

Diagnose and drug? Why not *unplug* your children this summer instead!

When exactly did it become 'normal' to drug children to keep them quiet? When did we decide that it's not normal for young boys to want to move? When did we as a society decide that it was okay to diagnose and medicate 2-4 year old children? Hurried parents, struggling teachers, and harassed physicians are apparently finding it just too much of a challenge to manage today's 'hyper' children, and as a result, are turning to diagnosis and medication as a 'quick fix' and the first line of treatment. With all the research pointing to TV and videogames causing hyperactivity and attention problems, wouldn't the first line of treatment be a family 'Unplug Trial'? Shouldn't responsible physicians try to first eliminate all contributing environmental factors prior to prescribing largely untested, psychotropic (mind altering) drugs? What type of mixed message are we giving to our children..."Don't take drugs honey, but did you take your Ritalin this morning"?

The advent of medical imaging technology has resulted in an alarming trend to find biological causes for what used to be termed behavior problems. The rise in childhood mental diagnosis is skyrocketing, a phenomenon exclusive to North America and exploited to an inhumane degree by pharmaceutical companies. Functional Magnetic Resonance Imaging (fMRI), a brain imaging technique used to discover brain abnormalities in structure and function, has caused an explosion in the search for a biological cause for behavior. This "medicalization" of behavior has had far reaching consequences in both the education and healthcare systems, as the list of childhood mental diagnosis continues to grow. Suddenly every behavioral anomaly has a related anatomical structure deficit, resulting in a multitude of diagnosis, and if there is no diagnosis, one will be created at an alarming rate. ADHD, ADD, anxiety disorder, Asperger's, Autism, Bipolar Disorder, Depression, Developmental Coordination Disorder, Sensory Processing Disorder, Separation Anxiety Disorder, Obsessive Compulsive Disorder, Oppositional Conduct Disorder, are but a few of the diagnosis being assigned to children as young as two years old.

When looking at anatomical anomalies, it's wise to ponder nature vs. nurture, and think about what came first, the chicken or the egg. For example, imaging research has uncovered that children with Post Traumatic Stress Disorder (PTSD) have brains that are different from children who don't. Yet we know that PTSD is the result of trauma that happened *after* birth, and is not biological in origin. Similarly, imaging research has found that the brains of children with Autism and ADHD are different as well, they have a anatomically smaller Right Orbital Pre-Frontal Cortex (ROFC). Is this anatomical difference because children with Autism and ADHD were born that way, or because they didn't receive whatever stimuli they needed for this area of the brain to develop properly? The ROFC has been found to be an area involved in attachment formation, as well as has been implicated in addictions and impulsive behavior. When the ROFC develops properly, a child is generally found to demonstrate healthy attachment with low levels of anxiety, where as a child with a smaller ROFC demonstrates high anxiety and impulsive behavior. Possibly we should spend more time and resources supporting healthy attachments between parents and their children, as opposed to looking for biological or genetic 'causes' for Autism and ADHD.

So what creates secure attachment between parents and children? The critical period for attachment formation is 0-7 months, where the infant learns that their world is somewhat predictable, and where the infant forms a secure base with their primary parent. If the infant's primary parent isn't available because they're too busy, or has had some form of crisis that has prevented them from forming a secure attachment, the infant learns the world is not predictable and therefore doesn't form a secure base, often resulting in an anxious and hyper vigilant child. Attachment is a form of connection between an adult and an infant, and is in an integral basis for normal neurological development necessary for eventual optimal performance in motor and social skills, behavior and even eventual academic performance. Without secure attachment, infants die.

When we look at the host of societal conditions that prevent adequate attachment formation, the list is exhaustive. Today's parents generally both work, and are extremely busy. Time with their infants, toddlers and children is highly structured and at a minimum. The raising of children is often outsourced to nannies, daycares, babysitters, coaches, and summer camps, causing a major disruption in the primary bonding necessary for a healthy, well adjusted child. In addition to poor attachment formation and *connection*, children are not receiving necessary *touch* from their parents, an integral aspect in formation of praxis or a child's ability to execute planned motor movements. The overuse of infant bucket seats, baby carriers, and strollers, has resulted in a child who is rarely touched except in a caregiver (as opposed to a loving) manner. Infants, toddlers and children who are touched, thrive, and those who are not, don't. It's that simple. Another integral component for normal neurological development is *movement*. Stimulating the movement centers in the brain allow a child's muscles to coordinate and maintain an erect posture. Stimulation of the movement centers is extremely important in the infant and toddler stage, but also for developing children. People often believe that infants are born fully developed. They aren't. Children need to perform rough and tumble play for 3-4 hours per day prior to entry to school in order to promote optimal development of the touch and movement systems. Stimulation of the movement sensory channels is also important in control of arousal states, and can lead to either a hyper or hypo active child. Everyone knows that rocking a baby helps them go to sleep, or alternatively tossing an infant up in the air increases arousal.

