Digital Addiction

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Digital Addiction

Is it an addiction?

<u>Clinical Signs of Addiction:</u>

- The activity is a repetitive process which provides reward, euphoria, or pleasurable experiences to the person.
- It is salient to the person, preoccupying him/her cognitively (constantly thinking of the next fix) and behaviorally (while logged in not taking part in activities such as eating or sleeping)

Digital Addiction (cont.)

<u>Has 3 classical signs of addiction.</u>

- Withdrawal- experiencing irritability when not engaging in the activity
- Tolerance- the need to participate in the activity *more* to achieve previous effects
- Relapse- attempting to stop the addictive activity but failing

<u>Produces negative consequences in various areas such as:</u>

- Interpersonal relationships
- Job or school performance
- Overall health

Why are you likely to be digitally addicted?

- Accessibility (its in your pocket)
- Affordability
- Intensity
- Anonymity
- World of Fantasy
- Disinhibition (willing to do things you would never do in real life)
- Isolation

Is it really an addiction?

- 1.6% of Americans use heroin but 25% become addicted. 16% of cocaine users become dependent on the drug within ten years of trying the drug for the first time.
- Almost everyone uses the internet but addiction (in the classical sense) is much lower. Or is it?

What happened to teens in 2012?

- Proportion of Americans who owned smartphones surpassed 50% for the first time.
- 75% of teenagers owned an iPhone according to a 2017 study.
- 12th graders in 2015 were going out less often than 8th graders in 2009.
- 77% of high school seniors worked for pay during the school year in 1970's. By 2015 that was down to 55%.
- Teen depression has skyrocketed since 2011.

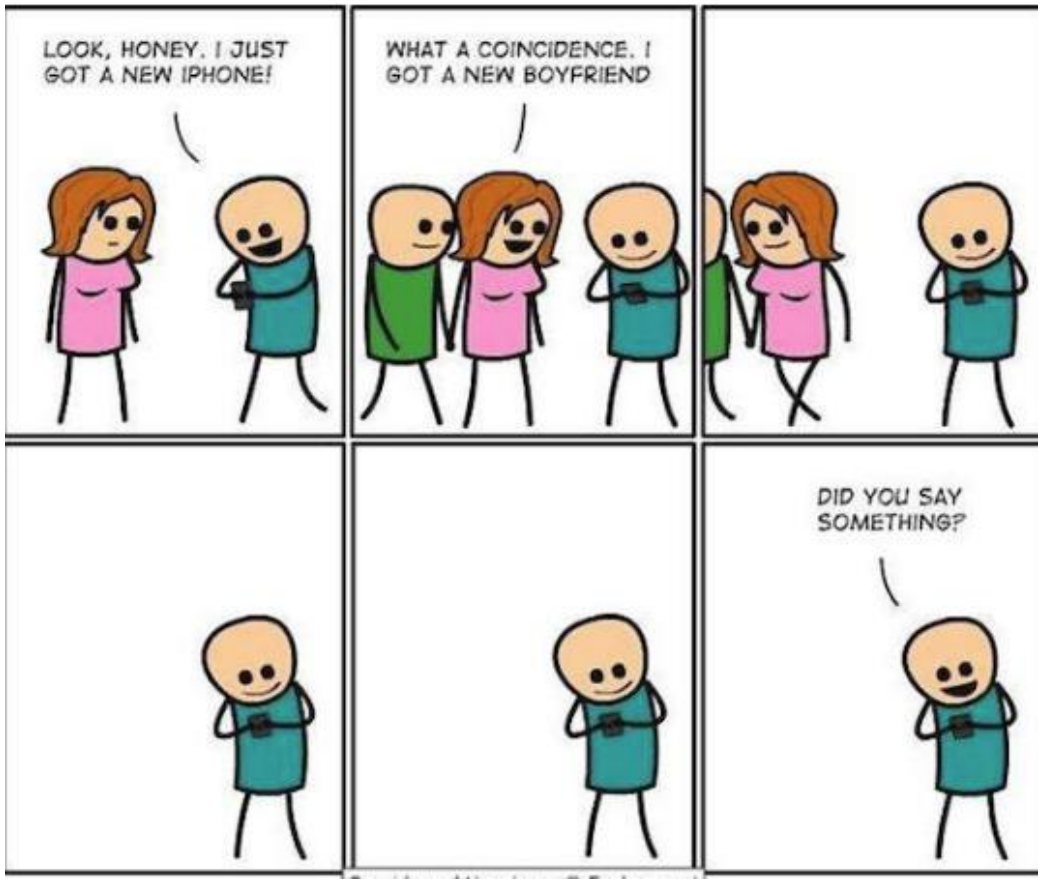
What happened to teens in 2012?

- The number of teens who get together with their friends nearly every day has dropped more than 40% between 2010 and 2015.
- National Institute of Drug Abuse found that *without exception* teens who spend more time than average on screen activities are more likely to be unhappy. Teens who spend more time than average on non-screen activity are more likely to be happy.
- Teens' feelings of loneliness spiked in 2013. Has not gone down since.
- 57% more teens were sleep deprived in 2015 versus 1991.

What about adults?

