# Digital Highs

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# Digital Lows

21st National Family Practitioners Conference

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# introduction

- Pervasiveness of internet in our daily lives

- Homo Digitas

# social media use by adolescents

- Adolescence is an important time for the development of identity and independence

- Preadolescents and adolescents' "online" lives are an extension of their "offline" lives

- Use of social media has increased dramatically in the last decade

# how pervasive is new media use in adolescents

- worldwide > 90% of children access social media daily

- accesss is mostly via mobile technology

- platforms: whatsapp | facebook | instagram | snapchat | vine

- don't phone - do text [average = 30-40 texts per day]

- girls - talk [social media]
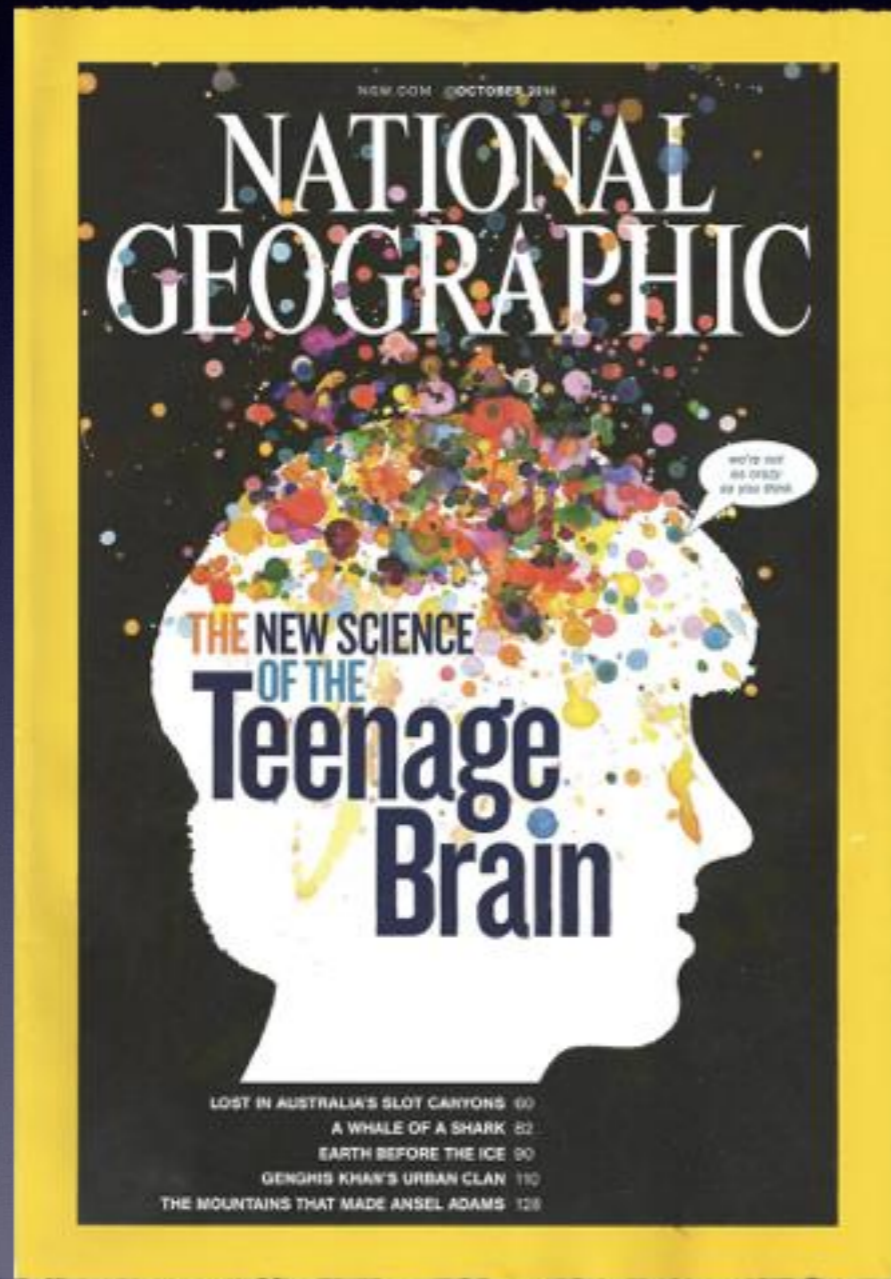
- boys - play [gaming]

# highs and lows

- The more present ICT has become in children's lives, the more intense the focus of research

- And that research tells us that cyberspace is a tale of two cities…

- Internet presents both risks and opportunities to child & adolescent development

lows ⬇️

# neurobiological and psychosocial vulnerabilities

# a note on the adolescent brain

- Adolescence is a critical period for maturation of neurobiological processes that underlie higher cognitive functions and social and emotional behaviour

- The prefrontal cortex matures more slowly relative to other regions

  - Maturation of executive function, including understanding future consequences, judgement, and self-control in social situations lag behind functions of the limbic system's development (motivation and emotion)

  - Adolescents further at risk while using social media because of lack of maturity and life experience

  - Susceptibility to peer pressure

# online identity

- An online identity, internet identity, or internet persona is a social identity that an Internet user establishes in online communities and websites. It can also be considered as an actively constructed presentation of oneself

- Blurring of online and offline realities when it comes to shaping one's identity

- How does forging an online identity influence self-esteem?

