
GAMING ADDICTION: CONSIDERATIONS FOR GIFTED TEENS

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A LITTLE ABOUT ME

- Associate professor of counseling at University of Georgia specializing in addictions counseling
- In gifted program in elementary school
- Loved strategy games: chess club!
- Loved computer games that were based on strategy and problem solving



REDEFINING ADDICTION

- The American Society of Addiction Medicine's (ASAM; 2019) official definition of addiction includes both substance use and engagement in rewarding behaviors
- The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; APA, 2013) includes the chapter, "Substance-Related and Addictive Disorders"
 - Gambling disorder
 - Also in Section III: internet gaming disorder and nonsuicidal self-injury disorder
- The *International Classification of Diseases* (ICD-11; WHO, 2018) includes a section titled, "Disorders Due to Addictive Behaviours"
 - Gambling disorder and gaming disorder
 - Also compulsive sexual behavior disorder is included in the section for impulse control disorders
- The Council for Accreditation of Counseling and Related Educational Programs (CACREP) 2016 Standards: etiology of addiction and addictive behaviors (Section 2 F.3.d)

Continuum of Behavior

**Recreational
Engagement**

**Pathological
Engagement**



Nature of the behavior + characteristics of the individual

Controlled, no negative consequences, no cravings or withdrawal symptoms, multiple ways to cope and regulate emotions

Compulsive, loss of control, cravings, negative consequences, primary means of emotion regulation

APPLICATION TO GIFTED STUDENTS

- Development of gifted students may be unbalanced (develop cognitive skills before emotional or social skills)
- Gaming may be an escape from social difficulties
 - “They may show more interest in the virtual environment to avoid loneliness and social communication problems in physical environment” (Durak et al., 2022, p. 5)
- May feel more comfortable with computers/devices and be more at risk of developing gaming addiction
- Computers often are used as education tools (especially in STEM fields) thus gifted students may have more exposure



APPLICATION TO GIFTED STUDENTS

- A comparison of gifted high school students in Turkey and non-gifted students revealed that gifted students had lower levels of gaming addiction; male gender predicted gaming addiction among gifted students as well as staking one's self-worth more in competition and appearance and less in virtue (Durak et al., 2022)
- Gifted and non-gifted students both play video games on average 1.4 hours per day; no significant difference in gaming addiction levels; instead, male gender predicted gaming addiction among gifted students (Ogurlu et al., 2021)



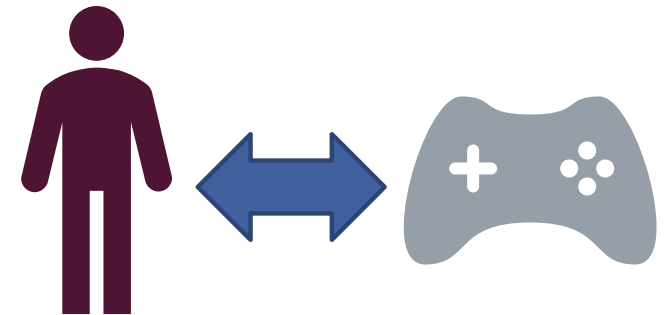
APPLICATION TO GIFTED STUDENTS

- Among gifted students (9-14 years old), online gaming addiction was linked to decreased quality of life; 15.2% gifted males and 3.2% gifted females had gamed for more than 4 hours without taking a break (Yalcin et al., 2020)
- Among gifted students, male gender more associated with gaming addiction; as gaming addiction increased, social skills (interpersonal skills, self-management) decreased (Sayi & Sahin, 2021)
- In sum: male gender, rather than giftedness, predicts gaming addiction. Otherwise, gaming addiction scores are similar between gifted and non-gifted students



