Search Institute

Illuminating Positive Mechanisms:

An Impact Evaluation of the DREAM program

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Search INSTITUTE

Search Institute is a nonprofit organization that partners with schools, youth programs, and other organizations to conduct and apply research that promotes positive youth development and equity

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Suggested Citation: Boat, A. A., Hsieh, D., Wu, C-Y, Poparad, H, & Opakunle, F. (2023). Illuminating Positive Mechanisms: An Impact Evaluation of the DREAM program (Report to the Corporation for National and Community Service). Minneapolis, MN: Search Institute.

AmeriCorps

This study was made possible through support from AmeriCorps. We also thank the Evaluation Corps team who helped us collect data for this study, and the DREAM staff and youth who participated in this study with us.

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SECTION 1.

INTRODUCTION

One of the most effective ways to invest in the positive growth trajectories of young people is by ensuring that *all* youth have access to high-quality youth development programs. These programs can create the space for strong developmental relationships with trusting adults and peers to flourish (Boat et al., 2022; DuBois et al., 2011; Raposa et al., 2019), which can help all youth thrive and reach their full potential. Like many other aspects of inequity, however, high-quality youth development programs are often disproportionately less accessible to youth who need it the most – including youth from low-income backgrounds (Afterschool Alliance, 2020; Garringer et al., 2017). Disparities in investments for enrichment activities, for example, have only continued to widen over time between high-income and low-income households, and are largely attributed to the growing cost of many extracurricular and youth programs (Kornrich, 2016) – making these valuable programs unattainable for many young people. This is a concerning and well documented 'opportunity gap' impacting long-term achievement. Studies show that just 14% of high school graduates from low-income families receive a 4-year degree compared to 29% from middle-income and 60% from higher-income families (Kena et al., 2015). There is also a large research base that shows youth from low-income communities are more likely to be disconnected from key sources of social support including adult mentors (Bruce & Bridgeland, 2014). Moreover,

research has also found that youth from low-income communities tend to experience dips in the quality of their relationships with teachers (Scales et al., 2021), and during the summer, children in low-income households lose, on average, 25-30% of their prior academic year's learning gains in math and reading (Quinn & Polikoff, 2017).

While historically prevalent, in recent years these opportunity gaps have widened. Growing income inequality, racialized systems of privilege, shifts in technology, and the lasting effects of the COVID-19 pandemic have exacerbated the set of underlying conditions that continue to hold back so many marginalized youth and communities. High-quality youth development programs, however, can be leveraged to support youth from low-income communities in closing these opportunity gaps. Positive relationships with program staff, mentors, and peers have the potential to increase opportunities for more equitable outcomes by providing a wide range of crucial social-emotional and instrumental support, and access to resources to achieve life goals (Syvertsen et al., 2021).

One of the most effective ways to invest in the positive growth trajectories of young people is by ensuring that *all* youth have access to high-quality youth development programs.

Description of DREAM's Program Offerings

DREAM provides youth living in low-income households with trusting, 1:1 relationships with college student mentors in their Village Mentoring program, and greater access to a host of resources and year-round enrichment opportunities that are designed to strengthen positive youth outcomes. Since its founding in 1999 in a public housing development in Vermont's Upper Valley, DREAM now serves roughly 500 youth living in 22 low-income housing developments across Vermont, Pennsylvania, and Massachusetts. DREAM achieved 501(c)(3) status in 2001 and is currently the only AmeriCorps national direct grantee in the state of Vermont.

DREAM's Village Mentoring program utilizes a flexible and dynamic group ('village') mentoring model, wherein youth are matched 1:1 with a college student mentor, and also have opportunities to meet as part of a mentoring community with other mentors, program staff, and DREAM youth. That is, there is time spent checking-in one-on-one, as well as team-oriented larger group activities. While building high-quality, trusting relationships is the core component of DREAM's Village Mentoring program, enrollment in DREAM also includes other program components including academic support, adventure programming, and summer enrichment. A brief description of each of these program components is provided below:

Academic support: Youth in DREAM spend significant amounts of time on a college campus (approximately 3 hours per week on-site at a local college) with their mentors. By the time a youth in DREAM graduates high school, they will have spent between 3 and 12 years regularly visiting a college campus, learning about college culture, and visiting college facilities. The program aims to ensure each youth has the necessary support for a postsecondary educational pathway by providing them with academic support, tutoring, and assisting them with college applications and financial aid/scholarship applications. This program component is well supported by research that shows that promoting a strong college-going culture early increases academic aspirations and expectations among youth from low-income communities (Bryan et al., 2017).

Adventure programming: DREAM aims to provide each youth with the value-equivalent of $7,000 of quality out-of-school time adventures and learning experiences (the equivalent of how much more affluent youth receive annually; Kornrich & Furstenberg, 2013). This includes periodic local and regional trips and larger, out-of-state trips. These types of out-of-school experiences are associated with significant gains in both academic success and positive social-emotional outcomes (Helms et al., 2021).

Summer enrichment: DREAM also offers summer enrichment opportunities including weekly local field trips and a larger, end of summer "capstone," designed to introduce youth to a variety of educational and recreational activities. Research shows that quality summer enrichment programming is known to sustain and/or improve academic skills, while also maintaining strong bonds between youth and adult mentors (Summer Matters, 2016).

DREAM's Logic Model

As shown in the logic model (see Figure 1), it is hypothesized that through these four program components (i.e., village mentoring, academic support, adventure programming, and summer enrichment), youth will (1) experience strong developmental relationships with their mentors, peers, and other program staff (e.g., AmeriCorps members), (2) develop a strong sense of program community that is characterized by feelings of inclusion, belonging, and safety, (3) and have greater access to opportunities. These positive program experiences will in turn strengthen youth's short-term, intermediate, and long-term outcomes. This logic model was used as a guide for generating the evaluation questions and the survey. Figure 1 depicts the DREAM Logic Model, with six major elements:

1. **Inputs:** Resources needed to implement the program and produce the intended outcomes. This includes organizational supports such as funding, materials, and infrastructure. This also includes all of the people needed to operate the program such as staff and volunteers.
2. **Outputs:** Outputs include program activities and participation.
    a. **Activities:** Activities are the actions and processes that occur during the program that motivate the program's intended outcomes. Activities in DREAM are organized into four broad categories: village mentoring, afterschool enrichment, adventure programming, and summer enrichment.
    b. **Participation:** Participation is organized into two broad categories: reach and engagement. Reach includes metrics such as the number of youth and mentors who are enrolled and retained in the program over time. Engagement includes metrics such as the number of youth who participate in different activities and utilize resources provided by DREAM.
3. **Outcomes:** Outcomes include program experiences that are hypothesized to result in important youth outcomes. These are organized into four categories: program experiences, short-term outcomes, intermediate outcomes, and long-term outcomes.
    a. **Program experiences** are organized into three broad categories including strong relationships with mentors, program staff, and peers, a sense of program community and belonging, and increased opportunity (e.g., exposure to new activities and resources).
    b. **Short-term outcomes** are the changes that can be observed during the program and tie directly to participation in DREAM. DREAM is theorized to impact youth across many domains including: academic outcomes, positive mindsets, and social-emotional competencies.
    c. **Intermediate outcomes** are the changes that can be observed over the mid-term such as months or years into the program (e.g., high school graduation, expanded web of support).
    d. **Long-term outcomes** are the lasting impact that DREAM has on youth. Long-term outcomes are changes that may not be observed until years after DREAM participation (e.g., life satisfaction).

FIGURE 1. DREAM's Logic Model

PROBLEM STATEMENT:
Through inequitable and often racialized systems, there is a growing gap in resources and access to adult mentors for youth in low-income households. While historically prevalent, in recent years these gaps have continued to widen. Growing income inequality, racialized systems of privilege, shifts in technology, and the lasting effects of the COVID-19 pandemic have exacerbated the set of underlying conditions that continue to hold back so many marginalized youth and communities.

GOAL:
All DREAM youth and alumni live healthy, productive, and fulfilling lives. All youth in low-income households achieve their dreams.

INPUTS

ORGANIZATIONAL SUPPORTS

- Funding
- Physical space
- Transportation
- Human resource recruitment, training, and support
- Communications infrastructure (e.g., website, mobile app, e-forms, emails, Google docs)
- Partnerships that offer program expertise
- Data systems (e.g., Salesforce, surveys of key stakeholders)
- Program materials, equipment, and supplies
- Diversity and intersectionality consultant
- DEI trainings and resources for program staff and mentors
- Local advisory board
- Organizational beliefs and values

DIVERSE PEOPLE

- DREAM AmeriCorps members
- Volunteer mentors
- Mentees
- Alumni
- Support staff
- Families
- Housing Partners
- Funders

OUTPUTS

ACTIVITIES

VILLAGE MENTORING

- Weekly 1-on-1 mentoring
- Weekly team mentoring
- Mentor and mentee recruitment and screening
- Mentor training (DEI, trauma, behavior management)
- Mentor and mentee matching
- Ongoing support for mentor matches

ACADEMIC

- Homework help
- Connection to academic resources
- Post-secondary planning
- Academic skill instruction
- Afterschool enrichment

ADVENTURE

- Local and regional activities (e.g., college road trips, museums, farms)
- High adventures
- Seasonal adventures
- Camp DREAM

SUMMER ENRICHMENT

- Small group, activity-based mentoring
- Enrichment programming focused on literacy, arts and crafts, mindfulness, problem-solving, and health

PARTICIPATION

REACH

- Number of mentors and mentees enrolled
- Number of mentors and mentees retained after 1 year
- Number of new mentors and mentees
- Number of matches initiated and sustained after 1 year
- Number of mentors, AmeriCorps members, and staff screened and trained

ENGAGEMENT

- Number of mentees and mentors regularly attending weekly mentoring activities
- Number of mentees attending summer enrichment, Camp DREAM, and adventure trips
- Number of mentees accessing resources (e.g., books, free lunches)
- Number of mentee, mentor, and family surveys completed

OUTCOMES

PROGRAM EXPERIENCES

RELATIONSHIPS

Strong 1-on-1 trusting and developmental relationships with:

- DREAM Mentors
- Peers in DREAM
- DREAM Program staff (e.g., AmeriCorps members, employees)

COMMUNITY

Strong team mentoring and program community that promotes:

- Inclusion
- Identity
- Belonging & connection
- Safety
- Fun, energy, and excitement

Family and community engagement

OPPORTUNITY

- Opportunities to try new experiences and things (e.g., food, activity)
- Social capital (e.g., connections to people that have access to resources)

SHORT TERM

ACADEMIC

- Academic aspirations
- Academic motivation
- Growth mindset
- Prevent summer slide

MINDSETS

- Self-esteem
- Positive identity
- Sense of mattering
- Sense of agency
- Sense of purpose
- Expanded worldview
- Future orientation

SKILLS

- Social-Emotional Competencies:
- Relationship-building skills
- Responsible decision-making
- Social awareness
- Self-awareness
- Self-management

INTERMEDIATE

INTERMEDIATE

- Education attainment (e.g., high school graduation, college enrollment, postsecondary education)
- College and/or career readiness
- Expanded web of support
- Intentional pursuit of dreams

LONG TERM

LONG TERM

- Post-secondary success (e.g., college graduation, full-time employment, livable wage)
- Established web of support
- Life satisfaction
- Civic engagement

SECTION 2.

