

# Steps

## ECMap Newsletter

Early Child Development Mapping Project

Late Winter - Jan/Feb 2013

## Australian study links EDI results to government policies

A groundbreaking Australian study links early childhood development outcomes to government policy.



Sally Brinkman

The 2012 study connects Early Development Instrument (EDI) results to maternal and child health and preschool policies and programs in Australia's eight state and territory governments.

The study — recently published in the international medical journal *BMJ Open* — shows marked differences in both EDI results and public health and preschool policies in various jurisdictions. The findings suggest a link between early developmental vulnerability and the quality and availability of public health and preschool services. It points to one state in particular, which has a comparatively high rate of vulnerability and a low rate of preschool attendance (26 per cent in 2008) and no universal early child and maternal health programs.

“Now that we have national data on early child development, we can evaluate policies and practices,” says Sally Brinkman, an epidemiologist who pioneered the use of the EDI in Australia and the study's primary author. “We can see what's working and what's not working. This paper shows that what governments do really makes a difference to young children and families.”

In 2009, Australia became the first country to implement the EDI nationally, collecting results for more than 260,000 kindergarten-aged children. The EDI, a population-based measure of early development, was created in Canada and is now used by most provinces, including Alberta, as well as by about a dozen countries elsewhere.

Australia has committed itself to gathering EDI data every three years. The next results — for 2012 — should be available early this year. Brinkman hopes that the updated results will reflect positive policy changes introduced by the federal government, increasing minimum access to preschool programming for each child and improved child-staff ratios and training requirements.

EDI results in Australia show a significant difference between girls and boys, with girls experiencing less vulnerability (7.4 per cent on two or more areas of development as compared to 16.2 for boys). Children in poorer socio-economic areas also tend to do less well (32 per cent are vulnerable in one or more areas of development as compared to 23.6 per cent nationally).

Socio-economics do not tell the whole story, however, emphasizes Brinkman. Her study found marked differences in EDI results across the country even when controlling for the advantages and disadvantages related to socio-economics. More studies are needed to explain inequities in development among states and geographic areas, she says.

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Leo eating snowflakes

Pilar Ramirez

# Early childhood development

## Improving early development moment by moment

Can preschoolers learn about how the brain works? A mindfulness program has preschoolers doing just that. Children learn about the 'Big Three' parts of the brain — Prefrontal Cortex, Amygdala and Hippocampus — and even learn to say their names without getting tripped up. They also learn what the Big Three Helpers do: help you make decisions, keep you safe (by triggering quick reactions in times of danger) and help you remember.

More importantly, preschoolers are also taught how to practise mindfulness by focusing on their breath and breathing deeply into their bellies. They then focus on sensory sensations (listening, seeing, smelling, tasting and feeling), to pay attention to their emotions and act mindfully, beginning with simple physical movements.

The MindUp™ program, developed by the Hawn Foundation (a nonprofit established by comedian/actress Goldie Hawn), has adapted a simple mind-body awareness practice for preschool- to junior high school-aged children. Mindfulness training, as it is commonly known, has attracted increasing interest as a beneficial approach in improving children's development, reducing stress and helping parents, caregivers and teachers to interact more skillfully and positively with children. It was pioneered in the U.S. in 1979 as the Mindfulness-based Stress Reduction (MBSR) program, now widely used in hospitals and clinics to help patients suffering from a wide range of physical and emotional disorders.

Mindfulness training has caught the attention of University of Alberta educational psychology professor Veronica Smith. Dr. Smith would like to see mindfulness implemented in preschool settings in Alberta and training offered to parents and early care providers and educators.



University of Alberta educational psychology professor Dr. Veronica Smith would like to see mindfulness training used in early care and educational settings.

"It's a simple, self-focussing technique that helps you stay present in the body and in the moment," she says. "But the benefits are enormous. Children learn to focus and relax, and to identify and regulate their emotions. Self-regulation is hugely important to social and cognitive development. Mindfulness also reduces reactivity in parents and caregivers, and improves responsiveness."

A growing body of research supports the benefits of mindfulness. Twenty-four studies, published in the last three years (2009-2012), indicate that mindfulness training "can have a positive impact" on developmental outcomes and family and classroom relationships, says a recent article in the *Child and Adolescent Mental Health* journal.

Studies have shown a decrease in ADHD (attention deficit hyperactivity disorder)

symptoms, aggressive behaviour, depression and anxiety and improved social and emotional skills, attention and empathy in children practising mindfulness. Studies have also found decreases in stress and anxiety, and improved heart rates and blood pressure, more accepting, less judgmental attitudes and a more consistent use of discipline among parents, caregivers and teachers.