So in summary, infants, toddlers and children all need to have adequate connection with their primary caregivers, touch and movement in order to develop normally. When these critical factors are not met, developmental, behavioral and attachment disorders can be the result. Categorization, diagnosis and medication are the most expensive, yet least cost effective solution strategies for our children. A more useful endeavor would be digging a little deeper into the underlying cause of this explosion in "problem children", with subsequent diagnoses and medication mania. A hundred years ago, we moved to survive. Hard labor was common, and family units were generally cohesive and formed around physical work. Whether it be on a farm or in a factory, children were exposed to movement, touch and connection at a very early age. Advancing technology has caused a devastating impact on the amount of movement, touch and connection children receive from their parents. Parents are hurried and busy, and often only have scant scheduled moments to spend with their children. Statistics Canada reports parents spend on average 40% less time with their children than they did in the early 1970's. Stats Canada also reports that parents spend on average 3.5 minutes per week in meaningful conversation with their children. 3.5 minutes per week. Children quite understandably at a very early age turn to TV, videogames and computers as a "haven" of sorts. While they are not active or receiving movement and touch, children as young as two years of age are receiving a form of connection when plugged into TV. Exposed to highly sexualized and violent images, children's brains are like a video camera, recording and formulating their identities based largely on what they are experiencing. Then we wonder why children are anxious and scared. A tiny child, in no way, shape, or form can process what's happening in Afghanistan, much less make sense of how these atrocities are portrayed in videogames such as *World of Warcraft*, *Mortal Combat* or *Bully: Scholarship Edition* where children actually get to be a bully and beat up their teachers and their friends. Children become their experiences. If they grow up in a warm, loving and respectful environment, this is who they become. If they grow up in a conflict oriented or cold environment,

this is who they become. Studies have shown that the intensity and duration of conflict oriented TV that families watch, directly correlates with the amount of conflict that family experiences. Watching and experiencing aggression, breeds aggression.

So what would an enlightened civilized society do to address this epidemic of TV and videogame addictions, movement, touch and attention deficits, and subsequent diagnosis and drug mania? The first step for physicians and pediatricians would be to adopt a three month *Unplug - Don't Drug Trial*, where whole families go without all technology for a period of three months, prior to consideration of prescribing psychotropic (mind altering) medication. This would allow enough time for the family unit to re-stabilize, and families to adopt healthy activities to replace the amount of time spent watching TV and videogames. Schools can get involved by including TV and videogame reduction modules in their curriculum, similar to fire safety and bullying prevention (see www.zonein.ca *TV/VG Help Module for Parents and Teachers*). Schools may want to adopt a Survivor Unplugged Challenge as a competition between classrooms. Prior to teachers telling parents that their child has ADHD and needs medication, that teacher may want to implement additional movement, touch and connection initiatives in the classroom with that child to ensure that the child is receiving the critical components they need to perform optimally. A 'shoulder squeeze' can go a long way toward improved academic performance! Parents need to first *unplug* themselves, and then act as role models for their children. The American Academy of Pediatrics recommends no TV or videogames for children under two years of age, two hours per day for normally developing children, and one hour per day for children who are having behavioral, physical or academic problems.

It's truly time to pull our head out of the sand and recognize the detrimental effects technology is having on our children's development, as well as on our own relationships. If you do nothing, you can be assured that nothing will ever change. If you are going to do something to change this downward spiral for our children, do it today. Do it right now. Instead of diagnosing and drugging little children, unplug for the summer. Children are our future and there is no future in virtual reality. Let's work together to create a sustainable future for our children.

CRowan

Cris Rowan, BScOT, BScBi, SIPT
CEO Rowan Training Systems and Zone'in Programs Inc

Please visit Cris Rowan's websites www.rowantrainingsystems and www.zonein.ca for her media kit and resource and research sections, which have a number of published articles on the impact of technology on child development. Cris has performed over 200 parents and teacher workshops, and is presently training occupational therapists world wide to implement Foundation Series Workshops on child development. Cris is finishing a book titled *A Cracked Foundation: Repairing the Damage of Technology on Child Development* and can be contacted at info@zonein.ca or 1-888-8zonein.

Supporting Research

Castro J and Hewlett SA (1991) *Watching a Generation Waste Away*. Time Magazine Monday August 26, 1991. This interview with Janice Castro, author of *When the Bough Breaks: The Cost of Neglecting Our Children*, highlights concerns about the family, and reports that Americans treat their children like "excess baggage" and view children rearing as "some sort of expensive hobby". Castro reports 60% of working moms have no maternity leave, parents spend 40% less time with their children than 15 years ago, 24% of children grow up without fathers, teen suicides have tripled since 1960, one third of students drop out prior to finishing high school, and since '71 we have seen psychiatric hospital admissions increase from 16,000 to 263,000 (of which 80% have no fathers). Castro ends the interview by stating "Only a society that cherishes its children deserves to survive".

Christakis D, Zimmerman F, DiGiuseppe and McCarty C (2004) *Early Television Exposure and Subsequent Attentional Problems in Children*. Pediatrics Vol 113, 708-713. This study reports that for every one hour of television watched per day, there is a 10% increase in attention problems by the age of 7 years.