EVALUATION DESIGN

DREAM partnered with Search Institute to conduct an independent impact evaluation of DREAM from June 2022 to August 2023. The goal of this impact evaluation was to assess the program's effectiveness in strengthening targeted youth outcomes.

Because the 1:1 mentoring relationships and group mentoring opportunities are at the heart of the DREAM, the current evaluation will primarily focus on assessing the quality of these relationships (i.e., relationship quality with peers, program staff, and mentors) and how they are associated with positive youth outcomes. However, exposure and engagement in other program activities including academic support, adventure programming, and summer enrichment will also be assessed to understand how these program activities intersect and contribute to the positive impact the program has on youth. These elements are supported by past evaluations of DREAM as well as other impact evaluations of similar mentoring programs. DREAM's most recent impact studies (2019, 2017, 2009) consisted of pre/post surveys, administered in all service sites by trained staff and interns, and supported by an evaluation specialist. Preliminary evidence in these past studies found that most youth in DREAM report having at least one adult in their life to talk with about things that matter (86%), feel like they can trust people from DREAM (92%), and feel they have met people in DREAM who they will be able to count on in the future (80%). Most youth in DREAM also report they can talk to their mentor about going to school in the future (70%) and that they have been introduced to new experiences through DREAM (72%).

The current evaluation builds off of these previous studies by providing stronger evidence for the effectiveness of DREAM by utilizing a quasi-experimental design to assess whether youth experience change in positive outcomes over the course of a year relative to a comparison group. Additionally, the current evaluation will unpack how program experiences such as high-quality developmental relationships with mentors, staff, and peers, as well as a strong sense of belonging in DREAM and access to opportunities, are associated with positive changes in youth outcomes, while accounting for important sociodemographic variables and program dosage.

Evaluation Questions

This evaluation addresses the following research questions:

1. Do youth who participate in DREAM ('DREAM youth' henceforth) report a greater change in short-term outcomes (i.e., academic outcomes, positive mindsets, social-emotional competencies) from baseline to endline compared to youth who did not participate in DREAM ('comparison youth' henceforth)?
2. Controlling for demographic background and program dosage variables, how are youths' experience of relationships in DREAM, sense of belonging in DREAM, and youths' access to new opportunities and resources via DREAM associated with change in their short-term outcomes?

Study Design

This impact evaluation uses two designs: (1) a quasi-experimental study design utilizing a comparison group, and (2) a single group, non-experimental design.

The first research question is answered utilizing the quasi-experimental study design. This design is appropriate because administering the same survey at both the baseline and endline demonstrates change (e.g., growth) in the short-term outcomes of interest. Testing both the DREAM youth and a comparison group provides evidence for whether significant growth can be attributed to participating in DREAM (as opposed to natural growth over time). Although a randomized controlled trial would provide stronger evidence, it is not logistically feasible (nor the most ethical) to randomly assign youth from low-income housing developments to participate or not participate in DREAM at this time.

To better understand how key components of DREAM contribute to changes in short-term youth outcomes (research question 2), a single, non-experimental design is used to link program experiences (i.e., developmental relationships with mentors, peers, and program staff, as well as a sense of belonging and access to resources) with changes in short-term youth outcomes. A comparison group would not be appropriate to answer this research question, as youth would have needed to participate in DREAM in order to report on these program experiences. It is important to note that youth may vary in terms of the degree to which they have been engaged and exposed to different elements of the program. Thus, the evaluation will also collect data on a number of dosage metrics (e.g., length of time in DREAM, matched in a 1:1 mentoring relationship) so that these differences can be accounted for.

As shown in Table 1, both the DREAM youth and comparison youth completed surveys at baseline and endline in Summer 2022 and Summer 2023. DREAM youth also completed an additional survey in Winter 2023. It is important to include a midpoint measurement to establish temporal sequence, and to ensure youth new to DREAM have had adequate time to assess program experiences. That is, putting in enough time after our measure of where youth started, while not conflating with our endline measure of youth reported outcomes.

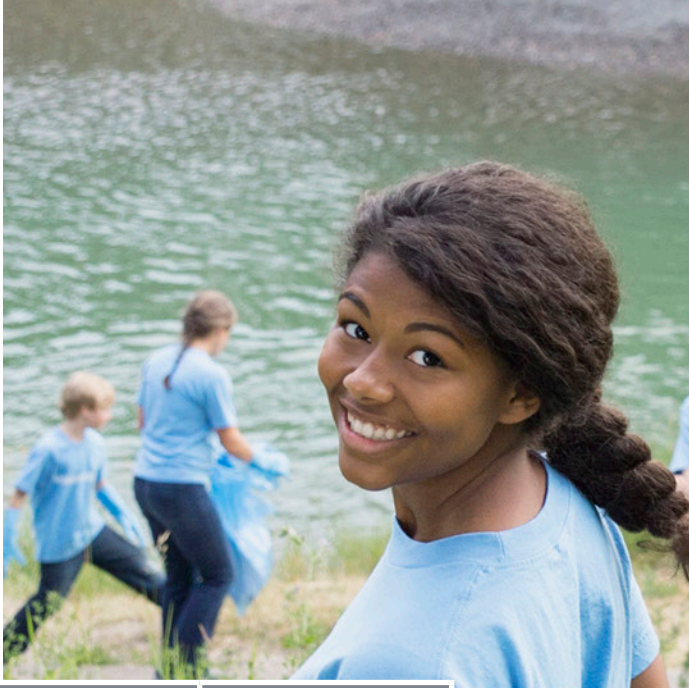


Table 1. Impact Evaluation Activities

ACTIVITY	PURPOSE	TIMING	SOURCE
Baseline (T1) Youth Survey	Collect baseline data on youth demographics and short-term outcomes	Summer 2022	DREAM youth and comparison youth
Midpoint Youth Survey	Collect data on core programmatic features believed to be important mechanisms of change including sense of belonging and relationships with mentors, program staff, and peers.	Winter 2023	DREAM youth only
Endline (T2) Youth Survey	Collect endline data on youth demographics and short-term outcomes	Summer 2023	DREAM youth and comparison youth

All research materials, protocols, and procedures were reviewed and approved by an Institutional Review Board. Prior to administering surveys, the evaluation team — in conjunction with DREAM — obtained parental consent for each youth in the comparison group to participate in the survey; this was a separate process from obtaining the youths' assent, which was done in the survey itself. Youth who were 18 or older on the survey administration dates consented to their own participation. With IRB approval, the requirement of parental consent was waived for youth in the DREAM program. Parents/guardians were notified of the study and had an option to opt-out their child from the surveys.

Target DREAM Sample

The evaluation was carried out across all of the locations where DREAM serves youth. This includes 5 regions across 3 states (Northern Vermont (VT), Upper Valley (VT), The Berkshires (VT), Boston (MA), and Philadelphia (PA)). At the start of the study, DREAM served a total of 523 youth through its various program offerings. DREAM youth did not meet the requirements for participation in the current study if they were outside of the age range of 8–18 years old ($n = 75$). DREAM does serve youth younger than age 8, but in light of their reading comprehension level and the developmental appropriateness of the survey instrument, it was decided to focus this evaluation on youth ages 8 and older. Based on this criterion for participation in the study, the target sample for the evaluation consisted of 448 eligible youth. Although there are some differences between the survey participants and target study participants (see Table 2), the survey participants are reasonably representative of the target sample. The final sample of DREAM participants includes 194 youth who participated in the baseline survey.

Table 2. Comparison of Target Sample and Final DREAM Sample

CHARACTERISTIC	TARGET SAMPLE OF DREAM PARTICIPANTS Eligible participants in DREAM at baseline.	STUDY SAMPLE OF DREAM PARTICIPANTS Participants who provided baseline survey data
Sample Size	448	194
Age (mean)	11.6	11.1
Region		
Massachusetts	26.0%	32.0%
Pennsylvania	10.5%	17.5%
Vermont	63.5%	50.5%

Note. We did not have data on youth gender or race/ethnicity for the target sample to be able to compare with the baseline sample.

Comparison Group

Given that all DREAM participants live in low-income housing developments, the comparison youth (ages 8-18) were those who have not participated in DREAM, but live in the same housing development or similar developments managed by the same housing authority. The rationale is that families living in the same or similar public housing communities tend to have comparable socioeconomic backgrounds, which has implications for their children's development given that socioeconomic backgrounds are highly confounded with access to quality learning resources and spaces (Public and Affordable Housing Research Corporation, 2019). The living proximity also means that DREAM youth and potential comparison youth are likely exposed to similar events, stressors, and opportunities on a daily basis.

Members of the National DREAM staff led the effort to identify a comparison group; drawing on their knowledge of the program sites and populations of youth served, and leveraging their local connections to recruit. DREAM has long-standing, trusting relationship with the housing authorities that manage the public housing communities that DREAM youth live in, namely Vermont State Housing Authority (VT), Shires Housing (MA), Winooski Housing Authority (VT), Burlington Housing Authority (VT), Addison County Community Trust (VT), Evernorth (VT), Bennington Housing Authority (MA), Peabody Properties (MA), Madison Park Development Corporation (MA), Trinity Management (MA), Cambridge Housing Authority (MA), Somerville Housing Authority (MA), SAA | EVI (PA), and Philadelphia Housing Authority (PA).

