An Independent Evaluation of the Growth Mindset Intervention

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The transition to high school is a volatile time for adolescents and a precarious point in the course of their education. Students who successfully navigate this transition and pass their ninth-grade classes are far more likely to graduate from high school with their peers and attend college than those who fail courses in the ninth grade.[1] For example, a study has shown that being "on-track" (earning credits in core courses with no failing grades) at the end of the first year of high school is associated with an 85 percent chance of graduating from high school on time, compared with a 28 percent chance for students who are "off-track."[2] The growing awareness of the importance of the first year of high school for future success has prompted schools and districts across the country to develop interventions designed for ninth-graders.

"Growth mindset" is an intervention that aims to increase students' desire to take on challenges and to enhance their persistence in school by counteracting the assumption, through the development of specific psychological processes, that academic struggles and setbacks mean that one is "not smart." These psychological processes can result in academic resilience, which in turn can lead to better academic performance of ninth-graders as they make the transition to public high schools.[3]

The National Study of Learning Mindsets (NSLM) examines a well-designed, low-cost growth mindset intervention that is specifically tailored for ninth-graders, using a large-scale, individual-level randomized controlled trial design. This study design involves randomly assigning individual ninth-grade students from a nationally representative sample of high schools to a program group, which will be eligible to receive the intervention, and to a control group, which will not be eligible to receive the intervention. The outcomes of the program group will then be compared with those of the control group to assess the intervention's average effect on students. The study will also examine the variability of the intervention's effects on ninth-grade students' academic achievement across schools.

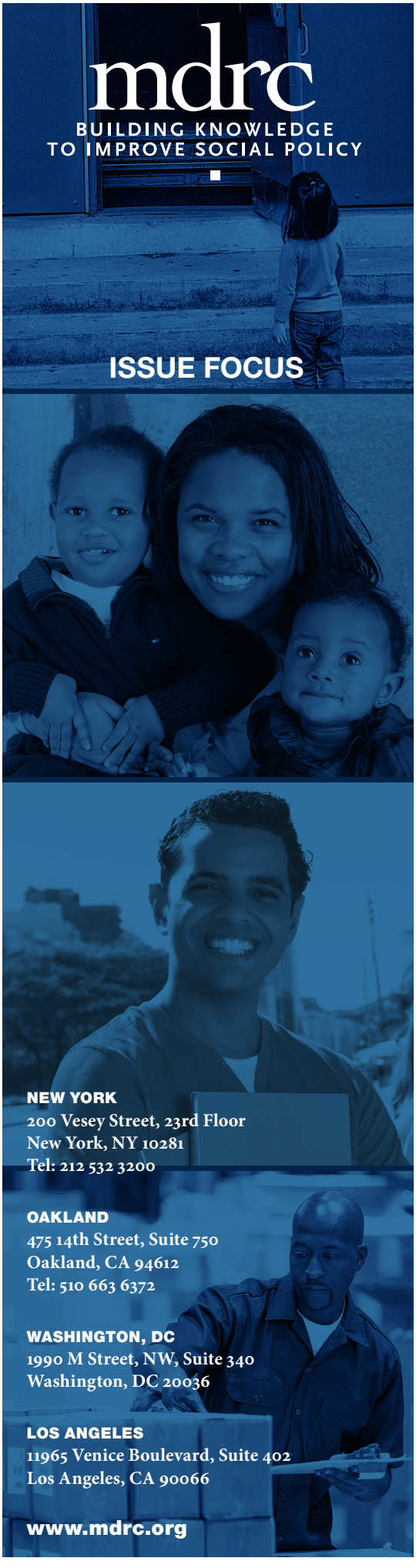
The version of the intervention that NSLM is examining was based on previous growth mindset interventions,[4] but was adapted to address the specific challenges that occur in the transition to high school. It was written for the vocabulary, conceptual sophistication, and interests of adolescents entering high school, and uses arguments that might be most relevant or persuasive for 14- to 15-year-

1 Roderick, Kelley-Kemple, Johnson, and Beechum (2014).

2 Allensworth and Easton (2005).

3 Blackwell, Trzesniewski, and Dweck (2007); Burnette et al. (2013); Yeager and Dweck (2012).

4 Aronson, Fried, and Good (2001); Blackwell, Trzesniewksi, and Dweck (2007); Good, Aronson, and Inzlicht (2003); Paunesku (2013).



olds.[5] Specifically, the intervention consists of a set of two self-administered online modules (25 minutes each) designed to communicate the message that the brain can grow "stronger" in response to efforts such as trying new strategies and seeking appropriate help from experts. Furthermore, the intervention helps students to internalize the messages by asking them to reflect on reasons why a stronger brain could help them achieve personally meaningful goals.

BACKGROUND AND DATA COLLECTION

The growth mindset intervention that the NSLM is examining was designed by an interdisciplinary team of psychologists, sociologists, education researchers, statisticians, and economists at the University of Texas, Austin, and at other universities around the United States, with the support of the Mindset Scholars Network and the Center for Advanced Study in the Behavioral Sciences.

The NSLM researchers then worked with an experienced third-party data collection and research firm to recruit a nationally representative sample of 76 high schools and to conduct student-level random assignment. Recruitment began by first seeking district-level approval to contact schools about their participation in the study. School-level recruitment included seeking each school's participation in the study across all the research activities. Ninth-grade students in the schools that agreed to participate in the study were asked to log into a computer system and were then randomly assigned to complete the online modules about growth mindset (program group) or to complete an online session about brain functions (control group).

The NSLM researchers and the third-party data collection firm worked with participating schools to collect as much of the following data as possible from each school:

- School records data on eighth-grade grade point averages (GPAs) and state test scores to measure students' academic performance before random assignment
- Student demographic information at the time of random assignment (gender, race/ethnicity, age, and parents' education)
- Assessment of students' self-reported mindsets and challenge-seeking behaviors immediately after completing the online sessions
- End-of-year student grades in core ninth-grade courses (math, English, science, and social studies)
- School-level measures across grades, such as average state test scores, school-mean PSAT scores, and Advanced Placement scores, before random assignment

THE EVALUATION

The Mindset Scholars Network invited MDRC to conduct a confirmatory, independent evaluation of the growth mindset intervention using the data collected by the NSLM research team. Specifically, MDRC will review the existing data and verify the data processing method. MDRC will then conduct independent analyses of the data, focusing on the following questions:

- What is the average effect of a growth mindset intervention on the GPA of ninth-grade students in U.S. public high schools?
- What is the average effect of a growth mindset intervention on the GPA of low-performing ninth-grade students in regular U.S. public high schools?[6]
- Does the intervention's effect on low-performing ninth-graders vary across schools?
- Do school-level factors explain any variability in the effect of the intervention on low-performing ninth-graders?

Findings will be reported in a policy brief, and all data used for the analyses will be made available as a restricted-use data file. With help and support from the Growth Mindset research team and the Mindset Scholars Network, the MDRC team hopes to provide the field with independent, robust, and transparent information about the effectiveness of the growth mindset intervention designed for ninth-graders when it is implemented at scale with a nationally representative sample.

5 See an overview in Yeager et al. (2016).

6 In this study, "low-performing" students are defined as those whose eighth-grade GPA is below the median score within the school.

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