

**Tools for Measuring the Well-Being of Children at School Entry: International Perspectives, Specific Applications in Jordan and Kosovo IN: Lynkeus, Rome (Ed.), Tools for Measuring the Well-Being of Children (pp. 59-67). Genoa, Italy: Fondazione Istituto Mediterraneo per l'Infanzie – MedChild**

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It is a pleasure to be here. First of all I would like to say that I come to the indicator area from a different background than the majority of the participants: I have trained in child development. I am going to tell you about the assessment of children's well being as it focuses on child development status. Despite having developmental components, it still comes out as a number.

I often start my presentation making a case that early years matter for child development. However, I believe that most of you are converted to that belief so I will not spend time on that. Children, who are exposed to optimal social and physical environment or at least the best that it can be under the circumstances, have the best opportunities to grow up healthy and happy. In order to ensure that we are on the right track with promoting the healthy child development, we need to keep score and we need to be able to monitor children development over time not just of one child but also of groups of children. You permit me that I simplify what we heard so far about the existing common indicators. I do not refer to the body of work on indicators presented by my predecessors in this meeting – but more to the ones that politicians often use: they usually look at the very simple child indicators: like infant and child mortality rate, prenatal care, low birth weight, school drop out rates. Consider a case, however, of a country where school drop out rates are very low simply because children really do not have the opportunity to go to school, and therefore taking this indicator as one of children's well-being would be inappropriate, as it would reflect a very small population only. So the existing common indicators often do not account for child developmental status. I believe that measuring child development should incorporate aspects of the major developmental areas, it has to allow for association with external factors, has to be reliable, valid and sensitive, also comparable among groups of children. The measurement can only be a tool, it cannot solve problems, it can only point toward the areas where problems may be, and by association with the external factors it can actually point to the solutions. As it has been explained before, in order to use them effectively, we have to ensure that our measurements are reliable, valid, and sensitive.

In my work we concentrated the developmental measure at school entry that has been conceptualized as “children's school readiness”, which in turn can be used as an indicator of children development or health. The way we look at school readiness is to define it as a holistic concept that involves several development areas, and therefore it reflects developmental outcomes and milestones achieved during the first five years of life within the context of early experiences. In other words, whatever happens to the child in his environment because of his interaction with his parents, because of exposure to perhaps harmful or perhaps nourishing environment, because of exposure to violence

or lack of it, will show itself in the status of child development at about 5 to 7 years of age. In most countries children go to school some time within this 5 to 7 range. It is a very important age range: it's the one after early development where children begin to be more responsible, become a part of the society, a lot is expected of them and yet their development is not as variable as it was in the early development. So it is a good time for measuring the developmental status.

If school readiness is understood and defined in such a way that it reflects a broad concept of health, it is being used at the population level rather than taking an individual child and saying whether she or he is school ready for school or not. By taking this "population-level" approach we want to take groups of children and produce an assessment or an outcome, which is useful at macro and micro level. Bruno has mentioned the neighbourhood level, the local level: in the way we approach the concept and its measurement, we believe that children's school readiness can be used for both large levels (municipalities, countries), as well as for neighbourhood. I will show you some examples.

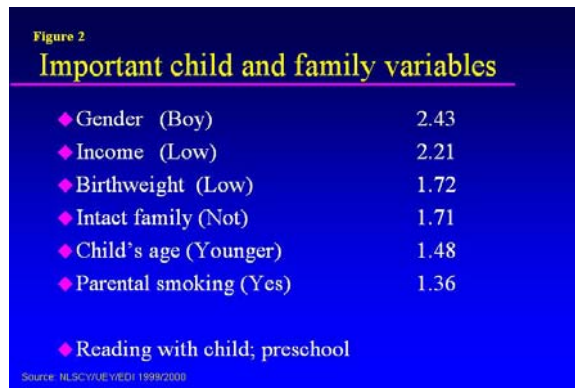
There are five domains of school readiness contributing to this broad concept of developmental health at school entry: physical health and well being, social competence, emotional maturity, language and cognitive development and communication skills and general knowledge. In order to assess them, we developed an instrument called "Early Development Instrument", completed by teachers, or early child educators. The items are grouped into the 5 domains of development. The original version has one hundred questions, however, we have developed a shorter version, in which the items are adaptable to the local context and linguistic context. Both forms have additional indicators for special problems and special skills. The most useful data available from the instrument include average scores for groups of children, and percentages children who are vulnerable for difficulties at school for each of the 5 domains and overall.

