Beyond Distraction: Navigating the Attention Economy for National Development

Ray Webster & John Andre

National Economics University

Hanoi, June 11, 2024

Before the internet

Life was simpler

- No Facebook posts
- No addictive games
- No TikTok
- No constant texts
- No constant alerts.

With the Internet

- Simple life → Wealth of information.

Source: Britt Watwood

The Attention Economy

- Herbert Simon (1971)
  - Nobel Prize in Economics
- What does info consume ?
- Info consumes attention
- more info → less attention
- Allocate scarce resource
  - (Simon, 1971, pp 40-41).
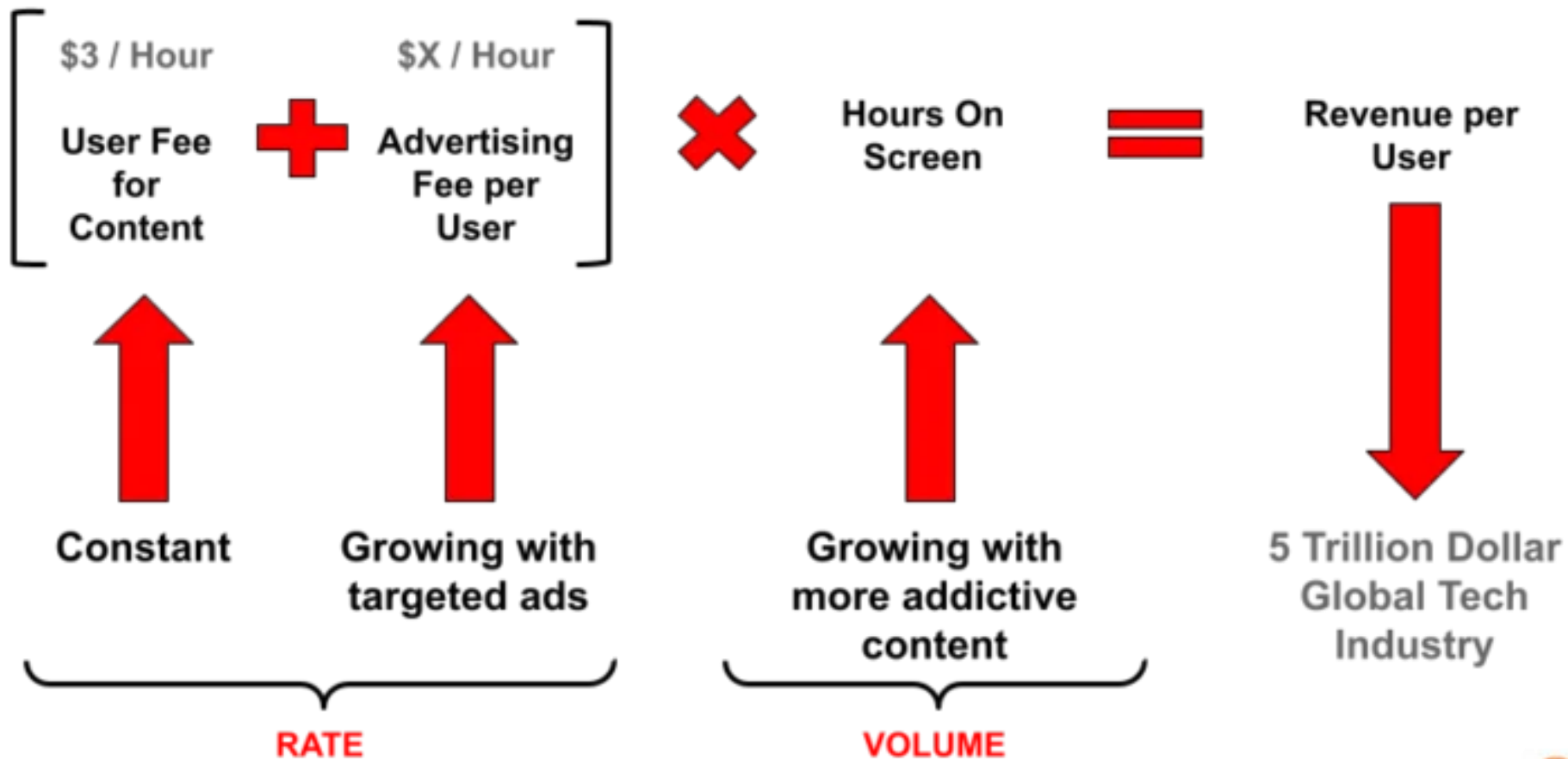
Source: Britt Watwood

