Informed Consent and Care to Minors/Mature Minors

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Disclosures

Dr. Thompson has no relevant financial interests/disclosures.

Objectives

- Clarify the meaning of the terms "minor," "mature minor," and "emancipated minor"
- Understand schism between medicine and law re: theory/presumptions about minor consent
- Understand mental health or medical interventions to which minors generally can consent
- Explore variability among state law related to minor consent/refusal of treatment

Historical Context

Society's long recognized youth:

- are more impulsive
- have worse judgment
- value short-term rewards over long-term consequences

Certain privileges not granted until certain ages:

- Driving: 16
- Enter into contracts, military service: 18
- Consume alcohol (or in some states, MJ): 21

Proxies (e.g., parents, guardians) needed for most decisions until age 18 ("age of majority" in 46 states)

 Educational and general medical care (including psychotropic medication), among others



Recent Developments (1)

- Presumption generally remains that parental consent required for general medical care (based on federal const. law, state common law (contract and torts))
- However, over past 30 years, advancement of concept minors age 12-14 or older can provide informed consent for some medical decisions
- Started with abortion, then moved to contraception
- More recent exceptions include:
 - substance use disorders (SUDs) treatment
 - mental health treatment (psychotherapy, not meds)
 - STD treatment
 - Vaccinations (see later slides)

Recent Developments (2)

- <u>Ethical sense/scientific data</u>: older teens and young adults w/ similar cognitive capacities
- <u>Societal good/public health benefit</u>: encouraging youth to seek treatment they otherwise wouldn't seek (if parental consent required)
- <u>Fairness</u>: youth facing increased jeopardy in adult criminal court (i.e., adult penalties = adult responsibilities)
- Significant variability from state to state re: minors' ability to consent to medical treatment

Informed Consent for Medical

Тх

- Information: understandable explanation of the condition, recommended treatment(s), risks and benefits of proposed treatment (or no treatment), and alternatives
- <u>Understanding</u>: assessment of person's understanding of information provided
- <u>Competence</u>: assessment of competence to make medical decisions (e.g., weigh pros/cons, manipulate information)
- <u>Voluntariness</u>: assurance patient has ability to choose freely between alternatives without coercion
- Most jurisdictions employ a "reasonable patient" standard, not a "reasonable practitioner" one

Definitions

- <u>Minor</u>: person who has not yet reached the age of majority (18 in 46 states; 19 in AL, DE, NE; 21 in MS)
- <u>Emancipated minor</u>: minor (generally) judicially-determined to be autonomous for medical decision-making purposes
 - financial independence and living apart from parents
 - active duty in military
 - married (to adult or emancipated minor) or divorced
 - received "declaration of emancipation" from court
- <u>"Mature Minor</u>": minor determined by medical professional to have autonomous decision-making ability for general or specific medical care

CA Emancipated Minor Statute

 A person under the age of 18 years is an emancipated minor if any of the following conditions is satisfied:

- The person has entered into a valid marriage, whether or not the marriage has been dissolved.
- The person is on active duty with the armed forces of the United States.
- The person has received a declaration of emancipation pursuant to Section 7122.

Emancipation of Minors Law. Div. 11, Part 6, Chap. 1, §7000

CA Emanc. Minor Requirements

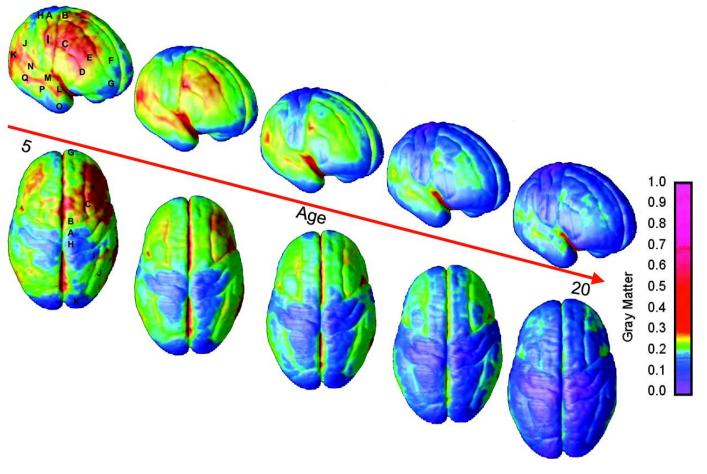
- A minor may petition the superior court of the county in which the minor resides. Petition should set forth the following facts:
 - Minor is at least 14 years of age
 - Minor willingly lives separate and apart from the minor's parents with the consent or acquiescence of minor's parents
 - Minor is managing his or own financial affairs; as evidence of this, minor shall complete and attach declaration of income and expenses
 - Source of minor's income is not derived from any criminal activity

Medical Ethics v. The Law (1)

Medicine:

- Assumes a neurobiological/developmental approach
- Decision-making autonomy based on social maturity and cognitive capacity
- Based on personal autonomy/factual capacity
- Standard for adults is based primarily on capacity

Fig. 3. Right lateral and top views of the dynamic sequence of GM maturation over the cortical surface



Gogtay, Nitin et al. (2004) Proc. Natl. Acad. Sci. USA 101, 8174-8179



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Medical Ethics v. The Law (2)

Dynamic Mapping:

- Sustained pruning begins around the start of puberty (around 1% a year during teenage years)
- Cortex generally matures in a parietal-to-frontal direction (i.e., back-to-front)
- DLPFC begins to prune at end of adolescence; this area sometimes called "superego" of brain
- In Gogtay study, pruning continued to age 21, the oldest individuals scanned; quite possible, even likely, pruning continues after this

Medical Ethics v. The Law (3)

<u>Law</u>:

- Based on political theory and constitutional doctrine
- Individual rights given almost exclusively to adults (children are "the Achilles Heel of liberalism")
- Parental decision-making rights emphasized again and again
- Very limited carve-outs that consider cognitive capacity and social maturity (e.g., criminal acts, abortion)





Parham v. J.R. (1979)

<u>USSC opined (and this is still controlling)</u>:

"[most] children, even in adolescence, simply are not able to make sound judgments concerning many decisions, including their need for medical care or treatment. Parents can and must make those judgments."

AAP v. Lungren (1997)

CA Appellate Court (4th DCA) opined:

"[at] common law, minors generally were considered to lack the legal capacity to give valid consent to medical treatment or services, and consequently a parent, guardian, or other legally authorized person generally was required to provide the requisite consent. In the absence of an emergency, a physician who provided medical care to a minor without such parental or other legally authorized consent could be sued for battery."

"[t]he requirement that medical care be provided to a minor only with the consent of the minor's parent or guardian remains the general rule, both in CA and throughout the United States."

States' Rights?

- Less than 20% of states have broad mature minor exception
- 70% have no exception
- Remainder have conditioned exceptions
- Statutory exceptions can be applied broadly

 Common-law/case law-based exceptions only applicable in case w/ analogous facts

What Does Statute/Case Law Say?

- Absolute age cut-off (e.g., 12, 14, 16)?
- Educational attainment required (e.g., HS graduation)?
- "Informed consent" standard sufficient, or more global "maturity to consent" standard also required (see next)?
- Lack of availability/willingness of parent/LG required?
- Right to refuse treatment also preserved?

Criteria for "Evaluation of Maturity"

- Age
- Level of education
- Experience
- Separateness from parents
- Grades in school
- Extracurricular activities
- Work
- Disciplinary issues
- Future plans
- Generally must demonstrate by "clear and convincing" evidence

Specific State Statutes

- <u>AL (Al. Stat. Ann. 22-8-4)</u>: Minors aged ≥ 14 have authority to consent to general medical care. No separate evaluation of maturity required.
- <u>PA (35 Pa. Cons. Stat. Ann. 10101)</u>: "Minors" aged ≥ 18, HS graduates, and those who have been married or pregnant have consent authority
- <u>NV (Nev. Stat. Ann. 129 030)</u>: Minors capable of meeting informed consent standard have consent authority, but only when HC worker believes youth is "in danger of suffering a serious health hazard if HC services not provided"
- <u>OR (Or. Stat. Ann. 109640)</u>: Minors aged ≥ 15 have consent authority; may not apply to refusal of treatment

General Exceptions to Parental Consent Requirement

- Emergency care
- Emancipation of minor (see previous slides)
- Abortion (varies significantly from state to state)
- Contraception or pre-natal care
- Treatment for sexually transmitted diseases/HIV testing
- Diseases of public health
- Mental health treatment (only therapy, not meds, ECT, psychosurgery)
- Substance use disorders treatment (not meds (including opioid replacement therapy))

CA Health & Safety Code § 124260

 "[A] minor who is 12 years of age or older may consent to [outpatient] mental health treatment or counseling if, in the opinion of the attending professional person, the minor is mature enough to participate intelligently in the mental health treatment or counseling services."

CA Family Code § 6929(b) and (e)

- "A minor who is 12 years of age or older may consent to medical care and counseling relating to the diagnosis and treatment of a drug or alcohol related problem."
- "This section does not authorize a minor to receive replacement narcotic abuse treatment...without the consent of the minor's parent or guardian."

What If Youth/Proxy Decision-maker Refuses Crucial Medical Treatment?

- Potentially could be overridden by judicial officer
- Strong deference given to parental preference, particularly when religiously motivated (e.g., Jehovah's Witness, Christian Scientist)
- Treatment refusal can impact others (e.g., communicable diseases (e.g., TB), vaccine refusal leads to decreased "herd immunity")

In re E.G. (1989)(1)

- E.G., a 17 y/o Jehovah's Witness, decided to forgo medical treatment (transfusions) for leukemia (acute NLL)
- Lower court compelled life-saving blood transfusions, despite E.G. and mother's refusal (on 1st Amendment grounds)
- Court also found mother neglectful parent for refusing blood transfusions for daughter
- E.G. appealed, after the fact

In re E.G. (1989)(2)

- Illinois Supreme Court held that E.G. was mature enough to refuse treatment and was capable of appreciating consequences of same, balancing risks with religious convictions
- Reversed lower court's finding that mother was neglectful
- Cited E.G.'s status as autonomous rather than mother's actions/behavior

In re Cassandra C. (2015)(1)

- Cassandra Callender, a CT teen, was diagnosed with Hodgkin's lymphoma when she was16 y/o (almost 17 y/o)
- Disease invariably fatal if not treated, but high probability of cure if treated in a timely manner (85% or so)
- Physicians recommended aggressive, uninterrupted chemotherapy
- Over next few months, Cassandra missed several appts., mother expressed concern re: physicians' giving Cassandra "poisons"
- Second-opinion physician confirmed diagnosis and recommended chemotherapy; stage 3 lymphoma dxed by PET scan

In re Cassandra C. (2015)(2)

- Eventually, MDs so concerned re: delay in tx and consequences, they contacted DCF
- After DCF filed neglect petition and were granted temporary custody, Cassandra was hospitalized (essentially involuntarily) to begin tx
- After agreeing to undergo tx, was released home to begin tx as outpt. manner; however, she ran away from home after her first two treatments and then refused to continue treatment
- Mother supported Cassandra's decision not to undergo treatment

In re Cassandra C. (2015)(3)

- At hearing, judge determined that neither Cassandra nor her mother had the capacity to make sound medical decisions regarding her cancer tx, and ordered that she be removed from her home and that DCF make medical decisions for her
- Cassandra and mother appealed decision based on the "mature minor doctrine;" appeal eventually reached CT Supreme Court

In re Cassandra C. (2015)(4)

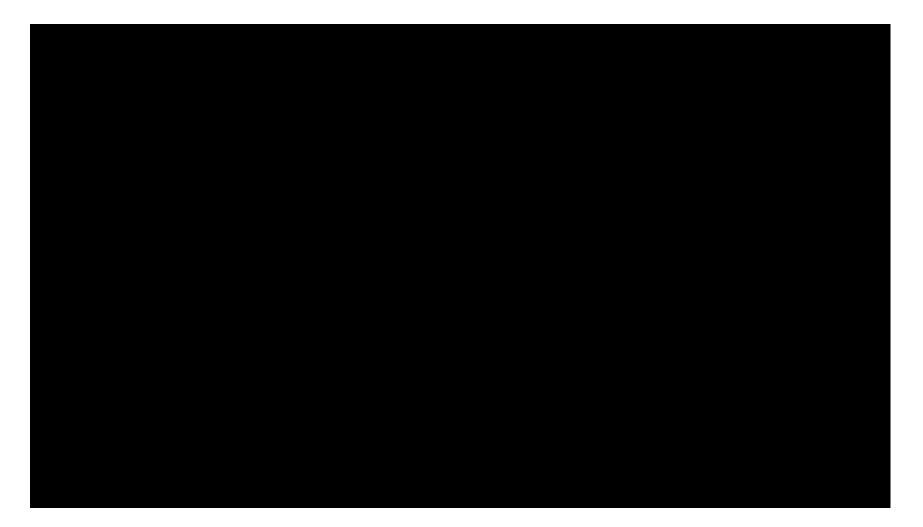
 CT Sup. Ct. let stand the trial court's decision based on the following rationale:

1) CT did not have a "mature minor standard"

2) The trial court judge's finding that Cassandra was not a mature minor was not clearly erroneous; this was not the proper case to decide whether or not to adopt a mature minor standard

 Cassandra wrote an op-ed piece in the Hartford Courant and said, "This experience has been a continuous nightmare. I want the right to make my medical decisions."

