Mapping Early Child Development

The BC Experience

Clyde Hertzman
Director, Human Early Learning Partnership
Contributions to Self-rated Health at Age 33, 1958 British Birth Cohort

- Social Network: OR=2.05
- Civil Society: OR=n.s.
- Socio-Economic Environment: OR=1.87
- "Intersecting" factors: OR=3.83
- "Pathway/cumulative" factors: OR=6.15
- "Latent" factors: OR=5.03

Birth → Death
Synaptic Density

![Graph showing synaptic density over age for different modalities: Visual, Auditory, Prefrontal.](image)

Rivkin, 2000: 70
Effects of Mothers’ Speech on Infant Vocabulary

Source: Huttenlocher et al., 1991
Determinants of Healthy Child Development in Canada

<table>
<thead>
<tr>
<th>Family</th>
<th>- income, education, parenting style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighbourhood</td>
<td>- safety/cohesion</td>
</tr>
<tr>
<td></td>
<td>- socio-demographic ghettoization</td>
</tr>
<tr>
<td>Society</td>
<td>- access to “quality” care arrangements</td>
</tr>
</tbody>
</table>
Family income and low vocabulary scores in children (age 4-5 years), 1998/99

Report: Raising Young Children, p 18, HRDC, 2003
Parenting and Word Acquisition

Proportion Reaching 50 words

Age in Months

Tamis-LeMonda et al, 2001: 761
Child Dev
# Arithmetic Scores for Youth Aged 16-25, 1994

<table>
<thead>
<tr>
<th>Country</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
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<tr>
<td>Switzerland</td>
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<td>Netherlands</td>
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<td>Belgium</td>
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<td>Canada</td>
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<tr>
<td>USA</td>
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<td>Poland</td>
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<td>Ireland</td>
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<td>N Ireland</td>
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<tr>
<td>G Britain</td>
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<tr>
<td>New Zealand</td>
<td></td>
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</table>

### Social Expenditure on Family Benefits

<table>
<thead>
<tr>
<th>Country</th>
<th>% of GDP</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>0.51</td>
<td>6</td>
</tr>
<tr>
<td>Australia</td>
<td>1.36</td>
<td>5</td>
</tr>
<tr>
<td>USA</td>
<td>0.22</td>
<td>7</td>
</tr>
<tr>
<td>Norway</td>
<td>1.91</td>
<td>3</td>
</tr>
<tr>
<td>Sweden</td>
<td>2.23</td>
<td>1</td>
</tr>
<tr>
<td>Finland</td>
<td>1.90</td>
<td>4</td>
</tr>
<tr>
<td>France</td>
<td>2.13</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: OECD Social Expenditure Database (1998)
Community Asset Mapping Project

Three Components:

• **Mapping Socio-Economic Characteristics**
  Income, education, single-parent families, etc.

• **Mapping Child Development**
  Early Development Indicator (EDI)

• **Mapping Community Assets**
  Libraries/literacy programs, childcare, prenatal or parenting programs, family resource programs, etc.
Proportion of Students vulnerable on the Language and Cognitive Development Subscale of the EDI based on Vancouver cut-offs, 2003
Proportion of Students vulnerable on the Language and Cognitive Development Subscale of the EDI based on Vancouver cut-offs, 2003

Language and Cognitive Development: Proportion of Students Vulnerable based on Vancouver Cut-Offs

- 0
- 0 - 0.018
- 0.018 - 0.05
- 0.05 - 0.066
- 0.066 - 0.117

Total EDI Respondents in Delta Study Area
n=1116

July 2003
Proportion of Students vulnerable on the Social Competence Subscale of the EDI based on Vancouver cut-offs, 2003
Proportion of Students vulnerable on the Social Competence Subscale of the EDI based on Vancouver cut-offs, 2003

Social Competence:
Proportion of Students Vulnerable based on Vancouver Cut-Offs
- 0.016
- 0.016 - 0.02
- 0.02 - 0.036
- 0.036 - 0.05
- 0.05 - 0.057