Where does it happen?

The Javari Valley Indigenous Territory is one of the most isolated places on Earth...[people] live in full isolation.

they chatted with strangers on Instagram

Attention Economy Equation

$$\left[\begin{array}{c} \text{\$3 / Hour} \\ \text{User Fee for Content} \end{array} + \begin{array}{c} \text{\$X / Hour} \\ \text{Advertising Fee per User} \end{array} \right] \times \begin{array}{c} \text{Hours On Screen} \end{array} = \begin{array}{c} \text{Revenue per User} \end{array}$$

Constant	Growing with targeted ads	Growing with more addictive content	5 Trillion Dollar Global Tech Industry

RATE

VOLUME

© TechDetoxBox.com

Needed: Attention policies

- As Netflix CEO Reed Hastings stated: "we are competing for our customers' time, so our competitors include Snapchat, YouTube, sleep, etc." (Williams, 2018)

What happens...

- Without a deliberate practice of attention?
    - (both personal and professional).

Education Links

- Educators see smartphones & social media are changing learning behavior

- Researchers exploring impacts on structures & functioning of our brains (esp. pre-teens & teens)

  - (Karki, 2024; Firth et al, 2019, Loh & Kanai, 2016; Dong & Potenza, 2015; Sparrow et al., 2011)

- Three key areas: 1) Attention 2) memory, 3) social cognition.

Attentional capacities

- 2012, 80% of teachers agreed "*today's digital technologies are creating an easily distracted generation*" (Purcell et al., 2012)

- Many inputs at the same time → each attended to at a very shallow level (Firth et al., 2019)

- The never-ending stream of notifications, prompts and online information all compete for our attention

- Results: **attention-switching**, moving from one item to another, <u>focus and sustained attention needed to learn</u>.

Memory processing and transactive memory

- External memory sources are common
    - Photographs to remember details of trip
- Now students rely on finding information "online" rather than understanding the information itself (Sparrow et al., 2011)
- No understanding →cannot integrate and connect different sources.

Social cognition

- Friendships key to health & happiness (Dunbar, 2017)
- Online interactions offer fewer options for social learning (see Bandura,
- smartphone-addic levels of physical
- Physical activity in (badminton, tennis
- Socialization is ke

Wider Social Impact: The Anxious Generation

Haidt's (2024) central thesis:

- Play-based childhood experienced for many thousands of years started to disappear

- By 2010 it had been replaced by the phone-based childhood (at least in the USA)

- → serious negative psychological impacts on those born after 1995 (Gen Z).

The Social Dilemma (Orlowski, 2020)

- These problems come from the AI-driven attention economy

- The main goals of the big tech companies are:

  1) **The engagement goal**: Keep users scrolling

  2) **The growth goal**: ensure users are inviting friends who invite even more friends