Cassandra Callender





LOGIC Facts Science Data REASON



(Extraordinarily) Brief History of the "Anti-Vax" Movement

- Long history (over a century), but had a reinvigoration based on now-debunked findings of now-disgraced British physician, Andrew Wakefield
- Published a case series in *The Lancet* that suggested that the MMR vaccine increased the risk of PDD/ASD in children who received it
- Embraced by some celebrities (e.g., Jenny McCarthy, Jessica Biel, others) and amplified by social media
- Very vocal and influential group for relatively small size
- Part of the culture of mis/disinformation that has plagued U.S. and other countries for several decades





CA Legislative Responses to Anti-Vax Movement

- Primarily spearheaded by CA State Senator Richard Pan, M.D., a pediatrician from the Sacramento area
- <u>Authored SB 277 (enacted 2015)</u>: eliminated personal belief exemption that allowed parents to opt out of vaccines otherwise required for school attendance
- <u>Authored SB 276 (enacted 2019)</u>: closed loopholes on medical exemptions and provided oversight to the medical exemption process via the Medical Board of CA
- Resulted in significant increase in vaccination rates in children & adolescents attending school (>95%)

Retaliation by Anti-Vaxxers

 In August 2019, Sen. Pan allegedly was shoved by Austin Bennett, a known anti-vaxxer

https://www.washingtonpost.com/nation/2019/08/22/yeah-i-pushed-y ou-anti-vaxxer-cited-assaulting-lawmaker-while-live-streaming-faceb ook/

 In 2019, Rebecca Lee Dalelio, an anti-vaccine advocate, allegedly threw menstrual blood on legislators in the CA State Senate

https://www.sacbee.com/news/politics-government/capitol-alert/articl e235727467.html

Minor Consent for Vaccines (1): Rationale

- Very low risk, high benefit "procedures" (both to the individual and society), so bar for IC conceivably could be lower
- Public health argument; beneficial for society/others
- Existing statutes permitting minor consent for:
 - prevention, diagnosis, and treatment of communicable diseases and STIs (generally)
 - vaccines designed to prevent STIs (e.g., HPV, Hepatitis B) (specifically); may be proverbial "foot in the door"

Minor Consent for Vaccines (2): Current Status

- Very few states (nine) have provisions for youth to consent to certain vaccines (CA, DE, MN, NY, AK, ID, AL, OR, SC)
- Some (CA, DE, MN) only allow minor consent for vaccines related to STIs
- Significant number of youth/lawmakers pushing for mature minor exceptions to allow youth of age 11-, 12-, or 14-17 to consent to their own vaccinations
- In 2019, Ethan Lindenberger (then 18 y/o) testified in front of a U.S. Senate subcommittee advocating for this:
 - <u>https://www.washingtonpost.com/health/2019/03/03/teen-got-vaccinated</u>
 <u>-against-his-parents-wishes-now-hell-testify-before-congress/</u>

Minor Consent for Vaccines (3): Recent or Pending Initiatives

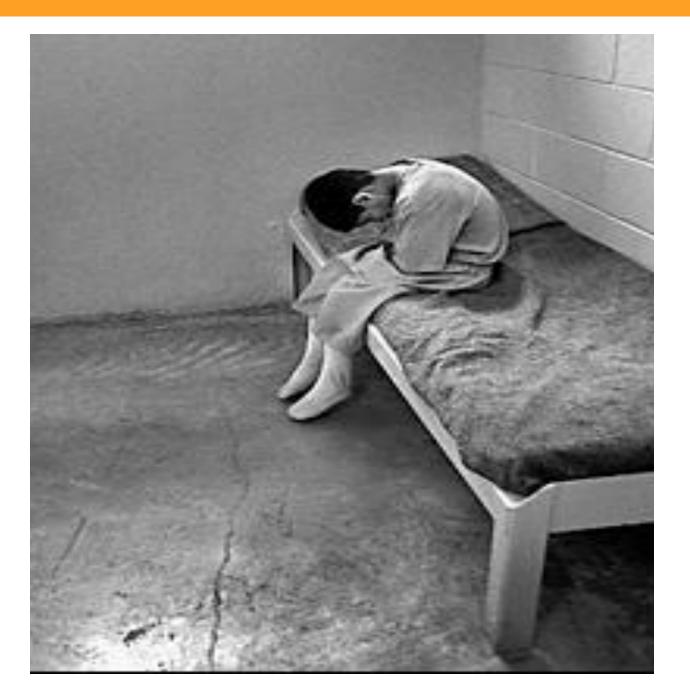
- <u>D.C. Act 23-532</u>: In December 2020, the City Council of the District of Columbia (i.e., Washington, D.C.) passed a law that allowed minors 11 years of age or older to consent to their own vaccination "if the minor is capable of meeting the informed consent standard and the vaccination is recommended the Unites States Advisory Committee on Immunization Practices…"
- <u>NY Senate Bill S4244C</u>: In the 2019-2020 leg. session, bill introduced that would permit any child ≥ 14 y/o "to have administered to himself or herself, regardless of parental consent, certain immunizations required or recommended by law" (now being considered in 2021-2022 leg. sess.)



Proxy Decision Makers: Special Situations (1)

Divorce:

- Generally speaking, if joint legal custody, only one parent's consent needed for medical treatment (including psychotropic medication), unless joint legal custody order requires otherwise (i.e., both parents must consent)
- Can vary significantly from jurisdiction to jurisdiction
- If sole legal custody, only that parent's consent needed; check court order
- Regardless, may be prudent to contact other parent
 - Collateral information
 - Advise other parent and ascertain whether actively opposed to treatment; assess reason for opposition if any (e.g., child's best interests vs. vitriol toward other parent)



Proxy Decision Makers: Special Situations (2)

Youth detained in juvenile justice settings:

- If youth is a "ward of the court" and/or adjudicated delinquent, parents generally retain right to consent to psychotropic medication(s)
- In LA County (CA), juvenile court judicial officer also can consent to youth's psychotropic medication regimen if parent/LG "refuses to consent, is unavailable to consent, or is incapable of consenting"
- Standard practice is to obtain verbal consent from parent/LG and then court authorization
- Can vary significantly from jurisdiction to jurisdiction



County of Los Angeles Department of Children and Family Services

Proxy Decision Makers: Special Situations (3)

- Foster youth/youth removed from homes:
 - If youth is "dependent of court," physician must obtain authorization from the court
 - Court may authorize a parent to consent to medication, but must find parent: 1) poses no danger to child;
 2) has capacity to consent
 - Provisions exist for "emergency administration;" bar lower than "emergency" in inpatient setting (e.g., one criterion is "to treat current or imminent substantial suffering")

Summary Points

- In most jurisdictions, parental/LG/court consent required for minor's general medical care (including psychotropic medication)
- Exceptions to this rule exist for certain types of care, and for certain types of patients
- In 20% of jurisdictions, a general "mature minor" exception exists; significant variability from state to state
- Capacity for informed consent always required
- In addition, "evaluation of maturity" may also be required

References/Reading

- Silverman RD, et al. Vaccination over parental objection: Should adolescents be allowed to consent to receiving vaccines? N Engl J Med. 38(2): 104-6, 2019.
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- Hickey K. Minors' rights in medical decision making. JONAS Healthc Law Ethics Regul. 9(3):100-4, 2007.
- In re E.G., 133 III. 2d 98 (1989)
- In re Cassandra C., SC 19426 (2015)

Questions?

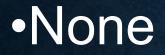


I WANT TO BELIEVE

DISINFORMATION, CONSPIRACY THEORIES, EXTREMISM, AND **RADICALIZATION OF** YOUTH Praveen Kambam, M.D.

ASAP Meeting 2021

FINANCIAL DISCLOSURES

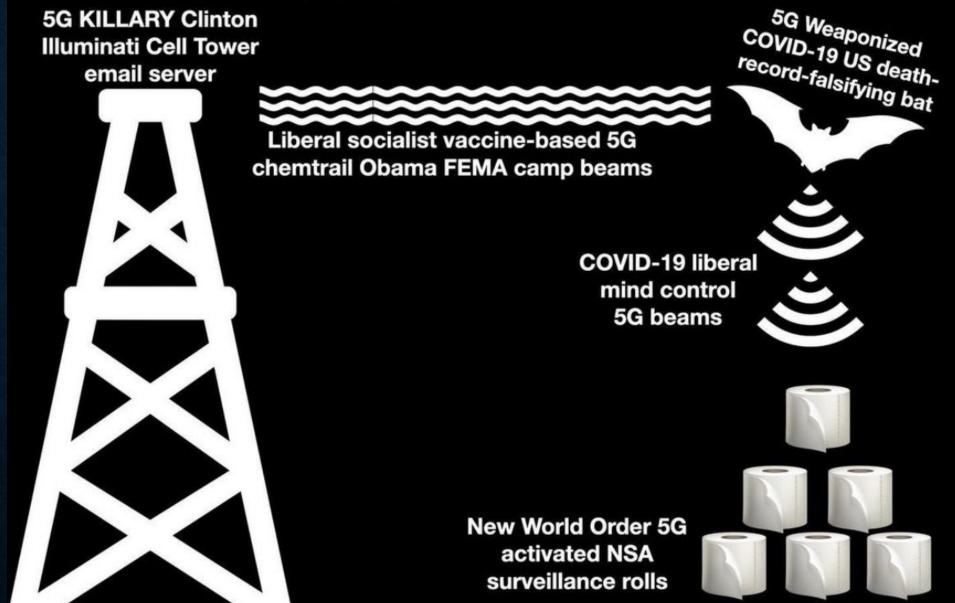


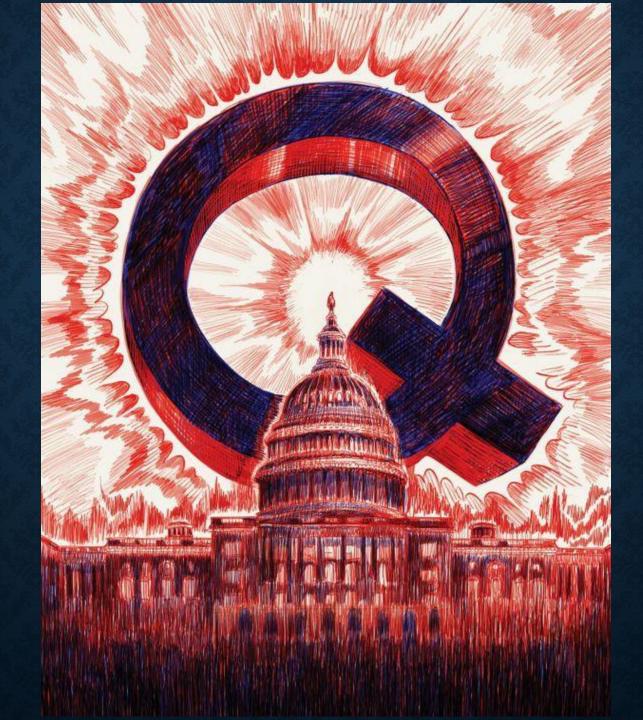
EDUCATIONAL OBJECTIVES

- Understand ways in which media and technology changes potentially contribute to radicalization of youth and their adoption of disinformation, propaganda, conspiracy theories, and extremist beliefs.
- Describe factors of adolescents that make them potentially more vulnerable to these effects.
- Recognize warning signs that youth are on pathways to extremism and radicalization.
- Identify basic preventative strategies and resources to assist youth and families in mitigating these potential effects.



WAKE UP SHEEPLE!!! THE <u>REAL</u> TRUTH IS OBVIOUS







r/Coronavirus u/wucaducadoo • 7d





Do you wake up every morning and immediately think of the coronavirus? And then check Reddit?

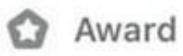


I do and I don't think it's good for my mental health.



