will complete an external data request, which will come to the Governing Board for approval.
Board Action	Informational

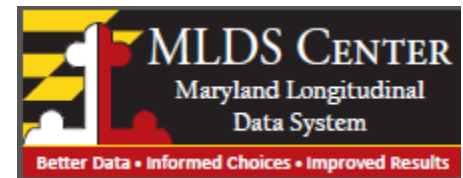
ERA # 87	Understanding the relationship between high school opportunity gap and postsecondary outcomes and earnings for Black students in Maryland
Researcher	Dr. Frim Ampaw, Morgan State University MLDS Center Research Branch Associate Research Director
Research Questions	<p>“What is the relationship between the opportunity gap and educational and labor market outcomes for Black high school students?”</p> <p>Using the term “opportunity gap” in place of “achievement gap” reframes the discussion to the inputs (e.g., systems, structures, and resources) that contribute to a student’s education, especially those that are policy driven. The opportunity gap will be understood in terms of the effects of attending schools with gaps in coursework that improves college enrollment. There will be two main measures of rigorous high school coursework as predictors of interest:</p> <ol style="list-style-type: none"> 1. Passing algebra by the end of the 9th grade 2. Taking any coursework that may translate to college credit at any point during high school (IB, AP, dual enrollment).
RPB Review	RPB members agreed that this topic was of interest to the State. There were questions about how the opportunity gap will be measured. RPB members had a lot of input and suggestions and asked for a follow-up presentation of definitions of the opportunity gap. Dr. Ampaw and Dr. Henneberger agreed to bring back data on the opportunity gap once definitions were more clearly delineated using the MLDS data. The recommendation from RPB was for the project to be approved by the Executive Director.
Exec. Dir. Determination	Approved. The subject of this project is responsive to the Research Agenda, provides information about student performance that can be used to improve the state's education system, requires the use of longitudinal cross sector data, and is being conducted by a highly qualified researcher.
Board Action	Informational

ERA # 92	Maryland Health Care Commission (MHCC) and Behavioral Health Administration (BHA) Workforce Needs Assessment (SB283)
Researcher	Ann Kellogg, PhD, Director of Reporting Services, MLDS Center Sandy Biddinger, Assistant Chief, Database and Application Development Dr. Josh Shapiro, Trailhead Strategies and Chief Strategy and Impact Officer at the University of California San Diego's Division of Extended Studies
Research Questions	<p>What are the labor outcomes of behavioral health education and training programs at the non-degree, AA, Bachelor, and Graduate level? Particularly, we are interested in completion rates, retention rates, labor market participation, and wages over the last five years for college majors of interest.</p> <p>The preliminary data from this research will allow the state, through the Behavioral Health Workforce Investment fund, to consider options for investing in training programs that will produce a skilled and diverse behavioral health workforce. Through this research, the state plans to evaluate training programs by region and occupation type and fund those that address the greatest areas of need. This will ultimately benefit all citizens of Maryland, who will have greater access to the behavioral health care that they need.</p>
RPB Review	The RPB had clarifying questions. The recommendation from RPB was for the project to be approved by the Executive Director.
Exec. Dir. Determination	Approved. The subject of this project is responsive to the Research Agenda, provides information about student performance that can be used to improve the state's education system, requires the use of longitudinal cross sector data, and is being conducted in direct collaboration between the MLDS Center reporting services branch and the Maryland Health Care Commission (MHCC) and Behavioral Health Administration (BHA).
Board Action	Informational

ERA # 93	A longitudinal examination of the short- and long-term impacts of enrollment in elementary and secondary instrumental music education courses
Researcher	Dr. David Miller University of Kentucky University of Maryland, College Park MLDS Center Research Branch
Research Questions	<p>What are the short- (i.e., 5th and 8th grade test results, middle school instrumental music enrollment) and long-term (i.e., high school instrumental music enrollment, PSAT scores, high school graduation, and postsecondary enrollment) academic impacts of initial enrollment in elementary instrumental music courses?</p> <p>What is the relationship between initial enrollment in elementary instrumental music and sustained enrollment in instrumental music courses throughout middle and high school (i.e., what student- and music teacher-characteristics are related to continued enrollment)?</p> <p>To what extent are differences in academic outcomes between students who enroll in instrumental music and students who do not enroll in instrumental music mediated and moderated by prior academic achievement, student demographic characteristics, teacher characteristics, and attendance?</p> <p>After accounting for all observable differences in initial and continued enrollment in instrumental music, what, if any, differences exist in postsecondary outcomes?</p>
RPB Review	The RPB had questions about the definition of instrumental music and agreed that this was a project that was particularly important in the context of college and career readiness. The recommendation from RPB was for the project to be approved by the Executive Director.
Exec. Dir. Determination	Approved. The subject of this project is responsive to the Research Agenda, provides information about student performance that can be used to improve the state's education system, requires the use of longitudinal cross sector data, and is being conducted by a qualified researcher.
Board Action	Informational

ERA # 94	Understanding Educational Factors for youth involved with state supervised child welfare services (foster care)
Researcher	Dr. Terry Shaw, University of Maryland School of Social Work MLDS Center Research Branch Associate Research Director
Research Questions	<ol style="list-style-type: none"> 1. What is the rate of absenteeism (we are interested in absenteeism and chronic absenteeism) (compared to both the state average and the average for children not in state supervised child welfare services (foster care)? (Note, for all questions, “state average” refers to the state average for students in Maryland public schools.) 2. What is the rate of suspensions/expulsions compared to both the state average and the average for children not in state supervised child welfare services (foster care)? 3. What percentage of children have an identified IEP or 504 plan, and how does this compare to both the state average and the average for children not in state supervised child welfare services (foster care)? 4. How often do children in foster care move schools (stability of school enrollments/student mobility) and how does this compare with both the statewide average and the average for children not in state supervised child welfare services (foster care)? 5. What is the high school graduation rate (or GED attainment rate) for youth who were in foster care after the age of 14 and does this rate differ if the child was in care at graduation or not? 6. How many youth in foster care enroll in higher education and what is the timing of that enrollment (using the five college-going patterns: Complete, immediate, non-traditional, within one year, within two years – *defined below from the MLDS data dashboard)? 7. Of the youth in foster care who do enroll in higher education, do they persist through completion of a degree (what type of degree)? 8. Exploratory questions: What are the workforce outcomes for youth who were in foster care and do not enroll in college? What are the workforce outcomes for youth who were in foster care and do enroll in college? 9. Exploratory questions: An examination of the prevalence of foster care and juvenile services overlap and how that impacts the questions above? 10. Each question above will also include an exploration of whether there are differences in outcomes by the length of time the child spent in state supervised child welfare services (foster care); whether there are differences based on a child experiencing multiple foster care episodes; and if there are differences in suspensions/absenteeism/IEPs between foster children while involved in care vs former foster children no longer in care.
RPB Review	RPB members agreed that this topic was of interest to the State and would be the first research project using the data from DHS. Mr. Goldstein indicated the importance of adding additional data from DHS for future projects. The

	recommendation from RPB was for the project to be approved by the Executive Director.
Exec. Dir. Determination	Approved. The subject of this project is responsive to the Research Agenda, provides information about student performance that can be used to improve the state's education system, requires the use of longitudinal cross sector data, and is being conducted by a highly qualified researcher.
Board Action	Informational



Project Title	Agency Control #
An Evaluation of Intensive High School Mentorship for Youth at Risk of Dropping Out	86

Section 1. Principal Investigator

Principal Investigator (please list additional project team members in Section 7)
Sarah Kroeger
Principal Investigator's Email Address and Phone Number
skroeger@nd.edu
Name of University or Organization
Wilson Sheehan Lab for Economics Opportunities University of Notre Dame
Principal Investigator Background and Qualification (provide overview of experience and attach a CV)
Sarah Kroeger's research is focused on the areas of education, poverty, and family dynamics. Dr. Kroeger has held the role of co-PI in four completed randomized controlled trials (RCTs) and two ongoing RCTs. She is the lead PI in three ongoing RCTs in addition to the Thread research project. One of the ongoing RCTs led by Dr. Kroeger has significant overlap with the Thread study: it is a randomized study of a school-based mentoring program for at-risk youth in the Atlanta area. The Atlanta study also uses administrative school district data, and the participants will be linked to other administrative datasets to track outcomes such as college enrollment and completion, earnings and employment, and criminal justice outcomes. Dr. Kroeger is also currently conducting an RCT across multiple cities that is studying a 2-generation intervention designed to improve outcomes for children in and at-risk of foster care.

Section 2. Project Information

Abstract or Brief Description of Proposed Project (no more than 1,500 words)
The Wilson Sheehan Lab for Economic Opportunities (LEO) has partnered with Thread of Baltimore, Maryland to evaluate their high school mentorship program, an intervention designed to assist underperforming students at risk of dropping out of school.
<i>Relationship to Baltimore and the State of Maryland</i> Thread received funding from the Maryland State Department of Education in Fiscal Years 2023 (\$750,000) and 2024 (\$1 million). This funding is intended to be used to cover organizational operating costs and program delivery, including personnel costs, materials and supplies, transportation costs for staff and program participants, and program-related support services for program participants. The funding guidelines for the 2024 fiscal year are available here: https://marylandpublicschools.org/about/Documents/OFPOS/GAC/GrantPrograms/OGThreadFY24/OperatingGrantThreadFY24_GIG.pdf
The Thread program also receives active partnership and support from the Baltimore City Public School district, as outlined in a signed memorandum of understanding (MOU) between Thread and BCPS. This MOU has been renewed annually for several years and is expected to continue. The MOU

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outlines an agreement that the Thread program will run in seven participating schools in the 2024-2025 school year (adding one school from the previous school year). These BCPS schools will coordinate with Thread by providing various supports, including dedicated space at the school site to conduct Thread services. Typically, this includes the use of two rooms large enough to accommodate Thread programming activities at each participating school, wall space for Thread-related announcements, dedicated workspace for Thread's staff members assigned to each school site, storage space, and the use of space for both regular programming and occasional special events, such as Thread welcome events. The participating schools also provide Thread with assistance in scheduling prospective students to participate in Thread informational sessions, and share school records for Thread program participants twice a year.

Target population

Most students recruited into Thread have a GPA below 1.0 after their first semester of 9th grade. Historically, the four-year graduation rate among Thread's target population is just 5%. Thread participants are matched with a team of Thread staff and community volunteers, who work with the students to help them establish goals and identify and remove significant barriers to completing their high school degree. A key component of the intervention is a model of long-term relationship building across lines of difference, with a goal to construct a permanent social network for youth who are otherwise socioeconomically isolated. To evaluate this program prospectively, we will use a randomized control trial (RCT) and track differences in outcomes between eligible youth randomly assigned to be recruited into Thread (the treatment group) and eligible youth who are not recruited (the control group). We plan to enroll approximately 1260 students into the RCT with about half allocated into treatment and half into control. Our impact evaluation also includes a retrospective component that will compare low-performing students across cohorts that had differential access to the program within participating schools. Since these students are now young adults, the retrospective analysis allows us to study the impact on the early life trajectory of at-risk students.

Research design overview

The research study will have two components. First, a retrospective, cohort-level analysis will use historical data on Thread participants from 2003, or the earliest year with available data, to 2022. This part of the study will evaluate the cohort-level effect of Thread access on high school academic achievement, high school graduation rates, juvenile delinquency, post-secondary enrollment and degree completion, employment, and earnings. This retrospective component will immediately make use of cross-sectoral data and analyze the time series data of all available outcomes. Since the MLDS records start in 2007-2008, cohorts with expected high school graduation dates prior to 2008 can only be included in analyses of post-high school outcomes (e.g. tertiary enrollment, earnings, employment). Second, we are now in our second year of running a prospective, randomized controlled trial within participating schools. In this prospective component of the study, we use a lottery to randomly allocate Thread invitations to eligible students at participating schools. The prospective component will initially examine high school education and juvenile justice outcomes, and will add in post-secondary education and labor market outcomes over time.

