Hidden Talents in Context:
Abstract vs ecological test stimuli among adversity-exposed youth

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BACKGROUND:

- Youth exposed to adversity tend to score lower on cognitive tests
- But adversity-exposed youth develop strengths that are relevant to their lives.
- **We examined how adversity-exposed youth perform on tests with real world content.**

Ecological Relevance

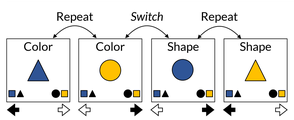
Adversity → Performance

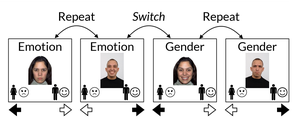
METHODS

1. We sampled 618 middle school-aged youth (48% female, 65% White) in Salt Lake City, Utah, USA
2. Using interviews, surveys, and school records, we measured exposure to **environmental unpredictability, violence, and poverty**
3. We then tested youth on **two versions** of an **attention** and **working memory task**.
4. We then tested the **interactive effect of task content and adversity exposure**

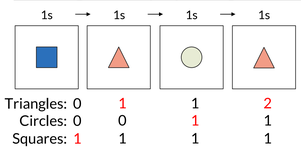
Abstract Stimuli ***Real-World Stimuli***

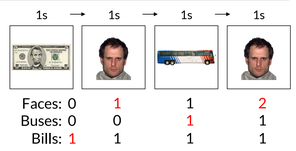
Attention Shifting





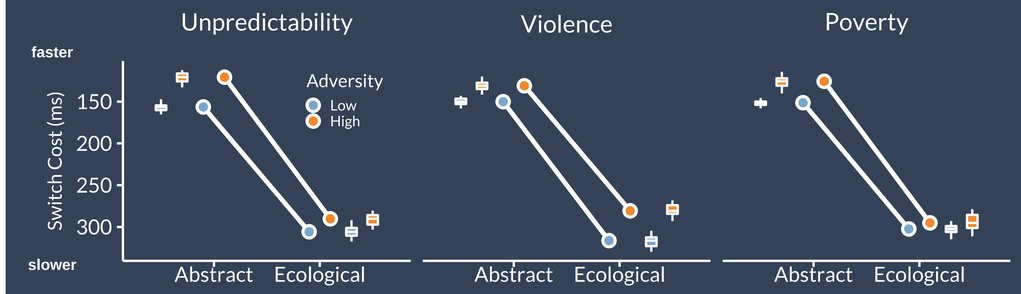
Working Memory Updating



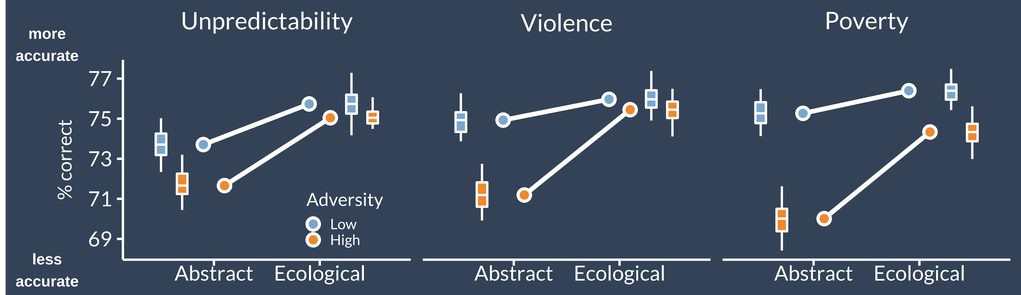


There were no interactions between test content and adversity for attention shifting.

Attention Shifting

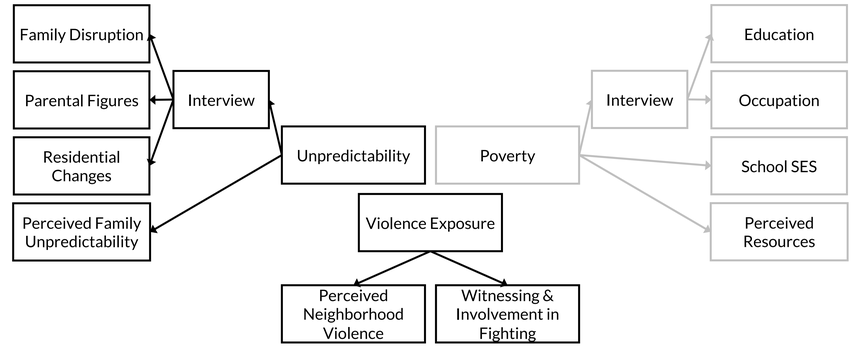


Working Memory Updating



However, violence- and poverty-exposed youth scored ***almost as well as their peers with real-world content*** on working memory updating.

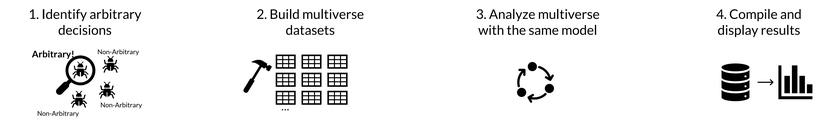
Dimensions of Adversity



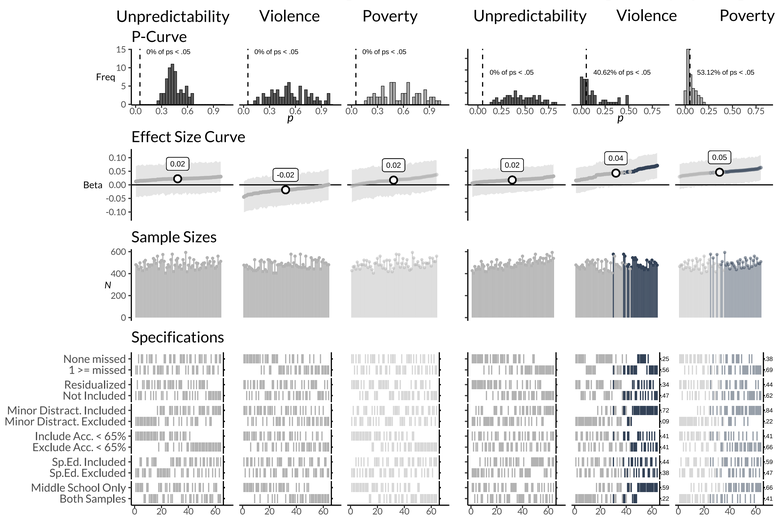
Multiverse Analysis

- We systematically evaluated the robustness (or sensitivity) of analyses across all ***arbitrary data processing decisions***
- We identified six arbitrary data processing decisions each with 2 alternatives

Steps to run a multiverse analysis:



Multiverse Visualizations



***P*-curves** = percent of interaction effects where $p < .05$; **Effect Size Curve** = interaction B-coefficients from smallest to largest; **Sample Sizes** = *N* for each multiverse dataset; **Specifications** = grid indicating the data processing decisions associated with each effect. Proportions of each arbitrary decision with p-values < .05 are indicated on the right side of each specification grid. Blank proportions indicate proportions = 0. Blue lines and points reflect individual multiverse effect sizes with p-values < .05.

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