Diller LH (1999) *Running on Ritalin: A Physician Reflects on Children, Society, and Performance of a Pill*. Published by Bantam Publishing. Dr. Diller, a Pediatrician explores the escalation of diagnosis of American children with ADHD and treatment with Ritalin, and highlights how research often obscures social or environmental factors. Dr. Diller points out that it is misleading to hold that Ritalin's success in treating ADHD children means that ADHD can be reduced to biological phenomenon, to chemical imbalance. Diller convincingly suggests that part of the reason that many wish to portray ADHD as a purely 'neurobiological' disorder and Ritalin is the 'cure' is political. As victims of biology, children and adults diagnosed with ADHD become legally entitled to rights not given to others. But so what? If Ritalin helps those diagnosed with ADHD perform better, what difference does it make whether it treats the causes of ADHD or just the symptoms? Diller's answer is that America should be concerned because the 700% increase in Ritalin use points to societal imbalance that prescribing the drug covers up: "The surge in ADHD diagnosis and Ritalin treatment is a warning to society that we are not meeting the needs of our children". Whether or not one entirely accepts Diller's argument is that American psychiatrists have ignored the evidence against Ritalin's effectiveness as a cure for ADHD, this is an important book for anyone interested in the narcotising of America's youth.

Mukaddes N, Bilge S, Alyanak B, Kora M (2000) *Clinical Characteristics and Treatment Responses in Cases Diagnosed as Reactive Attachment Disorder*. Child Psychiatry and Human Development Vol 30(4), 273-287. This study was conducted on 15 children with Reactive Attachment Disorder (RAD) who were misdiagnosed with Autism, and found that 66.6% of RAD children were exposed to 7.26 hours of TV use per day with age of onset at 7.16 months, and conclude that "excessive TV exposure might be a form of neglect that is specific for RAD patients".

Murray J, Liotti M, Ingmundson P, Mayberg H, Pu Y, Zamarripa f, Liu Y, Woldorff M. Gao J, and Fox P (2006) *Children's Brain Activations While Viewing Televised Violence Revealed by fMRI*. Media Psychology Vol 8 No 1, 25-37. fMRI's of eight children showed that TV violence viewing recruits a network of brain regions involved in the regulation of emotion, arousal and attention, episodic memory encoding and retrieval, and reports that extensive TV violence viewing may result in a large number of aggressive scripts stored in long-term memory in the posterior cingulate, which facilitates rapid recall of aggressive scenes that serve as a guide for overt social behavior.

Niederhofer H (2004) *Family Conflict Tendency and ADHD*. Psychological Reports Vol 94 pages 577-580. This study found that low conflict families with one or more ADHD child, reported lower scores on Physical Punishment scale, Anger and Disregard Scale, and increased openness to others needs.

Ruff, M (2005) *Attention Deficit Disorder and Stimulant Use: An Epidemic of Modernity*. Clinical Pediatrics Vol 44 pg 557. An excellent article that raises many pertinent questions regarding the prevalent drugging of 'borderline' ADHD children, and advocates for increased research into environmental as opposed to biological medication justification. Great lines are "When did prescribing stimulants go from success to excess", "Nature is designed for and needs nurture", with reference to parents of ADHD children "The apple doesn't fall far from the tree, and if the tree subsists with suboptimal soil and moisture, it will not produce good fruit", "We are an impulsive, impatient culture with a free-floating sense of time urgency that feeds on rapidly changing trends", "The brain allocates neural real estate, depending on what we use most". Dr. Ruff is concerned that if we are already giving stimulants to borderline ADHD children, will we also give them the new Alzheimer memory enhancer drugs as well? Dr. Ruff eloquently points out that if we ban physical performance enhancing drugs for athletes, shouldn't we also ban academic enhancing

drugs for students? Dr. Ruff goes on to state “Researchers should be required to reveal just how much compensation, in the course of a year, they are afforded by the drug companies. We may then be able to better assess the merit of their conclusions and recommendations”.

Statistics Canada (2006) *Time Spent With Family During a Typical Workday, 1986 to 2005*. This study reports that parents spend an average 3.5 minutes per week in meaningful conversation with their children.

Vandewater E, Lee J and Shim M (2005) *Family Conflict and Violent Electronic Media Use in School-Aged Children*. *Media Psychology* Vol 7 No 1, 73-86. This research showed that family conflict is positively related to violent electronic media use, and that family tensions will be reflected in children’s interest in media with violent content.

Zito, J, Safer D, dosReis S, Gardner J, Boles M, Lynch F (2000) *Trends in the Prescribing of Psychotropic Medications to Preschoolers*. *Journal of the American Medical Association* Vol 283 No 8 pp 1025-1030. This study reports a dramatic increase in the prescription of psychotropic medication between 1991 and 1995 to two to four year old children; 28.2-fold for Clonidine (sedative), 3.0-fold for stimulants, and 2.2-fold for antidepressants. Authors report that these findings are “remarkable, in light of the limited knowledge base that underlies psychotropic medication use in very young children”. This study reports reasons for increased use are: expanded diagnostic criteria, more girls being treated for ADHD, greater acceptance for using biological treatment for behavioral disorders, expanded role of school and preschool personnel in identifying medical needs. Authors report grave concerns regarding the rise of prescriptions for Clonidine in conjunction with Ritalin due to lack of studies.