Study outcomes of interest

Our key outcomes of interest that will be tracked within MLDS records include: **high school performance, on-time high school graduation, juvenile arrests and placements, college enrollment, college degree completion, employment, and earnings (measured directly and by sector-level mean earnings)**. In addition to MLDS data, we will track additional high school outcomes data such as attendance, disciplinary events, test scores, and grades in administrative records from Baltimore City Public Schools (only available for students who remain the BCPS district), mortality data from public death records, and data on college enrollment and degree completion through our established relationship with the National Student Clearinghouse*.

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*External data on school outcomes within BCPS, mortality, and college enrollment will be analyzed separately. These external outcomes data from non-Thread sources will not be merged with MLDS records or brought into the MLDS environment. We are requesting the ability to link study randomization status and Thread program participation with MLDS records.

Research Project Question

Our project asks the following research questions.

- 1) What is the impact of community-based, long-term mentoring of underperforming students on high school performance (attendance, disciplinary events, test scores, grades), on-time high school graduation, juvenile arrests and placements, post-secondary enrollment and completion, early adulthood employment and earnings, and early mortality?
- 2) How does program impact vary across the following (pre-randomization) baseline student characteristics?
 - a) academic performance
 - b) school engagement
 - c) social connectedness
 - d) gender

Research Methods (provide a brief description of the research methods you plan to use)

The proposed study will be an impact evaluation of the Thread program that will include both a retrospective analysis of historical data and a prospective randomized controlled trial (RCT). Thread provides intensive, long-term mentoring to underperforming students starting in 9th grade that formally continues for a decade. We will evaluate some outcomes that occur within a few years of the start of mentoring including high school performance and juvenile arrests and placements, and some longer-term outcomes such as post-secondary education outcomes, employment, earnings and mortality.

In the retrospective component of the study, we will exploit the staggered rollout of the program across six Baltimore high schools and compare outcomes across cohorts within the same school that had differential access to the program. The six high schools that now participate in Thread are the Academy for College and Career Exploration (ACCE), Digital Harbor, Frederick Douglass, Paul Lawrence Dunbar, Mergenthaler Vocational, and Patterson High Schools. Thread is expanding into George Washington Carver Vocational-Technical High School, with programming to start there in the 2024-2025 school year. Thread started serving students at Dunbar High School in 2004, recruiting the first cohort in the spring of the 2003-2004 school year. In the early years of the program, Thread did not have the capacity to serve every 9th grade cohort, but recruited participants at Dunbar every 4 years until 2010. Beginning in 2010, Thread began to expand its program outside of Dunbar until it recruited from all six schools in the 2019-2020 school year. Due to capacity constraints, some 9th-grade cohorts were “skipped over” in that they were not able to enroll in Thread even after Thread had entered a school.

During this period (school years 2003-2021), if Thread provided mentoring services to a given 9th grade cohort, almost every student below the 25th percentile was offered a spot in Thread. As a result, we can conduct a cohort-level analysis to evaluate the early years of the program. By comparing outcomes for Thread cohorts against non-Thread cohorts within the same school, we hope to learn about the impact of Thread over a longer time horizon. This retrospective portion of the study will cover students who entered high school between 2003 and 2021, who are currently aged 15-34.

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This retrospective component will immediately make use of cross-sectoral data to analyze high school academic achievement, high school graduation rates, juvenile delinquency, post-secondary enrollment and degree completion, employment, and earnings. We will be able to study up to 20 years of outcomes for the earliest Thread cohorts.

The RCT is structured such that all eligible students at participating high schools are included in the study and randomized into either treatment or control. The lists of eligible students are provided by both the participating high schools and BCPS early in the spring semester. Thread staff review the lists with school personnel to confirm that they meet program eligibility requirements. While Thread has traditionally targeted the bottom quartile of each freshman class, we anticipate that high rates of program ineligibility and low take-up will mean that in the bottom quartile alone is not large enough to generate a sizable control group at most schools and could even leave program spots unfilled. To allow for an untreated comparison group, Thread has set new eligibility limits for GPA percentile rank at the participating schools. These limits will still pull from the bottom tail of the GPA distribution, in which the average student has a GPA of about 0.7 at baseline. The research team randomizes the eligible sample within school, cohort, gender, and GPA quantile, and assigns approximately half the students to treatment and half to control. Thread's staff receives the list of treatment group students at each school and conducts an intense recruitment process to enroll these students in the Thread program.

With the approval of the participating schools, consent to participate in the study is waived per FERPA guidance. Participating students in the study treatment group will sign a consent form to receive Thread services, as do their parents or legal guardians.

Executed data sharing agreements between the University of Notre Dame and Thread, and the University of Notre Dame and Baltimore City Public Schools will allow us to create a dataset of all study participants that includes student identifiers and BCPS recorded outcomes. In order to track outcomes in the MLDS data we will first submit a list of study participants to BCPS as part of our data request to the school district. BCPS will send this list of study subjects to MLDS on our behalf for further linking with MLDS data, where the treatment status and program participation will be preserved.

We plan to enroll students into the RCT for three years, with a total of about 1260 students making up the prospective study sample. We estimate that 630 students will be enrolled in the treatment group, and 630 students will be enrolled in the control group over the course of the study. These numbers may vary depending on the take-up rate for Thread membership, for example, if a higher rate of students originally assigned to the treatment group turn down the program, more students will need to be randomized into treatment to fill the spots that Thread has in their program.

The initial, primary outcome for this evaluation will be on-time high school graduation. We will also examine the program effect on high school performance (attendance, disciplinary events, test scores, grades), juvenile arrests and placements, post-secondary enrollment and completion, early adulthood employment and earnings, and early mortality. In the prospective RCT, program effects on these outcomes will be estimated by an intent-to-treat design where high school completion will be regressed on a vector of observed characteristics, strata (i.e. school-by-cohort-by-sex-by-GPA) fixed effects, and a treatment group dummy variable. We will also report treatment-on-treated effects using a two-stage least squares regression approach, where treatment assignment is an instrument for program participation. Heterogeneous impacts across subgroups can be obtained by estimating the baseline regression with additional controls for groups and group-by-treatment interaction effects. We are particularly interested in program effect differences across baseline drop-out risk, measured by pre-randomization academic performance and school engagement. Because of the nature of Thread's

mission, we will also consider differences across baseline social connectedness. Finally, we will check for any gender difference in treatment effect.

For the retrospective analysis, we will use a similar model, but access to treatment will be assigned at the school and 9th-grade cohort level, to capture Thread's rollout to schools within BCPS across a 10-year period. Using administrative data, we can identify students who were ranked in the bottom quartile of their 9th grade class GPA distribution. Within this sample, we can then apply a difference-in-differences research design. We will compare outcomes of students who attended the same school but had different access to Thread because they belonged to different cohorts. This research design requires the assumption that students within a given school are similar across cohorts. Under this assumption, controlling for school and year, the availability of Thread to a given student will be independent of student characteristics. Note that we can examine these assumptions by running balance tests on observable pre-period characteristics, and with the use of event study analyses on certain measures such as school attendance or class rank. Using historical data from Thread on program participation, we will explore the extent to which program enrollment and engagement mediates any observed improvements in outcomes among 9th grade cohorts who had access to the program.

How will this research benefit the State of Maryland?

This study will provide rigorous evidence on whether comprehensive mentorship can improve the life trajectory of the most vulnerable high school students in Baltimore. While Baltimore high school students make up only 8% of high school students in the state, they account for over 17% of all high school dropouts. The most recent strategic plan by the Maryland State Department of Education emphasizes the value of equity, specifying a need to eliminate socioeconomic learning barriers and provide resources to support all Maryland students toward their highest achievement potential. The strategic plan identifies specific goals for low performing schools, including aims to increase MCAP scores and decrease chronic absenteeism in these student populations, and ensuring all students in the state graduate high school college and career ready (1). By addressing barriers to achievement within schools and outside of the classroom for Baltimore's most at-risk youth, Thread's goals mirror those of the state's Department of Education.

The proposed study is designed to evaluate the degree to which the Thread model can decrease chronic absenteeism and increase rates of high school graduation and post-high school success. In the absence of any intervention, the students engaged by Thread face a 95% chance of dropping out of high school, an event linked to lower life-time earnings, higher rates of risky behaviors and adverse health events, and higher rates of criminal activity and incarceration. This study will directly inform the state of Maryland as to the private and social benefits of the Thread program within the Baltimore City youth population. We will quantify the benefits in both monetary and non-monetary terms (e.g. reduced person-years of incarceration).

Our findings will also inform the Thread organization and the community of Baltimore high schools as they implement the program in the future. Baltimore City Public Schools has a long relationship with Thread and is also keen to see the results of our evaluation. Results that show a strong positive impact of the program will help Thread expand its partnerships with more schools within Baltimore and other areas of the state. In addition, heterogeneity analysis could help Thread target their program efforts to sub-populations who benefit most from the greatest program, and refine the program for sub-groups who benefit relatively less. More broadly, if Thread is found to be effective, additional funding could be allocated to scale this program within the state. LEO has a track record of translating research findings into evidence-based social policy at the state level; previous research has led Arizona and Indiana state governments to allocate over \$15 million dollars to scale adult educational centers across their states.

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(1) “Maryland Transforms: A Strategic Plan for Maryland by Maryland.” *Maryland State Department of Education*, 29 June 2023, strategicplan.marylandpublicschools.org/maryland-transforms/.

Explain why this research requires longitudinal cross-sector data?

We require the longitudinal cross-sector data to obtain both pre-intervention characteristics and post-intervention outcomes for our study participants. We will need data for each study individual for outcomes that span 9th grade through early adulthood. We are requesting data that covers a wide range of outcomes in order to support a comprehensive study.

The retrospective component of the study will immediately make use of cross-sectoral data to analyze high school academic achievement, high school graduation rates, juvenile delinquency, post-secondary enrollment and degree completion, employment, and earnings. We will be able to study up to 20 years of outcomes for the earliest Thread cohorts.

The prospective component will initially focus on analysis of K-12 data, but will also examine juvenile justice outcomes as these become available, and over time will incorporate analyses of postsecondary education and labor market outcomes.

Proposed Center Output

This will be sent as a research brief in the MLDS center template.

Timeline for the proposed project (identify major deliverables and approximate dates)

Spring 2023: Study enrollment begins
Spring 2024: Second round of study enrollment
Summer 2024 Deliverable: preliminary report on observable outcomes for the retrospective sample, report on prospective study enrollment to date with group differences in retention, GPA, discipline, attendance, current school enrollment; presentation to MLDS stakeholders
Spring 2025: Last round of study enrollment
Summer 2025 Deliverable: updated report to stakeholders on observable study outcomes, presentation to MLDS stakeholders
Summer 2026: 4-year high school completion data available for first enrollment cohort.
Summer 2026 Deliverable: updated report on high school outcomes, including graduation for some of the prospective sample; updated presentation to MLDS stakeholders
Summer 2028: 4-year high school completion data available for the full sample
Summer 2028 Deliverable: updated report on high school outcomes, including graduation, labor market outcomes, and any observed college activity; updated presentation to MLDS stakeholders
2029 Deliverables:
-Working paper on the available set of outcomes will be distributed to academic audiences and submitted for publication
-White paper that summarizes our findings for general audiences will be distributed to stakeholders
-Aim to publish an op-ed about the program and vulnerable high school students in a mainstream news outlet

Note: Analysis of additional post-high-school outcomes will be ongoing as these data become available.