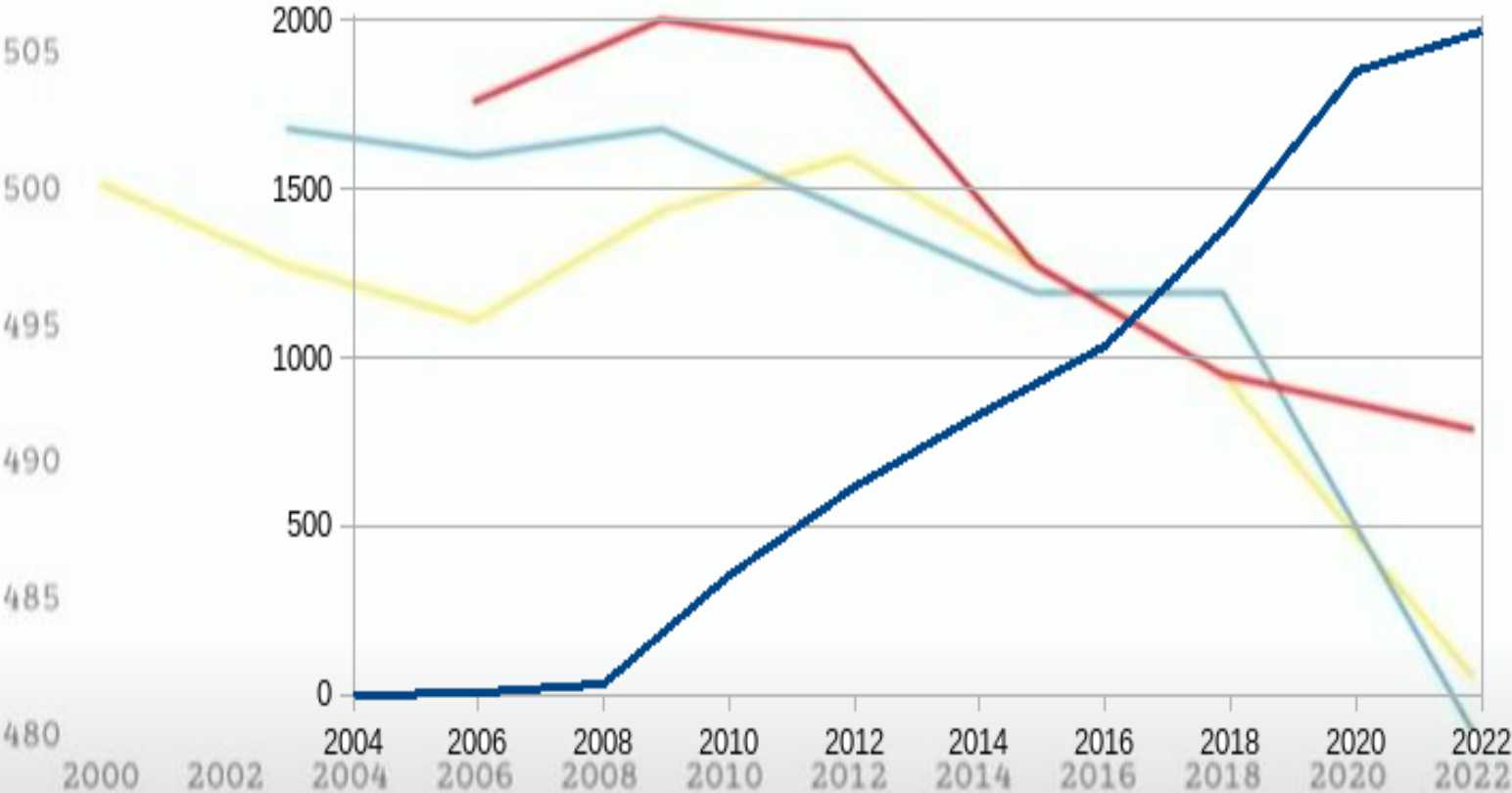 3) **The advertisement goal**: make as much money as possible from ads.

