Recent Trends and Geographic Variation in Skills at School Entry

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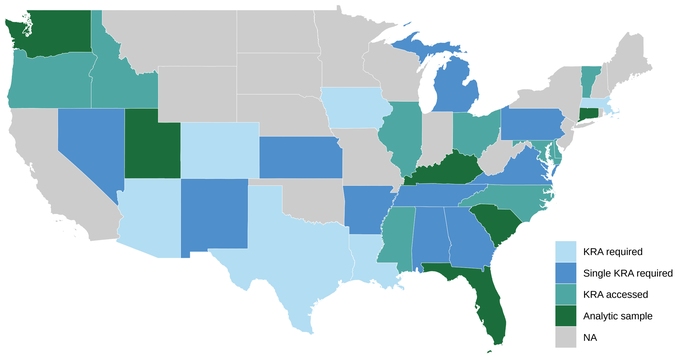
Motivation

- Early childhood experiences and opportunities play an important role in shaping short- and long-term outcomes [3,4].
- Skills at school entry are both a useful indicator of educational opportunity before K-12 schooling and a predictive indicator of later academic and social success [1,2].
- Current (program, survey) data on early skill is limited in temporal and geographic coverage.

Landscape of Kindergarten Readiness Assessment

- Kindergarten readiness assessments (KRAs) are used in 32 states to guide instruction, identify areas for support, and inform policy and resource allocation.
- KRAs often assess domains like physical wellbeing and motor development, social-emotional development, language development, cognition and general knowledge (e.g. literacy, math), and approaches to learning.



Dataset Construction

- We gather all publicly available kindergarten readiness assessment data from states that:
  a. Require every child to be assessed.
  b. Use the same assessment across all districts in the state.
- Estimate mean and standard deviation of the underlying test score distribution using heteroskedastic ordered probit (HETOP) models.

Research Questions

1. How do community characteristics relate to average skills at school entry?
2. How have skills at school entry changed over the last decade?

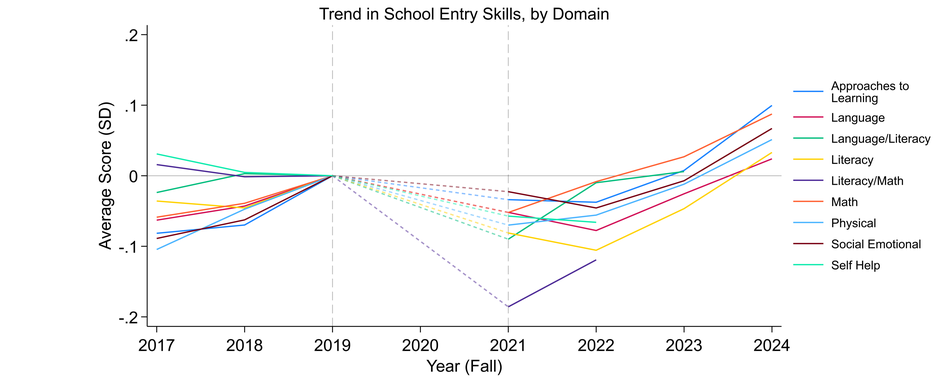
Analytic Sample

We filter to states in which:

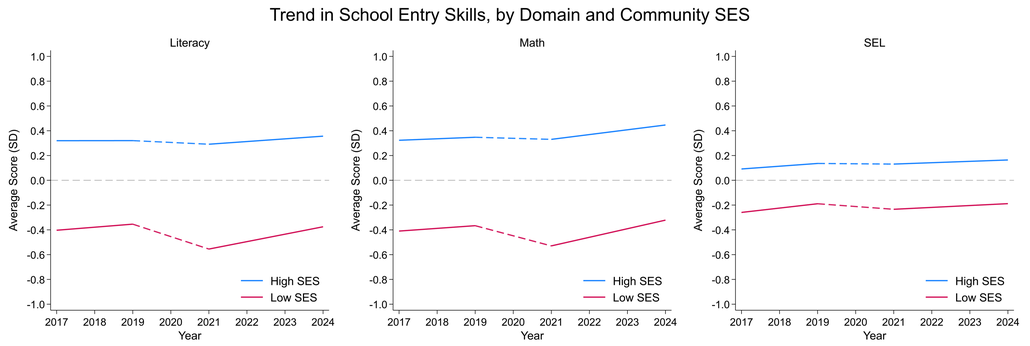
- The same assessment was used before and after the pandemic.
- Estimates produced for districts capture >90% of state enrollment.

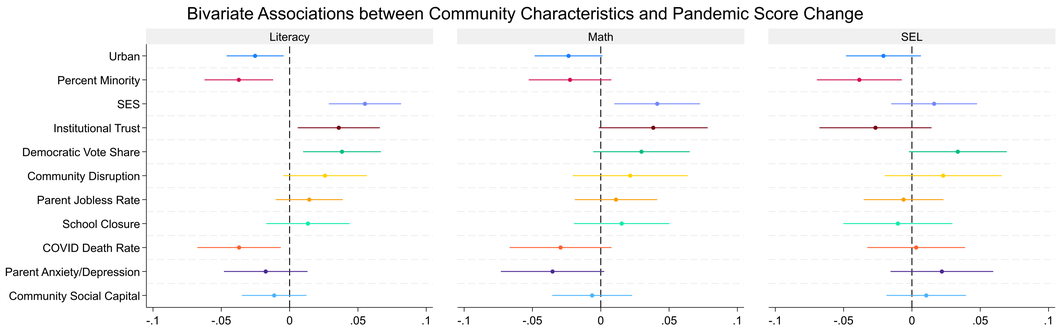
Analytic sample includes: 7 states (AK, CT, FL, KY, SC, UT, WA), 938 districts, 2.7 million students.

Results



Note: trend line illustrates average (within domain) across reporting states from precision-weighted model with state fixed effects.
Includes data from AK, CT, FL, KY, SC, UT, WA





Discussion

- Across domains, post-pandemic cohorts entered kindergarten with lower skills than pre-pandemic cohorts.
- Pandemic impacts varied by child age and community context:
  - **Age:** Cohorts aged 2.5 - 4.5 at pandemic onset (disrupted PK or PK3) experienced larger score declines; children aged 0-2 scored similarly to pre-pandemic cohorts.
  - **Context:** Score declines were larger in lower-resourced and higher-mortality communities, but not in places that shut down more during the pandemic.
  - **Trends:** Pre-pandemic disparities between low- and high-SES communities widened during the pandemic, but have since returned to prior levels.
- Population-level data on skills at school entry enable us to study granular patterns of early childhood opportunity and systemic effects of child policy.
- Future work will relate school entry skills to earlier ECE contexts and later elementary and middle school conditions.

References

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