Plans for further development (i.e. journal submission, etc)

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Results from this study will be disseminated to policymakers and providers across the country to inform the replication and expansion of programs designed to support underperforming high school students. We will present our findings at academic seminars and conferences, such as the American Economic Association Annual Meeting and the National Bureau of Economics Research Summer Institute. We will submit the written paper(s) resulting from the study for peer-reviewed publication. In addition to the academic paper(s), we plan to produce a white paper targeted towards a general audience and an op-ed article which we will send to mainstream news outlets.

Section 3. MLDS Center [Research Agenda](#)

Does your project relate to one of the following areas which the General Assembly has specifically directed the MLDSC to study:	Yes	No
The impact of a State or federal education program? ¹	X	
The performance of educator preparation programs?		X
Best practices regarding classroom instruction?		X
The impact of child welfare programs on the educational and economic outcomes of students?		X
An analysis of social determinants, provided by State agencies ² and appropriate local agencies, that impact education performance of students and indicate the need for wraparound services for students.	X	
Research Agenda Category (page 2 of the Research Agenda) – Which category does the project address? Please explain.		
Program & Policy Evaluations - This project is an impact evaluation of the Thread mentoring program.		
Research Agenda Themes (page 2-3 of the Research Agenda) - Which cross cutting theme is incorporated in the project? Please explain.		
This project incorporates all three themes by evaluating the Thread model. Thread addresses the theme of Equity and Inclusion by engaging the highest risk students who do not typically participate in mentorship programs or other extracurricular activities, and by intentionally connecting these students with mentors across racial and economic backgrounds. The study will incorporate Social Determinants by offering descriptive data on the interaction of the Thread program and factors such as family structure, social networks, and parental schooling. The Thread intervention aligns with the same theme by providing spaces within school communities for Thread-participating students to gather and find support. The Thread intervention also aligns strongly with the Supports and Barriers theme. The program connects enrolled young people with Thread staff and volunteer community members to form a Thread “family” that provides intensive, long-term support and mentorship. Thread also engages its participants with local businesses and colleges in the Baltimore area.		

Section 4. Data and Cross Sector Analysis

Sectors*	X
Early Child Sector	
K-12 Education Sector	X
Adult Education Sector	

¹ All projects must relate to a state or federal education program. If you are not sure, please contact ross.goldstein@maryland.gov.

² State agencies include: Maryland Department of Health, Department of Human Services, and Department of Juvenile Services

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Justice Involved Youth Sector	X
Child Welfare Sector	
Postsecondary Education Sector	X
Other Completions and Credentials Sector	
Workforce sector	X

Put an 'x' next to each data sector your project will include. You must have at least 2 sectors.

Optional - Additional Information about planned data use (such as cohort identification; years of data needed)
Retrospective component: all students at the six participating schools who started high school between 2003-2021 Prospective component (RCT): Randomized students who entered 9 th grade at one of the participating schools between 2023-2026.
Do you plan to request to include external data as part of your project?
Yes, we will provide Thread program data to the MLDS Center via a secure data transfer process so that student-level randomization status and program participation can be linked to the MLDS records. We recognize that all data will be housed and analyzed on the MLDS secure servers.

***Sectors**

Early Childhood Education Sector;

- PreK Academic Engagement

K-12 Education Sector;

- (X) Public School Student Education Records (Attendance, Assessments, Grades, Completions, Discipline, etc.)
- (X) Public School Characteristics

Adult Education Sector;

- GED/NEDP Exam Results
- Apprenticeship
- Adult Education
- Correctional Education

Justice Involved Youth Sector;

- (X) Juvenile Justice Records
- Juvenile Education Records

Child Welfare Sector;

- Out-of-Home Placements

Postsecondary Education Sector;

- (X) College & University Enrollments, Courses, Credits, Grades, Degrees
- College & University Student Workforce Training

Other Completions and Credentials Sector; and/or

- Industry Certifications
- Licenses

Workforce Sector.

- Public School Teacher Characteristics and Credentials
- Public School Staff Characteristics and Credentials

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- (X) Workforce Earnings
- (X) Workforce Labor Sectors

Section 5. Financial Information

<p>The MLDS Center incurs costs for every project related to: (a) IT support and infrastructure; (b) assistance from subject matter experts, (c) criminal history background checks; and (d) creation of an analytic data set. Average project costs are between \$3,000 and \$5,000. A detailed, customized estimate will be provided prior to project initiation. (Please indicate your answer with an ‘X’)</p>	
X	I will reimburse MLDS Center for all applicable fees.
	I will only be able to provide partial reimbursement.
	I will need a waiver.
<p>Grant Funding (indicate with an ‘X’)</p>	
X	This project has already received funding
	I plan to apply or am in the process of applying for grant funding
	No grant funding is planned
<p>Name of Grantor</p>	
JPAL North America Social Policy Research Initiative	
<p>RFP or Grant Program Information (you may provide a link to the grantor’s website)</p>	
https://www.povertyactionlab.org/initiative/social-policy-research-initiative	
<p>Amount of grant funds sought or awarded.</p>	
\$100,000	
<p>Grant Application Date</p>	
June 1, 2023	
<p>Do you intend to proceed without grant funding?</p>	
N/A	
<p>Are you receiving other funding for this proposed project? If yes, how much?</p>	

Section 6. Special Considerations

Principal Investigators NOT affiliated with a Maryland College or University – please provide information on:

- a. Your familiarity with Maryland policies affecting your research topic; and**
- b. How your project meets a specific Maryland research need?**

Please also upload (with this form) any letters of reference or endorsement from a Maryland researcher or a State or local agency that vouches for your qualifications and expertise.

We are focused on building evidence about how to counteract the effects of poverty, and are partnering with Thread because of their work within six Baltimore schools that represent the highest concentration of economic disadvantage in the state of Maryland. Our partnership with Thread connects us to local community providers who are able to share their essential knowledge of Maryland policies and practices and the context in which they operate. (For example, Thread has highlighted structural changes in the Baltimore metro area that have reduced employment opportunities for non-college educated workers and disproportionately affected earnings and crime levels in minority neighborhoods.) The Thread team collaborated with us in designing this project and continues to communicate with us on all aspects of the study including the most recent round of enrollment and randomization. We are also working closely with Chris Wohn, the BCPS Director of Research, in order to gain a better understanding of the Baltimore school system. We plan to meet with Chris Wohn at least quarterly to get his feedback on our analysis of the BCPS and MLDS data.

This project meets a specific Maryland research need as it seeks to evaluate a program aimed at young people at high risk of dropping out of high school. Identifying programs that work for students most at-risk for dropping out who attend chronically underperforming high schools is thus of vital policy importance. Rates of chronic absenteeism in Baltimore in the 2015-2016 school year were among the highest in the country at 37% (1) and these numbers have gotten appreciably worse since COVID (2). Within Baltimore City Public Schools, the class of 2021 saw a 69% on-time graduation rate and 41% of the class of 2020 enrolled in college, well below national averages of 86% and 62.7%, respectively (3). Henneberger et al.'s (2023) Maryland-based study establishes that high levels of school concentrated disadvantage, measured using school-level eligibility for free and reduced-price meals (FRPM) for middle and high schools, is strongly linked to lower enrollment in college (4). Uretsky et al. (2023) use state longitudinal data to identify characteristics of students and schools that impact high school persistence and completion outcomes and emphasize the need to better understand strategies in place to support student persistence and completion (5). The six schools that Thread currently operates in have among the highest concentration of disadvantage in Maryland, making them an optimal setting for this specific intervention and study. According to data from the Maryland State Department of Education from the 2022-2023 school year, 100% of the students enrolled in these six schools were eligible for FRPM, relative to 93.8% of students in all Baltimore City Public Schools, and 66.4% of students in the broader Baltimore County Public Schools (6). An impact evaluation of Thread's intervention is vital due to its focus on high schools in Maryland likely to have the highest concentrations of disadvantage and its efforts to support students who are at high risk of dropping out.

1. Data from the 2015-16 CRDC issued in the U.S. Department of Education report "Chronic Absenteeism in the Nation's Schools" (2019).

2. Papst, Chris. "Education Crisis: 58% of Baltimore City Students Considered Chronically Absent." *WBFF*, 5 Apr. 2023, available at: <https://foxbaltimore.com/news/local/council-calls-hearing-on-alarmed-student-absenteeism-in-city-schools>

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3. Baltimore City Public Schools. 2022. City Schools at a Glance.
<https://www.baltimorecityschools.org/district-overview>

4. Angela K. Henneberger, Bess A. Rose, Dawnsha R. Mushonga, Boyoung Nam & Alison M. Preston (2023) Expanding the Understanding of School Concentrated Disadvantage Using Free and Reduced-Price Meals Data: Links to College and Labor Market Outcomes in Maryland, Journal of Education for Students Placed at Risk (JESPAR), 28:2, 150-178, DOI: [10.1080/10824669.2022.2045994](https://doi.org/10.1080/10824669.2022.2045994)

5. Mathew C. Uretsky & Angela K. Henneberger (2023) Expanding the Understanding of High School Non-Graduates Through a Comparison of High School Dropouts and Persisters, Journal of Education for Students Placed at Risk (JESPAR), 28:2, 236-257, DOI: [10.1080/10824669.2022.2064286](https://doi.org/10.1080/10824669.2022.2064286)

6. "Free and Reduced-Price Meals Data." Office of School & Community Nutrition Programs, Maryland State Department of Education. SY 2022-2023.

For projects that involve a small population, please confirm that you are aware of the MLDS Center's [data suppression policy](#) and explain how you will report your findings while conforming to the suppression requirements.

In reporting statistical results, only aggregate statistics like regression coefficients and sample/subsample means will be reported. Only measures from cells of at least ten individuals will be reported. Therefore, readers will not be able to identify individual respondents from published work.

For projects that involve a single school system, university, or program, please explain the statewide implications of the project.

Please also upload (with this form) any letters of support from the subject (i.e. school system or university) of the study.

These findings will inform the Thread organization and the community of Baltimore City Public School (BCPS) high schools as they implement the program in the future. While Baltimore high school students make up only 8% of high school students in the state, they account for over 17% of all high school dropouts. Thread engages 9th graders who have a 95% chance of dropping out. Uncovering programs that help these students complete high school is a vital component of the statewide goal to decrease chronic absenteeism in low performing schools and to minimize barriers to achievement by supporting all Maryland students toward success, as articulated by the most recent strategic plan of the Maryland State Department of Education. For example, results that show a strong positive impact of the program will help Thread expand its partnerships with more schools within Baltimore and potentially other areas of the state. This expansion would potentially have an impact on dropout rates, absenteeism, and overall education outcomes not only within the BCPS system but also across the state. In addition, heterogeneity analysis could help Thread target their program efforts to subsamples with the greatest program benefit, or adapt the program for groups that are shown to have relatively less of a program benefit. More broadly, if Thread is found effective, additional funding could be allocated to scale this program within the state. LEO has a track record of translating research findings into evidence-based social policy at the state level; previous research has led Arizona and Indiana state governments to scale adult educational centers across their states.

We have attached a letter of support from Baltimore City Public Schools.

