

CONTEXT MATTERS: EXAMINING THE EARLY LITERACY SKILLS AND DEVELOPMENTAL HEALTH OF KINDERGARTNERS

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SUMMARY

The focus of this study is the relationship between population-level early literacy rates, child developmental health (i.e., social-emotional and physical development), and corresponding community demographics. The study was conducted with 23 schools located in communities of varying demographics in an industrial town. School-level literacy scores reflected aggregated data from measures of early literacy skills to kindergartners enrolled in each of the schools in the study, and indicators of developmental health and community demographics collected at the school community level. Over 50 percent of the variability in school-level early literacy rates was explained by developmental health and community demographics, indicating that contextual factors, including children's physical health and social-emotional development play an important role in literacy development. Furthermore, the proportion of children at-risk for literacy difficulties varied systematically by school, ranging from 0% to 44%, and this risk was strongly related to child developmental health and community demographics. The implications for models of early identification and corresponding intervention programs for at-risk children are emphasized.

INSTRUCTIONAL AND POLICY CONTEXT

- In the US, 40 percent of all fourth-graders read below their grade level; over 40 million adults have literacy skills that are considered "below basic." (NCES, 2005).
- In Canada, almost 30 percent of adults have literacy levels that are considered sufficient to manage everyday literacy demands, but do not support learning new skills and complex tasks (ABC Canada Foundation, 2005).
- The great majority of reading research has focused at the child-level, on factors such as language and cognitive skills that influence reading ability; minimal investigation into population-level factors
- Many individuals with reading difficulties do not have a reading disability as traditionally conceived; their difficulties may be attributed to contextual factors (e.g., *language-rich environment*; Bader, Brooks-Gunn, & Furstenberg, 1993).
- Literacy research using a public health perspective is needed in order to allow for identification of the sources of reading difficulties in order to guide the direction of resources to students who are at-risk due to individual-level and contextual factors - those children placed at highest risk of school failure (Snow, Burns, & Griffin, 1998).

PURPOSE

Akin to population health research, which has focused on identifying at-risk populations, communities, and countries in order to inform more targeted and appropriate policies for promoting health and increasing access to resources, the present study is a population-level study of literacy rates in young children and the relationship between these rates and the health and development of the children, and demographics, in the school communities studied.

EARLY DEVELOPMENT INSTRUMENT (Janus & Offord, 2000)

- School-level indicator of:
- Physical Health & Well-being
 - Social competence
 - Emotional maturity
 - Language and Cognitive Devel.

LITERACY COMPOSITE

- Letter identification and word reading (WRAT-3; Wilkinson, 1993)
- Phonological awareness (Phonological Awareness Test; Muter, Hulme & Snowling, 1997)
- Rhyming, syllable segmentation, phonemic segmentation,

MEASURES

COMMUNITY SOCIOECONOMIC STATUS

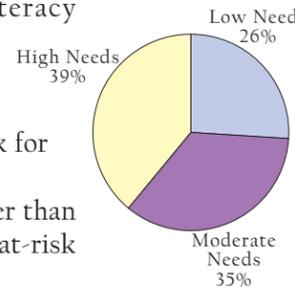
- Low-Income Cut-off Score (LICO; Statistics Canada)
- proportion of households in the school community where more than 55% of income goes to food and housing.

CLASSIFICATION OF SCHOOLS

Low needs (n=8; 35%): 1-9% of the kindergarten student population classified as at-risk for literacy difficulties

Moderate needs (n=9, 39%): 10-25% of the student population classified as at-risk for literacy difficulties

