

MNCHP Network Bulletin



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by/par health **nexus** santé

February 18, 2011

In this Bulletin:

This week's bulletin provides an overview of parenting and early brain development, including recent reports, studies, and resources. This selection of information is based on a preliminary scan and is not exhaustive.

We invite you to share other relevant information about this topic.

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I. RECENT RESEARCH

1. **Mom's Voice Plays Special Role in Activating Newborn's Brain**
(*Science Daily, 2010*)
Measuring electrical recordings from electrodes attached to infants' heads within the 24 hours following their birth has shown that a mother's voice will often activate the parts of the brain responsible for language learning (Beauchemin et al., 2010). A lead researcher, Dr. Maryse Lassonde of the University of Toronto, says: "This is exciting research that proves for the first time that the newborn's brain responds strongly to the mother's voice and shows, scientifically speaking, that the mother's voice is special to babies" (Science Daily, 2010).
Article: <http://www.sciencedaily.com/releases/2010/12/101215195234.htm>
Abstract: <http://cercor.oxfordjournals.org/content/early/2010/12/13/cercor.bhq242>
2. **Parental Control over the Brain**
(*Gregg, 2011*)
This article (Gregg, 2011) explores how parents influence their children's brain development and behaviour. Research has shown that parental influence on brain development can have life-long effects. Gregg (2011) suggests that future research explore a number of other questions related to what mechanisms regulate these effects and other complexities related to maternal and paternal gene expression. If more questions are answered around the parental effects on human

brain function and behaviour, more will be understood about brain evolution, function, and disease.

Article: <http://www.sciencemag.org/content/330/6005/770.short>

3. **Preterm Birth and Maternal Responsiveness During Childhood are Associated with Brain Morphology in Adolescence**
(*Frye, Malmberg, Swank, Smith, & Landry, 2010*)
This study examined the neurobiological basis of supportive parenting by analysing adolescents that were part of a longitudinal study on child development. The effects of pre-term birth on the hemispheric and regional cortical thickness and surface area were measured along with whether these factors were moderated by maternal responsiveness during childhood. Results showed that “adolescence with mothers that were inconsistently responsive during childhood demonstrated greater overall cortical thickness and greater asymmetry in cortical thickness during adolescence as compared to adolescence with mothers who were consistently responsive or unresponsive during childhood” (Frye et al., 2010). These findings suggest brain development is influenced by the style of maternal-child interactions during childhood.
Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/20609271>

4. **Breaking the Cycle of Poverty and Poor Health: Paediatricians Can Make a Difference.**
(*Fiscella, 2010*)
This article explores a number of ways that Pediatricians can address child poverty. Fiscella (2010) explains the impact of poverty on child health (e.g., premature birth, intrauterine growth restriction, perinatal complications, etc.). The author suggests that pediatricians: support parents in their parenting skills, incorporate a life course perspective into their practice, and advocate for policies that promote child health.
Abstract: <http://onlinelibrary.wiley.com/doi/10.1111/j.1651-2227.2010.01704.x/abstract>

5. **Mothers' Experiences with Intensive Parenting and Brain Development Discourse.**
(*Wall, 2010*)
This study (Wall, 2010) explores Canadian mothers' experiences with advice in the early 1990s that promoted intensive parenting (i.e., ample and appropriate stimulation). The researcher found that a number of issues affected mother's experiences with this method of parenting, which included neoliberal constructions of “proper parenthood” and gender roles and expectations. Mothers in this study attribute intensive parenting to their increased stress, exhaustion, anxiety, and guilt.
Article: http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VBD-4YJ14B4-2&_user=10&_coverDate=06%2F30%2F2010&_rdoc=1&_fmt=high&_orig=search&_origin=search&_sort=d&_docanchor=&view=c&_searchStrId=1645780601&_rerunOrigin=google&_acct=C00050221&_version=1&_urlVersion=0&_userid=10&md5=8a4d896c4b50a0b8193c20a6ff08801f&searchtype=a

6. **From External Regulation to Self-Regulation: Early Parenting Precursors of Young Children's Executive Functioning**
(*Bernier, Carlson, & Whipple, 2010*)
Bernier, Carlson, and Whipple (2010) explored the links between quality parent-infant interactions and child executive functioning (i.e., memory, impulse control, and set shifting). The findings indicate that maternal sensitivity, mind-mindedness, and autonomy support all related to a child's executive functioning. This research contributes to past research that suggests parent-child relationships play an important role in children's self-regulatory abilities.
Abstract: <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8624.2009.01397.x/abstract>

7. **Review of “Raising Parents: Attachment, Parenting, and Child Safety”**
(Peile, 2009)
This book (Peile, 2009) is intended for professionals who work with children or adults who were harmed as children, particularly those who endanger their children or whose children may endanger themselves or others. This book helps understand parents as people, not just in terms of their roles as parents. The goal of this guide is to understand and support parents in becoming secure, balanced people. The author draws on theory, empirical science, and social values to create recommendations for professionals.
Abstract: <http://ccp.sagepub.com/content/14/4/633.extract>

