“Caught in the Net”
The Developmental Impact of Tech Dependence
Developed and presented by John K Kriger, MSM, LCADC, CPS
President Kriger Consulting Inc.

- **The maturing brain**
  - Maturing occurs around into the early 30’s
  - Early development can be influenced by nurturing and environmental factors
  - If the brain does not learn certain elements in early development it may not learn them

- **Criteria for Tech-Abuse:**
  - Failure to fulfill major obligations
    - Has computer use ever impacted your parenting, homework, or work?
  - Use in physically hazardous situations
    - Inattentive while driving, walking, or at important meetings
  - Recurrent substance-related legal problems
    - Misuse of work computers doing Internet shopping going into restricted sites, or neglecting work
  - Use despite persistent social or interpersonal problems
    - Choosing emailing over face to face meetings, avoiding phone calls, talking in text language, avoid people, less social, less patient, with more interpersonal problems.

- **“Alone together”**
  - The behavior of not being emotionally her psychologically present in a group, with family or with friends, choosing rather to text or email others not present

- **Criteria for Tech Dependence:**
  - Tolerance
    - Increased computer use
  - Withdrawal
    - Anxious without electronic devices
      - Have to constantly check email
    - Irritable without computer or phone access
  - Larger amounts or over longer period than intended
    - Lose sense of time, under estimated time of use
  - Desire or unsuccessful efforts to cut down or control use
    - Need to cut down, or someone ever made you feel guilty over some aspect of your computer use
  - Time spent in activities necessary to obtain, use, or recover from the “use”
    - Excessive $, time spent standing in line to get the next release
  - Important social, occupational, or recreational activities given up or reduced
    - Decreased physical, social and personal interactions
  - Continued use despite knowledge of having a persistent or recurrent physical or psychological problem likely to have been caused or exacerbated by the “use”
    - Lack of exercise, declining social skills, eye strain, higher BP, weight gain, nutrition deficits, declining personal hygiene

- **Can a person be truly addicted to the Internet?**
  - “A new brain scan study shows not only can that be the case, but also that Internet addiction might cause the same brain changes that are seen in alcoholics and drug addicts.” http://www.cbsnews.com/2102–504763 162–57357895.html?tag=contentMain;contentBody
• **Impact of continual stimulation on the brain:**
  - **How We Learn**
    - Hippocampus
      - Collects & converts s/t memory to more permanent memory
      - Recalls spatial relationships in the world about us
      - One of only two brain structures that regenerates
    - Amygdala
      - Involved w/mood & conscious
      - Emotional response, assesses subtle messages in facial expressions, assigns level of response

• **The physical impact of persistent stress:**
  - Elevated blood pressure
  - Decreased movement
  - Increased stress
  - Decreased immune system

• **Potential physical impact:**
  - Underdeveloped or weekend core strength
  - Modification of brain structure
  - Underdeveloped vestibule or system
  - Obesity, inadequate diet and hand injuries
  - Dehydration and nutritional deficits
  - Circulatory problems

• **The psychological impact**
  - **Sponge Bob Study:**
    - Immediately after the 9 minute assignment, children took mental function tests.
    - Another test measured **self-control and ability to delay gratification**.
    - The results: Those who had watched "SpongeBob" did **measurably worse in both test**.
    - American Academy of Pediatrics (9 minute was cited)

• From 2009 until 2011 the number of 2 to 5-year-old gamers jumped 17%  

• “... Developing brains can become more easily habituated than adult brains, to consistently switching tasks-and less able to sustain attention.”  

• **Potential social impact**
  - Decreased accuracy in interpreting social settings
  - Inappropriate social interactions
  - The tendency to over/under react
  - Social isolation

• **Potential negative psychological impact**
  - Increased potential for addictive behavior relative to use
  - Increased aggressiveness and desensitization
  - Loneliness, depression, and isolation
  - Decrease and empathic reactions
  - Role ambiguity
• **Turning it around!**
  - Find balance thru exercise
  - Relaxation
    - Mediation – seated or walking meditation
    - Labyrinth

• **What's a parent to do?**
  - Keep electronic recreation to < 2 hours per day.
  - Other than music, no child under the age of 3 should be exposed to electronic media.
  - Use electronics as a reward.
  - Stop all gaming 1 - 2 hours before bed.
  - Don’t allow phones, games or computers in bedrooms.
  - Engage in reading, board games & non-electronic activities.
  - For special needs children, limit hand held games to short rewards of no more then 15 to 20 min.
  - Ban texting, iPod use, and phone use at meals.
  - Build tolerance for less stimulating activities when reducing tech use.
  - Anticipate a reaction; this is an addiction!