Harms inflicted

Haidt (2024) claims overuse of social media leads to children developing:

- virtual experiences replacing face-to-face

- behavioral changes by reducing interactions to 'likes'

- reduced self-confidence through selfie culture and constant comparison
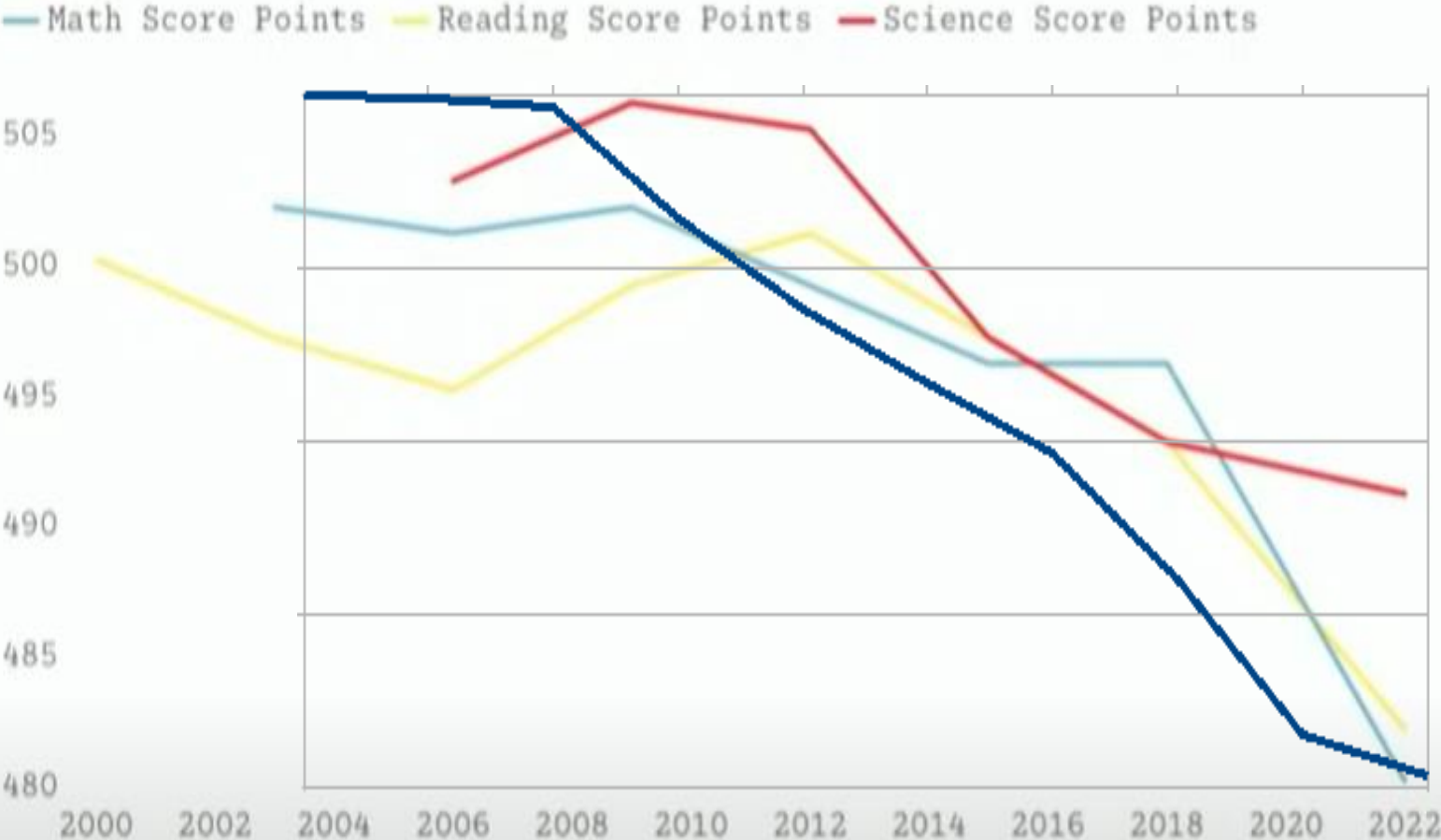
- less learning and learning less effectively.