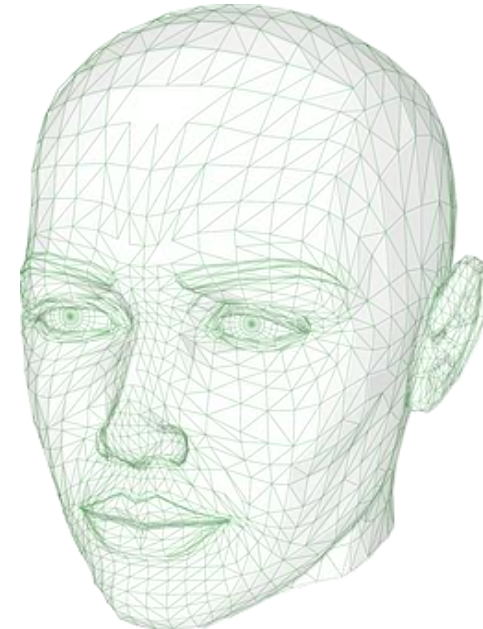
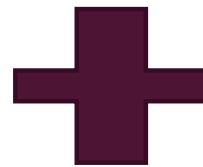
HOW CAN BEHAVIORS BE ADDICTIVE?

- Drugs of abuse are **exogenous** chemicals (originate outside of the body) that activate reward circuitry in the brain (brain structure in limbic system; dopaminergic pathway)
- Certain behaviors stimulate the release of **endogenous** chemicals (originate inside the body; e.g., neurotransmitters, hormones) in the same brain region (reward circuitry)
- For certain individuals rewarding behaviors can become compulsive and lead to negative consequences (those with **risk factors** such as early trauma, genetic predispositions, early exposure to addictive behavior, mental health concerns)



INTERACTION BETWEEN THE BEHAVIOR AND THE INDIVIDUAL

- For certain individuals rewarding behaviors can become compulsive and lead to negative consequences
- Must consider interaction between: (a) nature of the behavior, and (b) characteristics of the individual



NATURE OF THE BEHAVIOR

- Goal: Keep users engaged for as long as possible
 - “The people who create and refine tech, games, and interactive experiences are very good at what they do. They run thousands of tests with millions of users to learn which tweaks work and which ones don’t—which background colors, fonts, and audio tones maximize engagement and minimize frustration” (Alter, 2017, p.5)
- Persuasive technology: “Race to the bottom of the brainstem” (Tristan Harris). Bypass the prefrontal cortex and engage the dopamine and emotional processing systems
 - Aim of many apps: continued use, captured attention, more time spent (Center for Humane Technology, 2021)



HISTORY OF TRAUMA

- ACEs: Traumatic or stressful events during first 18 years of life
 - Abuse (emotional, physical, sexual)
 - Neglect (emotional, physical)
 - Witnessing violence in the home
 - Living in a home with active addiction
 - Living in a home with untreated mental illness
 - Separation (divorce, incarceration)
 - Criminal behavior in the home
- ACE Score: sum of experienced ACE categories (0-10)
- In a study of over 17,000 people, 12.5% had 4 or more ACEs (Felitti et al., 1998)