Section 7. Project Team

Project Team - Please list all members of the research team and indicate roles and responsibilities. - If the Principal Investigator listed in Section 1 above is NOT the primary point of contact for the project (including research, data access, and presentations to stakeholders), please indicate which team member is the primary point of contact and provide that individual's contact information.		
Name and Organization	Role	Is system access needed? (Yes/No)
Maura Hogaboom, Wilson Sheehan Lab for Economic Opportunities	Project Manager	Yes
Jonathan Tebes, Wilson Sheehan Lab for Economic Opportunities	Co-Investigator	Yes
William Evans, Wilson Sheehan Lab for Economic Opportunities	Co-Investigator	Yes
Chris Wohn, Baltimore City Public Schools	Consultant/collaborator	No

Section 8. Submission

Once this form is completed, please complete the online application ([here](#)) and upload this form, CVs for all members of the research team, and any other supporting materials.

Attachments: CVs, Letters of Support, IRB approval letters (ND and BCPS), AER registry info.



Project Title	Agency Control #
Understanding the relationship between high school opportunity gap and postsecondary outcomes and earnings for Black students in Maryland	87

Section 1. Principal Investigator

Principal Investigator (please list additional project team members in Section 7)
Dr. Frimpomaa Ampaw
Principal Investigator's Email Address and Phone Number
frimpomaa.ampaw@morgan.edu ; 443 885 3781
Name of University or Organization
Morgan State University, Associate Director of Research for the MLDS Center
Principal Investigator Background and Qualification (provide overview of experience and attach a CV)
<p>Frimpomaa Ampaw is the Chair of the Department of Advanced Studies, Leadership, and Policy at Morgan State University, where her area of focus is higher education administration. She is also the PI for the Morgan State MLDS Research Branch. Her research area focuses on understanding the experiences of students from low socioeconomic backgrounds and underrepresented minorities in transitioning to college, during college, and in the labor market.</p> <p>Dr. Ampaw is a quantitative methodologist who has conducted extensive research on women and minorities in STEM education to understand their selection and persistence within the major.</p> <p>Researcher Positionality: As a critical quantitative methodologist, I approach research in understanding systems and its failures within education. I also firmly believe in education as a social good that is expected to benefit all regardless of family background. As an educational economist, I explore the effects of educational structures on an individual's future. As a Black woman, I research those who have been historically excluded, marginalized, and experienced the most harm from our educational systems. For this project, I choose to focus on all who are identified as Black in the educational datasets regardless of ethnicity.</p>

Section 2. Project Information

Abstract or Brief Description of Proposed Project (no more than 1,500 words)
<p>Background: Maryland ranks as fourth highest in the United States in the percentage of Black people with 32%, only surpassed by Georgia (33%), Louisiana (33%), and Mississippi (38%). Educational attainment in Maryland varies by race and district despite persistent policymaking addressing the once-desegregated system. Researchers and policymakers typically use the term "achievement gap" to refer to variation in outcomes between Black and White students. However, this deficits-based language implies a deficit with the child and/or the family. Research on understanding educational and labor market outcomes for high school students has focused on individual characteristics, school</p>

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personnel, and localities, primarily on those from low-income families (Card & Krueger, 1996; Dobbie & Fryer, 20011; Jacob & Ludwig, 2008).

Milner (2012) asks educational researchers to contextualize the issues related to student achievement to the opportunities that are available to students via their individual, school, and community context. Using the term “opportunity gap” in place of “achievement gap” reframes the discussion to the inputs (e.g., systems, structures, and resources) that contribute to a child’s education especially those that are policy driven (Welner & Carter, 2013).

Course taking, specifically taking Algebra by 9th grade and taking AP and dual enrollment, is one way to measure what can be seen as an “opportunity gap” in high school. Students who complete Algebra in earlier grades are more likely to complete higher math courses in high school, attend college and access STEM majors (Spielhagen, 2006). Lee and Mao (2020) showed that students who are able to take algebra in the eighth grade are more likely to take Calculus in high school and thus more likely to pursue a STEM major in college. The U.S. Department of Education Civil Rights data collection of 2015-2016 showed Black students are disproportionately less likely to take Algebra in high school and more likely to take them in their junior or senior year. This reduces opportunities to take any advanced math class in the future. Anderson & Burdman’s (2022) report showed the oversized, maybe overemphasized role that college admissions officers give to students who are able to complete calculus in high school.

According to Xu et. al (2021), school districts tend to have an overall 11% of students participating in AP and dual enrollment courses, with a close to 10% gap between the participation of White and Black students in AP courses and a 5% gap in dual enrollment. This Black-White gap will be referred to in this study as the “opportunity gap.”

I focus on these two variables of interest because they directly translate to factors that admission counselors etc. use in determining admissions at selective institutions and have been shown in the literature to go beyond college-going to affect major selection, degree completion, and time to degree completion as well as participation in STEM coursework especially for 9th grade algebra (Dynarski, Nurshatayeva, Page, & Scott-Clayton, 2023; Morgan, Zakhem & Cooper, 2018).

Black students may experience the opportunity gap by either attending schools where there is a lower percentage of all students in rigorous coursework (i.e., lower opportunities for students of all races) or attending schools for which Black students have lower percentages in these rigorous courses.

Methods:

For this study, I seek to understand the effects of attending schools with gaps in coursework that improves college enrollment. I focus on two main measures of rigorous high school coursework as predictors of interest:

1. Passing algebra by the end of the 9th grade
2. Taking any coursework that may translate to college credit at any point during high school (IB, AP, dual enrollment).

For each of my two college-going variables; I will have two measures of the opportunity gap:

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- **School Opportunities:** Percentage of all students at the school who attained the measure during the student’s year (By 9th grade for algebra completion, By 12th grade for college coursework).
- **Opportunity Gap:** The difference between All students at the school who attained the measure (calculated above) and Black students at the school (using the same calculation) who attained the measure.

For example, in a school with no students in college-going coursework, the measure would be 0% for school opportunities and 0% for the opportunity gap measure. For a school where 60% of all students attained the measure, but 20% of Black students did, the opportunity gap would be 40%.

I will then seek to understand how the two variables are related to college enrollment, persistence in college, community college transfers and associate’s degree completion, bachelor’s degree completion, major choice, wages and career industry for Black students while controlling for other individual and student characteristics.

Analytical Sample: Using K-12 data, any student who is Black (including Hispanic ethnicity) will be included in the population of interest. I intend to use data from Black students who were enrolled in the ninth grade in a Maryland public high school during the 2013-2014, 2014-2015 & 2015-2016 school years (academic years for which the MLDS contains high school course information) who graduated from high school in the requisite time. I may include earlier or later cohorts with the intent of achieving a complete 10-year dataset from when the student started 9th grade.

Given my interest in the high school opportunities for college going, the sample will be limited to students who attended traditional high schools and who attended only one high school. I will also exclude students who are predominantly CTE students in traditional high schools.

Intended Analyses:

The intended variables of interest will be checked for correlation and multicollinearity. I will also explore the interaction of the variables of interest and whether the student in question did pass algebra by the 9th grade and/or take college credit earning coursework in high school.

Research Project Question

The broad research question for our study is “What is the relationship between the opportunity gap and educational and labor market outcomes for Black high school students?”

The various dependent variables will be measures of postsecondary enrollment (community college, transfer and 4 year), STEM major selection, persistence, and degree completion. Labor market outcomes are defined as the most recent wages and industry sector available in the MLDS data.

We will also examine a unique STEM major subset to determine the probability of declaring and persisting in a STEM major in college and into a STEM sector in the labor market.

Research Methods (provide a brief description of the research methods you plan to use)

For each of our analyses we will be looking at students nested in the high schools they attended, and the sample is limited to students who only attended one high school. We intend to use multilevel modeling with two levels with the high school serving as the second level and the individual at the first level (Peugh, 2010). However, in the event of the failure of the model (low ICC or failure to

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<p>converge), we will conduct logistic and linear regression modeling and correct for nesting error by using clustered errors at the school level.</p> <p>We will calculate the school opportunities and the opportunity gap using all students enrolled in the school at the same grade level as the student. However, the analytic sample will be focused on the sample of Black students with the variable of interest being measures of their high school.</p>																		
<p>How will this research benefit the State of Maryland?</p>																		
<p>For this study, I am examining school opportunity gaps to go beyond the individual characteristics in understand college enrollment and persistence to how high schools may affect this as well. The Blueprint for Maryland’s Future has at its third pillar, college, and career readiness with the intent to ensure all students graduate high school meeting these goals and this research can provide more details into it.</p> <p>This research intends to show the opportunity gaps that exist in the system for Black students and the long-term effects of this gap. The results of this study also intend to shift the conversation beyond just the community poverty level but for considerations to be given to the opportunity gaps (e.g., college going activities such as coursework) in the schools. The goal is to inform students, families, schools and policymakers about pathways and the role of early participation in college with the intent on reducing barriers and broadening participation. The results could highlight the value of reducing opportunities gaps as a way of reducing college-going gaps for Black students.</p>																		
<p>Explain why this research requires longitudinal cross-sector data?</p>																		
<p>This research requires combining K-12 and postsecondary education data with labor market outcomes.</p>																		
<p>Proposed Center Output</p>																		
<p>We propose to present our findings during the MLDS research series and if desired to create a summary report for the MLDS Center website.</p>																		
<p>Timeline for the proposed project (identify major deliverables and approximate dates)</p>																		
<table border="0"> <tr> <td>Presentation to MLDS Research and Policy Board</td> <td>May 2024</td> </tr> <tr> <td>Build datasets/analyses for first paper</td> <td>May -August 2024</td> </tr> <tr> <td>Draft for paper (high school graduation and post-secondary enrollment)</td> <td>October 2024</td> </tr> <tr> <td>Build datasets/analyses for second paper</td> <td>January -April 2025</td> </tr> <tr> <td>Draft for paper (postsecondary persistence and graduation)</td> <td>June 2025</td> </tr> <tr> <td>Build datasets/analyses for third paper (major and persisting in STEM)</td> <td>May- August 2025</td> </tr> <tr> <td>Draft for third paper (major and persisting in STEM)</td> <td>October 2025</td> </tr> <tr> <td>Build dataset/analyses for fourth paper (labor market outcomes)</td> <td>January -April 2026</td> </tr> <tr> <td>Draft for fourth paper (labor market outcomes)</td> <td>June 2026</td> </tr> </table>	Presentation to MLDS Research and Policy Board	May 2024	Build datasets/analyses for first paper	May -August 2024	Draft for paper (high school graduation and post-secondary enrollment)	October 2024	Build datasets/analyses for second paper	January -April 2025	Draft for paper (postsecondary persistence and graduation)	June 2025	Build datasets/analyses for third paper (major and persisting in STEM)	May- August 2025	Draft for third paper (major and persisting in STEM)	October 2025	Build dataset/analyses for fourth paper (labor market outcomes)	January -April 2026	Draft for fourth paper (labor market outcomes)	June 2026
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Draft for fourth paper (labor market outcomes)	June 2026																	
<p>Plans for further development (i.e. journal submission, etc)</p>																		
<p>Intend to submit all four articles for presentation at conferences and journal publication. Targeted conferences are the American Educational Research Association and Association for Education Finance and Policy. Targeted journals are Education Finance and Policy, American Educational Research Journal and Educational Evaluation and Policy Analysis</p>																		

Section 3. MLDS Center [Research Agenda](#)

<p>Does your project relate to one of the following areas which the General Assembly has specifically directed the MLDS to study:</p>	<p>Yes</p>	<p>No</p>
--	-------------------	------------------

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The impact of a State or federal education program? ¹	Yes	
The performance of educator preparation programs?		No
Best practices regarding classroom instruction?		No
The impact of child welfare programs on the educational and economic outcomes of students?		No
An analysis of social determinants, provided by State agencies ² and appropriate local agencies, that impact education performance of students and indicate the need for wraparound services for students.	Yes	
Research Agenda Category (page 2 of the Research Agenda) – Which category does the project address? Please explain.		
Educational, Service, and Workforce Outcomes: We aim to understand the effect of school characteristics on educational and Labor Market Outcomes		
Research Agenda Themes (page 2-3 of the Research Agenda) - Which cross cutting theme is incorporated in the project? Please explain.		
This research focused on Black students who are underserved in the educational systems to understand how opportunities within the schools affect their educational outcomes. This incorporates both the Social Determinants and Equity and Inclusion theme from the MLDS Center research agenda.		

