Substantive Study

- To develop a MSEM to predict the school readiness of Kansas children from county-level contextual measures of community, family, and school variables.

Methodological Study

- To explore the impact of a small and finite macro-level population and a large and accessible micro-level population on the power to detect significant macro-level predictive context effects posited in the conceptual model.

Methodological Findings

- Smaller response rate than was desired, expected, and recommended on the previous pilot study and power analyses.
- Teachers in 10 counties did not participate.
- Missing and inaccurate data on county-level variables provided by state agencies.
- Low average sampling percentage within participating counties – an average of only 26% of the population in each county was sampled.
- Ceiling effect in the KSEA instrument.
- Paradoxical findings.

Substantive Limitations

- Further work is needed to determine the correct operational definitions of the obtained variables used to represent conceptual indicators in this study.
- Empirical power comparisons for the manifest variable MSEM approach across three

Recommended

- A random sample of 10 students from each county.
- A stratified sampling plan based on county kindergarten student population and a census of all kindergarten students in the state.
- Simulated sampling plan was done unrealistically due to practicality.

Methodological Studies

- Simulated results favored the stratified sampling plans.
- Initial impact of within-macro-level sample size on macro-level effects was found across sampling plans.
- The balanced sampling plan was deemed unrealistic due to differential reliability across macro-level units.
- The census sampling plan was deemed unrealistic due to practicality.

Current Objectives

- To develop a MSEM to predict the school readiness of Kansas children from county-level contextual measures of community, family, and school variables.

Methods

- Participants: A random sample of 10 students from each county
- N = 197 kindergarten students
- N = 95 (out of 105) Kansas counties

Instruments and Variables

- Kansas School Entry Assessment (KSEA)
- 41 questions pertaining to 6 aspects of readiness
- Literacy development (7 items), Mathematical knowledge (7 items), Social skills (8 items), Learning (8 items), Physical development (5 items)
- Demographics
- Family goals: children live in a safe and stable families that support learning
- Community goals: children live in a safe and stable communities that support learning, health, and family services
- School goals: children attend schools that support learning
- Student characteristics
- County-level contextual variables

Results

- Students were found to vary in their degree of readiness within county
- Counts varied in terms of the average degree of readiness for students within the county
- Small yet still statistically significant intercept variance suggests the relative lack of variability at the county level
- In general, all six student-level covariates account for a significant proportion of variance in readiness.

- The notable exceptions:
  - English language status does not predict physical development
  - BMI does not predict social skills development, symbolic development, or mathematical knowledge
  - Gender is not related to mathematical knowledge
  - In general, older, non-ELL female children with lower BMI who are not eligible for free or reduced lunch, and do not have an IEP, tend to be significantly more ready for kindergarten across all facets of readiness.
  - Latent variables representing community, school, and family influences did not significantly predict school readiness.

- Counties with higher levels of overall readiness also tend to have significantly fewer child abuse claims, fewer child care enforcement citations, higher crime rates per capita, lower student-teacher ratios, lower community usage of school buildings.

- Potential examples of the ecological fallacy and/or aggregation effects

- Several aspects of readiness are paradoxically related to crime rate

- Examples: counties with higher crime rates have students who are more ready for kindergarten.

- Further work is needed to determine the correct operational definitions of the obtained variables used to represent conceptual indicators in this study.

Table 1: Observed Variables Matched to Conceptual Indicators

<table>
<thead>
<tr>
<th>Variable</th>
<th>Conceptual Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Experimental design for the balanced MSEM approach across three sampling plans.

<table>
<thead>
<tr>
<th>Sampling Plan</th>
<th>All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced</td>
<td>95</td>
</tr>
<tr>
<td>Stratified</td>
<td>197</td>
</tr>
<tr>
<td>Random</td>
<td>1000</td>
</tr>
</tbody>
</table>

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