We have also developed a percentage of children with a multiple challenge index that basically reflects the percentage of children who are doing badly in more than 3 areas, and who have serious difficulties. Very briefly I will present some results from the implementation in Canada.

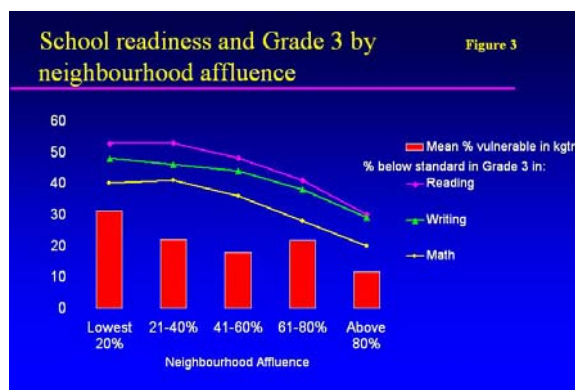
In a population of Canadian children, there is a gradient in school readiness depending on the family income: there are proportionally fewer children from well-off families who are vulnerable in their school readiness (Fig. 1).



We also looked at the risk factors for vulnerability (Fig. 2). The numbers represent the odds ratios (likelihood) that a child with the specific characteristic will be vulnerable. In the Canadian data, it is the gender that appears to have the strongest impact, but also children from families with low income, children with birth weight below 2,5 kilograms, children from families with only one biological parent (single or remarried), and children who are younger than the mean age at entry (because children go to school based on the year of their birth, the youngest can be almost a full year younger than the oldest children in the class). Parental smoking also has an impact. Finally, our last finding here relates to something that Frederic said about the maternal education: reading with child also contributes to children well being – literature shows that mothers with more education tend to do this more than mothers with less.



The results I just presented were based on individual-level analyses. The next results come from data aggregated to neighbourhoods (Fig. 3). The red bars represent school readiness data, taken at kindergarten level; the lines represent data collected in grade 3 when children are 9 years old. It is clear that there is again a gradient depending on the neighbourhood affluence, not just on the individual but also on the neighbourhood income.



The EDI has been used outside Canada: in Australia, in over 60 communities in 3 years, in some communities in the USA, it has been translated into Spanish and piloted with 1200 children in Chile, as well as in New Zealand and Jamaica, and in Kosovo it has just been completed.

I was asked to present some results from a study that was done in Jordan: there was a population level assessment of early child development, it was not the Early Development Instrument, but the results are somewhat similar and I think the conclusions will be useful. Among the demographic factors contributing to children's well being the patterns were slightly different than in the Canadian, American, and Australian samples based on the EDI. While there were some gender differences, they were not as consistent. However, we found consistently better scores for children who came from urban communities rather than rural, children who came from families with higher income, children who went to kindergarten, children whose mothers worked and children whose mothers were more educated. Because these children came from 14 geographic areas in Jordan, we also analysed the data in clusters. The strongest factors accounting for children's outcomes were kindergarten enrolment, mother education and income.

