



Mindsets and the Learning Environment: Social and Environmental Influences on Motivation for Learning: The Relationship between Childhood Adversity and Motivational Beliefs among Older Children and Adolescents

BY CHLOE STROMAN

RESEARCH SNAPSHOT | MAY 2019

Population-based studies indicate that up to one-half of children in the U.S. will experience some form of adversity by the time they reach adulthood.¹ This adversity can take many forms, ranging from maltreatment to community violence to poverty. Many of these adverse childhood experiences (ACEs), in turn, have been associated with poor academic outcomes for children, including poor performance on standardized tests, and decreased likelihood of on-time progression through school, graduating from high school and attending college.²

Several factors are hypothesized to be related to adverse experiences and may impact academic performance, including: reduced environmental predictability, low parental warmth, exposure to toxins, poor nutrition, high levels of stress, lack of parental scaffolding of child learning, and reduced cognitive stimulation.³

In this project, the research team took a step toward understanding potential strategies for reducing the ACE-related achievement gap. Because brief, scalable interventions designed to improve specific aspects of motivation for learning have had promising effects on academic outcomes,⁴ the research team wanted to investigate whether ACEs and motivation for learning are connected.

The first set of findings reported here represent an evaluation of whether exposure to common forms of childhood adversity is associated with children's learning mindsets, including growth mindset, sense of belonging at school, perceived utility value of school, and purpose for learning, as well as how these associations vary across different types of adversity.

STUDY DESIGN

To date, researchers have typically conceptualized childhood adversity using cumulative risk models, which count the number of adversities a child has experienced without regard to the type or severity of the experience. They then use this risk score as a predictor of outcomes.

While this model has highlighted the strong links between adversity exposure and developmental outcomes, as well as the importance of preventive intervention, it does not capture the diversity in experiences of adversity that children may encounter.

KEY FINDINGS

- Childhood adversity (experienced before age 18) is negatively associated with children's motivation for learning, with distinct associations between threat- and deprivation-related experiences and different aspects of motivation
- Exposure to threat is associated with lower reports of growth mindset, feelings of belonging, and perceived utility value of school
- Exposure to deprivation is associated with reduced feelings of belonging and purpose for learning at school
- Reduced growth mindset mediated the association between trauma exposure and poor academic performance, suggesting that this aspect of motivation for learning is a potential mechanism linking trauma exposure with school performance

RESEARCH TEAM

- Katie McLaughlin, Harvard University
- [Robert Crosnoe](#), University of Texas at Austin
- Maya Rosen, University of Washington

Areas of Expertise: Child development, Clinical psychology, Cognitive neuroscience, and Sociology

SAMPLE

This study includes 404 children and adolescents between the ages of 10 and 18. These children were recruited from two other ongoing longitudinal studies, which provided the researchers with a detailed assessment of their exposure to threat- and deprivation-related adverse experiences. 36.4% of children had been exposed to threat and 29% had been exposed to deprivation.

MINDSET
SCHOLARS
NETWORK

The Mindset Scholars Network is a group of leading social scientists dedicated to improving student outcomes and expanding educational opportunity by advancing our scientific understanding of students' mindsets about learning and school.

In this project, the research team applied an alternative conceptual framework⁵ developed by Katie McLaughlin and colleagues that extracts two core dimensions of adversity: threat (i.e., exposure to trauma and violence) and deprivation (i.e., the absence of expected inputs such as cognitive stimulation, complex language, and consistent interactions with a caregiver). Socioeconomic disadvantage is also studied as an important context that increases risk for both dimensions of adversity.

To examine the links between these types of adversity and learning mindsets, the researchers asked the children in their sample a short battery of questions developed by members of the Mindset Scholars Network. They next analyzed these data alongside information about the children's ACEs.