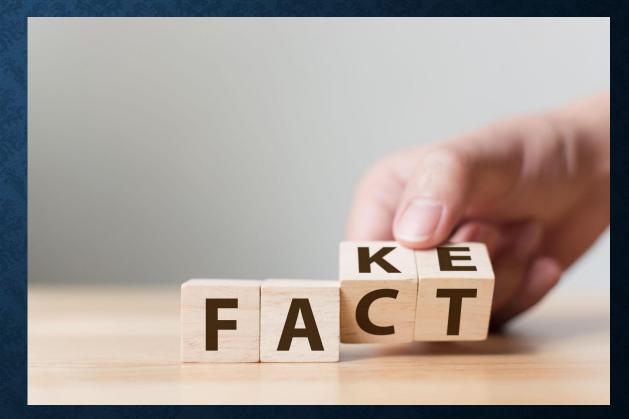






TERMS

Disinformation
Conspiracy Theories
Extremism
Radicalization





POTENTIAL CONTRIBUTIONS OF THE INTERNET AND SOCIAL MEDIA

- Quantity of info to sort through
- Ability to spread rapidly
- Algorithmic reinforcement, "echo chambers"
- Providing a forum, connections, and cross-fertilization
- Anonymity
- Increased realism

PRODUCERS OF MIS/DISINFORMATION

Independent trolls

Hired trolls

Conspiracy theorists

•Bots

Hyperpartisan media
Fake news websites

ADULT COVID-19 KNOWLEDGE AND MEDIA SOURCE (SAKYA ET. AL 2021)

 Less likely to answer COVID-19 questions correctly:

- Television news as a primary source
- Facebook as an additional news source in any way

•Government health websites as a primary source was most knowledgeable group

WHY HIGHLIGHT YOUTH?

- Adolescent news consumption mainly takes place on internet, particularly social media
- Developing cognitive skills and life experience to identify biases/agendas and evaluate credibility of info
- Adolescence is a critical period of identity and attitude formation, with some attitudes persisting over time

RESEARCH EVOLVING

- One study showed 18-24 age group (compared to older) more likely to believe virus-related misinformation
- Another study showed over 65 years of age shared more "fake news" articles
- UK questionnaire study: Conspiracy beliefs appear to peak around age of 14, remain heightened into early adulthood

CONSPIRACY THEORY ELEMENTS (DYRENDAL AND JOLLEY 2020)

Narrative (detective and thriller) arcs

Political speech

Atrocity tales

Advocacy numbers

YOUTH
ADOPTION OF
CONSPIRACY
THEORIESCleating
Cleating
believ
Ambive

Clear believers Ambivalent space of identity play

Passing interest, curiosity

WHO BELIEVES IN CONSPIRACY THEORIES?

- No reliable profile
- Two-component, socio-epistemic model (Pierre 2020)
- Positive relationship with conservatism (van der Linden 2020)
- "Distrust of officialdom"
- Certain personality traits and "cognitive quirks"

ADDRESSING CONSPIRACY THEORIES WITH YOUR PATIENTS Pro-active "pre-bunking"/"inoculation" strategies Enhance therapeutic relationship (trust) Consider framing in terms of patient's values and gaining control Gentle Socratic inquiry/CBT elements

HOW TERRORISTS USE THE INTERNET

Instrumental uses

Public relations/communication

Many focus on recruitment of youth

ONLINE RADICALIZATION (NEUMANN 2013)

- Moral outrage
- Forums as criminogenic incubators
- Online disinhibition
- Mortality salience
- Linkage to terrorist structures
- Mobilization through role-playing

TERRORISM IN THE TIME OF THE PANDEMIC (KRUGLANSKI ET AL. 2020)

Increased online recruitment opportunities

 Uncertainty and confusion exploited for messaging boost

 "Grievance, Culprit, Method" extremist narratives

YOUTH RADICALIZATION: COVID-19 PANDEMIC FACTORS

- More time online, distance learning
- Uncertainty and loss
- Reduced social supports from trusted adults
- Isolation from others who might challenge beliefs
- Distracted caregivers

YOUTH RADICALIZATION

- No universal list of risk factors, heterogenous group
- Individual needs to be seen within a broader socio-political context
- May be different than general youth violence risk factors

RISK FACTORS FOR INVOLVEMENT IN VIOLENT EXTREMIST ORGS (RAUN)

- Fear of loneliness and identity conflict
- Family dysfunction
- Radicalized peers and/or romantic partner
- Community rejection
- Antisocial traits, delinquency, previous substance use
- Psychological vulnerabilities

SEEKER TYPES AND PSYCHOLGOICAL NEEDS (MACDOUGALL ET AL. 2018)

- Identity seekers
- Justice seekers
- Sensation seekers
- Significance seekers

PROCESS OF CONVERSION

Immersion

Identification

Indoctrination

Action

Push and pull factorsGroup effects (Borum 2011)

WARNING INDICATORS OF YOUTH RADICALIZATION

- Rifts in former relationships
- Loss of individual features
- Legitimating/praising use of violence
- Planning to leave to join, supporting the cause
- Spreading ideology online
- Participating in recruiting process

WARNING INDICATORS OF YOUTH RADICALIZATION FOR PARENTS (KELLY 2016)

Sudden changes in personality or behavior

Becoming more isolated

Talking from a script

Becoming more religious

POTENTIAL MEDIA INFLUENCE WARNING SIGNS (KAMBAM ET AL. 2020)

Identification and popular culture

 Radicalization and cultivation of extreme or fringe beliefs (echo chamber, amplifying, normalizing)

•Fixation, incitement, and leakage

PREVENTING ONLINE YOUTH RADICALIZATION

- Teachers
- •Parents
- Youth digital literacy and resilience
- Countermessaging
- Reduce supply
- Reduce demand

EXAMPLE RESOURCES

Numerous media literacy sites/training (e.g., CTRL-F, commonsensemedia.org)
FBI "Don't Be a Puppet"
Fact check sites

JUVENILE PSYCHOPATHS: Can Bad Boys Become Good Men?

Charles L. Scott, MD Professor of Clinical Psychiatry University of California, Davis

ASSESSING FUTURE RISK

 50% of children <10 with serious antisocial behavior do not persist into adolescence

 > 50% of adolescent delinquents do not become antisocial adults

CONDUCT DISORDER

- Persistent pattern of 3 or more in 12 months in 4 areas:
 - Aggression to people and animals
 - Destruction of property
 - Deceitfulness or theft
 - Serious violation of rules

INTERMITTENT EXPLOSIVE DISORDER

- Aggression is impulsive
- Not premeditated or to achieve some gain

CONDUCT DISORDER TYPES

Childhood-Onset

Prior to age 10

Adolescent-Onset

No criteria prior to age 10

"WITH LIMITED PROSOCIAL EMOTIONS"

- At least 2 of 4 criteria for one year:
 - -Lack of remorse or guilt
 - -Callous-lack of empathy
 - -Unconcerned about performance
 - -Shallow or deficient affect

"WITH LIMITED PROSOCIAL EMOTIONS"

- "The indicators of this specifier are those that have often been labeled as callous and unemotional traits in research."
- Thrill seeking, fearlessness, and insensitivity to punishment may also distinguish those with these characteristics.

HEART RATE AND ANTISOCIAL BEHAVIOR

- Lower heart rate in antisocial kids
- High heart rate protective against adult crime
- Range of confounding variables ruled out

HEART RATE AND ANTISOCIAL BEHAVIOR

- Stimulation
 seeking
 - Aggressive
 behavior
 stimulates

HEART RATE AND ANTISOCIAL BEHAVIOR

- Fearlessness theory
 - Less likely to respond to punishment

LATVALA ET AL. (2015) STUDY Studied >700,000 Swedish men

conscripted for Army

Follow up for >35 years

LATVALA ET AL. (2015) STUDY

- Low resting heart rate in adolescence with increase in:
 - Violent criminality
 - Non violent criminality
 - Exposure to assault
 - Unintentional injury

IMPLICATIONS

- Stimulants help decrease antisocial behavior in ADHD
 Moderator of psychosocial interventions?
- Teach law abiding social stimulation

The psychopath.

PSYCHOPATHY

 Debate regarding dimensions that capture "psychopathy"

 Callous-unemotional
 Arrogant deceitful
 Impulsive and irresponsible

PSYCHOPATHY

- Psychopathic traits in childhood have been associated with:
 - -More severe conduct problems
 - -Violence and aggression
 - -Delinquency

PSYCHOPATHS

- Egocentric, arrogant
- No conscience
- Lack of empathy
- No loyalty
- Not "psychotic"
- Not synonymous with criminality or ASPD

PSYCHOPATHY CHECK LIST

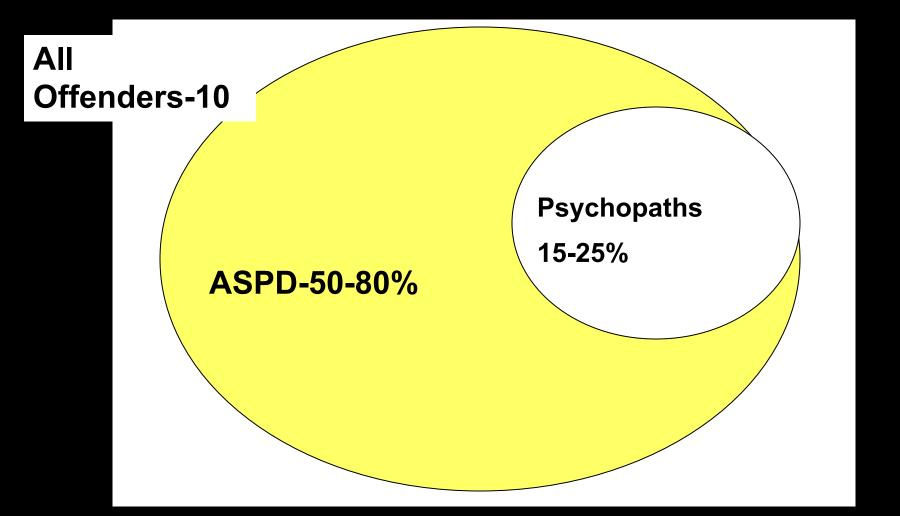
- Developed by Robert Hare
- Consists of 20 items
- Requires collateral record review
- Scores of 0,1,2
- 30 or greater=psychopathy

PSYCHOPATHY CHECK LIST

- Glibness/Charm
- Grandiosity
- Boredom
- Lying
- Conning
- Lack of remorse
- Shallow affect
- Lack of empathy
- Parasitic life style
- Inadequate behavioral controls

- Sexual promiscuity
- Early behavior problems
- Paucity of long term goals
- Impulsivity
- Irresponsibility
- Failure to accept responsibility
- Multiple marital relations
- Juvenile delinquency
- Violations of cond. Release
- Criminal versatility

PSYCHOPATHY AND ASPD



JUVENILES AND PSYCHOPATHY

The murder of James Bulger.

ARGUMENTS AGAINST PSYCHOPATHY

- Juveniles still developing and some traits may reflect normal development
- The term "psychopath" may have negative effects, including assessment of treatability

ARGUMENTS FOR PSYCHOPATHY

- Core features of psychopathy present in childhood
- Delinquent behavior predicted from psychopathy
- Early identification important to avoid negative consequences
- Has treatment participation and outcome implications

JUVENILE PSYCHOPATHY

- Psychopathy Checklist-Revised: Youth Version
 - Ages 12-18
 - 20 items rated on a 3 point scale
 - Scores range from 0-40

ANTISOCIAL PROCESS SCREENING DEVICE

- 20 item measure of psychopathic personality features
- Ages 6-13
- Completed by parents, teachers
- ? Measure of interpersonal or affective features

Callous-Unemotional

CALLOUS-UNEMOTIONAL

- Lack empathy, guilt or concern
- Plays prominent role in conceptualization of psychopathy
- Characterize a particularly problematic group of children

STABILITY OF CU TRAITS

- Although high level of stability, some youth have decrease in CU traits from childhood to adolescence
- High CU traits, however, predict adult measures of psychopathy

CU AND COGNITION

- Insensitivity to punishment cues with reward dominant response is primed
- Reward-dominant response style
 - Motivated more by potential gain from behavior vs. risk of punishment

REWARD-DOMINANCE COMPUTER TASK ASSESSMENT

- Computer task to study children's sensitivity to punishment after reward-oriented response set primed
- Tasks consist of four games and child can earn prize based on final point score

REWARD-DOMINANCE IMPACT

- Children with high CU traits are more likely to persist in the game
- Less impacted by threat of punishment
- Focus preferentially on reward, even when unlikely

CU TRAITS AND PUNISHMENT

- Respond more poorly to gradual punishment schedules
- Underestimate the likelihood they will be punished compared to others
- Endorse more deviant values and goals in social situations

CU TRAITS AND RESPONSE TO EMOTIONAL STIMULI

- Weaker responses to cues of distress in others
 - PicturesVideosVerbal

Two particular emotions difficult for "callous-unemoti onal"

BLAIR ET AL (2001) STUDY

• Goal:

 To evaluate children with psychopathic tendencies response to emotional facial expressions

BLAIR ET AL (2001) STUDY

Outcome:

 Children with psychopathic tendencies were more likely to make errors processing fearful expressions

Children with psychopathic tendencies less sensitive to sad expressions.