ACES AND ADDICTIVE BEHAVIORS

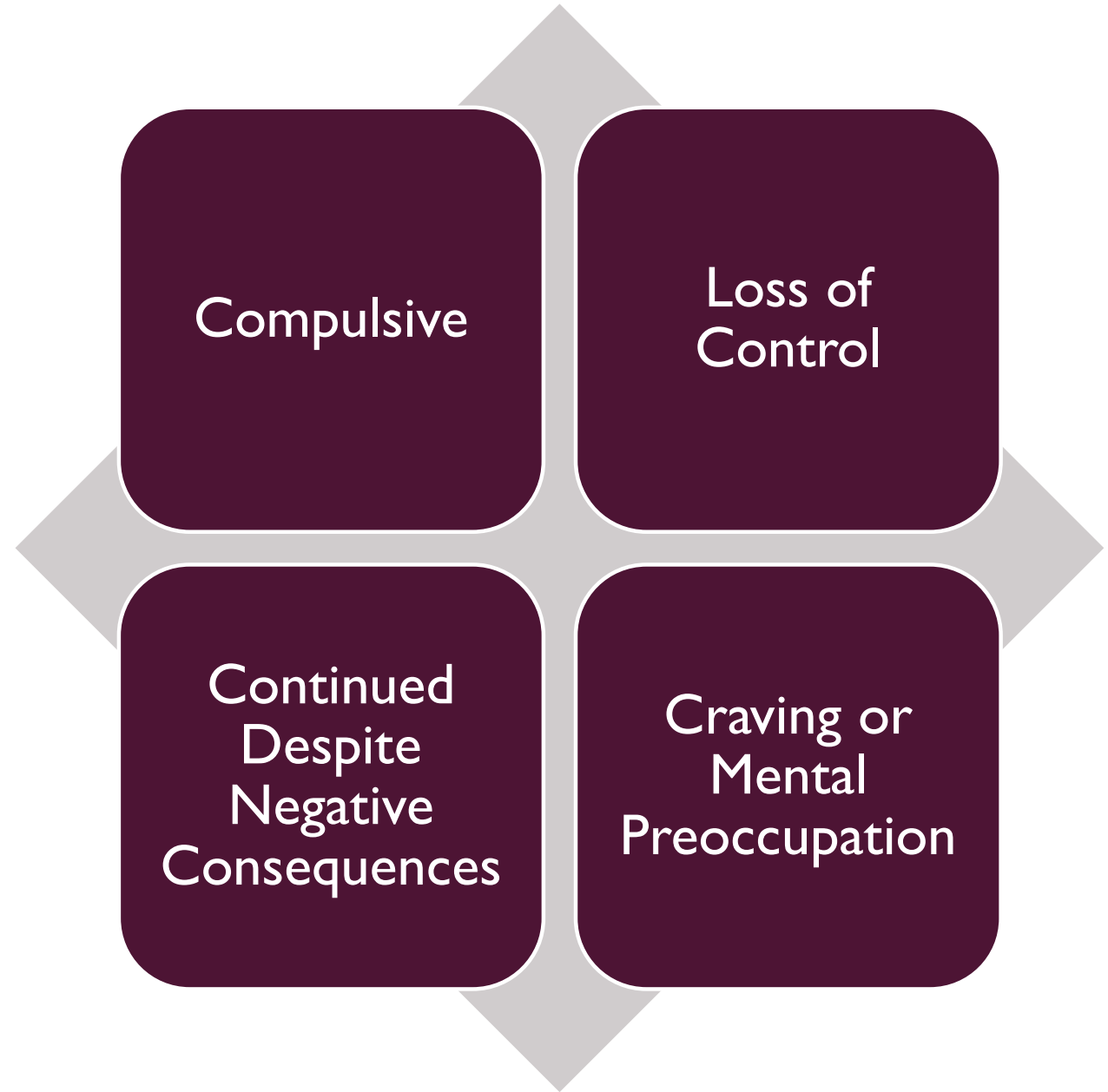
ACE Score	Alcohol Use Disorder (Dube et al., 2002)	Drug Problem (Dube et al., 2003)	Ever injected drugs (Felitti et al., 1998)	Severe Obesity (Felitti et al., 1998)	50 or more sexual partners (Felitti et al., 1998)	Problem gambling (Poole et al., 2017)
0	2.5%	1.3%	0.3%	5.4%	3.0%	15.2%
4+	9.7%	7.5%	3.4%	12.0%	6.8%	39.9%

TRAUMA AND TOXIC STRESS

- Stress response is healthy and supports survival
- If stressor is persistent—toxic stress is strong and prolonged; occurring in the absence of buffering from caring adult(s)
 - Dysregulated stress response system (Garner, 2013; van der Kolk, 2014)
 - Chronically elevated cortisol and adrenaline levels; stress response never deactivates
 - Leads to hyperarousal, anxiety, hypervigilance, alertness (can mimic ADHD symptoms) (Burke Harris, 2018)
 - Insomnia, increased blood sugar, inflammation, cardiovascular disease, compromised immune system (Guilliams & Edwards, 2010)
- May turn to addictive behaviors to manage dysregulated stress response system and hypervigilance (Felitti et al., 1998)
 - Among university students, researchers found a direct relationship between childhood trauma and internet gaming disorder (Shi et al., 2020)

Recognizing Behavioral Addictions

- How do we distinguish between high involvement in a behavior and a behavioral addiction?
- Four Cs model
 - ASAM (2019), Kardefelt-Winther (2017), Sussman and Sussman (2011)



GAMING: THE BASICS

- Many types of games on smartphones, consoles, computers, tablets, etc.
 - Simulations, action games, skill-based games, arcade games, educational games, leisure games, social games
 - Pay to play or free to play
- Massively Multiplayer Online games (MMOs): many gamers in shared virtual space; complete immersive experience (most linked to gaming addiction; Bonnaire & Baptista, 2019)
 - First person shooter, real-time strategy, role-playing games, multiplayer online battle arena
- Gaming is extremely prevalent among youth: Recent data from Newzoo (2021) notes that 25% of leisure time among individuals aged 10-24 (Gen Z) is spent gaming.
 - More than social media, watching shows, or reading.
- In 2019, the gaming industry yielded 152.1 billion dollars