Across all of the housing development sites, there were approximately 1,600 youth between the ages of 8-18. The evaluation aimed to recruit at least 300 of these youth to be a part of the comparison group. Working with each of the housing authorities, DREAM staff knocked on the door of each eligible unit (i.e., units that are not homes of current DREAM youth and within the appropriate age range) and followed a recruitment script to inform families about the study and to obtain parent/guardian signed consents for families who were interested in having their child participate in the study.

SECTION 3.

METHODS

Several of the short-term outcomes identified in the DREAM Logic Model were assessed in order to understand the impact DREAM has on youth participants (see measures section for full list). The evaluation team conducted interviews and focus groups with program staff, mentors, and youth to determine which short-term outcomes warranted inclusion in the current evaluation. It was important that short-term outcomes were limited to only those deemed essential for the evaluation with the intent of keeping the survey brief in order to maintain a high level of youth participation and high-quality data collection. It was also important to select short-term outcomes that are reasonably malleable over the course of a 9-12 month period, and there is a strong theoretical argument and/or empirical support that the short-term outcomes could be a direct result of experiences fostered within the program. Based on interviews with 6 DREAM program staff, 3 focus groups with DREAM mentors and youth participants ($n = 4$ mentors; $n = 7$ youth), and a review of the extant literature, the targeted youth outcomes were narrowed down to eight constructs, which fit into three overarching categories: academic outcomes, positive mindsets, and social-emotional competencies. All short-term outcomes were designed to be measured at both baseline (Summer 2022) and endline (Summer 2023) in order to capture change.

In addition to these eight short-term outcomes, several program experiences were also assessed. These program experiences include an assessment of relationship quality with mentors, program staff, and peers, as well as youth's sense of belonging at DREAM, and youths' access to new opportunities and resources via DREAM. These are the key program experiences that are theorized to result in strengthening the eight identified short-term outcomes among youth.

Youth Survey

While most constructs were assessed using measures that have been previously validated and empirically tested in past research studies, several new measures were created for the survey. Prior to administration, the survey was subjected to several rounds of careful review to test readability, interpretation, and contextual and developmental appropriateness. This included expert reviews with DREAM staff and cognitive interviews with youth participants.

1. **Staff Reviews.** Staff from DREAM ($n = 4$) reviewed the individual survey items and provided feedback on the appropriateness of the language, as well as item relevance. Using these recommendations, the evaluation team refined the content and created a version for youth review.

2. **Youth Cognitive Interviews.** Cognitive interviews (sometimes called "think-aloud interviews") were conducted with seven youth participants. The purpose of these interviews was to evaluate, from the youth perspective, the utility of the survey as an assessment for determining program effectiveness. The evaluation team gathered participants' qualitative evaluations of the survey and facilitated a process through which young people helped refine the phrasing and developmental appropriateness of items.

   In these cognitive interviews, the evaluation team made it clear to participants that the team was interested in how youth came to an answer or response to a survey item rather than their actual answer. For example, participants were told that evaluators want to know what they were thinking about when they heard the question, what pictures or examples they saw in their head, and what the words meant to them. Participants were also monitored for any issues in reading the survey aloud. All edits were made prior to baseline implementation of the survey. Appendix A summarizes the measures' psychometric properties.

Survey Administration

Search Institute's evaluation team trained DREAM staff on how to administer surveys with both DREAM youth and comparison youth, as well as provided all materials necessary to collect accurate and reliable data. The evaluation team worked with DREAM to support accessibility of the survey (e.g., adding extra non-mentor DREAM staff to read instructions, items, or other accommodation needs), and provided training on ethical considerations for conducting research in low-income communities. All DREAM staff were equipped with a survey administration guide, which included a script for staff to follow in order to introduce the survey to youth. The youth survey was administered to comparison youth twice: baseline was established in Summer 2022 and again at endline in Summer 2023. The youth survey was administered to DREAM youth three times: baseline in Summer 2022, midpoint in Winter 2023, and endline in Summer 2023.

To ease administration, all measures were compiled into one youth survey that took approximately 10-15 minutes to complete. The majority of DREAM youth completed all three surveys in-person during DREAM programming time with at least one member of the DREAM staff (who is not a DREAM mentor, as to avoid conflict of interest) present to answer any questions or concerns. Before administering the surveys, DREAM staff verbally stated to the youth that they may choose not to complete the survey and/or may skip any questions on the survey and that doing so will not affect their status at DREAM. If staff were unable to reach DREAM youth in-person at baseline or at endline, the survey was also made available electronically, which was hosted and administered via the evaluation team's secure data collection platform. When DREAM youth finished their survey, they received a gift card to thank them for their participation ($10 at baseline, $10 at midpoint, $15 at endline).

Comparison youth received the same baseline and endline survey as DREAM youth, except that the comparison youth survey did not include measures regarding programmatic experiences (e.g., sense of belonging in DREAM, relationship quality with staff or mentors). During the baseline recruitment process, DREAM staff provided an onsite data collection event. DREAM staff collected parent/guardian consent first and then directed youth to the data collection site where there was at least one other staff member available to administer the paper-based survey. At endline, DREAM staff returned to housing authority sites and attempted to reach comparison youth at home. DREAM staff made at least three attempts to reach comparison youth. In the event that DREAM staff were unable to reach comparison youth at home after three attempts, they left behind a QR code for the young person to take the survey electronically via the evaluation team's secure data collection platform. All comparison youth who completed the survey received a gift card for their participation ($10 at baseline, $15 at endline).

Retention

Core to collecting accurate data is stable retention of both the DREAM youth and comparison youth from baseline to endline. A small attrition rate among DREAM youth was expected because from previous records of DREAM, youth typically stay in the program for more than a year and only leave in instances such as family moving. A small attrition rate was also expected among comparison youth because the housing developments they reside in are rather stable instead of transient. However, several steps were taken in order to try to retain participants over time. This included providing a larger compensation at endline ($15) and mailing out postcards and 1-pagers sharing study findings from baseline to both families of DREAM youth and comparison youth in an effort to maintain their interest and excitement in the study.

Measures

Demographic Characteristics. Youth self-reported their age, gender, and race/ethnicity on the survey at baseline. The geographic location (i.e., Vermont, Masschusettes, or Pennsylvania) and housing site was recorded by staff for both DREAM youth and comparison youth.

Dependent Variables: As described in the DREAM Logic Model, the key stakeholders in DREAM helped narrow the targeted youth outcomes to eight constructs, which fit in three overarching categories: academic outcomes, positive mindsets, and social-emotional competencies. Measures were assessed on a 4-point agreement scale ranging from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*). Scales were created by calculating the mean score of available items. The full list of items can be found in Appendix A (see Tables A1-12).

Academic Outcomes

- Academic motivation, 4-item scale ($\alpha = .75$), assesses youths' interest and/or desire to engage in learning and education.
- Academic aspirations, 3-item scale ($\alpha = .74$), assesses youths' future education goals and expectations.
- Growth mindset, 3-item scale ($\alpha = .73$), assesses youths' belief that they can get smarter by working hard.

Positive Mindsets

- Future orientation, 4-item scale ($\alpha = .78$), measures youths' orientation towards the future, and whether they consider the ramifications of decisions on their future.
- Self-esteem, 4-item scale ($\alpha = .84$),

assesses youths' sense of self-worth and belief in themselves.

- Sense of purpose, 3-item scale (α = .58), captures youths' sense of meaning and purpose in life. Due to poor reliability of this measure, we elected to remove it from analyses.
- Broader worldview, 4-item index (α = .71), assesses youths' expanding view of the world around them.

Social-Emotional Competencies

- A 5-item scale, (α = .76), assesses youths' self-awareness, responsible decision-making, relationship skills, social awareness, and self management.

DREAM Program Experience Measures: To better understand the core mechanisms within the DREAM program that may be contributing to positive outcomes for program participants, several additional measures were included in the survey for DREAM youth (i.e., not comparison youth).

- All DREAM youth were asked if they currently had a mentor. Responses were coded as 1 (*yes*) or 0 (*no*).
- Developmental relationships (a 5-item scale per relational target) with mentors (α = .88), DREAM peers (α = .84), and DREAM program staff (α = .87). This measure assesses the strength of a developmental relationship with each of these relational targets. Developmental relationships are close connections in which youth discover who they are, cultivate abilities to shape their own lives, and learn how to engage with and contribute to the world around them (Pekel et al., 2018). These positive relationships are characterized by expressing care (*showing youth they matter*), challenging growth (*encouraging youth to try their best*), providing support (*helping youth complete tasks and work towards life goals*), sharing power (*treat youth with respect and give them a say*), and expanding possibilities (*connecting youth with ideas, places, and people*).
- Sense of belonging at DREAM, 4-item scale (α = .84), captures the degree to which youth feel that they belong and are valued at DREAM.
- Access to resources, 5-item scale (α = .86), assesses the degree to which youth have new opportunities and access to resources through the DREAM program.

DREAM Dosage. DREAM staff also provided administrative data on whether youth were currently matched with a mentor and on the number of months youth have been in the DREAM program. Just under half of DREAM youth included in the study were currently matched with a mentor (49%; *n* = 95), with many youth matched later in the programming year as DREAM rebuilt its' programming model post-pandemic.

Analytical Methods

Several preliminary analyses were conducted first. DREAM youth and the comparison group were examined to ensure that the comparison group is socio-demographically similar to DREAM youth in terms of age, gender, race/ethnicity, and geographic location (see Table 3). Baseline levels of short-term outcomes were also examined to ensure that the comparison group is similar across these outcomes at baseline relative to DREAM youth. Two-sample t-tests and chi-square tests were utilized to verify that the comparison group and the DREAM youth group are comparable. Variables that DREAM youth and comparison youth differ significantly are included as covariates in subsequent analyses.