- A one-minute distraction is enough to wipe out your short term memory.
- Simple sequencing tasks can double in error rates in as little as 2.8 seconds, triple in 4.8 seconds (“continuous partial attention”).
- 67% of cell phone owners check their phones even when they don’t notice the phone ringing or vibrating.
- 44% of cell phone owners sleep with their phones next to them so they don’t miss any messages during the night.
- Research shows that 18% of all fatal crashes were caused by driver distraction. Text messaging makes it 23 times more likely that drivers will get into a crash (Virginia Tech Transportation Institute).
- 55% of workers reported checking their email after 11pm.

Signs you need a Digital Intervention



Signs you need a Digital Intervention

You hide in the bathroom to check your phone

You are always wondering where did the time go?

You get honked at every time the light turns green (and you don't live in New York).

You have unexplained aches and pains (neck pain, headaches, etc.)

You realize all your friends are virtual and you haven't called anyone besides your mother in a while (and you were texting then as well).

You forget how to use the phone app on your phone.

You are wondering if all of your "likes" will be on your tombstone.

Signs you need a Digital Intervention

- Carpal tunnel syndrome
- Dry eyes or strained vision
- Unexplained anxiety and stress
- Backaches or neck pain
- Severe headaches
- Sleep disturbances
- Weight gain (or loss)

How does your brain respond to the internet?

Thomas Edison- “I find out what the world needs and then I go ahead and try to invent”

vs.

Internet Companies- “Create an obsession then exploit it”(“compulsion loop”)(“Race to the bottom of the brainstem”)

How does your brain respond to the internet?

Originally, it was very hard to prove addiction was an actual physical brain disease. While Alzheimer's and tumors make physical brain changes, addicts have no apparent physical brain changes were present with autopsy.

It wasn't until 2001 when a team of neuroscientists at UCSF isolated the biochemical changes that appeared in mice after exposure to Cocaine. It was not a physical change but a change in the neurotransmitters that fire electrical impulses throughout the brain.

That neurotransmitter is Dopamine……

How does your brain respond to the internet?

Dopamine:

- The learning signal that helps animals remember pleasurable experiences and develops motivation to repeat them (addiction).
- It also makes us remember anything that needs to be paid attention to (good or bad) that is called ***Incentive Salience.***

How does your brain respond to the internet?

Dopamine also plays a role in:

1. Starting movement (e.g. frozen paralysis of Parkinson's)
2. Inhibiting the hormone prolactin (stop breast milk production)
3. Psychosis
4. Executive functions like attention
5. Nausea
6. Kidney and Heart function

How does your brain respond to the internet?

With addiction, dopamine is released in the brain and causes a learning signal so that the experiences are something that needs attention.

The release of excess and mistimed dopamine changes the response on the receptors to require more dopamine to be effective and, therefore, to crave it more. This is true even in a situation that is detrimental (definition of addiction).

How does your brain respond to the internet?

Learning Changes:

Research shows that when interrupted people take an average of 25 minutes to return to the original task.	Brain has 3 types of memory: Long term, short term and working memory.	Working memory takes short term memory and converts it into long term (lasting) memory. It is a slow process like filling a bathtub with water using a teaspoon. If the teaspoon is overstimulated with multiple inputs (cognitive overload) the teaspoon just spills over and not much makes it to the bathtub.	Experiments as early as the 1940's showed rats' brains grew (physically) and functioned better with physical and outdoor activities ("environmental enrichment").


I'VE FALLEN IN LOVE WITH MY PHONE.
IT ENTERTAINS ME. IT KNOWS WHERE I AM. IT RESPONDS TO MY TOUCH. IT NEVER JUDGES ME.
SO, IT'S LIKE A WOMAN TO YOU.
WAY BETTER.
ARE YOU EVEN LISTENING?
www.dilbert.com
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The War on WMD's ("**W**ireless **M**obile **D**evices")

Principles: Know the enemy.

- The most successful apps and sites hook us by tapping into deep rooted human needs.
- Fast food hooks us by getting us to crave certain flavors. Websites do this using "variable cravings."
- Websites use the "bottomless bowl theory" (people eat 73% more soup in a self-refilling bowl).
- "Never before in history have the decisions of a handful of designers (mostly men, white, living in San Francisco, aged 25-35)working at 3 companies (Google, Apple, Facebook)had so much input on how millions of people around the world spend their attention. We should feel an enormous responsibility to get it right"- ***Former*** product philosopher at Google Tristan Harris

Weapons in Our Toolbox

Know the Distraction:

- Use an app (many available) to track your internet and phone use. (You are going to be surprised!)
- Ask one question deeper? Do I ***really*** need to interrupt what I am doing for this?

Weapons in Our Toolbox

Minimize the distraction:

- Make your phone as non attractive as possible (experiment at **Google,** people ate less M&M's when placed in an opaque bowl versus a clear one)
- Take all apps off your home screen unless *really* necessary (like phone and maps)
- Hide your phone (you may want to get an app that finds it). A 2013 study showed stepping away from your phone (even briefly) leads to 57 percent increase in more effective collaboration, an 88 percent increase in learning effectiveness, and a 42 percent increase in socializing effectiveness
- Use apps that screen distractions and only allow certain phone calls or texts through.

Weapons in Our Toolbox

Other Strategies:

- Create a positive feedback loop. Reward yourself for even minor accomplishments.
- Share your game plan. Any activity (especially addictive ones) are more effectively overcome with a team approach (e.g. Alcoholics Anonymous, etc.)

Questions?