FEATURES OF GAMING

- Gaming is highly stimulating and causes the release of the neurotransmitter dopamine, which is implicated in our experience of pleasure (Kuss et al., 2018)
 - Visuals and graphics, sounds, tasks, social engagement, team play—all positively reinforcing
- Unlimited opportunities to achieve
- Avatar, champion, character
 - Virtual representation of the self
 - Can be anything- explore various parts of self
 - greater identification between the gamer and the gamer's avatar is linked to gaming addiction (Burleigh et al., 2007)
- Text or voice communication with other gamers (relational and emotional connections)
 - Social rewards and team play
- Novelty and endlessness
 - Updates and patches
 - Persist when gamer logs off
- Erickson's model of psychosocial development:
 - Adolescents: who am I?



THE RISE OF ESPORTS

- Competitive electronic gaming
- Global tournaments (fantasy eSport teams)
- 2018: eSports had a viewership of 395 million people
 - In person and online
- 2019: more than 5,000 tournaments, over 28,000 active players, with prize money over 230 million dollars (Esports Earnings, 2020)
- Professional gamers: lucrative career with international stardom
- 2019: more than 170 colleges are associated with the National Association of Collegiate Esports
 - Many offering gaming scholarships to students
- Time spent gaming- not a sufficient criteria for gaming addiction



POSITIVE OUTCOMES OF GAMING

- It is important not to vilify gaming—all generations of youth have had new leisure activities that cause concern
- Moderate use of video/internet games has been linked to positive outcomes:
 - Increased response time (Gorman et al., 2018)
 - Decreased loneliness and social anxiety (Martoncik & Loksa, 2016)
 - Increased communication and collaboration skills (Sourmelis et al., 2017)
 - Increased social interactions and opportunities for conflict resolution (Markey et al., 2020)
 - Enhanced spatial skills (Granic et al., 2014)
- **Serious gaming** or applied gaming: the use of games for education purposes; not just entertainment
 - Can be used for problem solving, education on a particular topic, develop skills, improve decision making, practice a skill in a simulation before a real-life situation

NEGATIVE OUTCOMES OF GAMING

- Gaming among adolescents has been linked to:
 - Increased depressive symptoms and anxiety (Jeong et al., 2021)
 - Family conflict (Bonnaire & Phan, 2017)
 - Impaired cognitive control (Kuss et al., 2018)
 - Poorer sleep and poorer diet (King & Delfabbro, 2018)
 - Lower academic performance (Yesilyurt, 2020)
 - More conduct problems (Brunborg et al., 2014)
 - School violence perpetration (Kim et al., 2017)
 - In fact, scholars noted, “an intervention strategy targeted at reducing the addictive use of online games is important in preventing violent behavior at schools” (Kim et al., 2017, p. 3218)
- Important to take a balanced view of gaming



MOTIVES FOR GAMING

- Recreation
 - Leisure activity when feeling bored
- Sociability/social connection
 - Build relationships (guilds, clans, global friends)
- Immersion/escape/new identity
 - Avoid reality or cope with adversities or negative emotions
- Achievement/competition
 - Be successful
- Immersion and achievement motives have been linked to gaming addiction (Chen et al., 2018; Kiraly et al., 2015; Yee, 2006)
 - Important to inquire: “What does gaming do for you?” “When do you feel the strongest desire to game?”