Attrition analyses utilizing t-tests and chi-square tests were also performed to understand how both retained DREAM youth and comparison youth across all time points are similar or different from youth who did not participate in subsequent time points.

Research Question 1

To answer research question 1, a multivariate multiple regression model was used to assess the impact of participation in DREAM on short-term, continuous outcomes variables. All regression models were conducted in Mplus Version 8.7 and used the intent-to-treat sample (i.e., included all youth who participated in the baseline survey including youth who later dropped out of the program).

Due to the differences between the DREAM youth and the comparison youth in their baseline scores on each of the short-term outcomes (see Table 4), change scores (subtracting baseline score from endline score) were calculated and used as the dependent variable in the regression models. Other methods such as controlling for baseline scores were considered. However, past research shows that when there are large baseline differences between groups (as is the case in the current study), controlling for initial scores will under adjust for prior differences and yield biased results (Jennings & Cribbie, 2016; Saito, 2020).

Socio-demographic variables including youth gender, age, race/ethnicity, and region were controlled for in the analyses. Because both DREAM youth and comparison youth live in housing development sites across the three states, clustering effects were taken into account as well. We used robust (sandwich estimator) standard errors to account for the nested data. This method was employed by using the "TYPE = COMPLEX" option in Mplus along with the housing site as the cluster variable. Finally, full information maximum likelihood was utilized to account for any missing data biases that may result due to sample attrition.

Research Question 2

To answer research question 2, a series of multivariate multiple regression models were specified to examine how youths' experiences of sense of belonging at DREAM, their access to resources via DREAM, and the strength of their developmental relationships with peers, program staff, and mentors at midpoint (i.e., Time 2) were associated with changes in short-term youth outcomes. Models were run among participants in the DREAM program only (i.e., no comparison youth were included in the models).

Each core mechanism believed to influence change in positive youth outcomes among DREAM youth (i.e., sense of belonging, access to resources, and developmental relationships within the program) was used as an independent variable in separate models. Each of the seven short-term outcomes at endline (Time 3) was used as a dependent variable. All models controlled for the respective baseline levels of each of the short-term outcomes, youth age, youth gender, race/ethnicity, region, and length of time in the DREAM program.

Robust (sandwich estimator) standard errors were used to account for the nested data due to DREAM youth living in the same housing developments. This method was employed by using the "TYPE = COMPLEX" option in Mplus along with the housing site as the cluster variable. Full information maximum likelihood was also used in the DREAM-specific models to account for any missing data biases that may result due to sample attrition among DREAM youth.

SECTION 4.

RESULTS

Description of Study Participants

All DREAM participants ages 8 to 18 who were participating in the program in Summer 2022, Winter 2023, and Summer 2023 were invited to complete the youth survey. In total, 194 DREAM youth participated at baseline, 195 youth participated at midpoint, and 227 youth participated at endline. A little over half of DREAM youth participated in the survey at both baseline and endline ($n = 101$; 51.8%). In total, 278 comparison youth participated at baseline, and 135 of these youth also participated at endline (49% of the baseline sample).

Baseline demographic characteristics of participating youth are reported in Table 3. Of the 472 youth surveyed at baseline, 46.4% identified as girls; 48.4% as boys; and 5.3% as another gender identity. Nearly half of the participants (47.8%) identified as Black/African American, 23.6% as White, 11.0% as Hispanic/Latinx, 10.8% as Multiracial, 2.2% as Asian/Pacific Islander, 0.9% as American Indian/Native American, and 3.7% identified as another race.

There were no statistically significant differences in gender identity and race/ethnicity between DREAM youth and comparison youth at baseline. Comparison youth ($M = 12.5$, $SD = 3.1$) were slightly older, on average, compared to DREAM youth ($M = 11.1$, $SD = 2.4$, $t = 4.82$***). Half of the DREAM participants were from Vermont (50.5%), followed by Massachusetts (32.0%) and Pennsylvania (17.5%). In contrast, just over a third of the comparison youth were from Vermont (34.2%); 44.6% from Pennsylvania and 21.2% from Massachusetts (x^2 (df) = 37.62 (2)***). Therefore, fewer comparison youth were from Vermont and more were geographically located in Pennsylvania and Massachusetts.

Table 3. Baseline Characteristics of Sample

	DREAM YOUTH (*N* = 194)		COMPARISON YOUTH (*N* = 278)		TOTAL SAMPLE (*N* = 472)		STATISTICAL DIFFERENCE
Characteristic	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**T-score**
Age	11.1	2.4	12.5	3.2	11.9	2.9	4.82***
Grade Level	5.8	2.7	7.0	3.2	6.5	3.1	4.39**
Gender Identity	***n***	**Valid %**	***n***	**Valid %**	***n***	**Valid %**	x^2 (*df*)
Girl	83	45.9%	128	46.7%	211	46.4%	0.39 (2)
Boy	87	48.1%	133	48.5%	220	48.4%	
Another gender identity	11	6.1%	13	4.7%	24	5.3%	
Race/ethnicity	***n***	**Valid %**	***n***	**Valid %**	***n***	**Valid %**	x^2 (*df*)
Asian/Pacific Islander	1	1.1%	8	2.9%	10	2.2%	3.59 (6)
Black/African American	86	47.3%	131	48.2%	217	47.8%	
American Indian/ Native American	2	1.1%	2	0.7%	4	0.8%	
Hispanic/Latinx	22	12.1%	28	10.3%	50	10.6%	
White	47	25.8%	60	22.1%	107	23.6%	
Another race	6	3.3%	11	4.0%	17	3.7%	
Multiracial	17	9.3%	32	11.8%	49	10.8%	
Region	***n***	**Valid %**	***n***	**Valid %**	***n***	**Valid %**	x^2 (*df*)
Massachusetts	62	32.0%	59	21.2%	121	25.6%	37.63 (2) ***
Pennsylvania	34	17.5%	124	44.6%	158	33.5%	
Vermont	98	50.5%	95	34.2%	193	40.9%	

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; The sums of the demographic subgroups may not add up to the total sample size, as some youth chose not to provide responses to these demographic questions.

Differences on Baseline Outcome Measures

The baseline data show that comparison youth reported higher levels across all of the short-term outcomes at baseline relative to youth in DREAM (see Table 4 below). This finding suggests that there may be important differences between the comparison group and DREAM youth to start with.

Table 4. T-Tests of Outcomes between Comparison Sample and DREAM Youth at Baseline

OUTCOME MEASURES	COMPARISON YOUTH MEAN (*SD*)	DREAM YOUTH MEAN (*SD*)	T-SCORE
Academic Motivation	3.26 (0.64)	3.04 (0.73)	3.41***
Academic Aspirations	3.32 (0.79)	3.19 (0.79)	1.70
Growth Mindset	3.49 (0.61)	3.34 (0.70)	2.54*
Future Orientation	3.41 (0.66)	3.21 (0.76)	3.15**
Self-Esteem	3.54 (0.60)	3.40 (0.71)	2.27**
Broader Worldview	13.82 (2.37)	12.93 (2.66)	3.71**
Social & Emotional Competencies	3.33 (0.57)	3.18 (0.68)	2.54*

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Attrition Analyses

Just over half of baseline participants were retained at endline (n = 242). If known, DREAM staff were asked to account for each baseline DREAM participant who attrited prior to the endline survey administration. The explanations generally fit into three broad categories: (a) 84% of attrited participants could not be reached for the endline survey; (b) 15% were unavailable due to no longer being a participant in DREAM; (c) 1% opt-out at endline. The demographic characteristics of these attrited youth were generally similar to that of the youth who participated at baseline (see Table 5). The only difference that emerged was older youth were slightly more likely to drop out of the study than young youth. Additional analyses were also conducted to determine if there were any differences between attrited and retained youth among the DREAM sample and among the comparison sample, separately. The only significant difference that emerged was DREAM participants in Massachusetts made up a larger proportion of the attrited youth, compared to DREAM participants from Vermont or Pennsylvania.

Table 5. Baseline Characteristics of Attrited and Retained Participants

	ATTRITED PARTICIPANTS MEAN (*SD*) *N* = 230		RETAINED PARTICIPANTS MEAN (*SD*) *N* = 242		T-SCORE
Age	12.27 (3.18)		11.59 (2.70)		2.43*
Grade	6.82 (3.20)		6.23 (2.90)		2.03
Gender Identity	***n***	**Valid %**	***n***	**Valid %**	x^2 (*df*)
Girl	101	43.9%	110	46.8%	0.58 (*2*)
Boy	109	47.4%	111	47.2%	
Another gender identity	10	4.3%	14	6.0%	
Race/Ethnicity	***n***	**Valid %**	***n***	**Valid %**	x^2 (*df*)
Asian/Pacific Islander	4	1.8%	6	2.5%	5.99 (6)
Black/African American	94	43.3%	123	51.9%	
American Indian/Native American	1	0.4%	3	1.3%	
Hispanic/Latinx	29	13.4%	21	8.9%	
White	56	25.8%	51	21.5%	
Other	9	4.1%	8	3.4%	
Multiracial	24	11.1%	25	10.5%	
Region	***n***	**Valid %**	***n***	**Valid %**	x^2 (*df*)
Massachusetts	68	29.6%	53	21.9%	3.63 (*2*)
Pennsylvania	73	31.7%	85	35.1%	
Vermont	89	38.7%	104	43.0%	

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.00$

RESEARCH Q1. ANALYSES:

The Impact of DREAM on Positive Youth Outcomes

A multivariate regression model was used to examine how participation in DREAM is associated with change in seven short-term outcomes between baseline and endline, while accounting for youth sociodemographics and housing sites (see Table 6). Relative to youth in the comparison group, youth who participated in DREAM were more likely to experience positive growth across one (i.e. social-emotional competence) of the seven short-term youth outcomes examined. Findings showed that DREAM youth were more likely to report greater social-emotional competencies ($\beta = .12$, $p < .05$) over the course of a year. While findings across the other short-term outcomes were null (i.e., not statistically significant), findings do suggest a positive trend across most of the outcomes in favor of DREAM youth with small effect sizes[1] (Cohen's $d = .12$ for academic motivation, .07 for academic aspiration, -.12 for growth mindset, .14 for future orientation, .10 for self-esteem, and .24 for broader worldview).