KIMONIS ET AL (2007)

 Children with high CU traits with deficits in recognizing distress have highest levels of aggression and violent delinquency

AMYGDALA AND CU TRAITS

- Amygdala plays role in emotion recognition and response
- Viding et al (2012) found that boys with conduct disorder and CU traits have reduced amygdala response

DADDS (2006) STUDY

- Poor recognition of fear and distress cues by those with high CU traits may be attributable to attending to eyes of faces
- Studies of CU boys demonstrate impairment with eye contact toward parents

STILL FACE PARADIGM

- Parents typically have facial expressions and interactions with their child.
- Children react negatively when their parents adopt a "still face" and do not react to their attempts to engage the parent

STILL FACE PARADIGM

• Key finding:

 Five year old children with high levels of CU traits and ODD symptoms showed less negativity to the still face paradigm at age six months compared to those with ODD but normal levels of CU traits.

OTHER BIOLOGICAL FINDINGS

- CU traits negatively related to skin conductance to peer provocation
- Those with CD and CU traits with lower HR change to emotionally evocative films
- Those with CU traits with blunted cortisol reactivity to stress

CU TRAITS AND TEMPERAMENT

- Lower levels of:
 - –Fear–Anxiety

INVENTORY OF CALLOUS-UNEMOTIONAL TRAITS (ICU)

- Developed by Paul Frick, Ph.D.
- 24 item questionnaire
- Designed to provide comprehensive assessment of CU traits

INVENTORY OF CALLOUS-UNEMOTIONAL TRAITS (ICU)

- Derived from the Antisocial Process
 Screening Device
- Five versions of scale (parent, teacher, self)
- Teacher and parent versions used to assess CU traits as young as 3-5

INVENTORY OF CALLOUS-UNEMOTIONAL TRAITS (ICU) •Three subscales: -Uncaring -Callousness -Unemotional

INVENTORY OF CALLOUS-UNEMOTIONAL TRAITS (ICU)

- No manual
- No published cut off scores
- Recent study of parent version, cut off scores for CU trait and bullying:
 - -Mothers: 24
 - –Fathers: 27

KIMONIS ET AL. (2016) STUDY

- Examined CU traits in 227 juvenile justice involved boys. Those with high CU traits:
 - More quickly reoffended violently and non violently
 - Uncaring subscale predicted faster time to general reoffense
 - Callousness subscale predicated faster time to violent reoffense

TREATMENT OF CU CHILDREN

- Avoid harsh parenting
- Warm parenting practices
- May begin with poorer premorbid functioning

HAWES, PRICE, AND DADDS REVIEW

- Begin with social learning theory
- Focus on positive-reinforcement reward strategies
- "Emotional Engagement" strategy

-Focuses on promoting shared eye contact with parent

RETURN TO "RYAN"

- Evaluate his CU traits with ICU
- What does this suggest for his future risk?
- What treatment recommendations would you give parents?

SUMMARY

- Not all conduct children offend in adulthood
- "Psychopathy" remains controversial
- Children with conduct disorder and CU traits are unique group







Network Modulation of Social Behavior

Ryan Darby, MD Assistant Professor of Neurology Director, Frontotemporal Dementia Clinic Vanderbilt University Medical Center

Outline

- Acquired antisocial behavior in neurological patients localizes to a brain network involved in moral decision-making
- Noninvasive brain stimulation targeting this network can modulate moral decision-making in normal subjects
- Practical and ethical considerations for neuromodulation in patients with antisocial behavior, particularly in adolescents

Overarching hypothesis

- Two cognitive-affective systems involved in guiding moral decision-making and social behavior:
 - Self-centered emotions involved in generating negative emotions to one's own harmful actions (guilt, remorse)
 - Other-centered emotions involved in generating negative emotions directed at other persons who violate social norms (righteous anger, disgust)
- Antisocial behavior results in an imbalance between these emotional systems, reducing self-centered negative emotional processes and increasing other-centered negative emotional processes

Part 1: Network Localization Antisocial Behavior

Phineas Gage



- 25 year old railroad worker "Rod blasted through brain"
- no clear motor, language, or memory deficits

Change in Personality

 "fitful, irreverent, indulging at times in the grossest profanities (which was not previously his custom), manifesting little deference for his fellows, impatient of restraint or advice when it conflicts with his desires."

Charles Whitman

- In 1966, murdered his wife, mother, and 16 innocent bystanders, shooting total 49 people
- At autopsy he was found to have a malignant tumor in his right temporal lobe, prompting questions about the degree to which his brain injury contributed to his behavior.

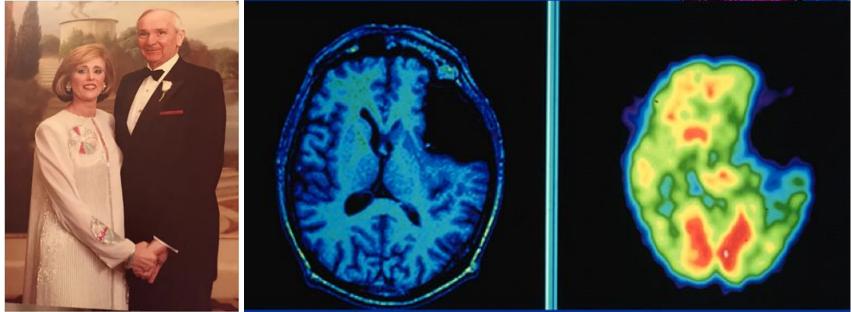


TELLS OF FINDING BRAIN TUMOR IN SLAYER - Dr. C. DeChenar, Austin pathologist who performed the autopay on sniper-

slayer Charles J. Whitman, use a chart of the human hrain to pinpoint the location of the brain tumor he discovered in Whitman. (AP Wirephoto)

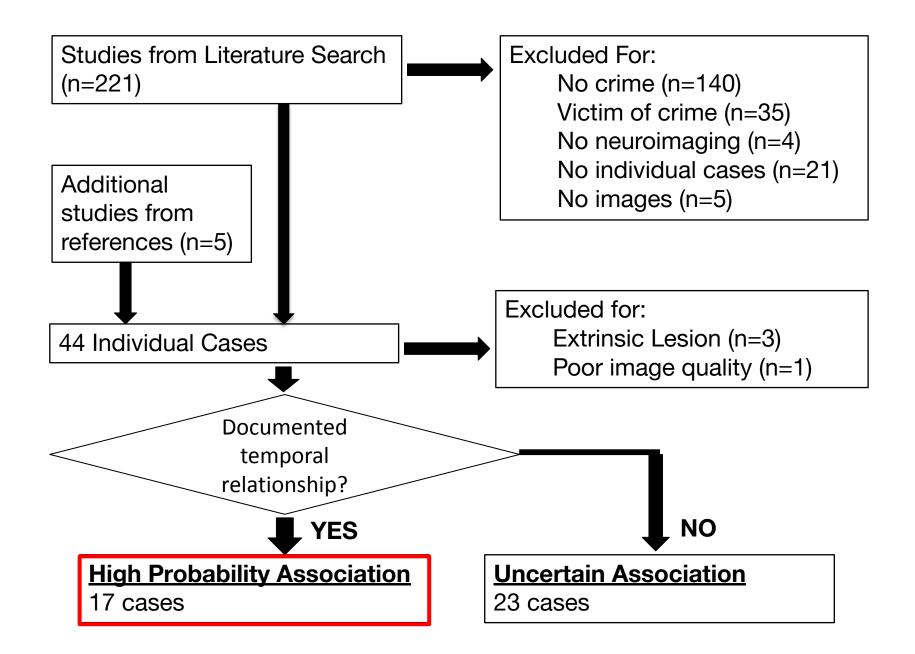
Herbert Weinstein

- 65 year old no prior history of violence strangled his wife after an argument
- Was found to have a large cyst in the left frontal cortex, with hypometabolism on FDG-PET in this region
- Lawyers sought to present this as evidence diminished responsibility

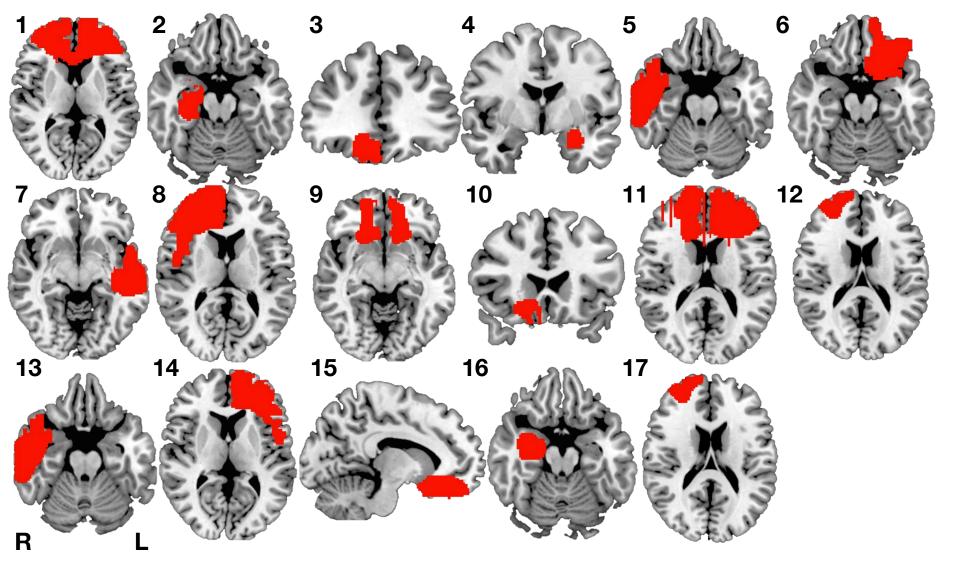


Questions?

- What is the association between a brain lesion location and development of criminal behavior?
- Why do brain lesions in some locations, but not others, lead to criminal behavior?



Darby et al, Proceedings National Academy Sciences, 2018

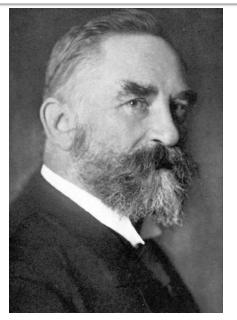


Lesions in many different locations are found in patients who develop criminal behavior, making it difficult to determine to causal link between damage to a particular brain region and criminal behavior

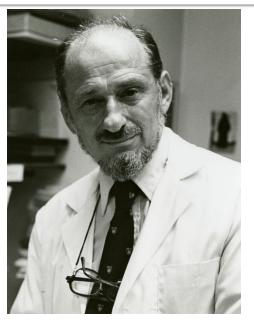
An Historical Aside...