High needs (n=6, 26%): greater than 25% of kindergarten children at-risk



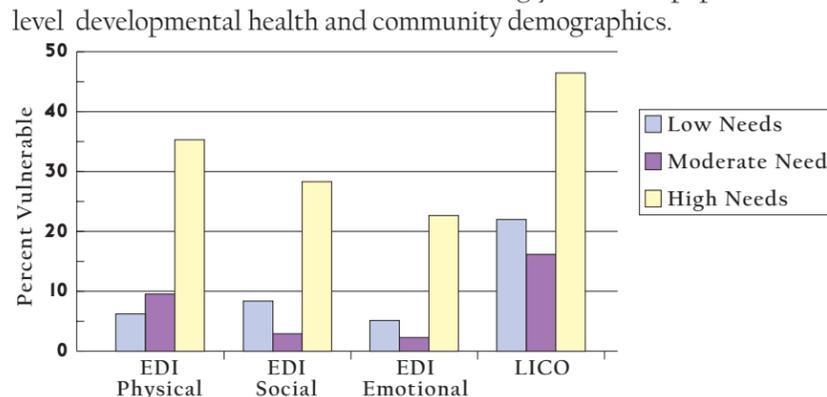
-23 schools in one district in an industrial town (Pop 75 000) in the northern interior of Western Canada.

SCHOOL COMMUNITIES*

- 478 kindergarten children
- 75% (n = 360) majority culture
- 9% (n = 41) speakers of English as a second language
- 16% (n = 77) children from native backgrounds.

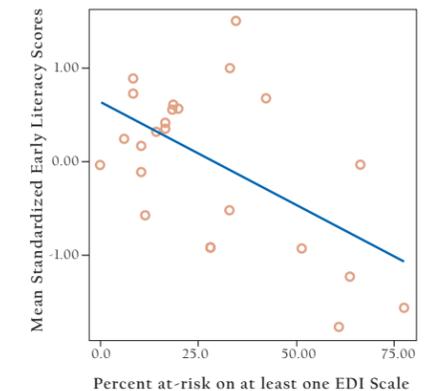
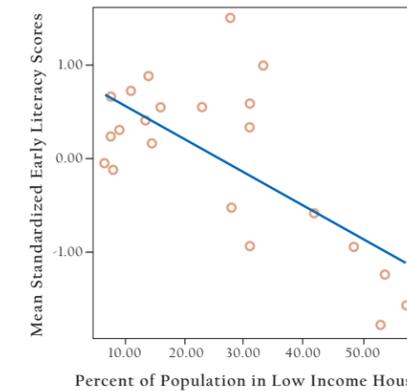
FINDINGS

Proportion of children at-risk for literacy difficulties varied systematically by school, ranging from 0% to 44%, and this risk was strongly related to population-level developmental health and community demographics.



FINDINGS (CONT'D)

Significant differences between low, moderate and high needs schools with respect to early literacy skills on population-level social-emotional development and health and well-being, as well as community SES.



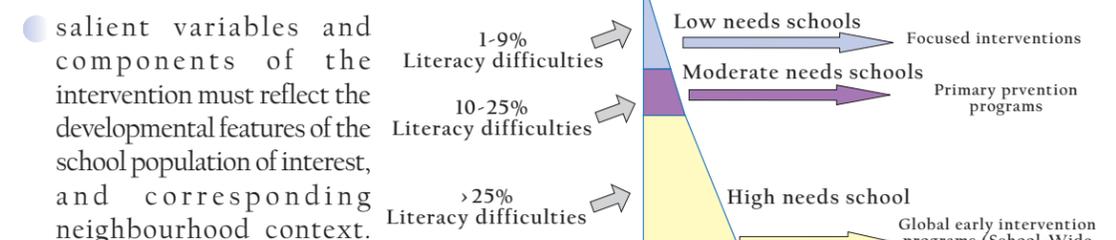
- As the percentage of the population living in low income housing increases, school-level literacy scores decrease (Fig. 1)
- As the percentage of children vulnerable on EDI increases, school-level literacy scores decrease (Fig. 2)

REGRESSION FINDINGS

- The shared variance among community demographics and developmental health explains the variability in school-level early literacy scores
- Aspects of development not typically considered in early literacy research (e.g., social, emotional, and physical health, community characteristics) explains the variability in school-level kindergarten literacy scores.

IMPLICATIONS

- School-level literacy risk was systematically related to contextual factors: high risk schools tended to be characterized by the greatest developmental and socioeconomic vulnerability.
- These findings have significant implications for the design of effective school-based models of early identification and intervention models; from school to school, intervention models must vary as a function of the school population and characteristics.



* Varying SES across the school communities