¹ All projects must relate to a state or federal education program. If you are not sure, please contact ross.goldstein@maryland.gov.

² State agencies include: Maryland Department of Health, Department of Human Services, and Department of Juvenile Services

Section 4. Data and Cross Sector Analysis

Sectors*	X
Early Child Sector	
K-12 Education Sector	X
Adult Education Sector	
Justice Involved Youth Sector	
Child Welfare Sector	
Postsecondary Education Sector	X
Other Completions and Credentials Sector	
Workforce sector	X

Put an 'x' next to each data sector your project will include. You must have at least 2 sectors.

Optional - Additional Information about planned data use (such as cohort identification; years of data needed)
Do you plan to request to include external data as part of your project?

***Sectors**

Early Childhood Education Sector;

- PreK Academic Engagement

K-12 Education Sector;

- Public School Student Education Records (Attendance, Assessments, Grades, Completions, Discipline, etc.)
- Public School Characteristics

Adult Education Sector;

- GED/NEDP Exam Results
- Apprenticeship
- Adult Education
- Correctional Education

Justice Involved Youth Sector;

- Juvenile Justice Records
- Juvenile Education Records

Child Welfare Sector;

- Out-of-Home Placements

Postsecondary Education Sector;

- College & University Enrollments, Courses, Credits, Grades, Degrees & Financial Aid
- College & University Student Workforce Training

Other Completions and Credentials Sector; and/or

- Industry Certifications
- Licenses

Workforce Sector.

- Public School Teacher Characteristics and Credentials
- Public School Staff Characteristics and Credentials
- Workforce Earnings
- Workforce Labor Sectors

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Section 5. Financial Information

<p>The MLDS Center incurs costs for every project related to: (a) IT support and infrastructure; (b) assistance from subject matter experts, (c) criminal history background checks; and (d) creation of an analytic data set. Average project costs are between \$3,000 and \$5,000. A detailed, customized estimate will be provided prior to project initiation. (Please indicate your answer with an "X")</p>	
<input type="checkbox"/>	I will reimburse MLDS Center for all applicable fees.
<input type="checkbox"/>	I will only be able to provide partial reimbursement.
<input checked="" type="checkbox"/>	I will need a waiver.
<p>Dr. Ampaw is part of the MLDS Center Research Branch.</p>	
<p>Grant Funding (indicate with an 'X')</p>	
<input type="checkbox"/>	This project has already received funding
<input type="checkbox"/>	I plan to apply or am in the process of applying for grant funding
<input checked="" type="checkbox"/>	No grant funding is planned
<p>Name of Grantor</p>	
<p>N/A</p>	
<p>RFP or Grant Program Information (you may provide a link to the grantor's website)</p>	
<p>N/A</p>	
<p>Amount of grant funds sought or awarded.</p>	
<p>N/A</p>	
<p>Grant Application Date</p>	
<p>N/A</p>	
<p>Do you intend to proceed without grant funding?</p>	
<p>Yes.</p>	
<p>Are you receiving other funding for this proposed project? If yes, how much?</p>	
<p>N/A</p>	

Section 6. Special Considerations

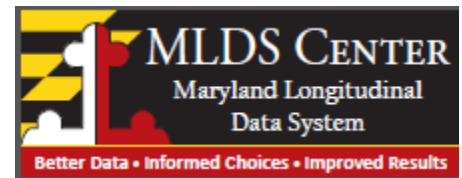
<p>Principal Investigators NOT affiliated with a Maryland College or University – please provide information on:</p> <ul style="list-style-type: none">a. Your familiarity with Maryland policies affecting your research topic; andb. How your project meets a specific Maryland research need? <p>Please also upload (with this form) any letters of reference or endorsement from a Maryland researcher or a State or local agency that vouches for your qualifications and expertise.</p>
<p>N/A</p>
<p>For projects that involve a small population, please confirm that you are aware of the MLDS Center’s data suppression policy and explain how you will report your findings while conforming to the suppression requirements.</p>
<p>N/A</p>
<p>For projects that involve a single school system, university, or program, please explain the statewide implications of the project.</p> <p>Please also upload (with this form) any letters of support from the subject (i.e. school system or university) of the study.</p>
<p>N/A</p>

Section 7. Project Team

Project Team		
<ul style="list-style-type: none"> - Please list all members of the research team and indicate roles and responsibilities. - If the Principal Investigator listed in Section 1 above is NOT the primary point of contact for the project (including research, data access, and presentations to stakeholders), please indicate which team member is the primary point of contact and provide that individual's contact information. 		
Name and Organization	Role	Is system access needed? (Yes/No)
Robert Jerome Anderson, Morgan State University	Graduate Assistant	Yes
Frim Ampaw, Morgan State University	PI	Yes

Section 8. Submission

Once this form is completed, please complete the online application ([here](#)) and upload this form, CVs for all members of the research team, and any other supporting materials.



Project Title	Agency Control #
Maryland Health Care Commission (MHCC) and Behavioral Health Administration (BHA) Workforce Needs Assessment (SB283)	ERA 92

Section 1. Principal Investigator

Principal Investigator (please list additional project team members in Section 7)
<p>Ann Kellogg, PhD, Director of Reporting Services, MLDS Center Sandy Biddinger, Assistant Chief, Database and Application Development Dr. Josh Shapiro, Trailhead Strategies and Chief Strategy and Impact Officer at the University of California San Diego’s Division of Extended Studies</p>
Principal Investigator’s Email Address and Phone Number
<p>ann.kellogg@maryland.gov sandy.biddinger@maryland.gov</p>
Name of University or Organization
<p>MLDS Center Maryland Health Care Commission (MHCC) Behavioral Health Administration (BHA) Trailhead Strategies</p>
Principal Investigator Background and Qualification (provide overview of experience and attach a CV)
<p>Ann Kellogg holds a PhD in Public Policy from UMBC. She has been the Director of Reporting Services for the MLDS Center since January 2018 where she has produced numerous descriptive studies using MLDS data.</p> <p>Sandy Biddinger has been with the Maryland Health Care Commission (MHCC) for over 22 years. She is the Assistant Chief of Applications Systems. Ms. Biddinger is the staff expert on SAS and conducts special data analysis related to the All-Payer Claims Data system as well as for special data projects. She performs data processing activities using established programming, testing, and quality validation and documentation protocols. She also assists with technical support, web development, mapping, testing, research and review for various MHCC initiatives. She holds a Bachelor of Science degree in Computer Programming and Information Systems from Shepherd College in Shepherdstown, West Virginia.</p> <p>Dr. Josh Shapiro is the lead data scientist for Trailhead Strategies and also serves as the Chief Strategy and Impact Officer at the University of California San Diego’s Division of Extended Studies. His current evaluation projects cover a wide range of topics from healthcare, advanced manufacturing, STEM education, to the role of philanthropy in economic development. He has worked on a number of labor market and innovation reports including a grant from the National Science Foundation on the role social and cultural dynamics play in regional economic development. Dr. Shapiro was one of the core evaluators on the effectiveness of the Department of Labor’s \$500 million WIRED initiative, which involved 15 regions across the United States. Dr. Shapiro also leads UCSD’s Extension’s market research team, which focuses on assisting educational programs to conduct market research and curricula development for workforce and education training programs. He has taught classes on Research Methodology for UC San Diego and is trained in both Qualitative and Quantitative methodologies with a specialization in labor market data. Before attending graduate school Dr.</p>

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Shapiro worked in the Conflict Resolution field in Washington D.C., was a public school teacher in South Carolina, and built homes with Habitat for Humanity in Louisiana. Dr. Shapiro holds a Ph.D. and M.A. in Sociology from the University of California, San Diego and a B.A. in Social Thought and Analysis from Washington University in St. Louis.

Section 2. Project Information

Abstract or Brief Description of Proposed Project (no more than 1,500 words)

Maryland is facing a significant shortage of behavioral health providers. To address this challenge, the Legislature passed **SB283**, which established the *Behavioral Health Workforce Investment Fund* to increase the capacity of the state’s behavioral health workforce. The fund will support the education, training, certification, recruitment, placement, and retention of professionals and paraprofessionals in the field. The bill directed the Maryland Health Care Commission (MHCC) and the Behavioral Health Administration (BHA) to conduct a behavioral health workforce needs assessment to quantify the staff shortage, identify potential education and training providers, and recommend an initial allocation for the fund.

By connecting data from the education and training system, including CTE, Apprenticeship, post-secondary education, and other workforce development programs, with workforce data, including wage earnings and employers, we hope to map which programs are feeding the pipeline for careers in behavioral health, and use this to guide Fund investment.

Increasing the size, quality, and diversity of the behavioral health workforce is a long-term project. We hope to develop an ongoing relationship with MLDS to support the assessment of the Fund’s investments.

Research Project Question

Short term Project research questions include:
What are the labor outcomes of behavioral health education and training programs at the non-degree, AA, Bachelor, and Graduate level? Particularly, we are interested in completion rates, retention rates, labor market participation, and wages over the last five years for college majors of interest.

Research Methods (provide a brief description of the research methods you plan to use)

Descriptive statistics by college, major, degree and labor sector as well as demographic characteristics, including race, ethnicity, gender and urbanicity.

How will this research benefit the State of Maryland?

The preliminary data from this research will allow the state, through the Behavioral Health Workforce Investment fund, to consider options for investing in training programs that will produce a skilled and diverse behavioral health workforce. Through this research, the state plans to evaluate training programs by region and occupation type and fund those that address the greatest areas of need. This will ultimately benefit all citizens of Maryland, who will have greater access to the behavioral health care that they need.

Explain why this research requires longitudinal cross-sector data?

We are planning to evaluate trends over time using data from different systems. For example, we hope to connect data from education and training programs to wage records (e.g., employer and wage) to better understand which programs are successful at placing graduates in jobs in their chosen field, and which lead to wage gains over time.

Proposed Center Output

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A series of data tables will be produced based upon those originally developed for the Healthcare Workforce Crisis Commission. This work will expand the work already completed by MLDS to add additional majors and degree levels in healthcare-related majors. Majors of interest include:

- Psychology
- Behavioral Sciences
- Social Work
- Psychiatric Technologies
- Substance Use Disorder Counseling / Addiction Studies
- Registered Nursing
- Licensed Practical Nursing
- Psychiatric Mental Health Nurse Practitioner programs
- Therapy/Counseling

Timeline for the proposed project (identify major deliverables and approximate dates)

April 2024: Deliver analytic data set
 May 2024: Initial analysis of top programs by field of study
 June 2024: Draft 2 analysis of top programs by field of study
 August 2024: Produce center output and draft of analysis and feasibility analysis in one section of final report on the BH Workforce shortage delivered to MHCC.

Plans for further development (i.e. journal submission, etc)

We plan to include our findings, with proper citations crediting MLDS, in a larger report due to the Maryland Legislature in October of 2024.

