



Impact of a School-Based Cognitive Behavioral Therapy Program on Student Mental Health and Academic Outcomes: Findings from a Randomized Controlled Trial

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Background

Rates of depression and anxiety among U.S. adolescents are on the rise, with half experiencing mental health symptoms and one in five struggling with severe mental health concerns.^{1,2,3} Untreated mental health concerns put youth at significantly higher risk for school failure, disciplinary problems, substance use, self-injury, and even suicide.^{4,5,6,7,8,9,10,11,12} These risks are compounded by the insufficient number of community-based providers,¹³ limited access to evidence-based practices (EBPs),^{14,15} lack of family knowledge about where to find effective treatment,¹⁶ social stigma,¹⁷ and the prohibitive costs associated with accessing care.¹⁸

Schools play a crucial role in addressing the youth mental health crisis, but school mental health professionals often need additional support to learn and deliver EBPs effectively.^{19,20,21} TRAILS-Early Intervention (TRAILS-EI) is a program specifically designed to provide this support, helping school professionals access training and resources so they can successfully deliver EBPs and improve student outcomes. This work is critically important because EBPs have the potential to greatly improve symptoms and outcomes, yet most adolescents never receive any treatment—let alone an EBP—due to a variety of barriers.^{22,23}

Schools are uniquely positioned to overcome these barriers and provide mental health support to students. Students are often more comfortable seeking help from school mental health professionals, and this setting eliminates travel and cost concerns that often prevent families from accessing care in the community.²⁴ In fact, 75% of students who receive mental health services do so through school-based services, and research shows students are more likely to seek help in schools than anywhere else.^{25,26,27,28,29} By supporting school professionals in delivering EBPs through interventions like TRAILS, students will have increased access to high-quality mental health care, reduced risk of serious negative outcomes, and increased likelihood for well-being and academic success. This work matters because it directly tackles the systemic gaps that prevent youth from getting the help they need, when and where they need it most.

TRAILS-EI PROGRAM

TRAILS (Transforming Research into Action to Improve the Lives of Students) is a non-profit organization focused on improving student access to evidence-based mental health services by equipping school staff with training and resources. The study focused on evaluating the TRAILS-Early Intervention (TRAILS-EI) program, which was designed to support students with elevated symptoms of anxiety or depression, with the goal of increasing student access to effective mental health services by training school mental health professionals (SMHPs) in skills anchored on cognitive behavioral therapy (CBT). SMHPs were trained in core components of CBT, including psychoeducation about feelings, relaxation and mindfulness, cognitive coping, behavioral activation, and exposure. Following the training, SMHPs were expected to deliver skills-based sessions to students in small groups and/or individually while receiving support from trained TRAILS coaches. SMHPs also had access to TRAILS-EI materials at no cost on the TRAILS website. This brief describes an evaluation of TRAILS-EI.

STUDY OVERVIEW

The study took place in a large urban school district located in the Midwest. The district serves nearly 50,000 students across over one hundred schools. Its student population is diverse, with a majority identifying as African American and a significant proportion as Hispanic/Latinx, alongside several other racial and ethnic groups. Many students in the district face economic challenges, with a substantial percentage qualifying for federal assistance programs, such as free or reduced-price lunch. The district also supports students experiencing homelessness, those receiving special education services, and English Language Learners. Staffing reflects the community's diversity, with most employees being women and a wide range of racial and ethnic backgrounds represented among faculty and staff.

The project began with a pilot during the 2022–23 school year, followed by two years of implementation in 2023–24 and 2024–25. This study examines the impact of TRAILS-EI on students’ social, emotional, and behavioral health, with a particular focus on changes in symptoms of depression and anxiety. Additionally, it investigates how TRAILS-EI influences students’ educational outcomes, primarily assessing any effects on their current year GPA.

Methodology

Schools were randomly assigned to either implement the TRAILS program in the 2023-24 school year or to wait and receive it one year later. Before randomly assigning schools, the research team grouped schools based on city location (Northwest, Southwest, Northeast, Southeast) and on the proportion of students in the school that showed moderate or high signs of depression or anxiety, using results from a health questionnaire completed in fall 2021. Grouping schools in this way helped ensure that different types of schools were fairly represented in the study and that comparisons between the two groups were more accurate. After randomizing, 37 schools were chosen to start the program in 2023-24 (the program group), and 35 schools were assigned to start a year later (the control group).

