Raising a Touch Screen Generation

I. Must handle many new developmental challenges without lots of experience or scientific data.
   A. Academy of Pediatrics recommendations for screen time (None for those younger than 2 except for video chat; 1-2 hours for those older than 2 vs. reality (average 7 hours a day). Must take into consideration the content of your child's screen time as well as the amount of time spent.
   B. Time
      1. Common Sense Media/NW Univ.: Adults poor role models w/9 hrs. & 22 min's a day of screen time only 90 min's of which is for work.
      2. Kids average 7-8 hours a day most of which is recreational not educational
      3. Kids with difficult temperaments/ADHD/Self-Regulation issues/Socio-emot. delays more likely to spend too much screen-time.
      4. University of London, Tim Smith: For toddlers every add. hr of screen-time equals 11 more minutes of daytime sleep, 26 fewer minutes at night and greater difficulty falling asleep.
      5. 2 yr. olds: every hr. of screen-time per week see BMI go up leading to increase in childhood obesity.
      6. 41% teens get less than 7 hours of sleep a night and need upwards of 10. (Screenagers)
      7. Excessive screen-time early childhood can lead to cognitive, language and socio-emotional delays. Poor executive function in pre-schoolers.
   C. Content
      1. Children raised in world of anytime, anywhere media so spend inordinate amount of time interacting with pop-culture.
      2. These consumer oriented messages communicated thru mass media are powerful and can shape attitudes, values, behaviors and skills as well as sell products.
      3. Children are being directly targeted as profitable group of consumers – "walmartization of information".
      4. Leading to Age-Compression where kids are starting their adolescent rebellions at younger and younger ages. Are reliant on media for knowledge and guidance not adults. Media corp. are direct competitors for parenting control and excellent at normalizing certain behavior that will make them money (i.e., drink, smoke, drugs etc.)
      5. Children are unique audience and different from adolescents and adults: Do not passively absorb info. Bring less real-world knowledge and exp. to understanding; More willing to believe info; Misunderstand media intent/accuracy/honesty; Hard time distinguishing fantasy from reality; Focus on concrete rather than abstract concepts; don't make causal connections; focus on one aspect of situation at a time; think in dichotomous categories.
      6. Adolescents are also unique but in different way due to what is happening at this stage of development: Identity formation; Increased independence; Increased experimentation/risk taking; Peers importance; puberty and sexual development.

7. Children/adolescents internalize messages that lead to how they feel about themselves, others and world at large. Must exploit the positive influences of media and minimize the negative.

II. The Brain

A. Early human brain development changes in response to experience. Very sensitive time for permanent changes (positive and negative) to occur in brain structure and function.

B. <u>Proliferation</u>-produce new brain cells (in utero and pre-adolescence), <u>Thickening of Gray Matter</u>-hard wiring of brain (pre-adolescence), <u>Pruning</u>-brain cells and connections die off (adolescence); <u>Myelination</u>-allows for faster/more synchronized communication in brain.

C. Adolescent brain at greater risk for addiction due to sensitive dopamine reward system which causes them to gravitate toward thrilling/novel experiences. Like a car with a good accelerator but a weak brake.

D. Three ways reward system manifests self: Impulsiveness; increased risk for addiction; Hyperrationality (literal thinking) vs Gist Thinking (intuition, gut feelings).

E. Pre-frontal cortex (critical for all complex thinking) is last to develop. Fully developed by approximately 22 years old for girls and 25 for boys. Some research suggests even later for both.

III. Scientific Research on effects of Technology Children's Brain Development (Sample)

A. <u>Behavioral addiction to gaming and the internet</u> is more prevalent in our children than depression, anxiety and ADHD. Effects on brain very similar to those associated with substance abuse and gambling – frontal lobe shrinkage of gray matter (allows us to think – not something you can get back) and decrease frontal lobe white matter (allows for communication between brain regions). (Paul Weigle, Adolescent Psychiatry, 2014, 4, 81-91)

B. <u>China: Epicenter for Screen Addiction –</u> 10-12 hrs a day of gaming rewires white matter in brain (individual differences in whether increases or decreases) and gray matter shrinkage 10-20% leading to reduced inhibition or inappropriate behavior.

C. <u>Japan:</u> Many computer games stimulate only parts of brain associated with movement and vision which may halt the dev. of frontal lobe. Particularly ability to control behavior and make rational decisions.