Of the covariates included in the model, most were unrelated to positive change in youth outcomes. However, several notable trends emerged. Youth who identified as Black or African American tended to report more positive change in academic motivation, growth mindset, future orientation, and self-esteem relative to White youth. Similar trends, albeit across fewer targeted short-term outcomes, were also found among youth who identified as Hispanic or Latinx, Multiracial, and youth who identified as another race/ethnicity, compared to White youth. Differences also emerged by region. Youth in Pennsylvania, for example, tended to report less positive change in academic motivation, growth mindset, and self-esteem relative to youth in Vermont.

[1] Effect sizes were calculated using the Campbell Collaboration Effect Size Calculator (https://www.campbellcollaboration.org/escalc/html/EffectSizeCalculator-SMD22.php). Conventions for Cohen's d .20 small, .50 medium, .80 large.

Table 6. Multivariate Regression Model Assessing the Impact of Participation in DREAM on Youth Outcomes ($n = 472$)

	Δ ACADEMIC MOTIVATION *β (SE)*	Δ ACADEMIC ASPIRATIONS *β (SE)*	Δ GROWTH MINDSET *β (SE)*	Δ FUTURE ORIENTATION *β (SE)*	Δ SELF-ESTEEM *β (SE)*	Δ BROADER WORLDVIEW *β (SE)*	Δ SOCIAL-EMOTIONAL COMPETENCIES β (SE)
Participation in DREAM	.057(.06)	.033 (.07)	-.060 (.08)	.068 (.07)	.048 (.06)	.116 (.08)	.124 (.06)*
Female	.042 (.05)	.012 (.04)	-.015 (.07)	.119 (.06)*	-.003 (.19)	.054 (.08)	-.024 (.08)
Age	.001 (.07)	-.122 (.06)	-.086 (.07)	-.174 (.07)*	.039 (.07)	.075 (.07)	.111 (.07)
Black	.518 (.17)***	.176 (.10)	.349 (.13)**	.288 (.09)**	.288 (.09)**	.107 (.12)	.192 (.12)
Hispanic/Latinx	.254 (.13)*	.039 (.08)	.235 (.11)*	.110 (.12)	.042 (.09)	.042 (.12)	.068 (.09)
Multiracial	.232 (.07)**	.241 (.08)**	.105 (.10)	-.055 (.08)	.042 (.07)	.042 (.09)	.086 (.07)
Other	.140 (.06)*	-.050 (.06)	.127 (.07)	.086 (.06)	.053 (.05)	.011 (.08)	-.029 (.08)
MA	-.246 (.10)*	-.037 (.08)	-.118 (.07)	.099 (.11)	-.062 (.11)	-.024 (.10)	-.169 (.10)
PA	-.315 (.11)**	-.113 (.07)	-.244 (.07)***	.037(.09)	-.199 (.08)**	-.085 (.10)	-.167 (.11)
R^2	.12*	.08*	.06	.08*	.06*	.03	.09*

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standardized coefficients are presented. Due to small sample size youth who identified as non-binary were coded as missing. Due to small sample size, youth who identified as Asian/Pacific Islander, Native American/American Indian, or another race/ethnicity were combined together to create the "other" category. White served as the reference group for race/ethnicity. Vermont served as the reference group for the region.

RESEARCH Q2. ANALYSES:

The Core Mechanisms that Lead to Positive Change

A series of multivariate regression models were specified to examine the hypothesized mechanisms within the DREAM program that promote positive outcomes among DREAM participants. Due to the group mentoring model and multiple enrichment activities the DREAM program provides, it was hypothesized that a strong sense of belonging and access to resources within the DREAM program would lead to more positive growth among DREAM participants. Findings showed that a strong sense of belonging in DREAM at midpoint was positively associated with positive growth across all of the short-term outcomes with the exception of future orientation (see Table 7a). Youth report of access to resources via DREAM at midpoint was also positively associated with positive growth across all of the short-term outcomes with the exception of academic aspirations (see Table 7b).

Another hypothesized mechanism of positive growth in the DREAM program is the positive relationships that are formed between DREAM youth and program staff, peers, and mentors (see Tables 7c - 7e). These positive relationships are known as Developmental Relationships (Pekel et al., 2018), which are characterized by expressing care (*showing youth they matter*), challenging growth (*encouraging youth to try their best*), providing support (*helping youth complete tasks and work towards life goals*), sharing power (*treat youth with respect and give them a say*), and expanding possibilities (*connecting youth with ideas, places, and people*). Findings showed that both strong developmental relationships with program staff and peers were positively associated with growth in academic motivation, growth mindset, self-esteem, broader worldview, and social-emotional competencies. Because only a subset of DREAM youth were matched with a DREAM mentor at midpoint ($n = 95$), a smaller sample was used to assess the relationship between strong developmental relationships with mentors and positive growth in short-term outcomes. Among these youth, it was found that strong developmental relationships with mentors were positively associated with growth in academic motivation, growth mindset, broader worldview, and social-emotional competencies.

Table 7a. Multivariate Regression Model Assessing the Impact of Sense of Belonging on Positive Change in Youth Outcomes (*n* = 194)

	T3 ACADEMIC MOTIVATION *β (SE)*	T3 ACADEMIC ASPIRATIONS *β (SE)*	T3 GROWTH MINDSET *β (SE)*	T3 FUTURE ORIENTATION *β (SE)*	T3 SELF-ESTEEM *β (SE)*	T3 BROADER WORLDVIEW *β (SE)*	T3 SOCIAL-EMOTIONAL COMPETENCIES *β (SE)*
Sense of Belonging at DREAM (T2)	.309 (.09)**	.199 (.08)**	.363 (.09)***	.171 (.10)	.376 (.05)***	.262 (.13)*	.398 (.08)***
Length of time in DREAM	.015 (.08)	.005 (.11)	.206 (.14)	-.129 (.10)	.108 (.11)	-.204 (.13)	.013 (.10)
T1 Outcome	.212 (.05)***	.400(.11)***	.354 (.08)***	.470 (.09)***	.352 (.09)***	.137(.09)	.255 (.07)***
Female	.042 (.07)	.100 (.07)	-.064 (.07)	.064 (.10)	.040 (.11)	.165 (.08)*	.021 (.09)
Age	-.069 (.12)	-.197 (.10)	-.130 (.09)	-.036 (.10)	-.065 (.13)	.064 (.09)	.083 (.13)
Black	.491 (.08)***	.405 (.11)***	.430 (.10)***	.214 (.07)**	.368 (.08)***	.071 (.14)	.249 (.09)**
Hispanic/Latinx	.421 (.12)**	.171 (.09)	.331 (.10)**	.183 (.08)*	.231 (.13)	.076 (.10)	.258 (.07)***
Multiracial	.128 (.13)	.367(.09)***	.004 (.10)	.115 (.11)	-.049 (.14)	-.006 (.13)	.055 (.13)
Other	.207 (.05)***	.045 (.06)	.127 (.06)*	-.039 (.05)	.109 (.10)	.043 (.07)	.072 (.08)
MA	-.228 (.08)**	-.070 (.09)	.003 (.05)	-.066 (.06)	-.119 (.10)	-.116 (.10)	-.227 (.05)***
PA	-.113 (.07)	-.052 (.06)	-.160 (.06)**	-.033 (.08)	-.070 (.07)	-.034 (.08)	-.144(.07)*
R^2	.41***	.53***	.47***	.38***	.50***	.24**	.34***

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standardized coefficients are presented. Due to small sample size youth who identified as non-binary were coded as missing. Due to small sample size, youth who identified as Asian/Pacific Islander, Native American/American Indian, or another race/ethnicity were combined together to create the "other" category. White served as the reference group for race/ethnicity. Vermont served as the reference group for the region. Housing site was included as a clustering variable to account for the nested structure of the data.

Table 7b. Multivariate Regression Model Assessing the Impact of Access to Resources via DREAM on Positive Change in Youth Outcomes ($n = 194$)

	T3 ACADEMIC MOTIVATION *β (SE)*	T3 ACADEMIC ASPIRATIONS *β (SE)*	T3 GROWTH MINDSET *β (SE)*	T3 FUTURE ORIENTATION *β (SE)*	T3 SELF-ESTEEM *β (SE)*	T3 BROADER WORLDVIEW *β (SE)*	T3 SOCIAL-EMOTIONAL COMPETENCIES *β (SE)*
Access to Resources via DREAM (T2)	.296 (.15)*	.006 (.10)	.326 (.12)**	.232 (.10)*	.406 (.08)***	.252 (.13)*	.327 (.09)**
Length of time in DREAM	.052 (.12)	-.065 (.11)	.252 (.15)	-.091 (.12)	.208 (.13)	-.177 (.14)	.033 (.12)
T1 Outcome	.209 (.05)***	.392 (.12)**	.333 (.10)***	.459 (.09)***	.419 (.09)***	.133 (.09)	.269 (.08)***
Female	-.022 (.09)	.095 (.09)	-.117 (.08)	.012 (.10)	-.032 (.08)	.113 (.09)	-.046 (.09)
Age	-.091 (.12)	-.194 (.09)*	-.161 (.09)	-.046 (.10)	-.095 (.12)	.042 (.10)	.058 (.11)
Black	.493 (.10)***	.437 (.12)***	.434 (.12)***	.205 (.09)*	.375(.07)***	.066 (.14)	.253 (.10)*
Hispanic/Latinx	.418 (.13)**	.211 (.08)**	.327 (.12)**	.162 (.08)*	.209 (.11)*	.068 (.09)	.264 (.09)**
Multiracial	.102 (.12)	.366 (.10)***	-.033 (.12)	.095 (.11)	-.101 (.11)	-.033 (.13)	.015 (.13)
Other	.188 (.06)**	.046 (.07)	.111 (.07)	-.056 (.06)	.085 (.05)	.019 (.08)	.046 (.10)
MA	-.258 (.08)**	-.087 (.08)	-.025 (.06)	-.081 (.06)	-.155 (.08)	-.138 (.11)	-.263 (.04)***
PA	-.172 (.09)	-.072 (.06)	-.230 (.07)**	-.066 (.07)	-.171 (.07)*	-.082 (.08)	-.217 (.08)**
R^2	.41***	.47***	.44***	.40***	.51***	.24**	.29***

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standardized coefficients are presented. Due to small sample size, youth who identified as non-binary were coded as missing. Due to small sample size, youth who identified as Asian/Pacific Islander, Native American/American Indian, or another race/ethnicity were combined together to create the "other" category. White served as the reference group for race/ethnicity. Vermont served as the reference group for the region. Housing site was included as a clustering variable to account for the nested structure of the data.