TRAILS staff provided live, virtual, interactive training to school mental health professionals (SMHPs) in the program group in August 2023. In total, 47 out of 57 eligible professionals received the training, either live or by watching a video recording. Throughout the fall, these professionals took part in virtual group coaching once a week for ten weeks. During each hour-long video call, they learned more about EBPs, practiced skills through role playing, and worked together to solve problems and ask questions. After the semester ended, participants could choose to continue attending weekly coaching sessions, join less frequent support groups, or use online resources as needed.

The study utilized two main data sources—school administrative records and responses from the district’s annual Universal Wellness Survey (UWS)—to measure student social, behavioral, and academic outcomes. Administrative data encompassed demographic variables, course grades, attendance, and disciplinary infractions across three school years. UWS data, collected each fall with a typical completion rate of about 50% for grades 6-12, included student self-reports on depression, anxiety, coping skills, help-seeking, housing status, and trauma exposure.

The primary outcomes evaluated were the proportion of students screening positive for depression and/or anxiety (using validated Patient Health Questionnaire-2 (PHQ-2) and Generalized Anxiety Disorder-2 (GAD-2) scales on the UWS) and students’ current year GPA, computed from core academic courses with letter grades. Additional exploratory outcomes

included students' use of adaptive CBT coping skills, help-seeking behaviors, absence rate, chronic absenteeism (missing more than 10% of school days), number of disciplinary incidents, and the occurrence of severe disciplinary infractions (such as bullying or substance use), as defined by the district's code of conduct.

Program Implementation

Most of the professionals in the program group participated in the coaching in some way, but only a small number met the program's participation goals, which included attending coaching sessions and teaching all CBT skills to students. For example, 49 signed up for coaching, and 28 attended at least half of the coaching sessions. Only nine met the criteria for partial completion, which included attending at least five sessions and teaching at least three out of six key skills to students. By the end of the year, professionals who participated used TRAILS program materials with about 41% of their students, while those in the control group used them with only 21% of their students.¹ Schools in the control group did not start using TRAILS until the 2024-25 school year. During 2023-24, they continued with the support usually available in the district.

The SMHPs in this study ran into several challenges when trying to implement the program. Their many responsibilities made it hard for them to join the coaching sessions consistently or to run student groups as often as planned. These difficulties are fairly common, especially in large school districts with high levels of need. In addition, students in the district were frequently absent from school—over half were absent more than 10% of the year—which made it difficult for them to attend sessions regularly, even when those sessions were available.

Key Findings

We did not find that the TRAILS-EI program led to a bigger drop in students' symptoms of depression and anxiety, or better grades (GPA), compared to usual practice. This was true even for students who were most likely to have received extra help from a school counselor based on their wellness screener scores. In both the group that received TRAILS programming and the group that did not, students who were identified as needing outreach and extra support from counselors showed improvement over the year. For example, students in both groups (those who had access to TRAILS and those who did not) showed reduced symptoms of

¹ Given the way these estimates were computed, we cannot test for statistical significance.

depression and anxiety between fall of 2023 to the fall of 2024. This suggests that both TRAILS programming as well as the regular supports offered to students were impactful.

When we looked at other outcomes, we saw helpful changes for those students who were flagged for extra support—those struggling most with depression and anxiety. These students, who were more likely to have received TRAILS programming, saw large decreases in serious disciplinary problems at school, reported better coping skills, and were absent from school less often in comparison to control group students. These improvements suggest that the TRAILS program may have helped students learn how to manage their feelings and behave better in school, even if it did not decrease symptoms of depression or anxiety more than usual practice.

Many of the students who benefited were those at risk for school failure or dropping out. These are students who often experience higher rates of depression and anxiety symptoms,^{30,31,32} so even a small improvement from TRAILS could be valuable. Still, these positive results only come from a small group, so it is too soon to draw firm conclusions.