D. <u>Indiana University School of Medicine:</u> Violent content of computer games stimulate arousal centers (Amygdala) of the brain that lie outside frontal lobe. May shut down perception and thinking. See measurable decrease in empathy after playing violent games.

E. <u>Multitasking:</u> See decrease in density/number of nerve cells in Hippocampus in rats – brains CPU.

F. <u>Moderate Users</u>: initial increase in cortisol when engage in screen-time then decreases to a baseline. <u>Significant Users</u>: Increase in cortisol that persists during screen-time. Cortisol is a stress hormone that builds up in the brain/body. Influences ability to concentrate, pay attention, learn. Causes changes in heart-beat, breathing, body temperature etc. When heart is beating over 100 beats a minute brain switches from logical brain (pre-frontal cortex) to Motor Cortex preparing to fight, flight or freeze – a reaction that "I am at risk of harm".

IV. Socio-Emotional Influences

A. <u>1-2 hours of screen exposure</u> in early childhood connected to higher levels of aggression; sleep disturbances; obesity; lower math/school achievement; shorter attention spans;

delayed language acquisition; hyperactivity; emotional/behavioral problems; difficulties with peers; reduction of self-control; issues with memory (Paul Weigle, Adolescent Psychiatry, 2014, 4, 81-91). Campaign for Commercial Free Childhood; NIMH; University of Washington; National Institute of Early Education Research at Rutgers; Japan; Tokyo, China.

- B. Diane Levin: > than 1-2 hrs. of screen-time leading to three socio-emotional and inter-relational deficits
  1. Play Deficit: Losing ability to engage in self-directed creative play
  2. Problem Solving Deficit: Children more comfortable being told what to do rather than figuring it out for themselves.
  3. Compassion Deficit: Less able to compromise, empathize, or take another's perspective.
- C. Jean Talenge, Psychologist SDSU: Brink of worst mental health crisis in decades due to smart phones for IGen (born 1995-2012).
- D. Suicide rates highest in 40 years for girls 15-19 yrs. old. For boys, up 30%. 59% increase in depression in our children between 2011-2017. If feeling low more likely to sit in front of screen even though doing so makes you feel worse. (Screenagers)
- E. 2013 American College Health Association Survey 100,000 college students from 153 campuses in 50 states: 84.3% felt overwhelmed by all they had to do.; 79.1% felt exhausted (not from physical activity); 60.5% felt very sad; 57% felt very lonely: 51.3% felt overwhelming anxiety; 46.5% felt things were hopeless; 38.3% felt overwhelming anger; 31.8% felt so depressed that it was difficult to function; 8% had seriously considered suicide; 6.5% intentionally cut or otherwise injured themselves.
- F. How are we doing? Julianne Holt-Lunstad Psychologist Brigham Young Univ. – facing a loneliness epidemic causing a greater public health hazard than obesity and possibly smoking.

V. What do we do about all of this?
- A. Must get comfortable playing a much more proactive role in guiding our children's development based on facts and common sense. Don't wait for science to inform us. Make changes now!
- B. Suggestions:
  1. Model the behavior you want your children to adopt. You are a powerful role model!
  2. Set healthy limits: Adhere to AAP Guidelines; No TV, Computer or Phone in bedroom; Set age-appropriate limits; Monitor use of technology – time and content (**CircleHome Plus is one app to look into**); spend screen time interacting with your child; Say NO to screen-time to bring back boredom and creativity; create unplugged areas in house; no screen time at meals or 1 hr before bed; no screens in the bedroom for children. No screens in bedroom for teens after certain hr – 10:00pm; research apps and don't trust advertising claims; avoid fast paced programming.
  3. Build your child's media literacy through teaching and modeling critical thinking skills. Use collaborative problem solving/decision making; have give and take conversations, keep communication/expectations age appropriate.
  4. Identify your family values; communicate them to your children and live them yourself.
  5. Set clear expectations for your children and establish consequences proactively, then follow-through on consequences when necessary (i.e., no screen-time while sleeping).

6. Solve problems pro-actively with your children's involvement. Create a contract. See sample of family media use plan and media toolkit for communication on AAP website.
7. Create family cohesiveness by doing simple things together – family dinners, walks, reading, playing games, volunteering etc.
8. Be Informed! There is no one-size-fits-all approach to raising our children but having an educated back-bone helps. Use three C's to evaluate and guide your decisions (Content, Context and Child) --- Lisa Guernsey's book
9. Advocate for policy changes and insist on quality apps/computer games.
10. Don't let the tech-talk become the new sex-talk! Be open and honest about your struggles.