Broca: Localization



<u>Von Monakow:</u> Diaschisis



<u>Geschwind</u>: Disconnection

Lesion Network Mapping

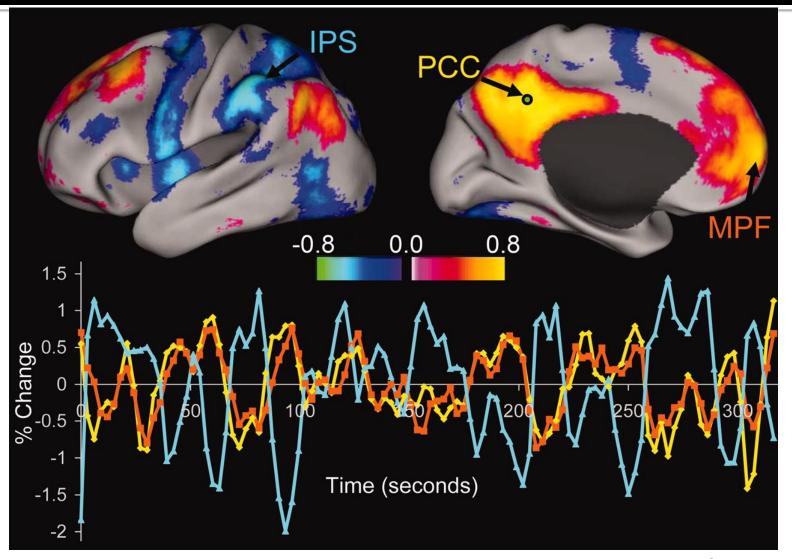
- Based on notion of diaschisis / Functional Disconnection syndrome
- Instead of determining if all lesions occur in the same region, tests if lesions are all functionally connected to the same region.
- Lesions in different locations causing criminal behavior will all be functionally connected to the same brain network





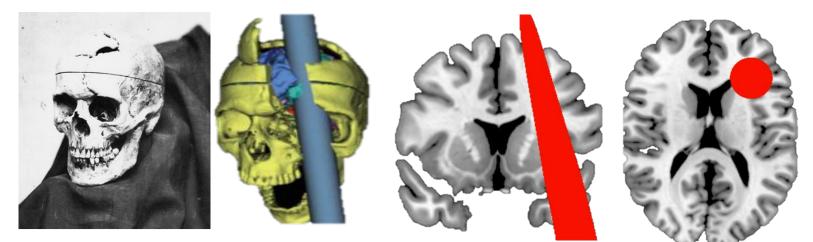
Boes et al, Brain, 2015; Darby et al, Brain, 2017; Fox, NEJM, 2018

Functional Connectivity

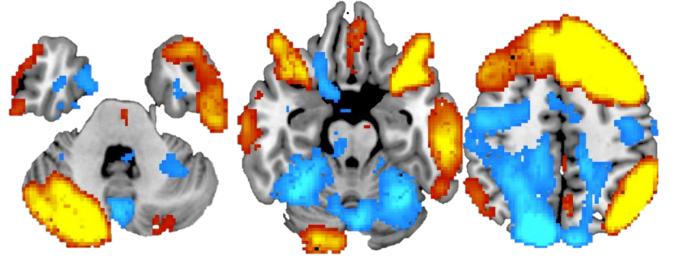


Michael D. Fox et al. PNAS 2005;102:9673-9678

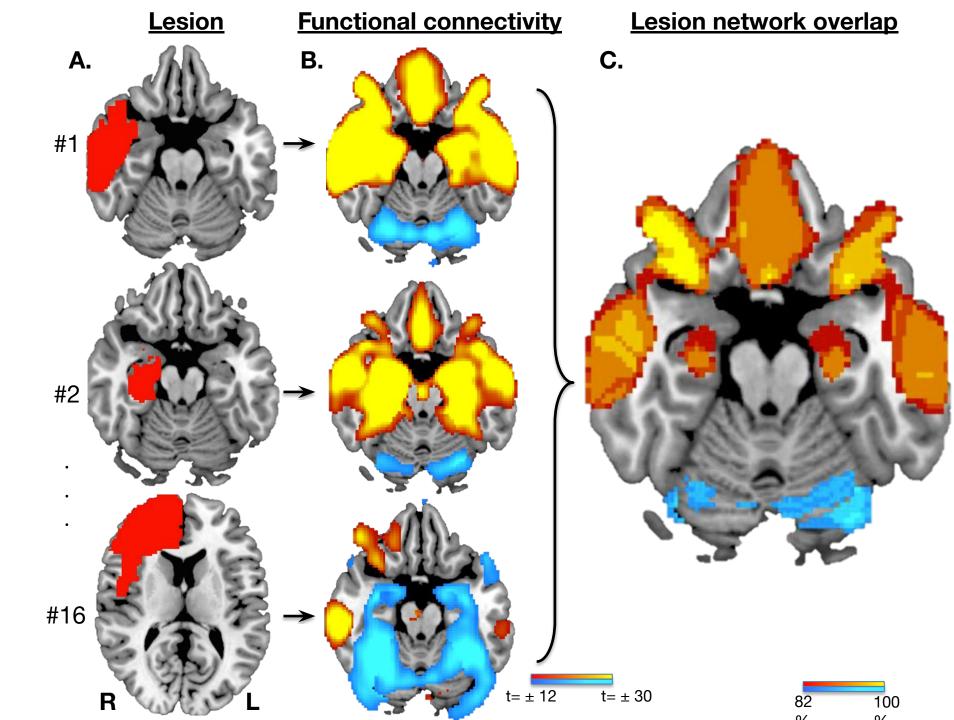
A. Lesion

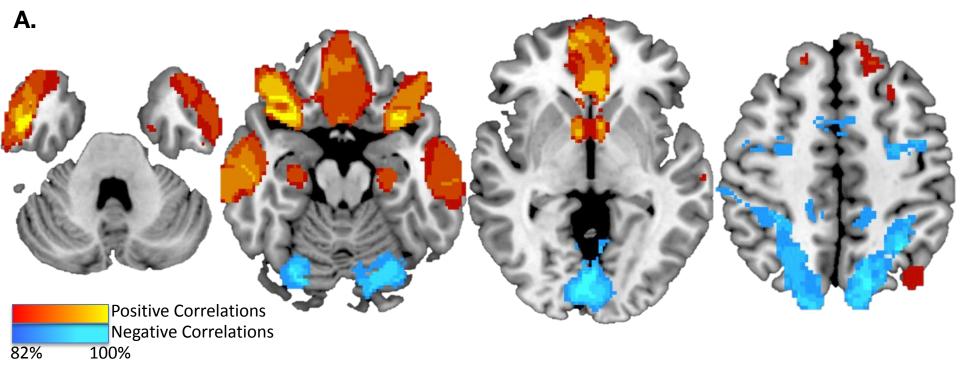


B. Lesion Network Mapping





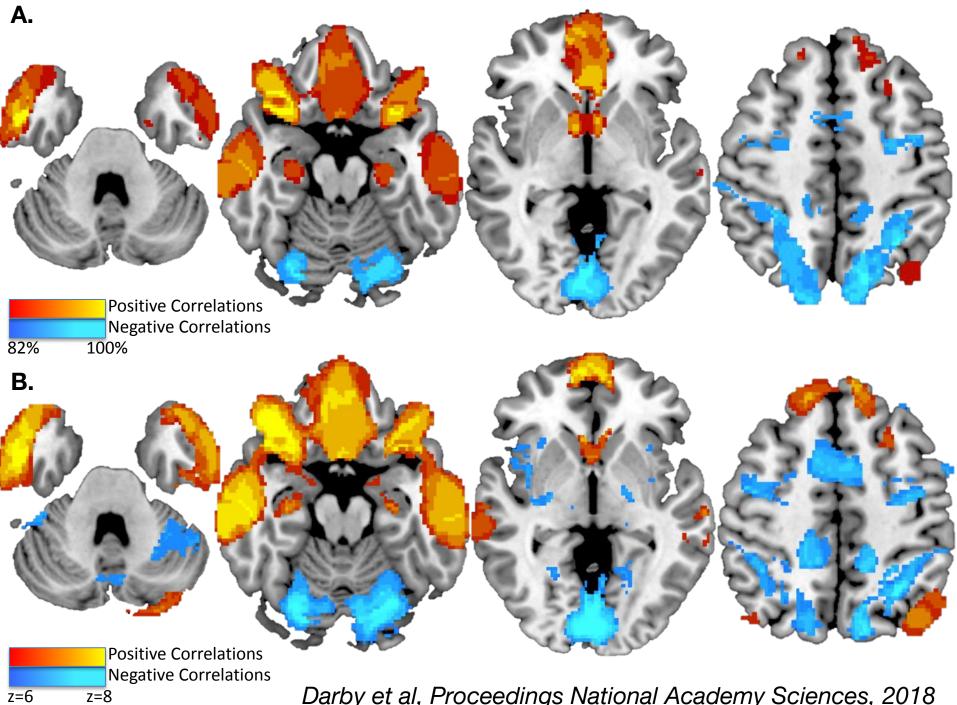




Darby et al, Proceedings National Academy Sciences, 2018

Specificity

- Is connectivity to these regions specific to lesions causing acquired sociopathy?
- Compare lesion network mapping for lesions causing criminal behavior (n=17) vs. other lesions that don't cause criminal behavior (N=77)

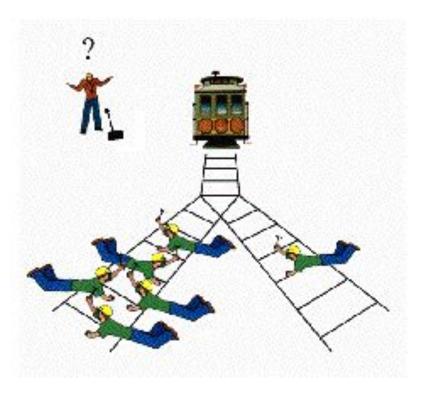


Darby et al, Proceedings National Academy Sciences, 2018

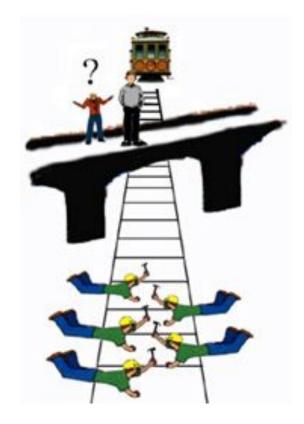
Antisocial Behavior and Moral Decision-making

- Moral dilemmas: measures negative self-centered emotional aversion to causing harm to another person
- <u>Neuroeconomic games:</u> Measures adherence to social norms regarding fairness of monetary exchanges, and negative other-centered emotional response to unfairness

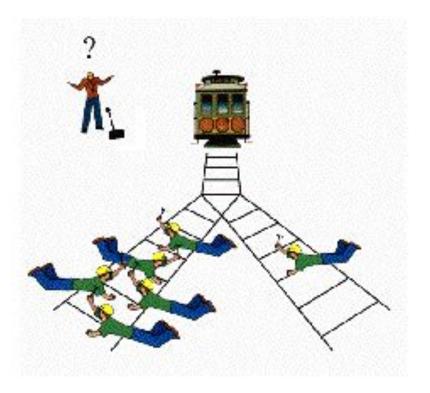
Switch Dilemma



Footbridge Dilemma



Switch Dilemma



Footbridge Dilemma

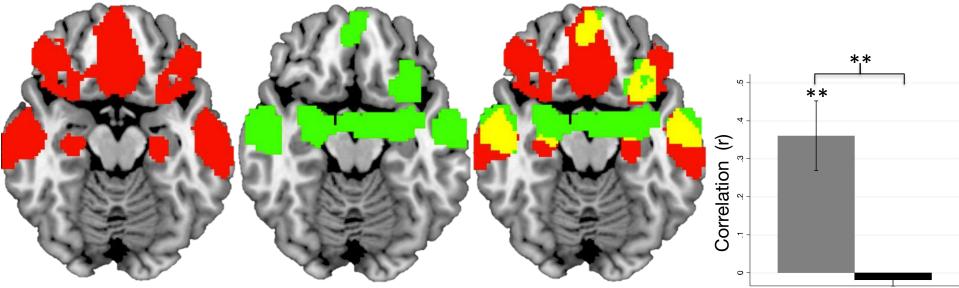


80-90% Yes

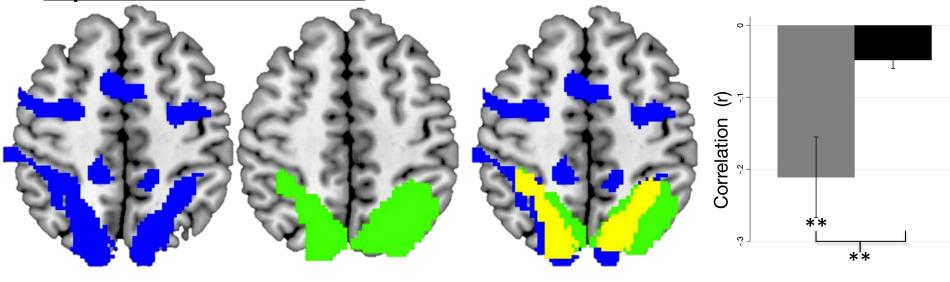
80-90% No

- Patients with antisocial behavior more likely to make utilitarian decision to push man off bridge:
 - VMPFC lesion patients
 - FTD patients
 - Psychopathy patients
- Hypothesized that these diseases reduce negative self-centered emotional response to causing harm, increasing likelihood of utilitarian response

