

# A Community Fit for Children Report, 2<sup>nd</sup> Edition

## Data Sources and Limitations



### **Early Development Instrument**

#### **Description of source:**

The EDI is a tool used to measure children's readiness to learn at school in the following five domains: physical health & wellbeing, social competence, emotional maturity, language & cognitive skills, communication & general knowledge.

**Methodology:** Follow this link to the *EDI Handbook* for full information on the methodology of the EDI. [http://www.offordcentre.com/readiness/pubs/2007\\_12\\_FINAL.EDI.HANDBOOK.pdf](http://www.offordcentre.com/readiness/pubs/2007_12_FINAL.EDI.HANDBOOK.pdf)

#### **Limitations:**

- ✚ Teacher response data – some questions difficult for teachers to know without further investigation, i.e. children's child care prior to school
- ✚ Training for the survey is not mandatory – reliability of the survey is based on teachers who are trained in the tool
- ✚ Instrument meant to be a population surveillance measure and does not have a prescription for action to take on the results
- ✚ Only two sets of data at the moment and thus cannot begin talking about trends
- ✚ Further limitations are also included in the *EDI handbook* (see link above).



### **Kindergarten Parent Survey**

#### **Description of source:**

The KPS is a self-reported survey filled out by parents/caregivers of senior kindergarten students. Information from this survey provides the parent/caregiver's perspective on children's and families experience in Waterloo Region pertaining to different aspects of child development including children's health and safety, access to early learning and care programs, positive parenting practices, etc.

#### **Methodology:**

- ✚ Each KPS ID was connected to the child's EDI ID; however, KPS surveys were sent to all senior kindergarten students regardless of whether or not they had a completed EDI.
- ✚ KPS survey envelopes were delivered to each senior kindergarten teacher through school board mail with a letter with instructions as to how to distribute the surveys.

- ✚ Each envelope contained 1 KPS survey with an ID number on it; a letter with instructions on how to fill out the survey, where to return it and contact information for whom to contact should they have any questions or concerns; a children's story book at the appropriate reading level for senior kindergarten; a growth chart to help them measure their child's height; and an envelope with a sticker with return instructions printed on it.
- ✚ Parents/caregivers were instructed to place the completed survey in the envelope provided and return the sealed envelope to the child's teacher.
- ✚ The letter accompanying the KPS contained the passive consent for the survey, indicating that participation in the survey is voluntary and that parents may choose to leave some questions blank or not participate at all if they so choose.
- ✚ Each school board then returned the surveys, unopened, to the Ontario Early Years Data Analysis Coordinator.
- ✚ Data entry was completed by the Ontario Early Years Data Analysis Coordinator using an electronic survey tool to transform the paper version of the survey into an electronic copy and then the data was extracted for analysis.
- ✚ Results from the KPS are shared in the *Community Fit for Children Report, 2<sup>nd</sup> Edition* which is available to the community.

### Limitations:

- ✚ Parent response data which relies on parents' honesty – parents may tend to report what they think is the right answer
- ✚ Could only be a certain demographic of parents who respond – i.e. the “eager parents”.
- ✚ Benchmarks for many of the questions do not exist and thus are dependant on comparisons to give any real meaning
- ✚ Psychometric tests have not yet been performed on the KPS to look at reliability and validity of the questions



### ***Integrated Services for Children Information System (ISCIS):***

#### **Description of source:**

ISCIS is a provincial electronic data system used for information recording, service coordination, monitoring and evaluation of the Healthy Babies Healthy Children program (Sanderson and Drew, 2009).

**Methodology:** Follow this link to the Region of Waterloo Public Health *Maternal and Child Health Indicators, 2007 report* for a full description of the methodology of ISCIS

[http://chd.region.waterloo.on.ca/web/health.nsf/4f4813c75e78d71385256e5a0057f5e1/412924CC4132DF9A85257141005C6702/\\$file/MaternalChild\\_HealthIndicator.pdf?openelement](http://chd.region.waterloo.on.ca/web/health.nsf/4f4813c75e78d71385256e5a0057f5e1/412924CC4132DF9A85257141005C6702/$file/MaternalChild_HealthIndicator.pdf?openelement)

#### **Limitations:**

- ✚ Birth data only includes those children who were born in hospitals and therefore data is missing for children born to midwives outside of the hospital.

- Other limitations to the data are also discussed in the *Maternal and Child Health Indicators, 2007* report (see link above).



## **Statistics Canada Census**

### **Description of source:**

The Census is a statistical portrait of the social and economic situation of Canada's population (Statistics Canada website, data dictionary,

<http://www12.statcan.gc.ca/english/census06/reference/dictionary/ovpop2b.cfm>, accessed June 11, 2009).

### **Methodology:**

#### *"Data collection"*

This stage of the census process ensured that each of the 13.5 million dwellings in Canada received a census questionnaire. The census enumerated the entire population of Canada, which consists of Canadian citizens (by birth and by naturalization), landed immigrants, and non-permanent residents together with family members living with them. Non-permanent residents are persons living in Canada who have a Work or Study Permit, or who are claiming refugee status, and family members living with them.

The census also counted Canadian citizens and landed immigrants who were temporarily outside the country on Census Day. This included federal and provincial government employees working outside Canada, Canadian embassy staff posted to other countries, members of the Canadian Forces stationed abroad and all Canadian crew members of merchant vessels.

