



Evidence in Action

A K20 Center Research Brief

Academic Achievement Through Growth Mindset Interventions: Insights From a National Multisite Study

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Introduction

This intervention brief explores the research conducted by Qin et al. (2021) on the impact of growth mindset interventions on academic achievement across different secondary schools. The authors highlight the significance of students' motivation and its correlation with academic success. They discuss the decline in motivation during adolescence and the potential of growth mindset interventions to counteract this decline. The literature reviewed includes theories on growth mindset, its association with adaptive outcomes, and the varying effectiveness of such interventions across different school contexts. The study aims to understand the causal mediation mechanisms that explain the differential impact of growth mindset interventions and to provide insights into designing effective interventions tailored to specific school environments.

Methodology

Research Design:

The study utilized a multisite randomized design involving 65 public high schools in the United States. Students were randomly assigned to either the intervention group, which received growth mindset sessions, or the control group, which received sessions on brain functions without emphasizing intelligence beliefs.

Sample:

The sample included 12,490 9th grade students from 65 schools. The study focused on low-achieving students, defined as those earning GPAs at or below the school-specific median. The sample was diverse, with 41% female, 40% white, 12% black/African American, 31% receiving free or reduced-price lunch, and 25% reporting their mother had a bachelor's degree or higher.

Data Analysis:

The analysis involved weighting methods to account for sample and survey designs, nonresponse, and mediator value selection. The study decomposed the total intervention impact into direct and indirect effects, focusing on challenge-seeking behaviors as a mediator. Statistical tools were used to estimate the population average and between-school variance of causal mediation mechanisms.



Results

The growth mindset intervention significantly increased the 9th grade GPA of low-achieving students by 0.213 grade points on average. The impact varied significantly across schools, with the most pronounced effects observed in medium-achieving schools. Challenge-seeking behaviors played a significant mediating role in these schools, accounting for half of the total intervention impact. In contrast, the mediating role of challenge-seeking was negligible in low-achieving and high-achieving schools. The study suggests that contextual supports are crucial for the effectiveness of growth mindset interventions.

Application Into Practice

To replicate this intervention in a school context, the following steps can be taken:

1. **Identify Target Students:** Focus on low-achieving students who are at risk of academic challenges.
2. **Implement Growth Mindset Sessions:** Conduct two 25-minute online sessions during regular school hours, spaced around 20 days apart. The sessions should emphasize the malleability of intelligence and encourage challenge-seeking behaviors.
3. **Provide Contextual Supports:** Ensure that the school environment offers necessary resources and opportunities for students to experience mastery in their learning. This includes high-quality instruction, supportive teacher-student relationships, and access to academic resources.
4. **Monitor and Evaluate:** Collect data on students' GPA and challenge-seeking behaviors before and after the intervention. Use statistical tools to analyze the impact and adjust the intervention as needed.

Work Cited

Qin, X., Wormington, S., Guzman-Alvarez, A., & Wang, M.-T. (2021). Why does a growth mindset intervention impact achievement differently across secondary schools? Unpacking the causal mediation mechanism from a national multisite randomized experiment. *Journal of Research on Educational Effectiveness*, 14(3), 617-644. <https://doi.org/10.1080/19345747.2021.1894520>