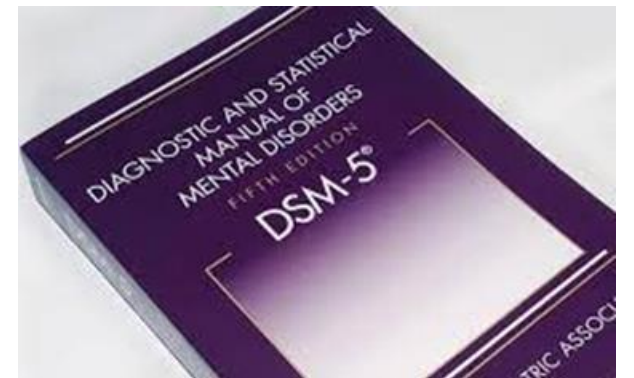


PREVALENCE OF GAMING ADDICTION

- Global phenomenon: restrictions and curfews in several countries (e.g., China, South Korea, Thailand)
- Worldwide, 8.5% males and 3.5% females meet criteria for gaming disorder, with an overall prevalence of 3.3% (Kim et al., 2022)
- 4.7% of Slovenian adolescents (Macur & Pontes, 2021)
- 7.5% South Korean adolescents (Jeong et al., 2021)
- 17.8% of an international population of adult gamers (Carey et al., 2021)
- 20.4% of Brazilian youth with mental health concerns had gaming disorder (Ferreira et al., 2021)
- More males affected by gaming addiction than females (Jeong et al., 2021; Paulus et al., 2018)
 - Designed for males, designers are male, masculine ideals, sexualization of women, competition (Chen et al., 2018; King & Delfabbro, 2018)
 - Yet 46% of all gamers are female (Entertainment Software Association, 2019)

PROPOSED CRITERIA: INTERNET GAMING DISORDER

- Persistent engagement, significant distress, impaired functioning
- At least 5 criteria in previous 12 months:
 - Preoccupation with gaming (gaming becomes most salient activity)
 - Withdrawal symptoms (irritability, restlessness, anxiety, dysphoria)
 - Tolerance
 - Unable to limit, reduce, or control
 - Loss of other interests
 - Continuing to game despite psychological or social problems
 - Lied to others or deceived others about gaming
 - Gaming as a means of escaping negative mood states
 - Risking important educational, occupational, social, or relational opportunities to game (APA, 2013)



GAMING DISORDER: ICD-11

- 11th revision of the *International Classification of Diseases*
- Disorders Due to Addictive Behaviors section
- Gaming disorder (in previous 12 months)
 - Loss of control over gaming
 - Increased priority of gaming to the neglect of important activities and previous interests
 - Continued despite negative consequences and problems
 - Impaired functioning (WHO, 2018)



POTENTIAL NEGATIVE CONSEQUENCES OF GAMING ADDICTION

- Time spent gaming
 - Not spent in important activities
- Neglect of self-care and personal hygiene
 - Not sleeping, showering, eating
- Health concerns/injury
 - Lack of physical activity, high caffeine intake, tendon and joint pain (Griffiths & Meredith, 2009)
- Neglect offline relationships
 - Loneliness (Pontes et al., 2019)
- Family conflict (Bonnaire & Phan, 2017)
 - Gamer widow
- Financial problems
 - 89.4% of MMO players spent real currency in the game (ADR, 2020)
- Gamer rage
- Gaming addiction correlated with mental health concerns (Andreassen et al., 2016)



PLAYER TOXICITY

- Gaming involves social engagement and communication via text or voice (with those known to the gamer and unknown)
- Risk of toxicity:
 - Aggressive behavior (abusive language, threats, name calling)
 - Online racism (racial attacks on gamers from marginalized racial groups)
 - Online sexism (hate speech directed at one's gender)
 - Cyberbullying (any form of harassment using the internet)
 - Deception (gamer is not who they say they are)
 - Conflict (between gamers)
- In a national survey, 62% of American youth (aged 13-17) experienced harassment in online games (ADL, 2022)
- Potential responses:
 - Use controls or blocks to ensure children and youth are not able to voice chat with unknown gamers (ADL, 2022)
 - Parental controls: disable voice chat, profanity filters, manage text communication, set spending limits in game, know who children are gaming with
 - Teach empathy and the risks of cyberbullying
- Digital citizenship:
 - “A holistic framework for promoting personal tech safety and creating a school culture that recognizes and actively promotes the responsible use of technology and digital media” (Dorn-Medeiros, 2021, p. 241)

DIVERSITY CONSIDERATIONS

- Consider a young adult male with a disability (uses a wheelchair) who has gaming disorder.
- He notes that his avatar does not have a disability and no one in the virtual world knows he has a disability
- How might this client's ability status inform your conceptualization, assessment, and treatment of gaming disorder?