#### *Collection methods*

To ensure the best possible coverage, the country was divided into small geographic areas called collection units (CUs). In the 2006 Census, there were approximately 50,000 collection units.

#### *Self-enumeration*

In 2006, approximately 98% of households self-enumerated either online, or by completing the paper questionnaire. Respondents were asked to provide information for all members of the household, as it pertained to Census Day, May 16.

If the questionnaire was completed on paper, the respondent returned it by mail, in a pre-addressed yellow envelope, to the centralized Data Processing Centre. The questionnaire was then scanned and verified for completeness through an automated process.

If a questionnaire was completed and returned online, the information was directly submitted into the Data Processing Centre system and was verified for completeness.

### *Online questionnaire*

For the first time, the 2006 Census offered all households in Canada the option of completing their questionnaire online. This easy, secure and convenient option could be used anywhere, anytime, and was available in English and French.

Each paper questionnaire had a unique Internet access code printed on the front along with the 2006 Census website address ([www.census2006.ca](http://www.census2006.ca)). Respondents needed this access code to do their questionnaire online.

This security feature made it secure, simple and quick for everyone to complete their census questionnaire online.

The census web application generated a confirmation number that the respondent was to retain as a proof of completion of the census questionnaire over the Internet.

This online collection method allowed the census data to be processed more quickly than those collected from paper questionnaires.

### *Weighting*

Questions on age, sex, marital status, mother tongue and relationship to Person 1 were asked of 100% of the population, as in previous censuses. However, the bulk of census information was acquired on a 20% sample basis, using the additional questions on the 2B questionnaire. Weighting was used to project the information gathered from the 20% sample to the entire population.

The weighting method provides 100% representative estimates for the 20% data and maximizes the quality of sample estimates.

For the 2006 Census, weighting employed the same methodology used in the 2001 Census, known as calibration estimation. This began with initial weights of approximately 5 and then adjusted them by the smallest possible amount needed to ensure closer agreements between the sample estimates (e.g., number of males, number of people aged 15 to 19) and the population counts for age, sex, marital status, common-law status and household.

This was the last processing step in producing the final 2006 Census database, the source of data for all publications, tabulations and custom products.

### *Random rounding*

Rounding is a mathematical operation that can increase a number, decrease a number or leave it unchanged; only certain predetermined values are permitted. For example, we could decide in advance to round figures to the nearest multiple of 10, the next highest multiple of 10, or the next lowest multiple of 10. So, if we round 10, 13 and 17 to the next lowest multiple of 10, the result would be 10 in all three cases.

The random rounding method is based on established probabilities. It involves rounding every figure in a table (including the totals) randomly up or down to the nearest multiple of 5, or, in some cases, 10. For instance, random rounding of 12 to a multiple of 5 would yield either 10 or 15;

applying the same operation to 10 would produce 10. This technique provides strong protection against direct, residual or negative disclosure, without adding significant error to the census data.

### *Area suppression*

Area suppression involves removing all characteristic data for geographic areas with populations below a specified size. A table is always associated with a geographic area, viewed from either the 'place of residence' standpoint or the 'place of work' standpoint. Also, for place of residence, the threshold depends on the number of people who live in the area, and for place of work, it depends on the number of people who work in the area. When a table involves both place of residence and place of work, the threshold depends on both the number of residents and the number of people employed in the area.

There are different thresholds for different cases:

250 people, if the table contains income data, and if the table also contains place-of-residence data, at least 40 private households

100 people, if it is a six-character postal code area, that is, a local delivery unit (LDU), or if it is a custom area 40 people, in all other cases”

(Statistics Canada website, data dictionary,

<http://www12.statcan.gc.ca/english/census06/reference/dictionary/ovpop2b.cfm>, accessed June 11, 2009).

### **Limitations:**

- ✚ Data is outdated
- ✚ Data is often only 20% of population who respond to the survey
- ✚ Changes in indicators hinder comparison over time
- ✚ Errors in census data (see below for full description of limitation from Statistics Canada website).

### *“Errors in census data*

The accuracy of a statistical estimate is a measure of how much the estimate differs from the correct or ‘true’ figure. Departures from true figures are known as errors. Although this term does not imply that anyone has made a mistake, some degree of error is the inevitable result of decisions taken to control the cost of the census. This is an important point, since many kinds of errors can be anticipated and controlled by building special procedures into the census. The more resources put into these procedures, the tighter the control and the lower the degree of error in the data. However, there is a point at which the benefits of a further reduction in error are too minor to justify the expense.

The significance of error to the data user depends very much on the nature of the error, the intended use of the data and the level of detail involved. Some errors occur more or less at random and tend to cancel out when individual responses are aggregated for a sufficiently large group. For example, some people may overestimate their income, while others may underestimate it. If there is no systematic tendency for people to err in either direction, then overestimates by some individuals will more or less offset underestimates by others in the group. The larger the group, the closer the average reported income is likely to be to the true value. On the other hand, if many people forget a source of income, the result will be a general tendency to understate total income.

In this case, the average reported income will be lower than the true average. Such systematic errors are far more serious a problem for most users than random errors: the bias they cause in the data persists no matter how large the group, and is very difficult to measure”.

(For additional information in regards to each type of error, etc., follow this link <http://www12.statcan.gc.ca/english/census06/reference/dictionary/ovpop7.cfm>). (Statistics Canada website, data dictionary, <http://www12.statcan.gc.ca/english/census06/reference/dictionary/ovpop2b.cfm>, accessed June 11, 2009).