Section 3. MLDS Center [Research Agenda](#)

Does your project relate to one of the following areas which the General Assembly has specifically directed the MLDS to study:	Yes	No
The impact of a State or federal education program? ¹	X	
The performance of educator preparation programs?		X
Best practices regarding classroom instruction?		X
The impact of child welfare programs on the educational and economic outcomes of students?		X
An analysis of social determinants, provided by State agencies ² and appropriate local agencies, that impact education performance of students and indicate the need for wraparound services for students.		X
Research Agenda Category (page 2 of the Research Agenda) – Which category does the project address? Please explain.		
The project addresses several Research Agenda Categories:		
Pathways		

¹ All projects must relate to a state or federal education program. If you are not sure, please contact ross.goldstein@maryland.gov.

² State agencies include: Maryland Department of Health, Department of Human Services, and Department of Juvenile Services

We will evaluate the effectiveness of education/training programs by examining whether students who complete the programs, such as CTE programs and college programs that result in a healthcare degree, enter the workforce in their area of study. This will include an analysis of how these results vary by program, demographics, occupation, and region.

Pipelines

We will analyze enrollment in Apprenticeship and other education/training programs outside of the traditional education system and examine how factors such as region and demographics impact successful program completion. We may also evaluate the inflow of graduates from out-of-state colleges with behavioral health degrees, including whether they work in the healthcare field and how long they work in Maryland.

Research Agenda Themes (page 2-3 of the [Research Agenda](#)) - Which cross cutting theme is incorporated in the project? Please explain.

The project includes elements of the Research Agenda’s Supports and Barriers and Equity and Inclusion cross cutting themes, as described below:

Supports and Barriers – We will be exploring how behavioral health professionals progress from education/training programs into the workforce and how they advance within the field. For example, we will evaluate:

- The transition from education/training programs (such as CTE programs and Apprenticeships) into the workforce, and the factors that influence whether an individual gains a job in the field.
- How to increase diversity in behavioral health occupations, including the factors that impact how and whether individuals enter and complete education/training programs and enter and progress in the workforce.
- How state funding of behavioral health programs impacts entry into education/training programs and progression into the workforce.

Equity and Inclusion – To ensure quality behavioral health care, it is critical that the workforce is reflective of and understands the needs of the state’s diverse population. In our analysis, we will be identifying occupations where certain groups are underrepresented and identifying targeted investments to increase participation from underrepresented groups. For example, we may examine:

- How training providers offer opportunities to underrepresented groups, including the characteristics of populations who enter and complete education/training programs
- How members of underrepresented groups transition from education/training programs into the workforce.

Section 4. Data and Cross Sector Analysis

Sectors*	X
Early Child Sector	
K-12 Education Sector	X
Adult Education Sector	X
Justice Involved Youth Sector	
Child Welfare Sector	
Postsecondary Education Sector	X
Other Completions and Credentials Sector	X
Workforce sector	X

Put an 'x' next to each data sector your project will include. You must have at least 2 sectors.

Optional - Additional Information about planned data use (such as cohort identification; years of data needed)
Do you plan to request to include external data as part of your project?
No

***Sectors**

Early Childhood Education Sector;

- PreK Academic Engagement

K-12 Education Sector;

- Public School Student Education Records (Attendance, Assessments, Grades, Completions, Discipline, etc.)
- Public School Characteristics

Adult Education Sector;

- GED/NEDP Exam Results
- Apprenticeship
- Adult Education
- Correctional Education

Justice Involved Youth Sector;

- Juvenile Justice Records
- Juvenile Education Records

Child Welfare Sector;

- Out-of-Home Placements

Postsecondary Education Sector;

- College & University Enrollments, Courses, Credits, Grades, Degrees & Financial Aid
- College & University Student Workforce Training

Other Completions and Credentials Sector; and/or

- Industry Certifications
- Licenses

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Workforce Sector.

- Public School Teacher Characteristics and Credentials
- Public School Staff Characteristics and Credentials
- Workforce Earnings
- Workforce Labor Sectors

Section 5. Financial Information

The MLDS Center incurs costs for every project related to: (a) IT support and infrastructure; (b) assistance from subject matter experts, (c) criminal history background checks; and (d) creation of an analytic data set. Average project costs are between \$3,000 and \$5,000. A detailed, customized estimate will be provided prior to project initiation. (Please indicate your answer with an "X")	
<input type="checkbox"/>	I will reimburse MLDS for all applicable fees.
<input type="checkbox"/>	I will only able to provide partial reimbursement.
<input checked="" type="checkbox"/>	I will need a waiver.
Grant Funding (indicate with an 'X')	
<input type="checkbox"/>	This project has already received funding
<input type="checkbox"/>	I plan to apply or am in the process of applying for grant funding
<input checked="" type="checkbox"/>	No grant funding is planned
Name of Grantor	
RFP or Grant Program Information (you may provide a link to the grantor's website)	
Amount of grant funds sought or awarded.	
Grant Application Date	
Do you intend to proceed without grant funding?	
Are you receiving other funding for this proposed project? If yes, how much?	

Section 6. Special Considerations

Principal Investigators NOT affiliated with a Maryland College or University – please provide information on:

- a. Your familiarity with Maryland policies affecting your research topic; and
- b. How your project meets a specific Maryland research need?

Please also upload (with this form) any letters of reference or endorsement from a Maryland researcher or a State or local agency that vouches for your qualifications and expertise.

As a Maryland State employee, our principal investigator is very familiar with Maryland policies related to data privacy, security, and responsible analysis. Additionally, MHCC is strictly focused on spending our time and resources on efforts that benefit Maryland residents and organizations. In this case, all of the analysis will be used to inform a report back to the State legislature about priorities for investment in the behavioral health workforce education and training pipeline.

For projects that involve a small population, please confirm that you are aware of the MLDS Center’s [data suppression policy](#) and explain how you will report your findings while conforming to the suppression requirements.

We are aware of the MLDS data suppression policy. We will only release aggregate data in reports, and will not release any data that may be identifiable based on the size or uniqueness of the population.

For projects that involve a single school system, university, or program, please explain the statewide implications of the project.

Please also upload (with this form) any letters of support from the subject (i.e. school system or university) of the study.

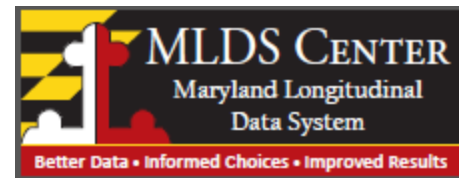
N/A

Section 7. Project Team

Project Team - Please list all members of the research team and indicate roles and responsibilities. - If the Principal Investigator listed in Section 1 above is NOT the primary point of contact for the project (including research, data access, and presentations to stakeholders), please indicate which team member is the primary point of contact and provide that individual's contact information.		
Name and Organization	Role	Is system access needed? (Yes/No)
Ann Kellogg, MLDS	Co-PI	Yes
Sandy Biddinger, MHCC	Co-Pi	Yes
Michelle Darling, Behavioral Health Administration	Project Partner	No
Tracey DeShields, MHCC	Project Partner	No
Casey Tiefenwerth, Department of Labor	Project Partner	No
Josh Shapiro, PhD, Trailhead Strategies (contractor to MHCC)	Data Scientist	No
Andy Hall, Trailhead Strategies (contractor to MHCC) (POC) andyhall@trailheadstrat.com 619-643-2735	Project Coordination	No
Aaron Korn, Trailhead Strategies (contractor to MHCC)	Project Coordination	No

Section 8. Submission

Once this form is completed, please complete the online application ([here](#)) and upload this form, CVs for all members of the research team, and any other supporting materials.



Project Title	Agency Control #
A longitudinal examination of the short- and long-term impacts of enrollment in elementary and secondary instrumental music education courses	93

Section 1. Principal Investigator

Principal Investigator (please list additional project team members in Section 7)
David Miller
Principal Investigator’s Email Address and Phone Number
Dmille20@umd.edu
Name of University or Organization
University of Kentucky University of Maryland, College Park MLDS Center Research Branch
Principal Investigator Background and Qualification (provide overview of experience and attach a CV)
Dr. David Miller is Assistant Professor of Music Education at the University of Kentucky. Additionally, he holds appointments with the University of Maryland Music and Arts Education Data Lab and with the MLDS Center Research Branch. Dr. Miller has completed several projects using MLDS Data that have been furthered developed into peer-reviewed research manuscripts.

Section 2. Project Information

Abstract or Brief Description of Proposed Project (no more than 1,500 words)
<p>This study closely aligns with the previously approved MLDS research we have done investigating academic outcomes (IB test scores, SAT/ACT test scores, and postsecondary enrollment) comparing IB Arts students with other IB students and comparing high school music ensemble students with other high school students. We found that high academic achievers and White students tended to be over-represented in high school music courses. Additionally, high school music students were less likely to be eligible for free or reduced price lunch or special education services. These findings were consistent with selection bias differences well documented in the research literature (Elpus, 2013; Elpus & Abril, 2011, 2019; Shaw & Auletto, 2022; Tucker & Winsler, 2023). This proposed project extends the inquiry backwards to the point where music first becomes elective in elementary school. By using a true longitudinal cohort-style framework, we hope to provide better policy-relevant information about selection into music and the academic outcomes of music students.</p> <p>We will extend our prior research using MLDS data by examining the short and long term academic outcomes of students who do and do not enroll in elementary instrumental music courses in 4th and 5th grade. We will look at standardized tests results from 3rd grade to establish a baseline, and follow music enrollment (did these students join/continue instrumental music courses in middle and high school, and how many courses instrumental</p>

music courses did they take?), tests results for key benchmarks (5th grade, 8th grade, PSAT), and postsecondary enrollment outcomes.

We are also interested in documenting potential differences in initial and continued enrollment in these samples by student characteristics of interest (e.g., race/ethnicity, gender, free/reduced price meals, school attendance, special education services, etc.), their music teacher characteristics (race/ethnicity, gender, student-teacher demographic match, years of experience), and how these characteristics may predict and/or mediate continued instrumental music enrollment and testing outcomes.

Definitions:

Instrumental music: Specifically, we are examining band and orchestra, the most common instrumental music courses offered as elementary pullouts. We will be examining these courses together as when a school offers both, they typically follow the same scheduling structure.

Enrollment: Measured as a binary (i.e., did the student ever take band or orchestra in each school level) and as a dosage (i.e., how many instrumental music courses did the student take in each school level).

Pullouts: At the elementary school level, instrumental music students are typically pulled out of another class (e.g., math, reading, PE, etc.) once or twice a week. The structure and timing of pull-outs vary school-to-school in a way that is unobservable using MLDS data, so we aim to evaluate pull-outs broadly.

Research Project Question

The main research questions of interest for this extension are:

1. What are the short- (i.e., 5th and 8th grade test results, middle school instrumental music enrollment) and long-term (i.e., high school instrumental music enrollment, PSAT scores, high school graduation, and postsecondary enrollment) academic impacts of initial enrollment in elementary instrumental music courses?
2. What is the relationship between initial enrollment in elementary instrumental music and sustained enrollment in instrumental music courses throughout middle and high school (i.e., what student- and music teacher-characteristics are related to continued enrollment)?
3. To what extent are differences in academic outcomes between students who enroll in instrumental music and students who do not enroll in instrumental music mediated and moderated by prior academic achievement, student demographic characteristics, teacher characteristics, and attendance?
4. After accounting for all observable differences in initial and continued enrollment in instrumental music, what, if any, differences exist in postsecondary outcomes?

Research Methods (provide a brief description of the research methods you plan to use)

Descriptive Statistics, Growth Curve Modeling, Logistic Regression

Descriptive Statistics will be used to examine differences in student characteristics between those who do and do not enroll in instrumental music courses at Elementary, Middle, and High school levels. Logistic regression will be used to examine high school graduation and postsecondary enrollment.

