

COMMUNITY, NEIGHBOURHOOD AND 5-YEAR-OLDS' READINESS TO LEARN AT SCHOOL

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INTRODUCTION

Children's readiness to learn at school entry is a well-established predictor of their success in school and later in life. It is known that individual characteristics (e.g., socio-economic status, health, parental education) contribute to children's readiness to learn (Kagan 1992). Recently, more attention is being directed toward the qualities of neighbourhoods in which children develop. The majority of studies in this area concentrate on older children, as it is assumed that the impact of neighbourhoods on school-age children is stronger due to their increased involvement with their communities. However, it is also widely assumed that community and neighbourhood characteristics have important influence on fostering healthy early childhood development in all domains relevant to readiness to learn (Connor and Brink, 1999). The major impact neighbourhood may have on the development of all young children would be through its quality, presence of resources, and demographic composition.

Before any such statements can be made, it is important to investigate whether there is indeed a meaningful connection between the sociodemographic characteristics of neighbourhoods and the outcomes of children's early development as measured by their school readiness.

In this study, such a connection is investigated in one large community. School readiness of all 5-year-olds attending kindergarten was measured with the Early Development Instrument (EDI), and sociodemographic characteristics of neighbourhoods in which the children lived were established based on the Statistics Canada 1996 Census data. In addition, some information was collected locally on programs and services available to children 0-5 and their families.

METHODS

In 1999/2000 the Ontario Children's Secretariat funded five sites across the province to collect information on children's well-being. Part of the investigation included collection of data on the school readiness of 5-year-olds, and a survey of the services available for families with children aged 0-5. Here we present results for one of the sites (S1).

In addition to the above data, sociodemographic characteristics have been obtained from the 1996 Census collection from Statistics Canada.

The local coordinators have divided the region included as the site S1 into seventeen neighbourhoods. The divisions were based on natural and administrative boundaries.

School Readiness

- ◆ Measured with the Early Development Instrument (EDI)
- ◆ Based on the concept of readiness to learn at school: child's ability to meet the task demands of school (Doherty 1996, Janus & Offord 2000)
- ◆ EDI: a teacher-completed checklist assessing a child's developmental outcome in five domains: physical health and well-being, social competence, emotional maturity, language and cognitive development, communication and general knowledge
- ◆ Scoring range for each domain: 0 (worst) to 10 (best)
- ◆ Children with scores in the lowest 10% of the data (below the 10th percentile) in one or more domains were expected to have problems with readiness to learn at school

In 1999/2000, data were collected for over 45,000 children on both Junior (4-year-olds) and Senior (5-year-olds) Kindergarten level. In the whole sample of the 34,274 5-year-old kindergarten students in the 1999/2000 group, 9,152 or

26.7% scored in the lowest 10% in one or more domains. Among the 1,751 children in Site 1, 409 or 23.4% students scored in the lowest 10% in one or more domains.

Services Survey

- ◆ Collected with Ontario Early Years Community Inventory
- ◆ Variables: numbers of agencies, programs (for children and/or parents), child care, programs for special needs’ children, programs with subsidies etc.

Sociodemographic Characteristics (Social Index)

Nine sociodemographic factors were selected from the Census data (Connor 2001). A “Social Index” of sociodemographic disadvantage was calculated for each neighbourhood (range: 0, best to 9, worst) based on being above or below the national level for nine risk factors:

- ◆ Low-income status
- ◆ Percent income from social assistance
- ◆ Working status (Unemployment)
- ◆ High school education
- ◆ Lone parent status
- ◆ Recent immigration
- ◆ Ability to speak an official language
- ◆ Mobility within last year
- ◆ Home ownership

Analyses

- ◆ Data from all three sources (EDI, census, services) were aggregated to the neighbourhood level and comparisons were made between neighbourhoods scoring low on school readiness and those scoring high (one-way ANOVA)
- ◆ Hierarchical linear model analyses (HLM) were applied to establish the contribution of individual and neighbourhoods’ characteristics to school readiness.

RESULTS

Neighbourhood Comparisons:

Neighbourhoods “At Risk” for Low School Readiness	Neighbourhoods “Not At Risk” for Low School Readiness
N=11	N=6
Mean EDI Domain Score below site mean in at least 3/5 domains	Mean EDI Domain Scores equal to or higher than the site mean in 3/5 domains
Percentage of children scoring in the lowest 10 th percentile in one or more domains equal or higher than 20%	Percentage of children scoring in the lowest 10 th percentile in one or more domains lower than 20%

Comparisons of selected sociodemographic variables between neighbourhoods

	Neighbourhoods with Low readiness to learn "at risk" (N=11)	Neighbourhoods with High readiness to learn "not at risk" (N=6)	P level (2-tailed)
(\$) Average family/unattached individuals income	48,276	52,613	0.12
Unemployment rate (15 years & over)	8.0	8.7	0.55
% Low-income families/unattached individuals	14.8	11.7	0.06
% Income from social assistance	18.3	16.1	0.22
% Adults without a high-school diploma	41.5	37.8	0.21
% Lone-parent families	19.4	15.1	0.09
% Persons who moved within the last year	13.1	10.1	0.03
% Home owners	77.0	81.8	0.26
% Recent immigrants (1990-1996)	0.4	0.3	0.76
% Persons who cannot speak either official language	.25	.05	.30
Social Index	2.7	1.3	0.10