Table 7c. Multivariate Regression Model Assessing the Impact of Developmental Relationships with DREAM Program Staff on Positive Change in Youth Outcomes ($n = 194$)

	T3 ACADEMIC MOTIVATION *β (SE)*	T3 ACADEMIC ASPIRATIONS *β (SE)*	T3 GROWTH MINDSET *β (SE)*	T3 FUTURE ORIENTATION *β (SE)*	T3 SELF-ESTEEM *β (SE)*	T3 BROADER WORLDVIEW *β (SE)*	T3 SOCIAL-EMOTIONAL COMPETENCIES *β (SE)*
DRs with DREAM Program Staff (T2)	.221 (.09)*	-.043 (.08)	.317 (.12)*	.080 (.11)	.228 (.08)**	.297 (.08)***	.333 (.09)***
Length of time in DREAM	-.014 (.09)	-.047 (.12)	.186 (.14)	-.103 (.13)	.086 (.10)	-.201 (.12)	-.008 (.11)
T1 Outcome	.207 (.06)**	.405 (.11)***	.338 (.08)***	.468 (.09)***	.388 (.09)***	.119 (.08)	.266 (.08)***
Female	-.004 (.08)	.106 (.08)	-.108 (.07)	.048 (.11)	.003 (.10)	.124 (.09)	-.035 (.08)
Age	-.078 (.13)	-.208 (.09)*	-.138 (.11)	-.048 (.09)	-.084 (.12)	.051 (.11)	.074 (.12)
Black	.501 (.09)***	.449 (.12)***	.425 (.12)**	.227 (.09)**	.385 (.08)***	.064 (.15)	.248 (.11)*
Hispanic/Latinx	.465 (.13)***	.222 (.08)**	.370 (.12)**	.210 (.08)	.281 (.13)*	.100 (.10)	.303 (.09)***
Multiracial	.114 (.13)	.353 (.10)**	-.009 (.11)	.105 (.12)	-.071 (.14)	-.009 (.13)	.037 (.13)
Other	.213 (.05)***	.050 (.07)	.133 (.06)*	-.039 (.06)	.111 (.05)*	.048 (.08)	.076 (.08)
MA	-.266 (.08)**	-.086 (.08)	-.043 (.06)	-.086 (.06)	-.161 (.09)	-.154 (.10)	-.276 (.04)***
PA	-.162 (.08)*	-.078 (.07)	-.217 (.08)**	-.059 (.08)	-.141 (.07)*	-.079 (.09)	-.211 (.09)*
R^2	.37***	.48***	.44***	.36***	.42***	.26**	.30***

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standardized coefficients are presented. Due to small sample size, youth who identified as non-binary were coded as missing. Due to small sample size, youth who identified as Asian/Pacific Islander, Native American/American Indian, or another race/ethnicity were combined together to create the "other" category. White served as the reference group for race/ethnicity. Vermont served as the reference group for the region. Housing site was included as a clustering variable to account for the nested structure of the data.

Table 7d. Multivariate Regression Model Assessing the Impact of Developmental Relationships with DREAM Peers on Positive Change in Youth Outcomes (*n* = 194)

	T3 ACADEMIC MOTIVATION *β (SE)*	T3 ACADEMIC ASPIRATIONS *β (SE)*	T3 GROWTH MINDSET *β (SE)*	T3 FUTURE ORIENTATION *β (SE)*	T3 SELF-ESTEEM *β (SE)*	T3 BROADER WORLDVIEW *β (SE)*	T3 SOCIAL-EMOTIONAL COMPETENCIES *β (SE)*
DRs with DREAM peers (T2)	.242 (.09)**	.121 (.09)	.215 (.11)*	.046 (.09)	.264 (.06)***	.356 (.12)**	.442 (.06)***
Length of time in DREAM	-.037 (.09)	-.031 (.11)	.134 (.14)	-.157 (.10)	.047 (.11)	-.235 (.12)*	-.041 (.08)
T1 Outcome	.199 (.06)***	.394 (.12)**	.325 (.10)**	.491 (.09)***	.366 (.09)***	.110 (.08)	.241 (.07)**
Female	.049 (.07)	.107 (.08)	-.055(.06)	.061 (.10)	.047 (.10)	.188 (.08)*	.043 (.09)
Age	-.091 (.11)	-.209 (.09)*	-.155 (.08)	-.058 (.09)	-.088 (.12)	.046 (.07)	.052 (.08)
Black	.464 (.10)***	.405 (.12)**	.403 (.12)**	.214 (.08)*	.334 (.07)***	.004 (.15)	.171 (.10)
Hispanic/Latinx	.404 (.14)**	.173 (.10)	.319 (.12)**	.197 (.09)*	.208 (.13)	.005 (.13)	.180 (.07)*
Multiracial	.105 (.14)	.356 (.10)***	-.029 (.13)	.100 (.12)	-.080 (.14)	-.015(.13)	.034 (.13)
Other	.198 (.06)**	.042 (.07)	.112 (.08)	-.047 (.07)	.090 (.05)	.028 (.09)	.052 (.10)
MA	-.237 (.08)**	-.078 (.08)	-.002 (.06)	-.075 (.07)	-.126 (.09)	-.112 (.10)	-.218 (.05)***
PA	-.090 (.07)	-.048 (.06)	-.148 (.06)*	-.046 (.08)	-.053 (.07)	.025 (.09)	-.078 (.06)
R^2	.36***	.49***	.39***	.36***	.44***	.28**	.36***

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standardized coefficients are presented. Due to small sample size youth who identified as non-binary were coded as missing. Due to small sample size, youth who identified as Asian/Pacific Islander, Native American/American Indian, or another race/ethnicity were combined together to create the "other" category. White served as the reference group for race/ethnicity. Vermont served as the reference group for the region. Housing site was included as a clustering variable to account for the nested structure of the data.

Table 7e. Multivariate Regression Model Assessing the Impact of Developmental Relationships with Mentors on Positive Change in Youth Outcomes ($n = 95$)

	T3 ACADEMIC MOTIVATION β (SE)	T3 ACADEMIC ASPIRATIONS β (SE)	T3 GROWTH MINDSET β (SE)	T3 FUTURE ORIENTATION β (SE)	T3 SELF-ESTEEM β (SE)	T3 BROADER WORLDVIEW β (SE)	T3 SOCIAL-EMOTIONAL COMPETENCIES β (SE)
DR with DREAM Mentor (T2)	.412 (.11)***	.124 (.11)	.416 (.12)***	.228 (.16)	.219 (.14)	.360 (.10)***	.689 (.08)***
Length of time in DREAM	.054 (.11)	.045 (.15)	.148 (.15)	-.096 (.21)	.153 (.17)	-.137 (.15)	.020 (.14)
T1 Outcome	.141 (.08)	.241 (.09)**	.222 (.09)*	.429 (.09)***	.441 (.13)***	.244 (.09)**	.253 (.07)**
Female	-.036 (.13)	.241 (.10)*	-.117 (.15)	-.004 (.13)	-.014 (.13)	.119 (.10)	-.056 (.08)
Age	-.420 (.15)**	-.176 (.14)	-.347 (.08)***	-.373 (.18)*	-.294 (.15)*	-.193 (.12)	-.157 (.08)
Black	.500 (.19)*	.598 (.19)**	.418 (.21)*	.236 (.18)	.407 (.15)**	.121 (.12)	.317 (.13)*
Hispanic/Latinx	.540 (.18)**	.263 (.13)*	.361 (.16)*	.151 (.10)	.346 (.19)*	.146 (.10)	.235 (.13)
Multiracial	.206 (.16)	.376 (.18)*	-.037 (.14)	.122 (.19)	-.015 (.18)	.013 (.15)	.021 (.13)
Other	.146 (.09)	.088 (.08)	.030 (.08)	-.097 (.08)	.035 (.07)	-.046 (.05)	.008 (.06)
MA	-.039 (.09)	-.029 (.11)	.136 (.09)	.156 (.10)	-.043 (.13)	.031 (.13)	-.081 (.09)
PA	-.003 (.11)	-.148 (.11)	-.094 (.09)	.009 (.11)	-.057 (.13)	-.034 (.09)	-.169 (.13)
R^2	.57***	.45***	.63***	.46***	.51***	.46*	.75***

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standardized coefficients are presented. Due to small sample size youth who identified as non-binary were coded as missing. Due to small sample size, youth who identified as Asian/Pacific Islander, Native American/American Indian, or another race/ethnicity were combined together to create the "other" category. White served as the reference group for race/ethnicity. Vermont served as the reference group for the region. Housing site was included as a clustering variable to account for the nested structure of the data. The sample size was limited to only those youth who were currently matched with a DREAM mentor ($n = 95$).

SECTION 5.

CONCLUSIONS

Summary of Findings

The impact evaluation sought to evaluate how effectively the DREAM program promotes positive youth outcomes among its participants by utilizing a quasi-experimental design. The evaluation was intentionally designed in close collaboration with key stakeholders (e.g., DREAM program staff, mentors, and youth participants) to develop a logic model of the core components of the DREAM program, and to identify the hypothesized mechanisms that contribute to positive growth across targeted short-term outcomes. In pursuit of these goals, the evaluation yielded a number of important findings.

DREAM Youth Experienced Positive Growth in Social-Emotional Competencies

Youth who were participants of DREAM experienced positive growth in their social-emotional competencies over the course of a year relative to the comparison group. The effect size for this key finding was small, but also meaningful considering the general decline in social-emotional competencies that many young people experienced during and in the aftermath of the global pandemic (Center on Reinventing Public Education, 2021). To further strengthen the magnitude of this finding, DREAM should identify what components of their program model support young people's social-emotional wellbeing, so that these components can be further strengthened and capitalized upon.