Growth curve modeling will be used to examine the relationship between elective instrumental music enrollment over time and achievement on standardized testing measures (specifically, math and ELA measures). To account for different testing measures as students progressed throughout grade levels, outcomes on all testing measures used for growth curve modeling will be standardized on the state-wide population for that grade level that academic year with mean zero and standard deviation one (i.e., z scores). Our growth curve modeling outcomes include state testing outcomes at 3rd-, 5th-, and 8th-grade, as well as the national PSAT test. We selected these grade levels for several reasons. Third grade scores are a baseline measure prior to instrumental music enrollment. Scores at 5th and 8th grade constitute the major benchmarks at the end of elementary and middle school. Additionally, these grade levels coincide with the points at which most attrition in instrumental music enrollment occurs (i.e., between school levels). Furthermore, we build upon a theory of school engagement (Wright & Elpus, 2024) that observed academic differences in instrumental music students may be partly attributable to increased school engagement concomitant with instrumental music enrollment. By examining instrumental music enrollment as a binary across the grade-level groupings and as a dose across the grade-level groupings, we hope to further develop and test empirically this theoretical framework.

We theorize SAT/ACT scores may be more susceptible to selection bias than PSAT scores because students must opt in and pay to take these exams outside of the school day. However, the PSAT is administered during the school day. We will thus use PSAT scores as the high school measure.

The analytic sample will include students who were in 3rd grade in the 2011-2012 school year that attending school within a Local Education Agency that offered instrumental music at the elementary level. Even if an individual school within the district did not offer elementary instrumental music, students attending that school will contribute to the descriptive analyses. Inferential analyses will include school fixed effects to account for differences in course offerings. Years of data will include analyses through anticipated high school graduation (2020-2021) and potential postsecondary enrollment within two years of high school completion (2021-2022 or 2022-2023).

How will this research benefit the State of Maryland?

Instrumental music becomes elective at the elementary level in many of Maryland’s Local Education Agencies (LEAs). Students who elect elementary instrumental music receive their instruction as ‘pull-out’ lessons; students leave another class one or two days a week in order to attend their instrumental music class. Students may be discouraged from taking instrumental music courses due to concerns regarding how the pull-out structure may impact their academic achievement. However, there is no empirical evidence that we are aware of regarding the extent to which students’ academic achievement may or may not be impacted by pull-out lessons.

At the same time, most of the research regarding representation in music courses and differences between students who do and do not enroll in music courses is primarily focused at the secondary level (including our previous MLDS research). If students do not begin their instrumental music lessons when it becomes first elective, it is thought that beginning instrumental music studies later in the curriculum, after many of their peers have already been receiving instruction, is challenging because students are “behind” their peers, limiting opportunities for access if students are unable to enroll early on. A better understanding of how these differences in representation may persist from

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the earliest stages of instrumental music instruction will provide much needed context and clarity for these documented differences.

Music instruction is often touted as a pathway towards postsecondary enrollment because high school students who enroll in music attend college at higher rates than students who do not enroll in music. Yet, another common message is how students should maximize their academic rigor by selecting more honors and advanced placement courses. After controlling for many observable differences between music students and non-music students, our previous MLDS research found that there was no difference in enrollment rates between music students and non-music students, demonstrating that there are likely factors there were unobservable at the high school level associated both with selection into music courses and enrollment into college. However, these analyses were again limited by examining differences among students who were enrolled in high school. The proposed longitudinal cohort framework for this study will provide much needed context for these prior findings to examine the complex relationship between enrollment in instrumental music courses and academic achievement over time, and how both may predict postsecondary enrollment.

Explain why this research requires longitudinal cross-sector data?

This research will use a longitudinal cohort framework to link data from K-12 students, K-12 teachers, and postsecondary enrollment from 3rd grade through the year following high school completion.

Proposed Center Output

MLDS Brown Bag Research Series Presentation and a research brief in the MLDS Center template

Timeline for the proposed project (identify major deliverables and approximate dates)

The expected timeline for the project is approximately 1 year. Dr. David Miller will access the MLDS data and complete the analyses for this extension. Data cleaning and analyses are expected to take 3-4 months with a hopeful completion date in July or August 2024. The Center product is anticipated in Fall 2024.

Plans for further development (i.e. journal submission, etc)

Anticipated further development includes presentation at the April 2025 American Education Research Association Annual Meeting and subsequent manuscript submission for publication in *Journal of Research in Music Education* or *Arts Education Policy Review*.

Section 3. MLDS Center [Research Agenda](#)

Does your project relate to one of the following areas which the General Assembly has specifically directed the MLDS to study:	Yes	No
The impact of a State or federal education program? ¹	X	
The performance of educator preparation programs?		
Best practices regarding classroom instruction?		
The impact of child welfare programs on the educational and economic outcomes of students?		

¹ All projects must relate to a state or federal education program. If you are not sure, please contact ross.goldstein@maryland.gov.

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<p>An analysis of social determinants, provided by State agencies² and appropriate local agencies, that impact education performance of students and indicate the need for wraparound services for students.</p>		
<p>Research Agenda Category (page 2 of the Research Agenda) – Which category does the project address? Please explain.</p>		
<p>Educational, Service & Workforce Outcomes.</p> <p>This proposed extension examines educational outcomes associated with enrollment in instrumental music education courses. Examined outcomes will include standardized test achievement and enrollment in postsecondary institutions.</p>		
<p>Research Agenda Themes (page 2-3 of the Research Agenda) - Which cross cutting theme is incorporated in the project? Please explain.</p>		
<p>Equity and Inclusion</p> <p>At the high school level, our prior MLDS research showed that students of color, students eligible for Free/Reduced Price lunch, English Language Learners, and students eligible for special education services were all underrepresented in music education classes. We want to examine if this underrepresentation begins at the stage at which instrumental music first becomes elective, indicating initial barriers to access, or if this underrepresentation results from differential attrition from music students as they progress through higher grades. If music can help students attend college either directly, indirectly through academic achievement, or indirectly through school attendance or engagement, then identifying barriers to participation for these underrepresented students can inform how instrumental music education curriculum is enacted from a scheduling and enrollment perspective to better serve these communities.</p>		

² State agencies include: Maryland Department of Health, Department of Human Services, and Department of Juvenile Services

Section 4. Data and Cross Sector Analysis

Sectors*	X
Early Child Sector	
K-12 Education Sector	X
Adult Education Sector	
Justice Involved Youth Sector	
Child Welfare Sector	
Postsecondary Education Sector	X
Other Completions and Credentials Sector	
Workforce sector	X

Put an 'x' next to each data sector your project will include. You must have at least 2 sectors.

Optional - Additional Information about planned data use (such as cohort identification; years of data needed)
We will use the cohort of students who were in 3 rd grade in the 2011-2012 school year. Workforce sector data will include K-12 music teacher characteristics
Do you plan to request to include external data as part of your project?
No

***Sectors**

Early Childhood Education Sector;

- PreK Academic Engagement

K-12 Education Sector;

- Public School Student Education Records (Attendance, Assessments, Grades, Completions, Discipline, etc.)
- Public School Characteristics

Adult Education Sector;

- GED/NEDP Exam Results
- Apprenticeship
- Adult Education
- Correctional Education

Justice Involved Youth Sector;

- Juvenile Justice Records
- Juvenile Education Records

Child Welfare Sector;

- Out-of-Home Placements

Postsecondary Education Sector;

- College & University Enrollments, Courses, Credits, Grades, Degrees & Financial Aid
- College & University Student Workforce Training

Other Completions and Credentials Sector; and/or

- Industry Certifications
- Licenses

Workforce Sector.

- Public School Teacher Characteristics and Credentials
- Public School Staff Characteristics and Credentials
- Workforce Earnings

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- Workforce Labor Sectors

Section 5. Financial Information

The MLDS Center incurs costs for every project related to: (a) IT support and infrastructure; (b) assistance from subject matter experts, (c) criminal history background checks; and (d) creation of an analytic data set. Average project costs are between \$3,000 and \$5,000. A detailed, customized estimate will be provided prior to project initiation. (Please indicate your answer with an "X")	
<input type="checkbox"/>	I will reimburse MLDS for all applicable fees.
<input type="checkbox"/>	I will only able to provide partial reimbursement.
<input checked="" type="checkbox"/>	I will need a waiver.
Grant Funding (indicate with an 'X')	
<input type="checkbox"/>	This project has already received funding
<input type="checkbox"/>	I plan to apply or am in the process of applying for grant funding
<input checked="" type="checkbox"/>	No grant funding is planned
Name of Grantor	
RFP or Grant Program Information (you may provide a link to the grantor's website)	
Amount of grant funds sought or awarded.	
Grant Application Date	
Do you intend to proceed without grant funding?	
Are you receiving other funding for this proposed project? If yes, how much?	

Section 6. Special Considerations

Principal Investigators NOT affiliated with a Maryland College or University – please provide information on:

- a. Your familiarity with Maryland policies affecting your research topic; and**
- b. How your project meets a specific Maryland research need?**

Please also upload (with this form) any letters of reference or endorsement from a Maryland researcher or a State or local agency that vouches for your qualifications and expertise.

For projects that involve a small population, please confirm that you are aware of the MLDS Center's [data suppression policy](#) and explain how you will report your findings while conforming to the suppression requirements.

For projects that involve a single school system, university, or program, please explain the statewide implications of the project.

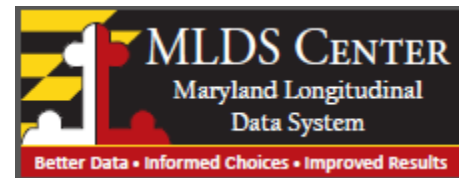
Please also upload (with this form) any letters of support from the subject (i.e. school system or university) of the study.

Section 7. Project Team

Project Team - Please list all members of the research team and indicate roles and responsibilities. - If the Principal Investigator listed in Section 1 above is NOT the primary point of contact for the project (including research, data access, and presentations to stakeholders), please indicate which team member is the primary point of contact and provide that individual's contact information.		
Name and Organization	Role	Is system access needed? (Yes/No)
David Miller, University of Kentucky, University of Maryland, MLDS Center Research Branch	PI	Yes – already has access
Stephanie Prichard, University of Maryland	Research Team Member	No
Bri'Ann Wright, University of Maryland	Research Team Member	No

Section 8. Submission

Once this form is completed, please complete the online application ([here](#)) and upload this form, CVs for all members of the research team, and any other supporting materials.