• **IDosing**
  - Downloaded tones reported to change brain wave patterns to produce a sensation of being high
  - No identified research indicating long term impact or immediate effects

• **Indicators of future substance abuse**
  - Social isolation
  - Poor social skills
  - Early antisocial behavior
  - Inability to bond with positive peer groups
  - Low commitment to school and community
  - Positive attitude toward substance abuse
  - Lacking a positive peer group
  - Having an older sibling who is involved

  (Based on factors listed in the NIDA Preventing Drug Use among Children & Adolescents: A Research-Based Guide Indicators of future drug or alcohol problems)

• **2011 Cisco Connected World Technology Report**
  - 33% believes the Internet is as important as air, water, food and shelter.
  - 55% of college students and 62% of employees, said they could not live without the Internet
  - 40% said the Internet is more important to them than dating, going out with friends, or listening to music
  - 27% said staying updated on Facebook was more important than partying, dating, listening to music, or hanging out with friends

• **Role ambiguity**
  - Allows for gender switching
  - Avatars often take on the personality of the person they represent
  - Individuals began to take on the role of their avatar

• **Cyber relationships**
  - User is free to create their own social status, physicality, gender, age, race, history or relationships to feel accepted
  - Depersonalizes interactions
  - Individuals often become very heavily invested in their avatar and their pseudo-life
  - Often unconscious issues are raised without a social outlet
• Cosplay
  - Individuals dress up to socialize at parties, events and conferences
  - Often a blurring of boundaries between the game and real life
  - Allows individuals with a fear of social connection to socialize
  - Blurs the boundaries of fantasy and reality

• Massively Multiplayer Online Role-Player Games (MMORPG'S)
  - Online video games
  - No age limit to play
  - Players interact with players around the world
  - Often have their own culture and values
  - May be played in marathon sessions
  - Most at risk of abuse or dependence are those with low self-esteem, socially isolated and with poor relationship skills

• "For the first time, we have found that a sample of randomly assigned young adults showed less activation in certain frontal brain regions following a week of playing violent video games at home," said "These brain regions are important for controlling emotion and aggressive behavior." Yang Wang, M.D., 11/30/2011 97th Scientific Assembly and Annual Meeting

• Essential social skills
  - Managing social settings
  - Dining out
  - Asking for a dance or date
  - Engaging in social conversation
  - Respectfully interacting with authorities
  - Appropriately asking for assistance from someone

• Brain builders
  - Draw body outlines and fill in capabilities
  - Learn a musical instrument
  - Discover playing chess
  - Introduce a language
  - Take up painting
  - Design, build and fly paper airplanes
  - Regularly relocate your mouse
  - Engage in creative games
  - Play with boxes
  - Learn to juggle

• Anonymity exacerbates bullying
  - The anonymity the computer allows individuals to engage in behavior they would otherwise avoid
  - Some bullying involves direct threats others the circulation of rumors and misinformation
  - Shunning and socially isolating others is often practiced by females
  - Females are more likely to hold grudges and persist in their efforts over more extended periods of time

• Cat Fishing
  - The practice of creating websites, Facebook, or online media to take advantage of someone
  - Falsely representing yourself in online relationships

• Revenge Porn
  - Websites posting damaging semi-nude or nude pictures or video taken during a relationship
  - Use as a way of getting back at a an ex partner
  - Almost impossible for an ex to get the pictures or video off of the site
• “The number of divorces occurring because of Facebook and other social networking sites has been on the rise… research claims. Facebook is being cited in almost one in five of online divorce petitions, lawyers have claimed.”
http://thetechnjournal.com/internet/facebook-is-the-new-cause-of-divorce.xhtml

• Increase Integrity To Improved Relationships!
  1. Face to face
  2. Video conference
  3. Phone
  4. Letter
  5. Email
  6. & finally text

• What's a parent to do?
  - Teach online safety
  - Model appropriate Internet usage
  - Increase face-to-face and social interactions
  - Involve yourself and students in all true mystic activities
  - If bullying is detected reported, and get professional assistance for dealing with it
Tech-Dependence

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**Note:** The table includes items such as Texting, Role Obligations, Cat Fishing, Tai Chi, Legal Problems, Blood Pressure, and Yoga.
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