While this finding is encouraging, the findings across the other six short-term outcomes were null (i.e., not statistically significant). We cannot know for sure why we did not see the same growth among DREAM youth across the other six targeted short-term outcomes. Baseline differences between DREAM youth and the comparison youth, however, do indicate that comparison youth were reporting higher scores across all of the targeted short-term outcomes, on average, relative to DREAM youth. While careful attention was taken to recruit a comparison group (i.e., youth living in the same or similar housing developments as DREAM youth), this finding does suggest that there may be important differences between the two groups. It is possible, for example, that families of youth who may need more support (i.e., youth with lower scores on the short-term outcomes) are more likely to sign up their child to participate in DREAM. Moreover, we do not know if youth in the comparison group were receiving any other types of services or interventions through other community-based programs.

It would be remiss to not also acknowledge that this evaluation took place right in the aftermath of the global COVID-19 pandemic. The pandemic has resulted in record job losses and has illuminated the long-standing disparities that exist in healthcare and education among low-income communities and communities of color (Allen et al., 2022; Korte et al., 2021). It is likely that this pandemic had a profound impact on the well-being and security of the youth and families of DREAM, as well as the surrounding communities in which DREAM is embedded. Importantly, the pandemic also had implications for DREAM and its regular program offerings. At the height of the pandemic, relationships that had been previously nurtured in-person were transitioned to virtual connections and regular in-person programming was put on hold. All of the data collected during this evaluation occurred while DREAM was reestablishing its program in-person, which naturally may have impacted the prominence with which participation in the program yields positive developmental changes. As the program has continued to rebound from the effects of the pandemic, it will be important for DREAM to continue to evaluate its impact among youth from low-income communities, as high-quality youth programming is likely needed more now than ever.

Strong Relationships and Access to Resources Are the Key Mechanisms that Lead to Positive Change Among DREAM Youth

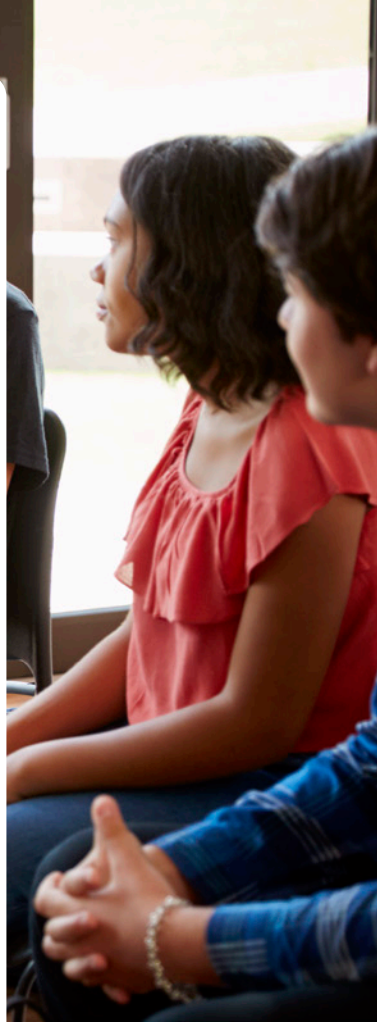
The strongest finding to emerge from the current evaluation is that relationships matter. Strong developmental relationships with program staff, peers, and mentors were core to improved positive youth development across almost all of the targeted short-term outcomes. The evaluation findings also found that not just a single relationship, such as a mentoring relationship, was responsible for producing positive change, but that relationships with program staff and peers can be just as valuable. These relationships may be untapped assets that can be further leveraged to strengthen the impact DREAM has for its youth participants. Surrounding young people with a web of supportive relationships, for example, may result in the most promising growth and positive developmental trajectory.

While relationships are an essential ingredient, they alone are not always sufficient. Positive relationships are an added-value when they are also the gateway to increased access to valuable opportunities and resources (Boat et al., 2021). It is the combination of strong relationships and access to resources, also known as social capital, that has the potential to promote educational and occupational mobility for youth living in low-income communities to reach their life goals. An added benefit of DREAM is that it intentionally connects youth to additional opportunities and resources that exist within their communities and beyond. Findings showed that a sense of belonging cultivated in the DREAM program and the access to resources that youth receive through their participation in DREAM were positively associated with growth across the short-term outcomes. These results provide evidence for the features of the DREAM program that can be leveraged and strengthened to further yield positive outcomes among youth participants.

Future Opportunities

The evaluation findings hold promise, but also suggest future opportunities to increase the positive impact of DREAM on the lives of the youth who participate in its programming. These opportunities exist both in terms of informing and improving program features of DREAM, as well as future evaluation goals.

The findings suggest strong developmental relationships are a core mechanism through which youth experience positive growth across an array of outcomes. This is encouraging as relationships are malleable and can be strengthened over time. Therefore, it will be valuable to identify the features of the DREAM program that can strengthen relationships. A unique feature of DREAM is its interconnected programming model which interweaves mentoring within academic, enrichment, and adventure activities. This context in which relationships are embedded may create the conditions to accelerate or strengthen the developmental relationships formed within DREAM (i.e., relationship accelerators). For example, engaging in an adventure activity that may put both mentors and their mentees out of their comfort zone is ripe for creating opportunities for mentors to express care, challenge growth, share power, provide support, and expand possibilities (all the core elements of a strong developmental relationship). Identifying how these relationship accelerators may support (or hinder) relationships within DREAM can yield insights for how to maximize the program's effect on youth outcomes.



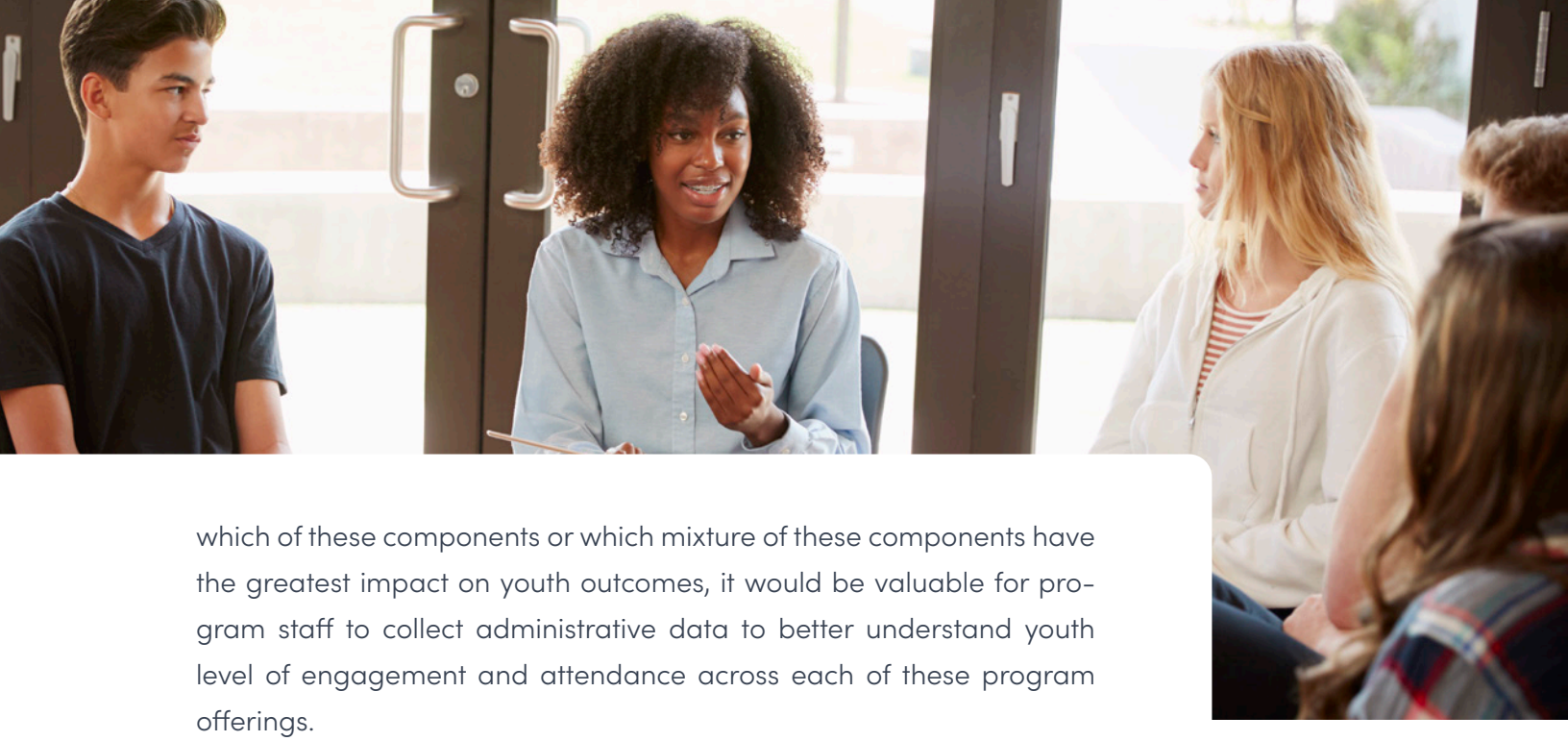
Evaluation Opportunities

There are several areas that are ripe for further exploration to better understand the impact of DREAM and/or strategies to strengthen DREAM's effectiveness in promoting positive youth outcomes.

1. **Examine for whom and under what conditions DREAM benefits youth.** A common trend found across each of the models was that young people of color, in particular youth who identified as Black or African American and Hispanic or Latinx, experienced greater positive change across the seven targeted short-term youth outcomes relative to youth who identified as White. Moreover, there were also differences in positive changes across geographic locations, with youth in Vermont tending to report more positive growth across the short-term outcomes relative to youth in Pennsylvania and Massachusetts. Future evaluations may build upon these findings to unpack whether participation in DREAM has differential impacts among youth with different racial/ethnic identities and from different communities. If so, these findings may have important implications for how programming may be tailored to meet the needs of all youth.