Global PISA test scores in decline

Facebook daily active users.

Global PISA test scores in decline

Math Score Points — Reading Score Points — Science Score Points
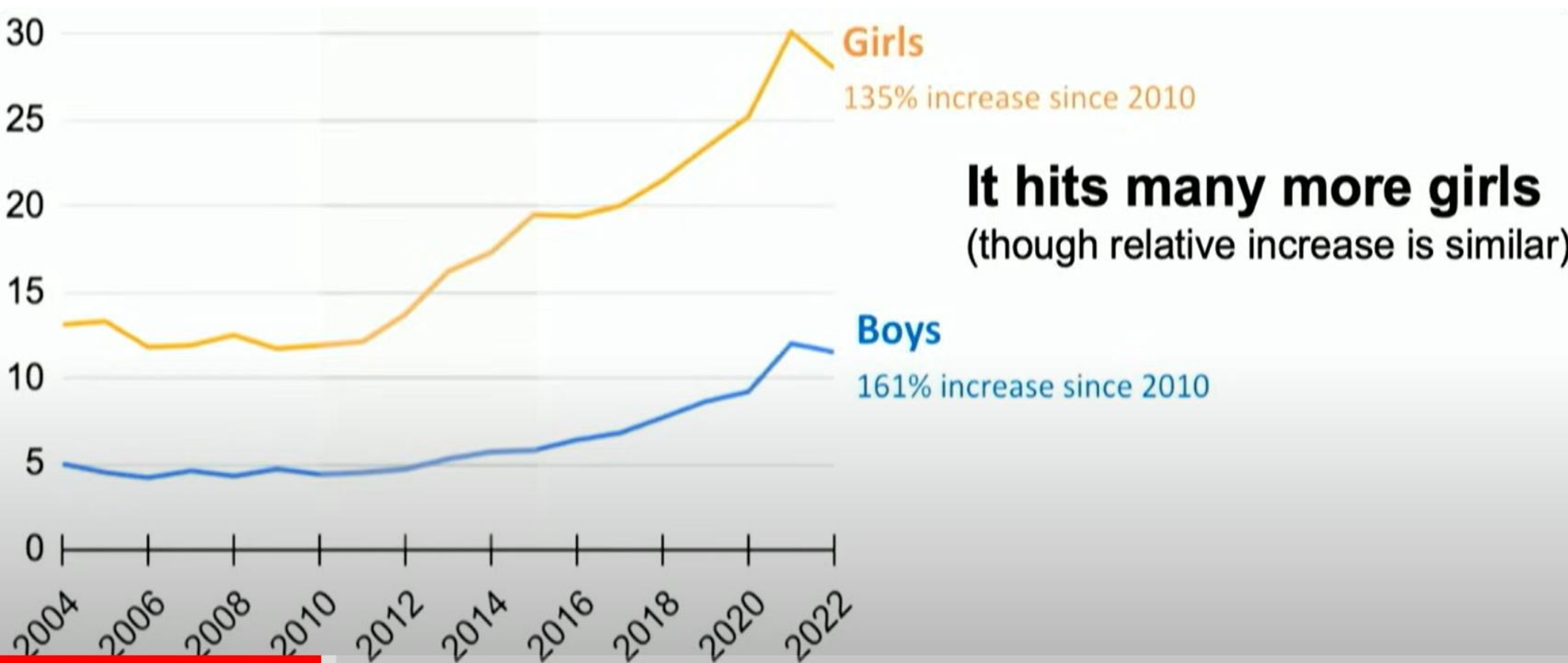
Facebook daily active users.

Five foundational harms

- Opportunity cost (9 hours/day)
- Social deprivation
  - time with friends down 65% since 2010
- Sleep deprivation (sharply worse since 2013)
- Attention fragmentation
  - inability to stay on task
- Behavioral addiction (2%-10%).