8. **Mellow Babies: Mellow Parenting with Parents of Infants (from the book, “Keeping The Baby In Mind Infant Mental Health in Practice”)**
(Puckering, 2009)
Puckering (2009) explores the effects of child abuse and neglect on brain development. This article provides an overview of how a child’s brain develops and why sensory and interactive experiences early on can shape the social, emotional, and educational development of a child. This chapter also describes an innovative, group-based parenting program that supports depressed mothers and their newborn babies.
Abstract: <http://www.informaworld.com/smpp/title~db=all~content=t794741362>

9. **Annual Research Review: Parenting and Children’s Brain Development: The End of the Beginning**
(Belsky & de Haan, 2010)
This review (Belsky & de Haan, 2010) examines evidence that suggests that parenting shapes brain development. A number of the findings were difficult to generalize due to an emphasis on clinical samples and the observational nature of most of the evidence. The authors conclude that future research could further substantiate the effects of parenting on a child’s brain development.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1469-7610.2010.02281.x/abstract>

10. **Epigenetics and Child Health: Basic Principles**
(Groom, Elliott, Embleton, & Relton, 2010)
Epigenetics is the study of changes in gene activity that do not involve changes to the genetic code but still get passed down at least one generation (Cloud, 2010). “Epigenetic mechanisms are believed to play an important role in disease, development, and ageing with early life representing a window of particular epigenomic plasticity. The knowledge upon which these claims are based is beginning to expand. This review summarises evidence pointing to the determinants of epigenetic patterns, their juxtaposition at the interface of the environment, their influence on gene function and the relevance of this information to child health” (Groom et al., 2010).
Article: <http://adc.bmj.com/content/early/2010/07/22/adc.2009.165712.abstract>
Article in Time Magazine: <http://www.time.com/time/health/article/0,8599,1951968,00.html>

11. **The Epigenetics of Child Abuse**
(Welberg, 2009)
This study (Wellberg, 2009) explores how stress in early life can have life-long physiological effects and impact a child’s behaviour. Research has been done on animals to show the impact of stress on development. This newer study has shown that this same effect is present for humans who suffered abuse as children.
<http://www.nature.com/nrn/journal/v10/n4/full/nrn2629.html>

12. **'Timing Is Everything' in Ensuring Healthy Brain Development***(Science Daily, 2011)*

A recent study (Varier & Kaiser, 2010) shows that brain cells need to create links early on, when they are physically close together. This process ensures successful long-distance connections across the brain in the future. These connections also allow the left and right side of the brain to communicate and bring together different kinds of information such as sound and vision.

Differences have been found in the number of connections in individuals with many developmental brain disorders including autism, epilepsy, and schizophrenia.

Article: <http://www.sciencedaily.com/releases/2011/01/110106192029.htm>

Abstract: <http://www.ploscompbiol.org/article/info%3Adoi%2F10.1371%2Fjournal.pcbi.1001044>

II. RECENT NEWS13. **New Research on Brain Development Is Important for Parents***(Child Care Aware, 2010)*

This article (Child Care Aware, 2010) summarizes why good childhood experiences are good for child brain development and what parents should know about brain development. Topics include: ways to support your child's brain development (e.g., talking with your child, reading to your child every day, singing children's songs or nursery rhymes, feeding your child well and providing a stable, loving environment) as well as helpful and harmful experiences that a child might have.

<http://www.childcareaware.org/en/subscriptions/dailyparent/volume.php?id=1>

14. **Dr. Stuart Shanker on Human Brain Development in Human Evolution***(TVO Parents, 2010)*

This video features Dr. Stuart Shanker speaking about the importance of quality daily experiences for young children in promoting healthy development. He highlights a number of studies that demonstrate why parents are so important for early brain development.

http://www.tv.org/cfmx/tvoorg/tvoparents/index.cfm?page_id=145&article_title_url=DrStuartShankeronhumanbraindevelopmentinhumanevolution&article_id=4920&action=article

IV. RESOURCES15. **Parenting Skills***(Encyclopedia of Early Childhood Development, 2010) (Available in French)*

This resource includes a number of articles related to parenting skills including a synthesis of parenting skills that explains why parenting skills are important, what is known about the impacts of parenting practice, and what can be done to improve parenting skills.

English: http://www.child-encyclopedia.com/pages/PDF/parenting_skills.pdf

French: <http://www.enfant-encyclopedie.com/pages/PDF/parents-habiletes.pdf>

16. **Brain Development Resources***(US Department of Health and Social Services – Administration for Children and Families, 2010)*

This American website lists a number of brain development resources. It includes a list of relevant organizations as well as research about brain development and the promotion of healthy child development.