Project Title	Agency Control #
Understanding Educational Factors related to state supervised child welfare services (foster care) Involved Youth	94

Section 1. Principal Investigator

Principal Investigator (please list additional project team members in Section 7)
Terry Shaw
Principal Investigator’s Email Address and Phone Number
tshaw@ssw.umaryland.edu or terry.shaw1@maryland.gov
Name of University or Organization
University of Maryland Baltimore, School of Social Work
Principal Investigator Background and Qualification (provide overview of experience and attach a CV)
<p>My background and interests focus on leveraging existing administrative data systems to improve state policy and practice related to child and family health. I am particularly interested in examining the pathways into and through child serving systems focusing on opportunities for state systems to collaborate, understand service overlaps, improve overall service delivery and address the multiple needs of the children and families involved with these systems (including child, youth and family physical and mental health; surveillance of psychotropic medication use; pathways to permanency; educational access; interactions between the court and child welfare services, and child maltreatment prevention). I have over two decades of expertise in developing the infrastructure, relationships, and programming structure to successfully implement multi-agency data linking systems (having instituted data linking projects in South Carolina, California, and Maryland). I have expertise in advanced statistical methods and extensive experience utilizing longitudinal data systems to answer questions related to service outcomes to inform policy and practice.</p> <p>I currently have ongoing projects with the Maryland Department of Human Services Social Services Administration to facilitate the use of their administrative data system (CJAMS) to inform policy and practice. I am also a member of the research team at the Maryland Longitudinal Data System Center (MLDSC) with an interest the overlap of child welfare and education. My CV is attached.</p>

Section 2. Project Information

Abstract or Brief Description of Proposed Project (no more than 1,500 words)
<p>Through the MLDS we now have the opportunity to develop a more complete understanding of the educational processes and educational outcomes for students who are in the state supervised child welfare system (foster care). Discussions with staff from the Department of Human Services (DHS) indicate that having a better understanding of school attendance and absenteeism, disciplinary incidents (e.g., suspensions), presence of enhanced support (e.g., IEP/504 plans), school transitions (stability of school enrollments/school mobility), as well as long-term educational outcomes (e.g., high school graduation rates and college enrollment/persistence/completion) are needed to help better serve the population of children in foster care. State and jurisdictional level information would help to understand heterogeneity by service area.</p>

Research Project Question

For students identified as being in state supervised child welfare services (children in foster care) during the school year:

1. What is the rate of absenteeism (we are interested in absenteeism and chronic absenteeism) (compared to both the state average and the average for children not in state supervised child welfare services (foster care)? (Note, for all questions, “state average” refers to the state average for students in Maryland public schools.)
2. What is the rate of suspensions/expulsions compared to both the state average and the average for children not in state supervised child welfare services (foster care)?
3. What percentage of children have an identified IEP or 504 plan, and how does this compare to both the state average and the average for children not in state supervised child welfare services (foster care)?
4. How often do children in foster care move schools (stability of school enrollments/student mobility) and how does this compare with both the statewide average and the average for children not in state supervised child welfare services (foster care)?
5. What is the high school graduation rate (or GED attainment rate) for youth who were in foster care after the age of 14 and does this rate differ if the child was in care at graduation or not?
6. How many youth in foster care enroll in higher education and what is the timing of that enrollment (using the five college-going patterns: Complete, immediate, non-traditional, within one year, within two years – *defined below from the MLDSC data dashboard)?
7. Of the youth in foster care who do enroll in higher education, do they persist through completion of a degree (what type of degree)?
8. Exploratory questions: What are the workforce outcomes for youth who were in foster care and do not enroll in college? What are the workforce outcomes for youth who were in foster care and do enroll in college?
9. Exploratory questions: An examination of the prevalence of foster care and juvenile services overlap and how that impacts the questions above?

For each question we are interested in exploring the impact of different state supervised child welfare services (foster care) level systemic variables including: the length of time the child spent in state supervised child welfare services (foster care); whether there are differences based on a child experiencing multiple foster care episodes; and if there are differences in suspensions/absenteeism/IEPs between foster children while involved in care vs former foster children no longer in care.

* **Immediate College Enrollment** includes high school graduates who enroll in college as full-time, degree-seeking students in the fall immediately following high school graduation.

Complete College Enrollment includes high school graduates who enroll in college either full-time or part-time as degree-seeking or non-degree seeking students at any point after high school graduation. Complete College Enrollment is not reported until three years have lapsed since high school graduation. The totals reported for the Complete enrollment are impacted by the number of

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years that have passed since high school graduation. The totals reported for Complete college enrollment should not be interpreted as declines in college enrollment as not all cohorts have been out of high school for the same number of years.

Within One Year College Enrollment includes high school graduates who enroll in college either full-time or part-time as degree-seeking or non-degree seeking students within one year of high school graduation.

Within Two Years College Enrollment includes high school graduates who enroll in college either full-time or part-time as degree-seeking or non-degree seeking students within two years of high school graduation. Enrollment data are not reported until two years have lapsed since high school graduation.

Non-Traditional College Enrollment includes high school graduates that either delayed degree-seeking enrollment in college until age 20 or enrolled for the first time as part-time degree-seeking. Non-Traditional College Enrollment is not reported until two years have lapsed since high school graduation.

Research Methods (provide a brief description of the research methods you plan to use)

This is a descriptive examination of the factors discussed above, using counts, percentages, and correlations. Depending on the sample size chi-squared tests looking at differences between groups (foster care or not) for the count measures will be calculated.

The initial exploration will look at the 2019 cohort of youth of graduation age (calculated using month and year of birth; will use 17-18 as “graduation age”) who have had experience in the state supervised child welfare services (foster care). This will overlap with the COVID dip in secondary and postsecondary enrollment. We are interested in the overall comparison of impacts discussed above and to set up a structure that is replicable as we continue to have new years of data. We are interested in both youth who are of graduation age in the state supervised child welfare services (foster care) and youth who are of graduation age who have exited the state supervised child welfare services (foster care) to understand any differences that might exist between these groups. College persistence and degree outcomes may only be available for students who graduated from high school on time and went on to college within four years (see table below).

Cohort Table

- 2018-2019 – Age 17/18 (high school graduation age)
- 2019-2020 – Year 1
- 2020-2021 – Year 2
- 2021-2022 – Year 3
- 2022 – 2023 – Year 4

How will this research benefit the State of Maryland?

The Maryland child welfare system does not maintain a detailed record of all of the educational outcomes for their youth within the CJAMS system. While there are places that educational data is entered into CJAMS by the worker, it is not as nuanced or informative as is possible through the MLDS. This analysis would provide a more complete understanding of the use of the MLDS and will hopefully lead to enhanced utilization of the data by DHS. It will also provide SAS code that can be used by future researchers interested in doing research with the child welfare data.

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Explain why this research requires longitudinal cross-sector data?
This requires data from the Maryland child welfare system, the Maryland State Department of Education, the Maryland Department of Juvenile Services, and the Maryland Higher Education Commission. The exploratory question on workforce outcomes requires data from the Department of Labor. Without linked longitudinal access it would not be possible to examine the outcomes over time or the possible correlation between DHS placement moves and students' mobility in school enrollments.
Proposed Center Output
The results will be presented to the MLDS Center representative from the Department of Human Services to discuss the results and verify the assumptions and structure of the data and findings are appropriate for the agency's needs. This information will then be made into a research series presentation.
Timeline for the proposed project (identify major deliverables and approximate dates)
MLDS proposal submission – April 2024 MLDS RPB presentation – May 2024 MLDS analyses –April – July 2024 Discussion of results with DHS staff – July-August 2024 Research series presentation – Fall 2024
Plans for further development (i.e. journal submission, etc)
Currently, there are no plans for further development beyond reporting results to the state Child Welfare agency and the MLDS.

Section 3. MLDS Center [Research Agenda](#)

Does your project relate to one of the following areas which the General Assembly has specifically directed the MLDS to study:	Yes	No
The impact of a State or federal education program? ¹	x	
The performance of educator preparation programs?		x
Best practices regarding classroom instruction?		x
The impact of child welfare programs on the educational and economic outcomes of students?	x	
An analysis of social determinants, provided by State agencies ² and appropriate local agencies, that impact education performance of students and indicate the need for wraparound services for students.	x	

¹ All projects must relate to a state or federal education program. If you are not sure, please contact ross.goldstein@maryland.gov.

² State agencies include: Maryland Department of Health, Department of Human Services, and Department of Juvenile Services

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Research Agenda Category (page 2 of the Research Agenda) – Which category does the project address? Please explain.
Educational, Service & Workforce Outcomes: Research and reports on institutional-level characteristics (involvement in the child welfare system) and the importance of these characteristics in predicting outcomes.
Research Agenda Themes (page 2-3 of the Research Agenda) - Which cross cutting theme is incorporated in the project? Please explain.
Supports and Barriers (the structure of the child welfare system and how it impacts/supports school outcomes) and Social Determinants (specifying outcomes for the vulnerable population of children involved in the child welfare system).

Section 4. Data and Cross Sector Analysis

Sectors*	X
Early Child Sector	
K-12 Education Sector	x
Adult Education Sector	x
Justice Involved Youth Sector	x
Child Welfare Sector	x
Postsecondary Education Sector	x
Other Completions and Credentials Sector	
Workforce sector	x

Put an 'x' next to each data sector your project will include. You must have at least 2 sectors.

Optional - Additional Information about planned data use (such as cohort identification; years of data needed)
Do you plan to request to include external data as part of your project?
No

***Sectors**

Early Childhood Education Sector;

- PreK Academic Engagement

K-12 Education Sector;

- Public School Student Education Records (Attendance, Assessments, Grades, Completions, Discipline, etc.)
- Public School Characteristics

Adult Education Sector;

- GED/NEDP Exam Results
- Apprenticeship

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- Adult Education
- Correctional Education
- Justice Involved Youth Sector;**
 - Juvenile Justice Records
 - Juvenile Education Records
- Child Welfare Sector;**
 - Out-of-Home Placements
- Postsecondary Education Sector;**
 - College & University Enrollments, Courses, Credits, Grades, Degrees & Financial Aid
 - College & University Student Workforce Training
- Other Completions and Credentials Sector; and/or**
 - Industry Certifications
 - Licenses
- Workforce Sector.**
 - Public School Teacher Characteristics and Credentials
 - Public School Staff Characteristics and Credentials
 - Workforce Earnings
 - Workforce Labor Sectors

Section 5. Financial Information

The MLDS Center incurs costs for every project related to: (a) IT support and infrastructure; (b) assistance from subject matter experts, (c) criminal history background checks; and (d) creation of an analytic data set. Average project costs are between \$3,000 and \$5,000. A detailed, customized estimate will be provided prior to project initiation. (Please indicate your answer with an "X")	
<input type="checkbox"/>	I will reimburse MLDS for all applicable fees.
<input type="checkbox"/>	I will only able to provide partial reimbursement.
<input checked="" type="checkbox"/>	I will need a waiver.
Grant Funding (indicate with an 'X')	
<input type="checkbox"/>	This project has already received funding
<input type="checkbox"/>	I plan to apply or am in the process of applying for grant funding
<input checked="" type="checkbox"/>	No grant funding is planned
Name of Grantor	
RFP or Grant Program Information (you may provide a link to the grantor's website)	
Amount of grant funds sought or awarded.	
Grant Application Date	

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Do you intend to proceed without grant funding?
Yes, this is an exploration for the state child welfare agency.
Are you receiving other funding for this proposed project? If yes, how much?

Section 6. Special Considerations

Principal Investigators NOT affiliated with a Maryland College or University – please provide information on:

- a. Your familiarity with Maryland policies affecting your research topic; and
- b. How your project meets a specific Maryland research need?

Please also upload (with this form) any letters of reference or endorsement from a Maryland researcher or a State or local agency that vouches for your qualifications and expertise.

For projects that involve a small population, please confirm that you are aware of the MLDS Center’s [data suppression policy](#) and explain how you will report your findings while conforming to the suppression requirements.

For projects that involve a single school system, university, or program, please explain the statewide implications of the project.

Please also upload (with this form) any letters of support from the subject (i.e. school system or university) of the study.

Section 7. Project Team

Project Team		
<ul style="list-style-type: none"> - Please list all members of the research team and indicate roles and responsibilities. - If the Principal Investigator listed in Section 1 above is NOT the primary point of contact for the project (including research, data access, and presentations to stakeholders), please indicate which team member is the primary point of contact and provide that individual's contact information. 		
Name and Organization	Role	Is system access needed? (Yes/No)
Terry Shaw	PI/Data Analyst	Yes – but already able to access system

Section 8. Submission

Once this form is completed, please complete the online application ([here](#)) and upload this form, CVs for all members of the research team, and any other supporting materials.