2. **Explore additional avenues for obtaining a comparable comparison group**. If another quasi-experimental design is used to understand the effectiveness of the DREAM program, other methods such as propensity score matching may be considered in order to obtain matched treatment and comparison groups. Because DREAM has a strong presence within the communities in which they work, it is also possible that some youth in the comparison group participated in some community-based DREAM activities. Moreover, comparison youth may be involved in other youth development programs within the community. Future evaluations may attempt to collect this additional information from comparison group participants in order to account for this potential added benefit.

3. **Gather additional high-quality data on program engagement and dosage**. Youth are not equally engaged in the various program offerings of DREAM. While the interconnected components of the DREAM program (i.e., village mentoring, academic support, adventure programming, and summer enrichment) may be what leads to positive youth outcomes, not all youth participate in each of these components or with the same level of intensity or engagement. To better understand



which of these components or which mixture of these components have the greatest impact on youth outcomes, it would be valuable for program staff to collect administrative data to better understand youth level of engagement and attendance across each of these program offerings.

4. **Evaluate ways to strengthen the core mechanisms of change in DREAM**. The current evaluation pointed to core areas that can be capitalized on to maximize impact. DREAM may consider investments to further strengthen these mechanisms (i.e., developmental relationships, sense of belonging, access to resources). For example, DREAM may consider what sort of support or training might be provided to program staff and/or mentors so that they are able to cultivate positive relationships with all youth. Additionally, it may be worth understanding what sorts of opportunities and resources youth find most beneficial for helping them reach their education, career, and life goals. Identifying these essential resources will enable DREAM to ensure they are providing opportunities and resources that are attuned and aligned with the needs of the youth they serve. Or perhaps, DREAM may consider community-building opportunities and initiatives to further cultivate positive peer relationships and a greater sense of belonging within the program. All of these innovations could be tested and evaluated to see what sort of value-add these investments have on youth outcomes.

Collectively, the evaluation findings provide promising evidence for the positive impact DREAM has on the lives of youth from low-income communities. With continued investment, DREAM can leverage and strengthen the core mechanisms that were illuminated through the current evaluation — a web of strong developmental relationships that cultivate a strong sense of belonging and provide access to valuable resources — to support a future generation to go after their dreams and to reach their life goals.

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APPENDIX A.

Psychometric Properties of Measures

A series of psychometric assessments were made on each of the measures in the DREAM Survey.

Cronbach's alpha (α) was calculated to determine each metric's internal reliability—how closely related the items making up the measures are, or how well the items are at measuring the same construct. Cronbach's alpha ranges from 0 to 1; α coefficients that are greater than or equal to .70 are generally deemed acceptable.

Confirmatory Factor Analysis (CFA) models were then run to determine the measurement properties of these constructs. CFA models are particularly useful for showing each item's relative contribution to the construct, and whether certain items are more influential than others. Standardized factor loadings are reported in this document, which range from 0 to 1; factor loadings greater than .40 are deemed acceptable. Each model comes with a set of model fit indices, which provides an indication of how good the overall construct is, based on the collected data:

X^2 (Chi-square): Lower values (and higher p values) indicate better fit. Non-significant p values are ideal, although rarely seen; hence it is rarely helpful for making decisions about model fit. It is typically reported due to convention. As this is antithetical to conventional statistical rules-of-thumb, it may be helpful for some to think of the X^2 test of model fit as a "badness-of-fit" test (where $p < .05$ is undesirable). The model's number of degrees of freedom (df) are reported, also due to convention.

RMSEA (Root Mean Square Error of Approximation): Lower values indicate better fit. Values lower than or equal to .08 are acceptable; values lower than or equal to .05 are ideal.

CFI (Comparative Fit Index): Larger values indicate better fit—ideally, .90 or greater.

TLI (Tucker Lewis Index): Larger values indicate better fit—ideally, .90 or greater.

SRMR (Standardized Root Mean Square Residual): Smaller values indicate better fit—ideally lower than or equal to .05.

Each of the model fit indices discussed above are based on a unique set of assumptions; therefore, each index has different strengths and weaknesses. Consequently, any given CA model's fit cannot be properly assessed by evaluating just one or two of the indices: overall fit assessment requires a holistic approach. Please note that the determination of overall fit assessment entails some subjectivity—it is sometimes the case that some of a model's indices fall very close to the rule-of-thumb thresholds.

Important note: due to how CFA model parameters are calculated, all CFAs must consist of a minimum of 3 items. Unidimensional 3-item models are described as "just-identified." However, while the factor loadings of 3-item models are valid, these models do not have sufficient power to calculate model fit indices, which is why these indices are not reported (see, e.g., Table A2 for the CFA model for Academic Aspirations).

Table A1. CFA Model for Academic Motivation at Baseline (α=.75)

ITEMS	STANDARDIZED FACTOR LOADING
I like going to school.	.64
I believe school is helpful.	.72
I know I can do well in school.	.56
Being a good student is important to me.	.70
Model fit indices: X^2=3.53, *df*=2, p=.171 ; RMSEA=.04; CFI=1.00; TLI=.99; SRMR=.01	

Table A2. CFA Model for Academic Aspirations at Baseline (α=.74)

ITEMS	STANDARDIZED FACTOR LOADING
I plan to go to college.	.77
Going to college after high school is important.	.86
School is important for reaching my goals.	.48
This model is just-identified.	

Table A3. CFA Model for Growth Mindset at Baseline (α=.73)

ITEMS	STANDARDIZED FACTOR LOADING
I can get smarter by working hard.	.74
If I work hard, I will do well in school.	.87
I learn from the mistakes I make in school.	.51
This model is just-identified.	

Table A4. CFA Model for Future Orientation at Baseline (α=.78)

ITEMS	STANDARDIZED FACTOR LOADING
I have plans for my future.	.70
I think about who I will be when I am older.	.73
I think about my future a lot.	.71
I work hard now for a good future.	.59
Model fit indices: X^2=7.30, *df*=2, p=.026 ; RMSEA=.08; CFI=.99; TLI=.97; SRMR=.02	

Table A5. CFA Model for Self-Esteem at Baseline (α=.84)

ITEMS	STANDARDIZED FACTOR LOADING
I feel good about myself.	.81
There are a lot of good things about me.	.74
I care about myself.	.75
I have a lot to be proud of.	.74
Model fit indices: X^2=5.51, *df*=2, p=.064 ; RMSEA=.06; CFI=1.00; TLI=.99; SRMR=.01	

Table A6. CFA Model for Sense of Purpose at Baseline (α=.58)

ITEMS	STANDARDIZED FACTOR LOADING
I work hard to reach my goals.	.70
I know what I want to do when I grow up.	.43
It is important for me to make the world a better place in some way.	.61
This model is just-identified.	

Note. Due to the poor reliability of this measure, we chose not to include in our analyses.

Table A7. CFA Model for Social-Emotional Competencies at Baseline (α=.76)

ITEMS	STANDARDIZED FACTOR LOADING
I can work with other people in a group or team to reach a goal.	.54
I pay attention to what other people need and how they feel.	.66
I take responsibility for my choices and my actions.	.69
When someone tells me to stop doing something, it is easy for me to stop.	.65
I know how my feelings affect my actions.	.58
Model fit indices: X^2=8.05, *df*=5, p=.154 ; RMSEA=.04; CFI=.99; TLI=.99; SRMR=.02	

Table A8. CFA Model for Developmental Relationships with other kids at DREAM (DREAM only) at Baseline (α=.84)

ITEMS	STANDARDIZED FACTOR LOADING
How often do other kids at DREAM show you that you matter?	.72
How often do other kids at DREAM push you to be your best?	.69
How often do other kids at DREAM listen to your ideas and take them seriously?	.76
How often do other kids at DREAM help you get things done (example: help with homework)?	.77
How often do other kids at DREAM connect you to new people, places, or ideas?	.65
Model fit indices: X^2=7.99, *df*=5, p=.157 ; RMSEA=.06; CFI=.99; TLI=.98; SRMR=.02	

Table A9. CFA Model for Developmental Relationships with other adults at DREAM (DREAM only) at Baseline (α=.87)

ITEMS	STANDARDIZED FACTOR LOADING
How often do other adults at DREAM show you that you matter?	.75
How often do other adults at DREAM push you to be your best?	.80
How often do other adults at DREAM listen to your ideas and take them seriously?	.83
How often do other adults at DREAM help you get things done (example: help with homework)?	.71
How often do other adults at DREAM connect you to new people, places, or ideas?	.66
Model fit indices: X^2=3.39, *df*=5, p=.640 ; RMSEA=.00; CFI=1.00; TLI=1.01; SRMR=.01	

Table A10. CFA Model for Developmental Relationships with DREAM mentor (DREAM only) at Baseline (α=.87)

ITEMS	STANDARDIZED FACTOR LOADING
How often does your DREAM mentor show you that you matter?	.86
How often does your DREAM mentor push you to be your best?	.79
How often does your DREAM mentor listen to your ideas and take them seriously?	.79
How often does your DREAM mentor help you get things done (example: help with homework)?	.63
How often does your DREAM mentor connect you to new people, places, or ideas?	.77
Model fit indices: X^2=10.51, *df*=5, p=.062 ; RMSEA=.11; CFI=.97; TLI=.95; SRMR=.03	

Table A11. CFA Model for Sense of Belonging (DREAM only) at Baseline (α=.84)

ITEMS	STANDARDIZED FACTOR LOADING
I feel like I belong at DREAM.	.78
My ideas are important at DREAM.	.78
People listen to me at DREAM.	.68
I feel like a part of DREAM.	.74
Model fit indices: X^2=16.52, *df*=2, p=.000 ; RMSEA=.20; CFI=.95; TLI=.84; SRMR=.04	

Table A12. CFA Model for Access to Resources (DREAM only) at Baseline (α=.86)

ITEMS	STANDARDIZED FACTOR LOADING
At DREAM, I meet new people.	.58
At DREAM, I go places that I have never been to before.	.77
At DREAM, I try new activities.	.79
At DREAM, I learn new skills.	.88
At DREAM, I learn about different school and job options.	.68
Model fit indices: X^2=6.54, *df*=5, p=.258 ; RMSEA=.04; CFI=1.00; TLI=.99; SRMR=.02	

About Search Institute

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