As noted above, not all counselors fully participated in the program. Many attended coaching sessions and used TRAILS materials, but only a few met the program's definition of full participation—and this level of participation was lower than what has been seen in other studies of TRAILS.

It is possible that more consistent participation in the program would make a bigger difference in students' mental health. Even so, partial involvement could still teach students useful skills for coping with stress, and perhaps this is what helped reduce behavioral problems at school. For example, counselors might use TRAILS strategies informally, in everyday conversations with students or when handling school behavior. These kinds of changes might help improve relationships between staff and students, and help adults react to behavior issues in new ways. Serious disciplinary problems are usually more obvious to school staff than internal symptoms of depression or anxiety, so they have more opportunities to respond to students exhibiting these behaviors.

There are other factors that might have affected the results. For instance, we measured depression and anxiety in the fall following the TRAILS implementation year, but we measured other outcomes—grades, discipline, and attendance—right after the program ended in spring. If we had also measured students' mental health when the program ended, we might have seen a larger impact. We also do not know exactly which students received TRAILS services, since our records do not give us those details, only which students should have received outreach. Additionally, some SMHPs in the control group indicated previous exposure to TRAILS, likely as a result of a long-standing district partnership. While no control group

SMHPs were formally trained in TRAILS-EI, it is possible that they were accessing and using online TRAILS materials with their students.

Finally, in the few cases where students filled out detailed surveys before and after they got help from TRAILS, we saw a small but noticeable improvement in depression and a slight improvement in anxiety. While these numbers are promising, they come from a very small, specific group and cannot tell us the whole story.

In short, while TRAILS did not clearly improve depression, anxiety, or grades more than usual practice, students who got extra outreach did show better behavior, coping skills, and attendance. These results should be interpreted with caution, but they suggest that programs like TRAILS might help students learn skills that help them succeed in school and in life.

Next Steps

Based on the findings from this year-long study of TRAILS-EI programming, we recommend further investigation into the role of CBT in promoting positive behavioral outcomes among youth, particularly externalizing behaviors, even in the absence of measurable improvements in mental health symptoms. Future research should explore whether CBT interventions can foster behavioral changes independently of symptom reduction and identify the mechanisms that drive these effects.

Conclusion

The study did not find that TRAILS-EI statistically significantly impacted student depression/anxiety symptoms or GPA more than usual practice. However, it did provide suggestive evidence of positive effects on outcomes related to school disciplinary incidents, a promising result that warrants further exploration. The findings for academic, discipline, and attendance outcomes are considered robust due to minimal attrition and proper random assignment, but limitations include a lack of data on which students actually received services and missing spring 2024 measures of depression and anxiety, with substantial sample attrition by fall 2024 possibly introducing bias.

Additionally, the results may represent a lower bound of the program's effects since some control group staff had access to TRAILS materials and prior training through a longstanding district partnership. Both intervention and control groups showed improvements in depression

and anxiety symptoms, but TRAILS-EI schools did not improve more than control schools. While direct impacts on emotional symptoms were not observed, program benefits may have been seen in improved coping skills or reduced externalizing behavior, possibly through more positive adult-student interactions. The study highlights questions about the effectiveness of school-based CBT programs and potential mechanisms through which benefits to students may occur in urban districts.

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Youth Policy Lab

The University of Michigan Youth Policy Lab was launched in 2016 with a vision for reducing socio-economic disparities through improvements in education and other social policies affecting youth. By developing evidence-based, policy-relevant research in partnership with local and state agencies, practitioners, and policymakers, Dr. Robin Jacob and Dr. Brian Jacob sought to build upon their exemplary careers in social science research by taking research findings out of academic journals and putting them in the hands of decision-makers. With this aim in mind, they have spent the past seven years bringing the resources and expertise of one of the nation's leading public research universities to bear on some of Michigan's most pressing social challenges.

The Youth Policy Lab, a joint research center of the Gerald R. Ford School of Public Policy and the Institute for Social Research, envisions a world where partner-driven and policy-centered research fuels positive social change. Our mission is to inform public policy decisions that impact youth by analyzing data and evaluating programs to help society answer its most pressing questions.