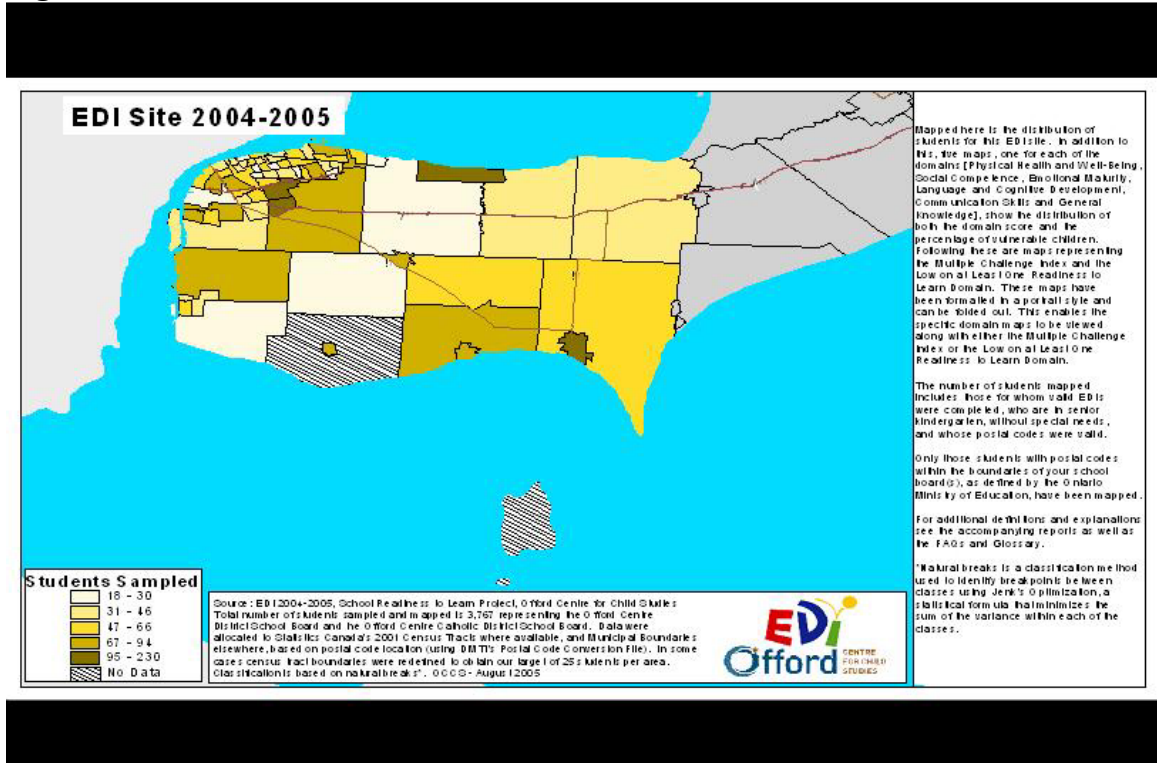
The Kosovo project was considered as an evaluation of an outcome of the child development program. All together there were 500 children in the study, approximately half of them went through early child development programs and half of them did not. In order to use the EDI in Kosovo, we went through a very interesting and very rewarding process in adapting the items of the EDI to the local context in terms of the content and language. What I would like to emphasise is that even though there are huge cultural differences between the countries and especially among countries that belong to the Mediterranean group, children develop in exactly the same way, whether they are Chinese, Polish, Italian or American. We can follow the same milestones in the growth, emotional, social development in all children, however, we have to be careful which particular behaviours or specific skills we take as indicators of that particular developmental level - because obviously they will be slightly different in different countries depending on the climate, customs of the countries. This is where cultural differences really matter and we were able to make the adjustment with the Kosovo sample, but for others this is still work in progress at the moment.

The results of the Early Development Instrument can be used to present averages and percentages, in order to compare groups on terms of their vulnerability, and in association with other indicators. The GDP is an example of such an external indicator, though we know that it is probably not accounting for the variations in what is happening in a country. All other indicators that are available at the same level of aggregation as the EDI data could be used.