Dr. Smith notes that the research so far has focussed on school-aged rather than preschool-aged, children. Studies need to be done on the latter in order to understand the impact of mindfulness on early development. Reducing stress in young children and their caregivers is particularly important in the early years, she points out, as the negative and lifelong effects of extremely stressful early environments on brain development are now well known. Nearly 15 per cent of young children in Canada suffer from high levels of depression and anxiety as a recent five-year study shows.

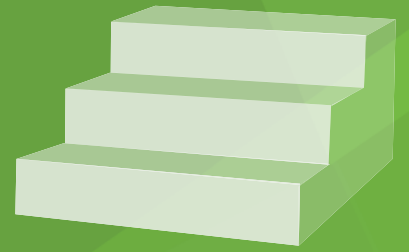
Mindfulness can make a big impact on the quality of the back-and-forth dynamics that take place between caregivers and children. "Those interactions add up to the millions in the first three years of life," says Dr. Smith, "and they are cumulative in their impact on early development."

*Dr. Smith will present a Mindfulness Training for Early Educators session during an all-day conference, **Practicing Mindfulness in Engagement with Children and Families**, in Edmonton on February 28th.*

For more information about the conference, please go to [http://www.ecdss.ca/event/details.php?event\\_id=299](http://www.ecdss.ca/event/details.php?event_id=299)

To find out more about MindUp™, go to <http://thehawnfoundation.org/mindup/>

# Community coalitions



## Tool kit, digital technology help coalitions identify and map community assets

"It's easy to use," says Cacilia Wardale as she drags icons depicting hospitals, libraries, schools, playgrounds and other community assets on to a digital map.

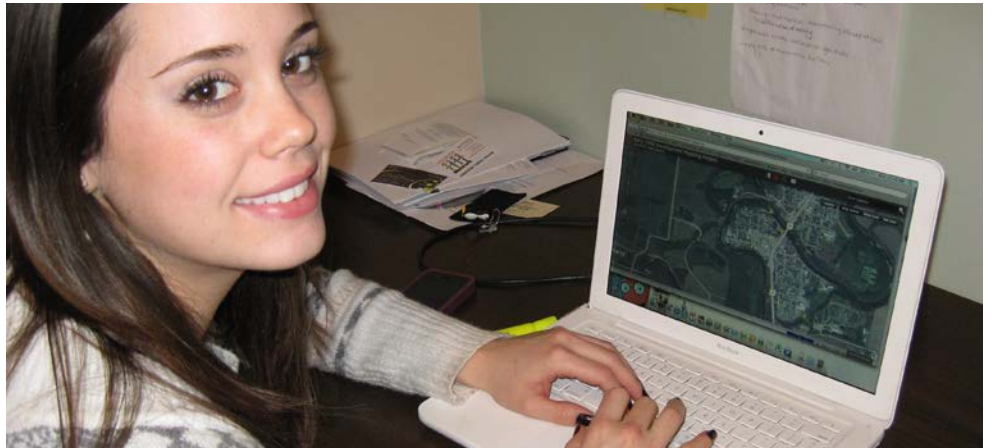
Wardale's Manning and District Early Childhood Development Community Coalition was one of three coalitions that participated in a recent EMap community mapping pilot program.

The program uses computer technology called PPGIS — or Public Participation Geographic Information Systems — to enable coalitions to create their own digital maps of community assets. As the name implies, PPGIS was developed to put digital mapping, satellite imagery and other spatial tools into the hands of community groups. They then can create digital profiles of their communities, which are hugely useful for planning, action and influencing public policy.

EMap Mapping Manager Cindy Post anticipates the program will be implemented this spring. Coalitions will be able to log on to a secure website and, after a short training session, directly input their community assets on to maps of their communities. The information will be checked by the EMap mapping team for accuracy and then added to interactive maps on EMap's public website ([www.ecmap.ca](http://www.ecmap.ca)). An interactive mapping component will be launched on the public site later this year and will contain Early Development Instrument (EDI) results, socio-economic information and community asset data for communities and the province.

"We look forward to being able to compare our EDI results and community assets to those of other communities and to see the big picture," says Wardale, project coordinator for Manning and District.

Coalitions are now gathering information about their community assets. A special tool kit, *Discover your early childhood development (ECD) community assets: A tool kit for coalitions in Alberta* was prepared by EMap and distributed to coalitions last fall. The booklet outlines three steps to guide coalitions through the process.



Manning coalition coordinator Cacilia Wardale participates in an EMap pilot project on digital mapping.

Having information on assets will help coalitions to better understand the strengths and gaps in their communities, how these may impact early development and how they can best support young children and families locally.

A large body of research has shown that communities play a fundamental role in creating the environments that shape critical early development.

"We found that we had to consciously broaden our focus beyond buildings and structures," says Diana Rowe, chair of the Drumheller and Area Early Childhood Development Coalition.