A. Personal Moral Dilemmas



B. Impersonal Moral Dilemmas



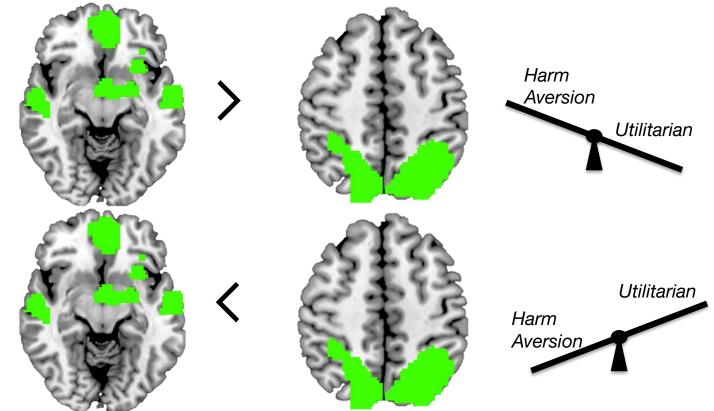
Positive ConnectivityNegative Connectivity

fMRI activation

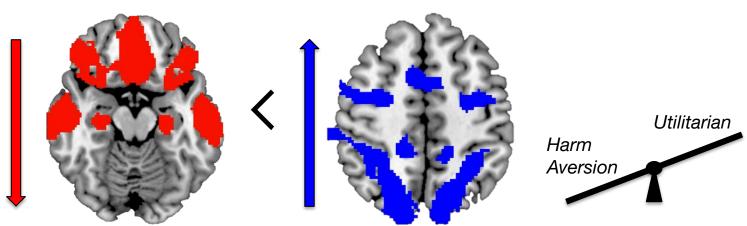
Overlap

Acquired CriminalityControl Syndromes

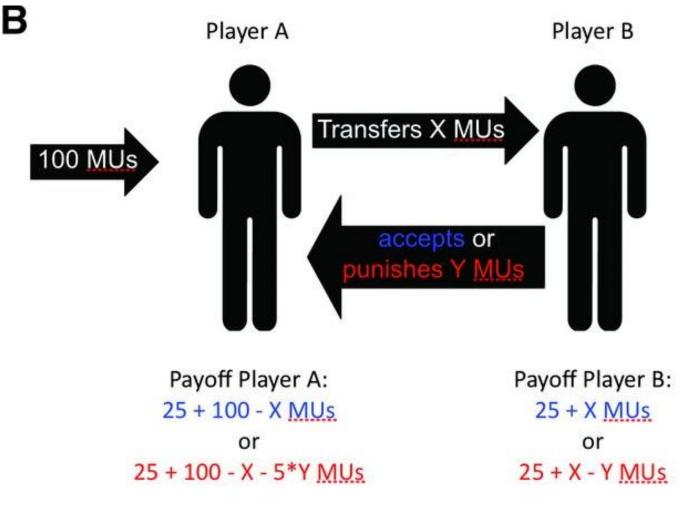
A. Normal Subjects



B. Predicted Effects Acquired Criminality Lesions



Ultimatum Game

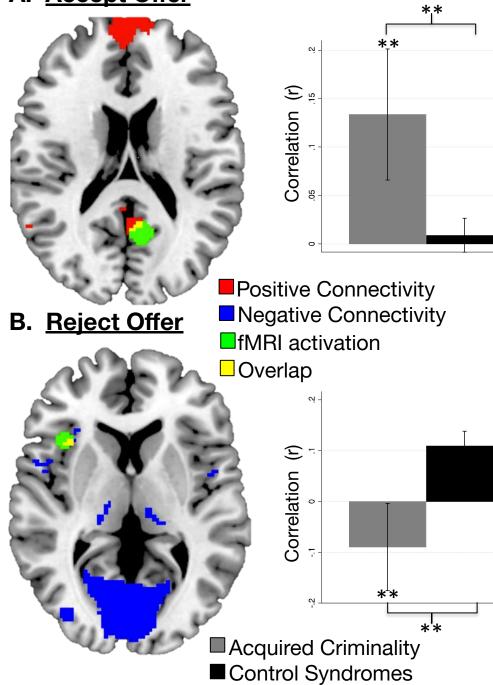


Ruff et al, Science, 2013

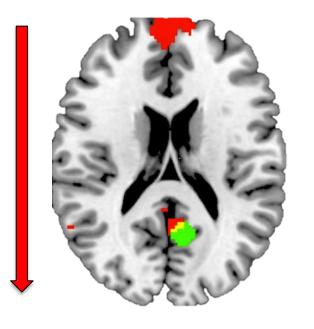
Neuroeconomics games

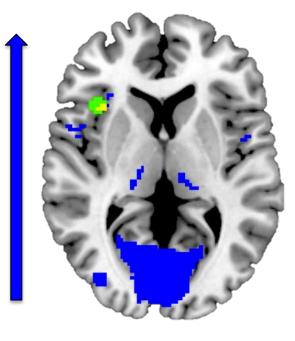
- Patients with antisocial behavior more likely to reject low offers
 - vmPFC lesion patients
 - Psychopathy patients
 - FTD patients
- Hypothesized that this would result from a greater negative other-centered emotion in response to an unfair offer

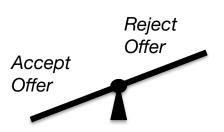
A. Accept Offer



Predicted Effects Acquired Criminality Lesions





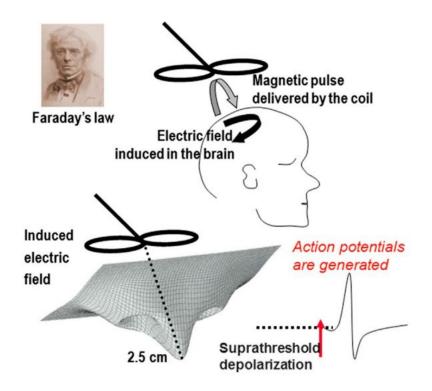


Network localization of antisocial behavior : Summary

- Neurological patients can develop antisocial behavior with damage to different parts of a common brain network.
- This connectivity pattern of damaged locations can explain alterations in moral decision-making:
 - Reducing self-centered negative emotional responses to causing harm
 - Increasing other-centered negative emotional responses towards others who violate rights or social norms

Part 2: Neuromodulation of moral decision-making

Transcranial Magnetic Stimulation (TMS)



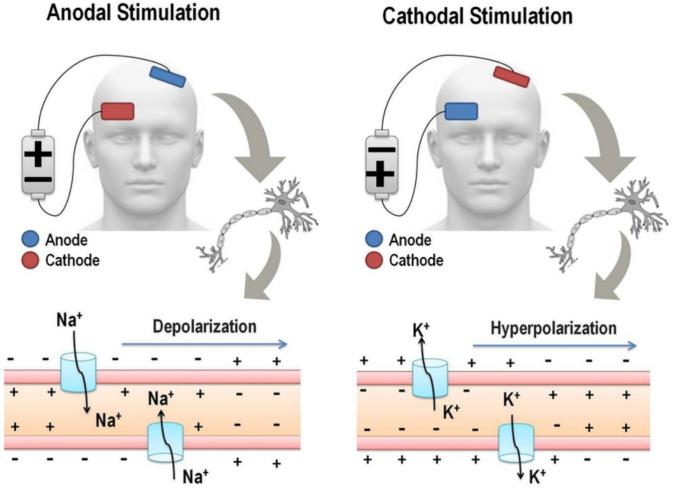
Low-frequency rTMS 10 s **High-frequency** 50 s rTMS

<u>Repetitive TMS (20 minutes):</u>

- Low frequency ~ Long Term **Depression (inhibitory)**
- High Frequency ~ Long Term Potentiation (excitatory)
- Effects occur AFTER repetitive TMS sessions lasting minutes to hours

Lefaucheur, Handbook Clinical Neurology, 2019

Transcranial Direct Current Stimulation (Tdcs)



Cathodal Stimulation

- Anodal ~ • Excitatory
- Cathodal ~ • inhibitory

Antunes et al, 2015

TMS vs. Tdcs

Neuroanatomical Specificity:

- Tdcs uses a large sponge vs. focal magnetic field
- Tdcs typically uses EEG montage to target a scalp location, whereas TMS uses MRI-guided target of a brain region below the scalp
- Current in Tdcs travels across brain from Anode to Cathode, with potential effects from either location

Neuronal Effects:

- TMS results in action potentials and firing of neurons.
 - Repetitive TMS is theorized to result in LTD / LTD as in animal models
- Tdcs results in changes to neuronal excitability.
 - This makes it easier or harder for a neuron to fire but does not cause an action potential.

Timing of Cognitive / Behavioral Effects:

- After rTMS (duration of effects unknown)
- During Tdcs (changes in neuronal effects over time unknown)

Limitations

Can only stimulate certain regions

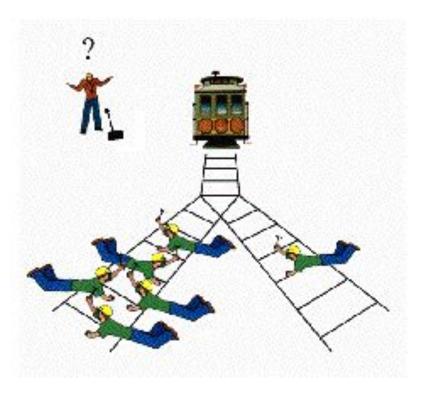
- Must be on cortical surface
- Must be easy to target

True neurophysiological effects unknown

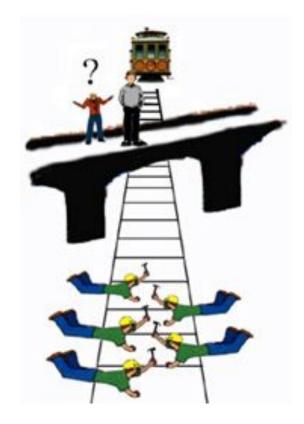
- Inhibitory, excitatory, or more complex pattern of modulation.
- May have mild to no effects

May change neuronal functioning in connected brain regions

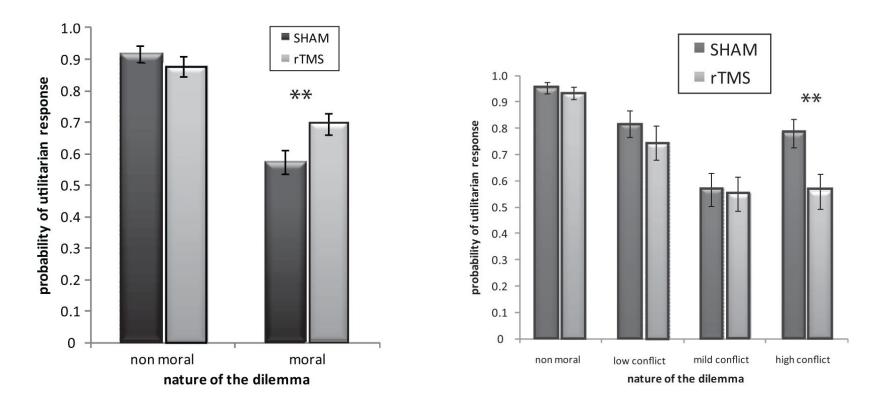
Switch Dilemma



Footbridge Dilemma



Inhibitory TMS to Right DLPFC modulates moral decision-making

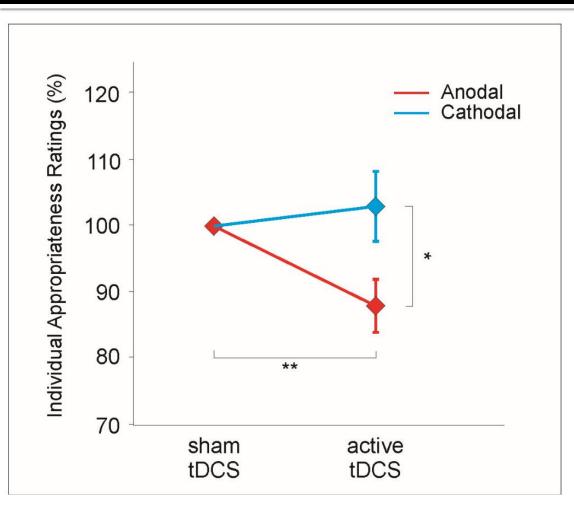


Objective Judgment task: "Is it acceptable to perform this action?"

Subjective Judgment task: "Would **You** perform this action?"

Tassy et al, 2012

Tdcs of left DLPFC

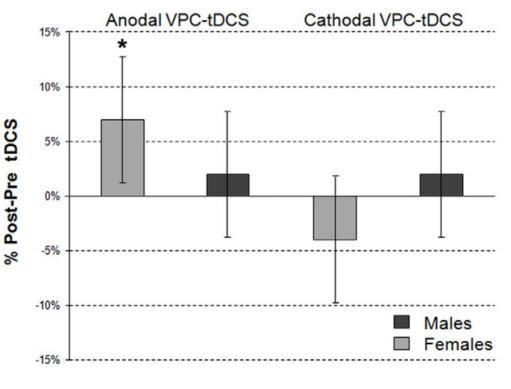


Objective Judgment task: "How acceptable is it to perform this action?"

Kuehne et al, 2015

Bilateral frontal Tdcs

Utilitarian responses to moral judgment task



Subjective Judgment task: "Would **You** perform this action?"