Total EDI Respondents: 1116
In Delta Study Area

July 2003
Proportion of Students vulnerable on the Emotional Maturity Subscale of the EDI based on Vancouver cutoffs, 2003
Proportion of Students vulnerable on the Emotional Maturity Subscale of the EDI based on Vancouver cutoffs, 2003
Proportion of Students vulnerable on the Physical Health and Well-Being Subscale of the EDI based on Vancouver cut-offs, 2003
Proportion of Students vulnerable on the Communication Skills and General Knowledge Subscale based on Vancouver cutoffs, 2003

Communication and General Knowledge: Proportion of Students Vulnerable based on Vancouver Cut-Offs

- 0
- 0 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.09
- No Data

Total EDI Respondents: In all Study areas n=2325

August 2003
Proportion of Students vulnerable on the Communication Skills and General Knowledge Subscale of the EDI based on Vancouver cutoffs, 2003
Proportion of Students vulnerable on one or more subscales of the EDI based on Vancouver cut-offs, 2003

EDI: Proportion of Students Vulnerable on one or more subscales based on Vancouver Cut-Offs
- 0.03 - 0.07
- 0.07 - 0.12
- 0.12 - 0.17
- 0.17 - 0.24
- 0.24 - 0.43
- No Data

Total EDI Respondents: 2325

August 2003
Proportion of Students vulnerable on one or more subscales of the EDI based on Vancouver cut-offs, 2003
School District 61: Greater Victoria
Proportion of Students Vulnerable on one or more subscales of the Early Development Instrument based on Vancouver Cut-Offs compared to the Total number of vulnerable, 2003

Vulnerability Proportions
- 0.003 - 0.012
- 0.012 - 0.023
- 0.023 - 0.035
- 0.035 - 0.052
- 0.052 - 0.087
- No Data
Proportion of Students vulnerable on one or more Subscales of the Early Development Instrument based on Vancouver Cut-Offs, 2003
Child Care Before School Age and Academic Skills in School

Teacher's Rating of Academic Skills

- High School or Less
- Some College or University
- University Degree or College Diploma

No ECCE
Licenced Daycare Centre
## Parent Education and Child Care in Canada

<table>
<thead>
<tr>
<th>PMK Education Education</th>
<th>% by Type of Care 1994/95</th>
<th>% by Type of Care 1998/99</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No care</td>
<td>Reg. Care</td>
</tr>
<tr>
<td>PMK Education Education</td>
<td>(n=11,377)</td>
<td></td>
</tr>
<tr>
<td>HS or less</td>
<td>76</td>
<td>9</td>
</tr>
<tr>
<td>Some college</td>
<td>67</td>
<td>10</td>
</tr>
<tr>
<td>Univ grad</td>
<td>55</td>
<td>13</td>
</tr>
</tbody>
</table>

Kohen et al., 2003

*HELP - Human Early Learning Partnership*
Family Strengthening Programs Pre-School and Academic Skills
BC Family Resource Programs with Drop-in Component
Family Resource Program minutes per month, per capita 0-4 in BC Health Authorities (January 2002)

Number of Family Resource Program Minutes per month, per capita 0-4
- Fraser (0.572)
- Interior (1.212)
- Vancouver Coastal (1.664)
- Vancouver Island (2.071)
- Northern (2.293)


Human Early Learning Partnership
Proportion of Grade 4 students scoring below FSA* numeracy expectations, 2000-2001

Proportion of Grade 4 students that do not meet numeracy expectations, based on the *Foundation Skills Assessment, 2000-2001

- 0 - 5.85
- 5.85 - 14.75
- 14.75 - 22.5
- 22.5 - 29.27
- 29.27 - 52.63

Source: Ministry of Education, 2002
Proportion of Grade 4 students scoring below FSA* reading expectations, 2000-2001
Frequency of meeting, failing to meet and exceeding predicted* values of the FSA, 1999-2000 and 2000-2001
Please visit HELP’s website:

www.earlylearning.ubc.ca