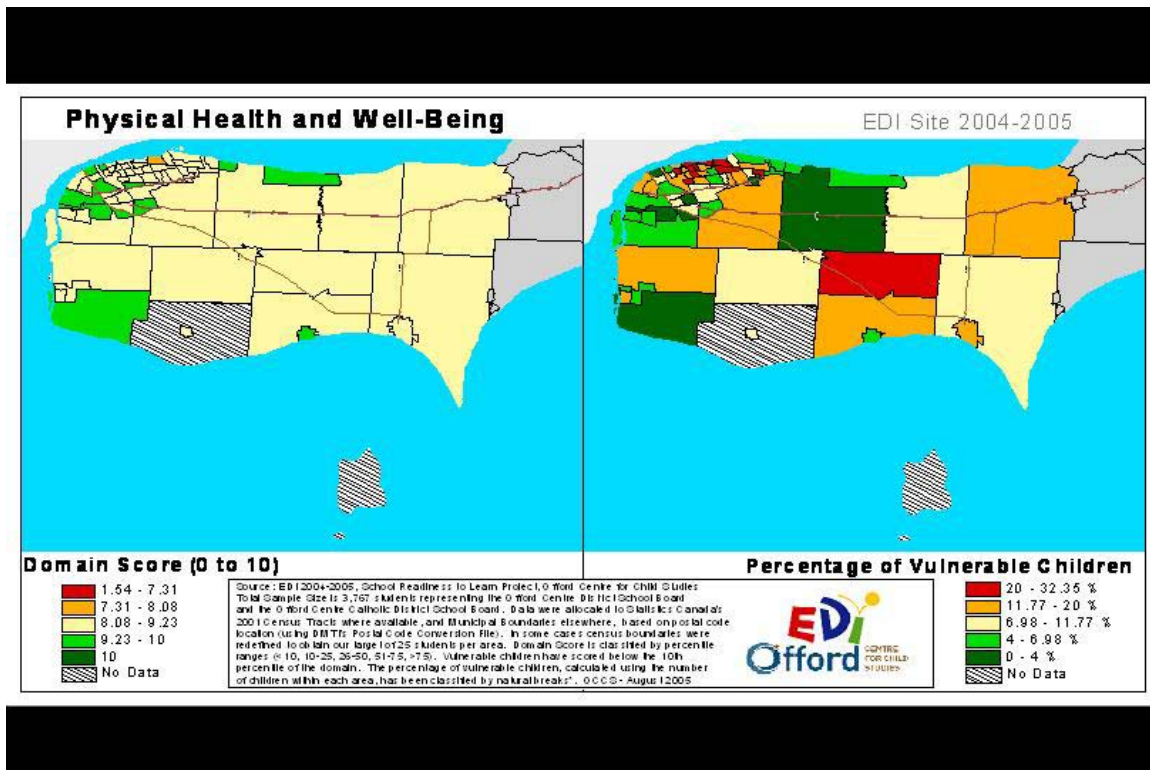
I would like to highlight what we do with our data in our communities Canada. Based on geographical neighbourhood boundaries, we produce maps of the EDI results for the community. The slides (Figures 4 and 5) show an example of a city in Canada. The map on Figure 4 happens to show the population levels (number of children), but they could show socio-economic status, employment and whatever type of data is available. Using the EDI data aggregated to the same neighbourhood boundaries, for

each domain of the EDI we produce maps like this with averages and a separate set with percentages of vulnerable children (Figure 5). Close examination and comparison of these maps reveals important information about the children in the community. In this example, you can see a neighbourhood that looks like a rectangular area that is pale yellow on the left hand side (average scores) and red on the right hand side (percent vulnerable). Pale yellow indicates a fairly good average score, while the red indicates really serious problems in terms of school readiness. If only one type of statistics is used, one cannot get the full range of information that one needs need in order to do something to ensure improvement for children in the future.

**Figure 4**



**Figure 5**



Can the EDI be adapted? The short answer is yes. As I mentioned, it has been used in six other countries with minimal changes and we are working on making it possible to adjust the questions for relevance to the local context. We have developed a protocol for adaptation of the EDI, and its components include consultation with local experts, pilot implementation and validity assessments. However, one of the most important requirements for implementation is that entire groups of children have to be involved: that is only way to be able to interpret data on the population level. Otherwise we may be missing groups that might be small, yet nevertheless important because they may account for the low well-being. I can think of examples of groups like that in Canada; sometimes there is a concentrated poverty in recent immigration areas, in terms of the percentage of immigrant children in the neighbourhood they may not be large enough to account for averages, but they would account for the percentage of vulnerable children.

To conclude, I would like to remind everybody that the reason we undertook this project was that there was an important piece missing in terms of reporting on children's well-being, and we believe that without the knowledge on children's developmental status it is impossible to turn things around. So, the ultimate goal of this project is to make sure that: children grow up healthy and contribute to the society and that they are happy through all their lives.