ASSESSMENT INSTRUMENTS

- Intake item (“Do you feel you have lost control over your gaming or are experiencing negative consequences due to your gaming behaviors?”)
- Diagnostic criteria (DSM-5 and ICD-11)
- **Internet Gaming Disorder Scale- Short Form** (Pontes & Griffiths, 2015)
 - *Have you lost interest in previous hobbies and other entertainment activities as a result of your engagement with the game?*
- **Gaming Disorder Test** (Pontes et al., 2019)
 - *I have had difficulties controlling my gaming activity*
- **Motives for Online Gaming Questionnaire** (Demetrovics et al., 2011)
 - *I play online games because it makes me forget real life*



TREATMENT CONSIDERATIONS

- Determine appropriate level of care: outpatient, residential
 - Suicidal ideation, co-occurring mental health concerns
- Work with primary care physician
 - Under/over weight, depletion of vitamins/minerals, day-night sleep reversal
- Anticipate and address withdrawal symptoms
 - Irritability, anxiety, restlessness, anger, loss of interests, dysphoria
- Build emotion regulation skills and social skills
- Develop a technology plan (initial abstinence from all devices/screens)
 - How to reengage with technology
 - Prioritize diverse activities (physical activities, social activities)
 - Digital citizenship (promoting responsible tech use; Dorn-Medeiros, 2021)

TREATMENT CONSIDERATIONS

- Monitor emergence of new addictive behaviors
- Identify triggers/antecedents for gaming and develop coping strategies
- Group counseling
- Gaming Addicts Anonymous (12 Step program)
- “Gaming Addicts Anonymous is a fellowship of people who support each other in recovering from the problems resulting from excessive game playing” (gamingaddictsanonymous.org)



INTERNET AND VIDEO GAME ADDICTION TREATMENT

- A 7-step intervention developed by Greenfield (2018)
 - 1. Collaborative therapeutic relationship
 - 2. Disrupting problematic behavior
 - 3. Identify triggers to compulsive gaming
 - 4. Manage urges and cravings
 - 5. Blocking and monitoring internet use
 - 6. Real-time living strategies (coping skills, non-gaming social activities)
 - “Redevelopment of naturalistic reward stimulation” (Greenfield, 2018, p. 339)
 - 7. Relapse prevention



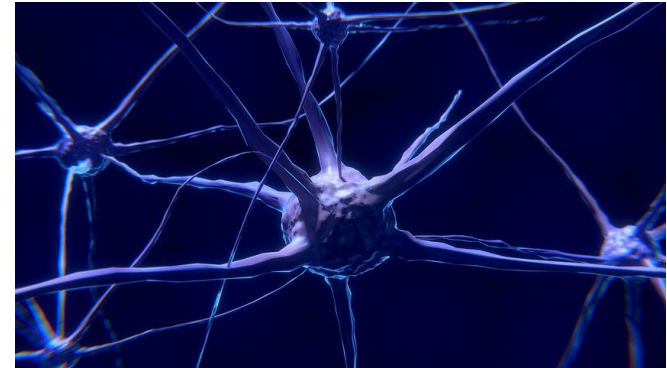
CBT FOR INTERNET ADDICTION (CBT-IA; YOUNG, 2011)

- 1st phase: Behavioral
 - Abstain from problematic use
 - Manage time on and offline
 - Identify triggers and consequences
- 2nd phase: Cognitive
 - Identify maladaptive beliefs (“I’m only worthwhile in the online world”; “The offline world is dangerous, but I can control the online world”)
 - Cognitive restructuring
 - Reevaluate meaning/interpretation of events
- 3rd phase: Harm Reduction
 - Treat co-occurring mental health and addiction issues
 - Increase coping and emotion regulation skills
 - Meet needs more adaptively



PREVENTION EFFORTS

- People with addiction are addicted to *changing the way that they feel*
 - Both drugs of abuse and rewarding behaviors can change the way a person feels
- Prevention efforts for behavioral addictions may include increasing children/adolescents' **emotion regulation** skills
 - “Emotion regulation refers to the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998, p. 275).
 - Emotion regulation typically learned in first years of life from an attachment figure who co-regulates a child's emotions; an attuned, available, connection with a caregiver (Thompson, 1994)
 - Deficits in emotion regulation predict a variety of behavioral addictions (Estevez et al., 2017 ; Giordano et al., in press)



QUESTIONS, COMMENTS, AND TO LEARN MORE

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