Source: Haidt, 2024

% of US Teens (12-17) who had a major depression in the last year

Girls
135% increase since 2010

It hits many more girls
(though relative increase is similar)

Boys
161% increase since 2010

Two main themes

- Positive impacts of AI on education

  – Including role of student self-awareness on those

- Impact of AI-driven attention economy on mental health and well-being of Gen Z & Alpha

  – Research shows that older generations are less affected, greatest impact on those born after 1995.

Impact of AI-driven attention economy

Four suggestions from Haidt (2024):

- **More unsupervised play**: Let children socialize and become autonomous adults

- **No smartphones before 14**: limit to dumb phones

- **No social media before 16**: protect those in the most vulnerable stages of brain development

- **Phone-free schools**: store devices in lockers to promote real-life interaction, connection, and focus.

Impact of AI on Teaching and Learning

Two suggestions

- Develop AI-based autonomous Personalized Learning Environments (Webster & Andre, 2018)

    – Increasing agency & control over online interaction

- Develop student self-awareness (Fadel et al., 2024)

    – Teach students how to learn, unlearn, relearn.

References

- Al-Amri A, Abdulaziz S, Bashir S, Ahsan M and Abualait T (2023) Effects of smartphone addiction on cognitive function and physical activity in middle-school children: a cross-sectional study. Frontiers Psychology, 14:1182749. doi: 10.3389/fpsyg.2023.1182749
- Bandura, A. (1977) Aggression: A Social Learning Analysis. Prentice-Hall.
- Bialik, M. & Fadel, C. (2015). Skills for the 21st Century: What Should Students Learn? Center for Curriculum Redesign: Washington
- Dunbar, R.M. (2017) The Anatomy of Friendship. Cell 22(1):32-51. doi: 10.1016/j.tics.2017.10.004
- Fadel, C., Black, A., Taylor. R., Slesinski, J. & Dunn, K. (2024) Education for the Age of AI: Why, What and How should students learn for the age of Artificial Intelligence? Center for Curriculum Redesign: Washington
- Haidt, J. (2024). The Anxious Generation: How the Great Rewiring of Childhood Is Causing an Epidemic of Mental Illness. Penguin Random House.
- Firth, J., Torous, J. Stubbs, B. & Steiner G.Z, (2019). The "online brain": how the Internet may be changing our cognition. World Psychiatry. 18(2): 119–129. Doi: 10.1002/wps.20617
- Karki, K. (2024). Digital Distraction, Attention Regulation, and Inequality. Philosophy & Technology (2024) 37:8. Springer.
- Loh KK, Kanai R. (2016) How has the Internet reshaped human cognition? Neuroscientist 2016;22:506-20.
- Nicas, J. (2 June 2024) The Internet's Final Frontier: Remote Amazon Tribes. The New York Times. https://www.nytimes.com/2024/06/02/world/americas/starlink-internet-elon-musk-brazil-amazon.html
- Orlowski, J. (2020) The Social Dilemma. https://www.netflix.com/vn-en/title/81254224
- Purcell, K, Rainie, L, Heaps, A (2012). How teens do research in the digital world. Pew Research Center, November 1, 2012.
- Simon, (1971), Designing Organizations for an Information-Rich World, in Martin Greenberger (ed), Computers, Communication, and the Public Interest, Baltimore, MD: The Johns Hopkins Press, pp. 40–41.
- Toffler, A. (1970) Future Shock. Random House.
- Webster,.R., (2009) Personalizing Learning: Reflective and Participatory Design for Autonomous Learning. Stutgartt: VDM Verlag.
- Webster, R. & Andre, J., (2018), Flexible Student Alignment for Self-Directed Learning and 21st Century Skills Development. Proceedings SEAMEO 2018: Leadership & Management in Higher Education: Innovations and Best Practice. Ho Chi Minh City, July 2018.
- Williams, J. (2018). Stand Out of Our Light: Freedom and Resistance in the Information Economy. Cambridge, UK: Cambridge University Press.