What appears to be a community asset may not always be child and family friendly when it's examined more closely, she notes. Is playground equipment appropriate and safe for young children? Do indoor swimming facilities have shallow wading areas? Do sidewalks have curb cuts to accommodate strollers? These are the kinds of questions the coalition has learned to ask during the course of its research.

Many coalitions report that compiling lists of community assets has been extremely helpful for the agencies and organizations involved in

coalitions by increasing their awareness of each other's programs and services and enabling them to work more closely together. The lists are published on websites or in printed form to increase public awareness of available resources.

"We want to create better awareness of what's out there to help residents raise their families," says Iris Spurrell, coalition coordinator for First 2000 Days, Bowness Montgomery Coalition, which serves a low-income area in Calgary.

The Sylvan Lake Early Childhood Coalition has taken a comprehensive approach to researching its assets, surveying parents and service providers, setting up a sounding board and soliciting feedback from a Facebook page. Coordinator Debbie Oostindie has found that taking photographs of assets prompts discussion into their usefulness and value.

"We want to see what we already have and where we can improve and move forward," says Oostindie.

For more information about community assets, please go to <https://www.ecmap.ca/Community-Development/Building-Community/Planning/Pages/Research-community-assets.aspx>



# Profile

## Spreading the word about brain development

Dr. Bryan Kolb, one of Canada's leading neuropsychologists, has a basic message that he delivers whenever and wherever he can.

It goes something like this: You are your brain. What happens to you before birth and during the first five years shapes the development of your brain and the course of your life.

Dr. Kolb, a professor in the Department of Neuroscience at the University of Lethbridge, has spent a lifetime studying the complex relationship between brain structure, life experiences and behaviour. He's written numerous books and articles, including a textbook on human neuropsychology that is used internationally. He's a Fellow of the Royal Society of Canada and has won many research and teaching awards during his distinguished career.

He's also passionately committed to raising public awareness about the importance of the early years.

"I don't think that most people have any concept that the early years have anything to do with heart disease, glaucoma, or mental health issues," Dr. Kolb says. "The first five years have a profound effect on the rest of your life."

He is a strong proponent of early literacy (or language-rich environments), as the foundation for learning success, good health and well-being. Numerous studies, including a 2002 U.S. national study, have linked literacy levels to mental and physical health. OECD (Organization



Dr. Bryan Kolb

for Economic Co-operation and Development) data on developed countries has also found a strong correlation between literacy levels and life expectancy. Researchers have yet to establish all of the reasons, but have speculated that brain pathways related to language and literacy may be connected to "stress" pathways that affect health and behaviour.

Canada has an unenviable record when it comes to literacy, Dr. Kolb notes. Nearly half — or 48 per cent — of Canadians measure low on literacy scales, below the minimum level required to function comfortably at work and in daily life.

"That's a staggering number when you think about it," he says. "This has a huge impact on the kind of society we have and the

opportunities that children raised in low literacy homes are going to have."

Language-rich environments in which parents and caregivers converse with and read to young children foster early literacy, Dr. Kolb says. A child's exposure to language in the early years builds vocabulary and language skills and is a predictor of how well a child will perform in school.

He advises keeping the TV turned off around young children, a recommendation also made by pediatric associations in Canada and the U.S., which discourage television viewing for children under age two.

"Sitting a child in front of a TV screen does not promote the one-on-one interactions that are really important for early development," says Dr. Kolb. "There's been some interesting research done on language development in children in homes where the TV is on all the time in the background. It turns out that this significantly reduces the amount of words spoken to the child even if nobody is listening to the TV."

"We need to recognize that everything we do around young children is going to impact their brain development. The better the environment we can give them, the better their brain develop."

*Dr. Kolb explains early development concepts in four (one to two-minute) video clips:*

<http://galileonetwork.ca/earlylearning/?q=book/export/html/134>

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Australia has now adopted the EDI as one of its national progress measures. Federal and territorial governments are using the EDI in their strategic plans and as performance indicators for departments.

"Once you've got the data, then you want to do something about it," says Brinkman.

Download a copy of the paper, *Jurisdictional, socioeconomic and gender inequalities in child health and development: analysis of a national census of 5-year-olds in Australia*. <http://bmjopen.bmj.com/content/2/5/e001075.full>

### Contact us

The Early Child Development Mapping Project (ECMap) is part of the Early Child Development Mapping Initiative, which is funded by Alberta Education. ECMap is led by the Community-University Partnership for the Study of Children, Youth and Families (CUP), Faculty of Extension, University of Alberta.

For further information, please go to [www.ecmap.ca](http://www.ecmap.ca)

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*Mapping a bright future for Alberta's young children*