Comparisons of selected population and service characteristics between neighbourhoods

	Neighbourhoods with Low readiness to learn "at risk" (N=11)	Neighbourhoods with High readiness to learn "not at risk" (N=6)	P level (2-tailed)
Number of program locations	13.2	7.0	0.39
Number of programs for Children only	2.6	0.5	0.18
Number of programs for Parents/caregivers only	1.7	1.5	0.87
Number of children (under 6 years old)	602	737	0.45
Number of children (under 6 years old) by Children only program locations	105	204	0.24
Number of adults with children (under 6 years old) by Parents/caregivers only program locations	87	205	0.10
% Programs offering special needs support	54.7	32.1	0.13
% Programs offering a fee subsidy/waiver	49.5	39.5	0.46

Correlations Between Service Characteristics And Sociodemographic Variables:

N=17; * p<0.05

Socio-demographic Variables	N of agencies	N of program locations	Total Children only program locations	Total childcare program locations	Total Parents/ caregivers only program locations	Total N of adults with children by program locations	N of programs offering special needs support	N of programs at no charge	N of programs offering a fee subsidy/ waiver
Total N of adults with children	0.82*	0.80*	0.76*	0.77*	0.83*	-0.04	0.77*	0.80*	0.73*
Total N of children	0.80*	0.78*	0.75*	0.79*	0.82*	-0.13	0.75*	0.79*	0.73*
% Low-income households	0.96*	0.95*	0.59*	0.60*	0.50*	-0.36	0.53*	0.47*	0.56*
% Adults with no high-school diploma	-0.10	-0.12	-0.09	-0.15	-0.18	0.01	-0.21	-0.15	-0.10
% Lone-parent families	0.60*	0.62*	0.63*	0.62*	0.58*	-0.51*	0.66*	0.59*	0.60*
% Persons who moved within the last year	0.68*	0.72*	0.74*	0.72*	0.69*	-0.46*	0.74*	0.62*	0.76*
% Households with own home	-0.67*	-0.64*	-0.64*	-0.63*	-0.61*	0.33	-0.62*	-0.63*	-0.63*
Social Index	0.67*	0.64*	0.66*	0.61*	0.60*	-0.21	0.58*	0.61*	0.57*

Contribution Of Neighbourhood Characteristics To School Readiness

Using individual level data for children, their neighbourhood characteristics, and based on beta-coefficients in HLM analysis, the three neighbourhood characteristics that significantly contributed to children's lower school readiness were: low ability to speak an official language, low percentage of adults with high school education, and low income (see below). Service characteristics did not show a significant contribution.

Relationship between neighbourhood characteristics and EDI Scales

(entries are $\beta \pm$ (s.e.); * $p < 0.05$)

Characteristics	Physical Well-being	Social Competence	Emotional Maturity	Language and Cognitive Development	Communication and General Knowledge
Reliance on soc. assistance	-0.087 (0.138)	0.002 (0.183)	-0.249 (0.188)	0.056 (0.180)	-0.032 (0.168)
Home ownership	-0.063 (0.198)	0.068 (0.261)	-0.155 (0.277)	0.029 (0.255)	0.199 (0.232)
Mobility	-0.305 (0.242)	0.138 (0.339)	-0.143 (0.364)	0.283 (0.313)	0.101 (0.298)
Recent immigration	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Other language	-0.536 (0.240)*	-1.181 (0.222)*	-0.847 (0.325)*	-0.946 (0.268)*	-0.753 (0.280)*
Lone parent	0.039 (0.173)	0.067 (0.224)	-0.174 (0.238)	0.022 (0.222)	0.207 (0.202)
High school ed.	-0.262 (0.141)	-0.423 (0.175)*	-0.433 (0.189)*	-0.428 (0.169)*	-0.341 (0.167)*
Working status	-0.125 (0.190)	0.223 (0.248)	0.024 (0.273)	0.344 (0.224)	0.206 (0.221)
Low Income	-0.443 (0.151)*	-0.510 (0.227)*	-0.507 (0.243)*	-0.297 (0.241)	-0.303 (0.220)

Note: the coefficients indicate the difference in mean EDI scores between neighbourhoods above the national average and neighbourhoods below the national average for each characteristic.

SUMMARY

School Readiness and Demographics

Lower **neighbourhood** school readiness associated with:

- Lower income
- Higher % of lone-parent families
- Higher % of low-income families
- Higher % of families who moved within the last year

Lower **individual** school readiness associated with:

- Lower income
- Higher % of adults unable to speak an official language
- Higher % of adults without completed high school education

School Readiness and Services

- Lower **neighbourhood** school readiness associated with: more child-only programs, more child-care types, and more special needs support
- Generally, more services available in neighbourhoods with lower school readiness

Services and Demographic Characteristics

- More services where there are more children under 6
- More services in neighbourhoods with high % of low-income, lone-parents, and mobile families
- Services related to both population density and socioeconomic risk factors

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