<http://nccic.acf.hhs.gov/poptopics/brain.html>

17. **Brain Development**
(ZERO TO THREE, National Center for Infants, Toddlers and Families, 2010)
ZERO TO THREE provides resources related to brain development between zero and three years of age. The website offers a number of resources including: frequently asked questions with regard to brain development in the early years, a brain quiz to explore brain development, aged-based information for parents, and much more.
http://main.zerotothree.org/site/PageServer?pagename=key_brain
18. **Supporting Your Baby's Brain Development: What Can Parents Do?**
(Fraser Mustard Chair in Childhood Development, 2010) (Available in French)
Early experiences have an impact on brain development and this simple resource helps parents understand what they can do to promote healthy development.
English: <http://www.frasermustardchair.ca/wp-content/uploads/English-Version.pdf>
French: <http://www.frasermustardchair.ca/wp-content/uploads/French-Version.pdf>
19. **Raising Children Network**
(The complete Australian parenting resource from newborns to teens, 2010)
The Raising Children Network website offers a number of different parenting resources, including a number on brain development. Brain development is discussed in the sections on *Play and Learning, Connecting, and Communicating, and Development*. This website also provides a brief overview of acquired brain injury, and how it affects children.
<http://raisingchildren.net.au/>
20. **Cognitive and Learning**
(Talaris Institute, 2010)
Talaris Institute is an organization that supports parents and caregivers in raising socially and emotionally healthy children. Their *Cognitive and Learning* resources explore a number of topics and highlight recent research such as: children's emotional development, the impact of early experiences on the brain, stress as a disruption to brain development, and more.
<http://www.talaris.org/research/cognitive-learning/>
21. **Brain Development**
(Council for Early Child Development, 2010)
The Council for Early Child Development's mission is to close the gap between what we know about early human development and what we do for children in their earliest years. This mission includes looking at brain development. This website offers a glimpse into studies related to brain development and epigenetics, which explore early experiences and how, where, and when genes work. This resources also publishes science briefs, including one about neuroscience, epigenetics, and how early brain development affects health, learning, and behaviour.
<http://www.councilecd.ca/?q=braindevelopment>
22. **The Epigenetic Link Between Child Abuse and Suicide Risk**
(Szyf, 2008)
This online presentation is part of a lecture given by Dr. Moshe Szyf, Professor of Pharmacology and Therapeutics at McGill University in June, 2008. As described on the website, "Dr. Szyf talks about studies that looked at epigenetic tags in the brains of suicide victims. He describes some of the laboratory methods scientists use to study epigenetics, and goes over some of the evidence that shows an association between certain epigenetic patterns, suicide, and child abuse" (University of Utah, 2008).
<http://learn.genetics.utah.edu/content/epigenetics/brain/>

V. FEATURED BEST START RESOURCES

23. **Improving the Odds: Healthy Child Development. Focus on the Early Years: Neuroscience and Implications for Clinical Practice**
(Ontario College of Family Physicians, 2010)
This resource was developed as an interdisciplinary MAINPRO CME program by the Ontario College of Family Physicians in partnership with McMaster University Department of Family Medicine, Registered Nurses Association of Ontario, Public Health Units of Toronto and Niagara, and the Government of Ontario. This toolkit was realized with the support and assistance of Best Start: Ontario's Maternal, Newborn and Early Child Development Resource Centre.
http://www.beststart.org/resources/hlthy_chld_dev/pdf/Improving_odds_first_sections.pdf
24. **My Child and I - Attachment for Life**
(Best Start Resource Centre, 2010) (Available in French)
A resource for parents of children aged 0-3 to help them understand the principles of attachment and learn ways to promote attachment. Activities are suggested for each age group.
English: http://www.beststart.org/resources/hlthy_chld_dev/pdf/parent_attachment_eng.pdf
French: http://www.meilleurdepart.org/resources/develop_enfants/pdf/Mon_enfant_Final.pdf
25. **Child Development**
(Best Start Resource Centre, n.d.) (Available in French)
A number of resources related to child development have been created by Best Start Resource Centre. They include topics such as: creating healthy communities, eating right, getting active, preventing childhood obesity, and more.
English: http://www.beststart.org/resources/hlthy_chld_dev/index.html
French: http://www.beststart.org/resources/hlthy_chld_dev/index.html

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In English:

- **OHPE** - The free weekly Ontario Health Promotion E-mail bulletin (OHPE) offers a digest of news, events, jobs, feature articles on health promotion issues, resources, and much more, to those working in health promotion. <http://www.ohpe.ca/>
- **Click4HP** - An open, facilitated public listserv, is an international dialogue on health promotion. Participants exchange views on issues and ideas, provide leads to resources, and ask questions about health promotion. <https://listserv.yorku.ca/archives/click4hp.html>
- **Health Nexus Today** - Health Nexus Today is our Blog on health promotion. According to Google, "Blog is short for weblog - a journal or newsletter that is frequently updated and intended for the general public." Find the latest on health promotion including breaking news, highlights, studies, and issues in health promotion and the determinants of health in Canada and internationally. <http://www.blogs.healthnexusante.ca/>

In French:

- **French distribution list** - The free distribution list offers information in French on maternal, newborn, and child health promotion topics. http://www.meilleurdepart.org/index_fr.html
- **Le Bloc-Notes** - The biweekly French language bulletin provides information on health promotion. <http://leblocnotes.ca/>