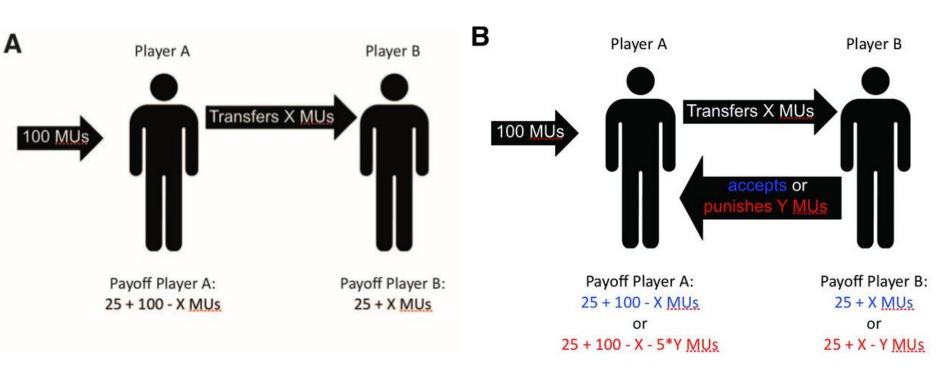
- Tdcs modulated moral decision-making in females but not males
- Anatomically non-specific: sponges placed bilaterally above forehead with reference on right deltoid muscle.

Fumagalli et al, 2015

Neuromodulation of harm aversion in moral decision-making: summary

- Framing dilemmas as subjective vs. objective changes the effects of neuromodulation
 - DLPFC excitation reduces self-centered harm aversion in subjective framing scenarios, whereas opposite effect with DLPFC suppression
 - DLPFC excitation increases moral inappropriateness judgments of others in objective framing scenarios
 - Potentially relates to shift from self-centered to other-centered emotional frameworks
- Potential gender related effects suggest that self-centered emotions may be easier to modulate in females

Neuroeconomic Games

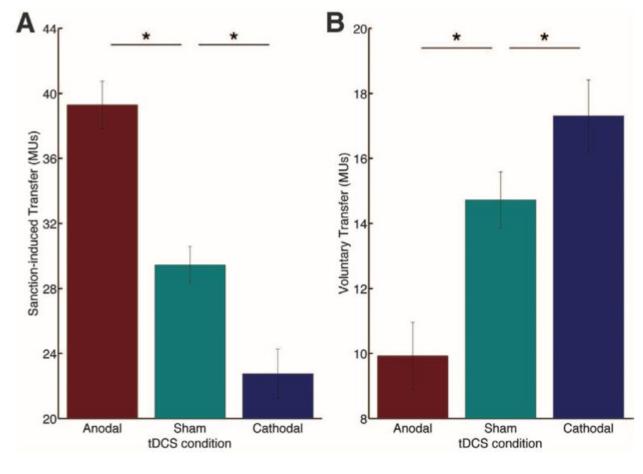


Dictator Game

<u>Ultimatum Game</u>

Ruff et al, Science, 2013

Tdcs to Right DLPFC modulates offers in dictator / ultimatum games

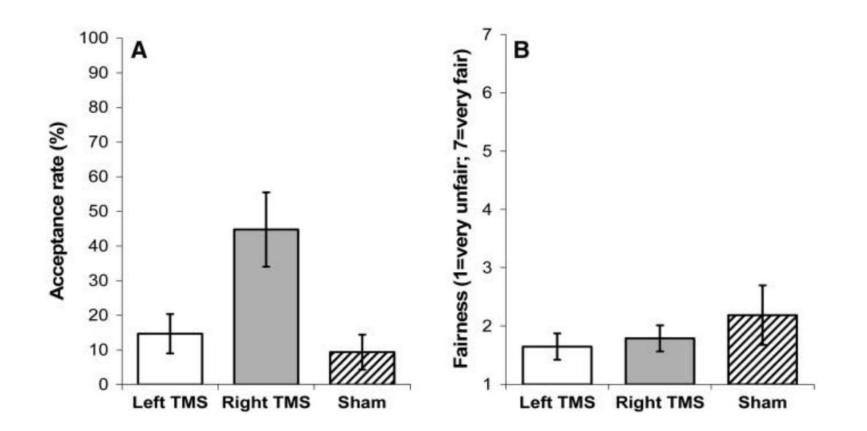


<u>Ultimatum Game</u>

Dictator Game

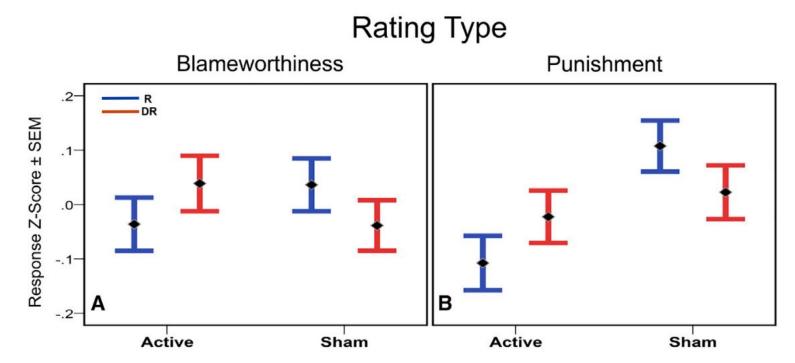
Ruff et al, Science, 2013

Inhibitory TMS to right DLPFC increases acceptance of unfair offers



Knoch et al, 2006

Stimulation to R. DLPFC modulates punishment of social norm violations



- Subjects asked for a defendant's blameworthiness or punishment for a crime they were either fully responsible for (blue) or had diminished responsibility (red)
- Inhibitory TMS to R. DLPFC reduced punishment but did not affect blameworthiness (knowledge that defendant was responsible).

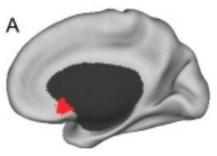
Buckholtz et al,

Neuromodulation of social norms violations: Summary

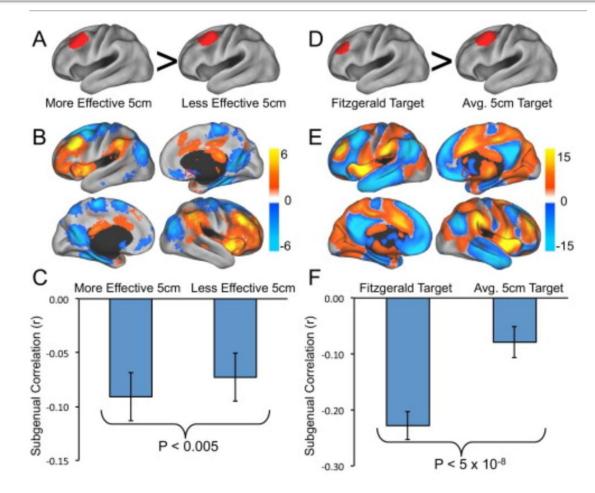
- Right DLPFC is involved in negative emotional response to unfairness in others, leading to rejection of unfair offers from others
- R. DLPFC also involved in decisions to punish social norm violators in other contexts
- Right DLPFC also appears to be important for making decisions to adhere to social norms regarding fairness when making offers to others
- Reduced giving in dictator game after R. DLPFC excitation may relate to reduced self-centered emotional response (e.g. guilt)

Part 3: Stimulating brain networks to treat antisocial behavior

Connectivity of brain stimulation location predicts treatment response

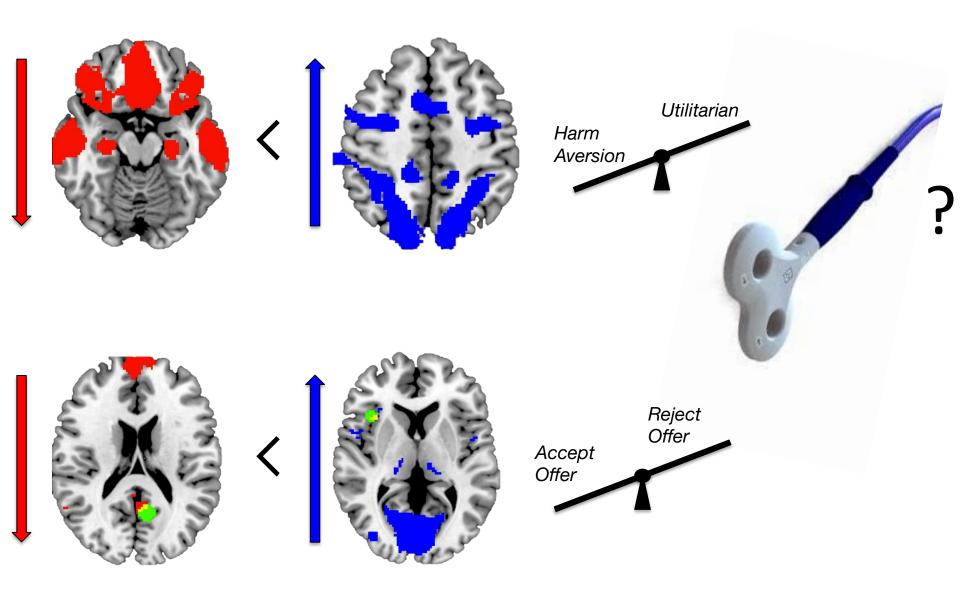


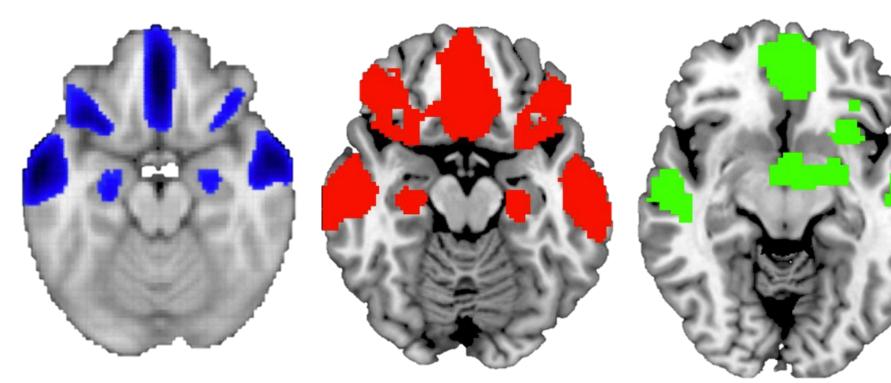
- Subgenual Cingulate hyperactivity associated with depression
- Normalization of sgACC associated with depression treatment response
- sgACC target for DBS in depression
- TMS more effective when target location was functionally connected to sgACC



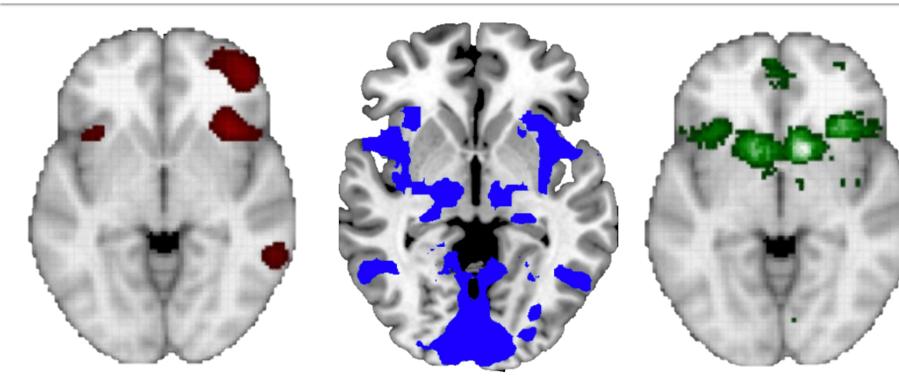
Fox et al, Biological Psychiatry, 2012

Predicted Effects Acquired Criminality Lesions





<u>Brain Regions</u> <u>Anti-correlated to R.</u> <u>DLPFC</u> <u>Brain Regions connected</u> <u>to lesions causing</u> <u>criminal behavior</u> Brain Regions Activated by moral dilemmas involving harm aversion



<u>Brain Regions</u> <u>functionallyt connected</u> <u>to R. DLPFC</u> <u>Brain Regions</u> anti-correlated to lesions <u>causing criminal</u> <u>behavior</u> Brain Regions Activated by decisions to punish social norm violators

Excitatory brain stimulation:

- Reduce network function associated with self-centered negative emotions:
 - Reduced harm aversion / increased utilitarian responses (subjective framing)
 - Reduced giving in dictator game due to reduced guilt
- Increase network function associated with other-centered negative emotions
 - Increased punishment of social norm violations in ultimatum game and other scenarios
 - Reduced moral permissibility of others causing harm in moral dilemmas (objective framing)

Inhibitory brain stimulation:

- increased network function associated with self-centered negative emotions:
 - increased harm aversion / reduced utilitarian responses (subjective framing)
 - increased giving in dictator game due to increased guilt
- reduced network function associated with other-centered negative emotions
 - reduced punishment of social norm violations in ultimatum game and other scenarios
 - increased moral permissibility of others causing harm in moral dilemmas (objective framing)

Altering moral behavior: Practical limitations

- Dysfunctional neuroanatomy
 - Disease cortex may be farther from skull
 - The neuronal response to brain stimulation in diseased cortex may be different than in healthy subjects
- Mechanisms leading to long-term effects may be different from those causing short-term effects
- Exciting connected network vs. inhibition of anti-correlated network
- Target selection
 - vmPFC, amygdala, nucleus accumbens, and anterior temporal lobe are challenging using brain stimulation
 - R. DLPFC is chosen due to convenience and prior studies, and may not be best target

Altering moral behavior: Ethical limitations

Autonomy

Is decision to modulate coerced or freely chosen

- Permissible vs. Obligatory
 - Particularly in case of criminals
- Freedom of choice and authenticity
 - Is it wrong to reduce likelihood of making the wrong decisions if those wrong decisions reflect our authentic self

Moral Plurality

 Is it wrong to push the man off the bridge? Is it right to punish unfair behavior?