KEY FINDINGS

The research team measured four beliefs that shape motivation for learning:

- **Growth mindset:** an understanding that intelligence can be developed through hard work, the use of effective strategies, and asking for help from others when needed
- **Sense of belonging:** a feeling of social connection, trust, and confidence that one's identity is valued
- **Perceived utility value:** a perception that schoolwork is useful or relevant for other tasks or aspects of one's life
- **Purpose for learning:** a sense that one's schoolwork matters for a purpose larger than oneself, such as contributing to one's family, community, or society

Threat and deprivation were both associated with reduced growth mindset, sense of belonging, perceived utility value of school. Because experiences of threat and deprivation are often co-occurring, however, the research team did additional testing to tease apart the distinct associations between the two forms of adversity and learning mindsets.

Deeper analyses revealed that threat experiences, after adjusting for co-occurring deprivation, were associated with reductions in three learning mindsets: growth mindset, sense of belonging, and perceived utility value of school.

Deprivation experiences, on the other hand, were independently associated with reduced sense of belonging and purpose for learning.

Critically, when the team examined academic performance, reduced growth mindset mediated the association between trauma exposure and poor academic performance, suggesting that this aspect of motivation for learning is a potential mechanism linking trauma exposure with school performance.

INSIGHTS & FUTURE DIRECTIONS

Many theories have articulated mechanisms that might link experiences of adversity and children's development in ways that can make it more challenging for them to perform well at school. We know, for example, that some forms of deprivation directly influence cognitive development (e.g., executive functioning, language development).⁶ Existing evidence⁷ has also found that trauma predicts lasting changes in children's self-concept.

This project builds on these findings by focusing explicitly on the link between adversity and beliefs that shape students' motivation for learning. In particular, children exposed to trauma may be less likely to develop a growth mindset, believing their capabilities are more fixed. This more fixed mindset appears to be a potential mechanism linking trauma exposure with reduced performance in school across a wide range of subjects. These findings imply that children who have experienced trauma may benefit from school-based approaches that support growth mindset, although much more needs to be learned.

The project may also contribute to related lines of research into the meaning that children make of adverse experiences and why different types of adversity impact motivation differently. There may, for example, be a relationship between the unpredictability or interpersonal nature of threat experiences and their impact on motivation. Deprivation experiences may be distinct because of their correlation with being part of a stigmatized group (i.e., experiencing poverty).

Overall, the findings suggest multiple new avenues of inquiry related to experiences of childhood trauma and students' motivation in school.

References

1. [Felitti et al \(1998\)](#); [Finkelhor, Ormrod, & Turner \(2009\)](#).
2. [Lansford, Dodge, Pettit, Bates, Crozier, & Kaplow \(2002\)](#); [De Bellis, Woolley, & Hooper \(2013\)](#); [Leiter & Johnsen \(1997\)](#).
3. [Carlson \(2009\)](#); [Hackman, Farah, & Meaney \(2010\)](#); [Hackman, Gallop, Evans, & Farah \(2015\)](#); [Johnson, Riis, & Noble \(2016\)](#).
4. [Hulleman & Barron \(2016\)](#).
5. [McLaughlin, Sheridan, & Lambert \(2014\)](#).
6. [Rosen, Sheridan, Sambrook, Meltzoff, & McLaughlin \(2018\)](#).
7. [Turner, Finkelhor, & Ormrod \(2010\)](#).

ABOUT THE MINDSETS & THE LEARNING ENVIRONMENT INITIATIVE

The Mindset Scholars Network launched a new interdisciplinary initiative in Fall 2016 to explore how learning environments shape the mindsets students develop about learning and school. The project's aim is to generate scientific evidence about how educators, school systems, and structures can convey messages to students that they belong and are valued at school, that their intellectual abilities can be developed, and that what they are doing in school matters.

Fourteen projects were awarded over two rounds of this initiative. Funding for the initiative was generously provided by the Bill & Melinda Gates Foundation, Joyce Foundation, Overdeck Family Foundation, and Raikes Foundation.