  - A considerable crowd is 'watching' you, and you are comparing yourself to many

  - You are comparing yourself not to people as they really are, but to their self-constructed online representations of themselves

- Is the emphasis on personal identity a good thing? Harmful? To what aspects of development?

# neurophysiological vulnerabilities

- Teen brains are the most sensitive to dopamine at around age 15
  - React up to 4x more strongly to images perceived as exciting
  - On top of increased thrill-seeking, teens have a higher capacity to log long hours in front of New Media screen
  - Additionally, teens act based on emotional impulses rather than logical planning
  - These traits combined make the adolescent brain especially vulnerable to addiction

# neurophysiological vulnerabilities II

- Social media and ICT operate in brief segments that are not attention demanding

- It offers immediate rewards for a teen brain that already has enhanced stimulation needs for the reward pathway
  - Internet overuse has been shown to increase striatal dopamine release, activating the reward pathway
  - Further evidence: youth with overuse problems had higher reward dependency and increased prevalence of specific polymorphisms of the dopamine receptor gene implicated in alcoholism and pathological gambling

# neurological vulnerabilities III

- Pornography addiction during adolescence is particularly troubling because of the way neuron pathways form during this period.
  - Circuitry in brain undergoes explosion of growth followed by rapid pruning of neuron pathways between 10 and 13 – the use it or lose it period
  - Teens are left without an understanding of normal sexual behaviour because of repeated superstimuli of constant novelty and constant searching provided by internet pornography.

- Young viewers are unintentionally training their bodies to become aroused by the unique conditions provided by internet pornography
  - When these neural networks start to fire together, they become wired together
  - The images are so incredibly powerful and visceral that it is shocking to the system and a person gets a massive dose of dopamine…over time, they need more and more…

# risks and problems

- Health issues

  - sedentary lifestyle

  - sleep

- Impact on developmental skills learning
  - Language/communication
  - Facial recognition
  - Empathy
  - Social skills (peers | family)
  - Academic

- Exposure to pornography | Sexting

# risks and problems II

- Online victimization
  - Cyberbullying
  - Online sexual soliciting

- Copyright

- Digital Footprint

# cyberbullying

- Incidence vary

- researchers found that parents were not generally aware of their children's cyber bullying experiences, either as cyber bullies or as cyber bullying victims

- Name-calling and gossiping;  spreading rumors, making threats;  sending malicious messages

  - "Sticks and stones may break my bones…"

# cyberbullying II

- Repeated school-based offline bullying, computer proficiency, and increased time spent online heightens risk for cyber bullying

- Majority of victims reported knowing the individual who bullied them

  - The Facebook friend or Facebook foe?

# vulnerability factors

- Immaturity

- Impulsivity

- Hx of abuse

# addiction and internet Use

- Paradigm shift in Addiction field
  - From substance to substance and behaviour

- Uncontrolled gambling, internet use, gaming, pornography and sexual acting

- American Society of Addiction Medicine has formally expanded their definition of addiction because of neuroscientific evidence in 2011

- APA
  - DSM 5 – "Substance Related Disorder" chapter of DSM 4 was renamed "Substance Use and Addictive Disorders"
  - Subchapter – Non-Substance-Related Disorders – includes Gambling Disorder
  - Section 3 – Internet Gaming Disorder

# Highs

# benefits

- Enhanced learning opportunities

  - Study groups

  - Collaboration and group work can take place outside of the classroom, and group members can contribute at their convenience

  - Plethora and wealth of information

- Accessing health information

  - Easy and anonymous health information (especially sexual health and mental health)

  - Support networks of people with similar conditions

    - issues with this? (Misinformation; Decreased opportunities for face-to-face conversation with their doctor; others?)

# benefits II

- Building/enhancing resilience

# benefits of social media

- Socialisation and Communication

- Staying connected with friends and family; making new friends

- Sharing interests, ideas, photos, videos

- Deeper benefits that extend into view of self, their community, and the larger world

  - Community engagement (fund raising, awareness raising)

  - Enhancement of individual and collective creativity through sharing artistic and musical endeavours

  - Growth of ideas (e.g. through blogs)

  - Opportunities to interact with individuals from diverse backgrounds, promoting respect, tolerance and increased discourse about personal and global issues

  - Fostering personal identity

# empowerment

- There is also evidence that the internet may empower children, particularly those in disadvantaged circumstances

  - Socio-economic disadvantages are eroded (e.g. information availability, social connection)

  - E.g. Hearing-impaired children submerged themselves in the heavily visual medium of the internet to communicate

    - Increases their well being

    - review studies found that teenagers are primarily using the internet to reinforce offline relationships.

# empowerment

- Adolescents also seem to use online forums such as homepages and blogs to gain feelings of mastery and competence

- Looking for information about health-related topics

# take home

- Oscar Wilde

- limit

- mentor