Altering moral behavior: Challenges in adolescent patients

Causality

- Experience related vs. Disease related brain differences
- Modulating the developing brain
 - Learning and neuroplasticity
 - <u>Decision-making capacity</u>
 - Is consent or assent required?

Conclusions

- Acquired antisocial behavior in neurological patients occurs when damaged to different locations within a common brain network
- Connectivity of these lesion locations to two distinct cognitive-affective brain circuits may explain moral decision-making differences in patients with antisocial behavior
- Noninvasive brain stimulation can modulate moral decision-making in normal subjects
- Brain stimulation could alter moral decision-making in patients with antisocial behavior, but raises practical challenges and ethical issues, particularly in adolescents

Acknowledgements

BIDMC

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- Brightfocus Foundation



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Treating GenZ: The College Mental Health Crisis and COVID-19

Katrina DeBonis M.D. kdebonis@mednet.ucla.edu







-no conflicts of interest to report





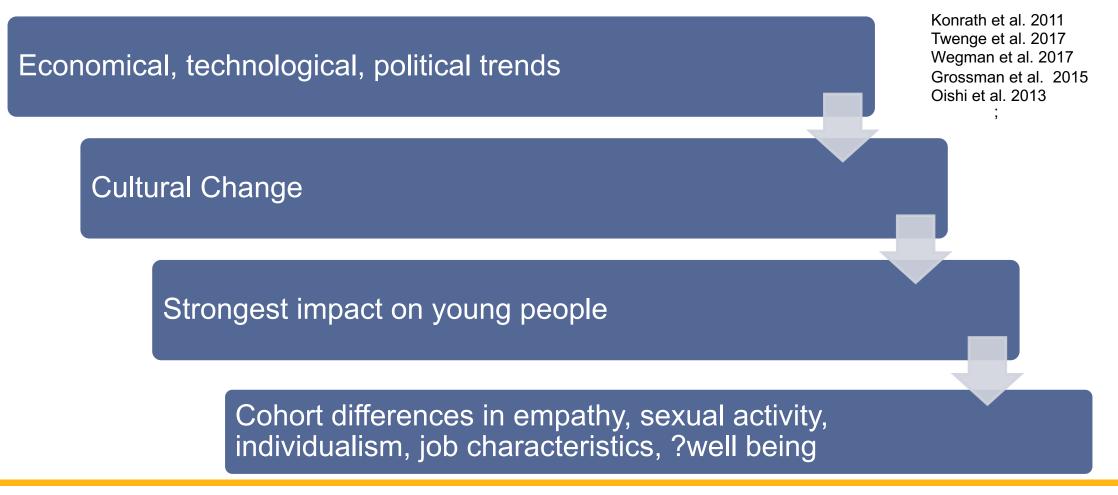
Learning Objectives

- Describe the concerning trends of mental illness in GenZ
- Evaluate the evidence connecting social media and smartphone use with mental health outcomes in GenZ
- Describe what is known of the mental health impacts of the COVID-19 pandemic on the mental health in this age group.
- Awareness of the challenges facing GenZ and how to adjust treatment accordingly.





Generational Differences







Prior Generations

School of Medicine

Traditionalists	Baby Boomers	Gen X	Gen Y, GenMe, Millenials		
1922-1945	1946-1964	1965-1981	1982-1995		
The Great Depression, WWII, suburbs, radio	Post-WWII wealth, Vietnam, civil rights, television	"latch-key" kids End of cold war First computers	9/11, Columbine shootings, Great Recession, growth of internet and social media		
	Work ethic, hierarchical	Diversity, individualism			
David Geffen			UCLA Healt		

Who is Generation Z?

- Born: 1996-2010 (currently 11-25 y/o)
- AKA: iGen, post-millennials
- Influenced by:
 - post 9/11 world
 - smartphones
 - Gen X parents
 - School shootings, climate change, political division

• COVID-19





Who is Generation Z?

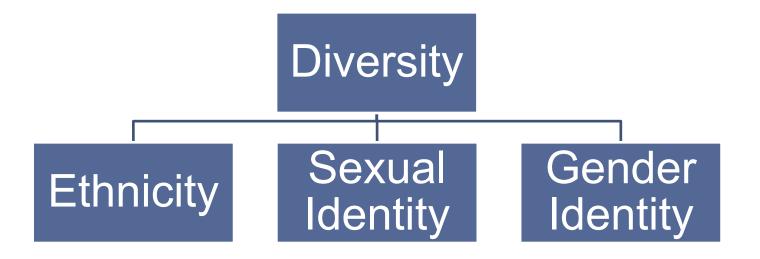






FIGURE 1

Race-ethnic profile for total US and under age 16 populations 2000, 2010, and 2019

Total US population Under age 16 3.8 1.8 4.9 0.7 8.4 5.9 0.7 3.8 4.6 0.9 5:2 69.1 63.8 60.8 53.4 49.95 2019 2000 2010 2000 2010 2019 American Indian Asian American** 2+ and other races* White* Black* Latino Alaska Native* or Hispanic * members of race group who do not identify as Latino or Hispanic * non-Latino or Hispanic Asians, Hawaiians and other Pacific Islanders Metropolitan Policy Program Source: William H Frey analysis of 2000 US Census and Census В population estimates, released June 25, 2020 at BROOKINGS





Who is Generation Z? - Sexual Identity

Americans' Self-Identification as LGBT, by Generation

	LGBT	Straight/Heterosexual	No opinion
	%	%	%
Generation Z (born 1997-2002)	15.9	78.9	5.2
Millennials (born 1981-1996)	9.1	82.7	8.1
Generation X (born 1965-1980)	3.8	88.6	7.6
Baby boomers (born 1946-1964)	2.0	91.1	6.9
Traditionalists (born before 1946)	1.3	89.9	8.9
GALLUP, 2020			





Who is Generation Z – Sexual Identity

Americans' Self-Identified Sexual Orientation, by Generation

	Bisexual	Gay	Lesbian	Transgender	Other
	%	%	%	%	%
Generation Z (born 1997-2002)	11.5	2.1	1.4	1.8	0.4
Millennials (born 1981-1996)	5.1	2.0	0.8	1.2	0.4
Generation X (born 1965-1980)	1.8	1.2	0.7	0.2	0.1
Baby boomers (born 1946-1964)	0.3	1.2	0.4	0.2	0.0
Traditionalists (born before 1946)	0.3	0.3	0.2	0.3	0.1

Figures represent the percentage of all adult members of each generation who have that sexual orientation

GALLUP, 2020

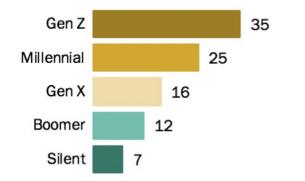




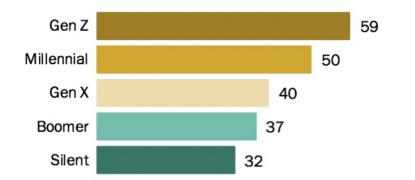
Who is GenZ? Gender Identity

Gen Zers are more likely to know someone using gender-neutral pronouns and more likely to say forms should offer gender options other than 'man' and 'woman'

% saying they personally know someone who prefers that others refer to them using gender-neutral Pronouns



% saying that when a form or online profile asks about a person's gender it should include options other than "man" and "woman"



Source: Surveys of U.S. adults ages 18 and older conducted Sept. 24-Oct. 7, 2018, and U.S. teens ages 13 to 17 conducted Sept. 17-Nov. 25, 2018.

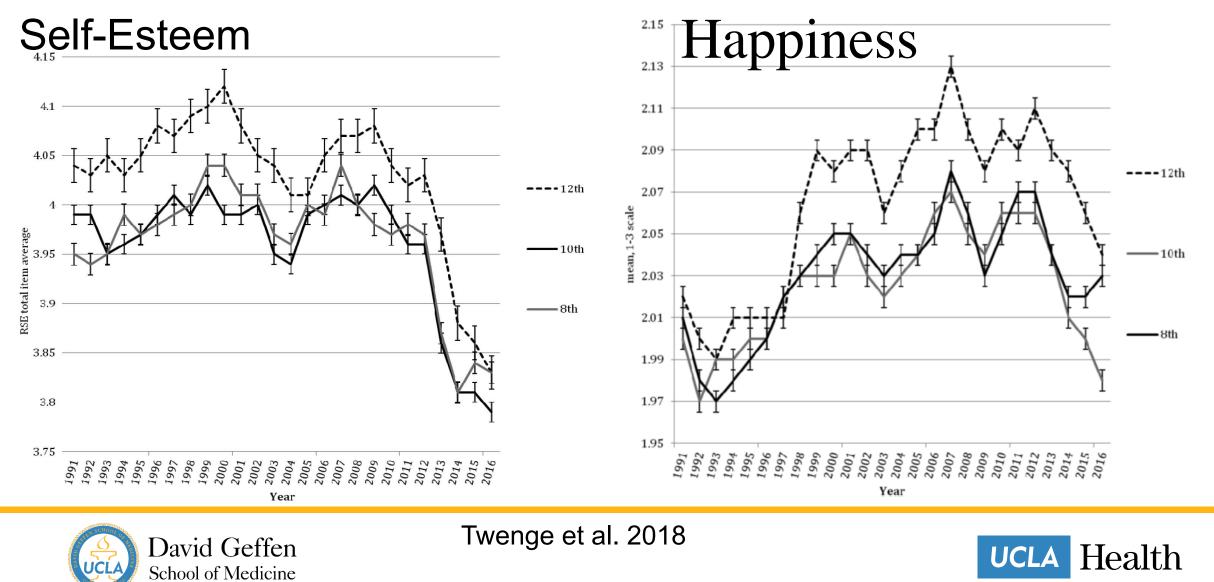
"On the Cusp of Adulthood and Facing an Uncertain Future: What We Know About Generation Z So Far"

PEW RESEARCH CENTER

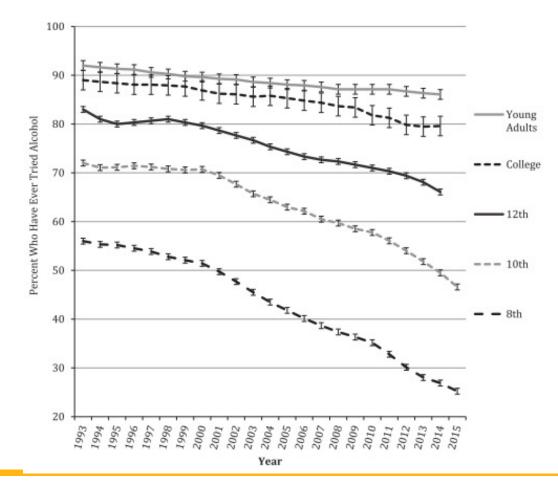




Are the Kids Alright?



Decline in alcohol use

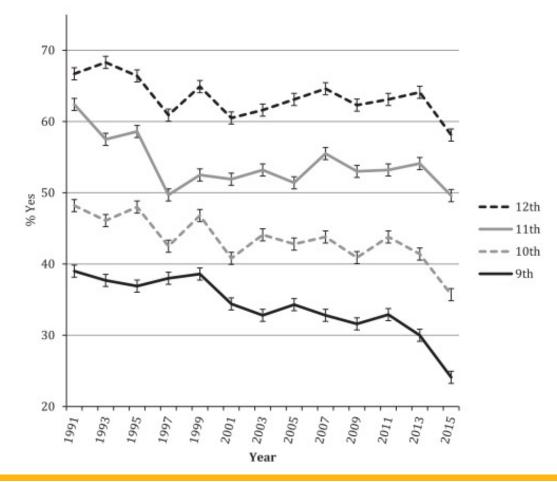






Twenge et al, 2018

Decline in sexual activity

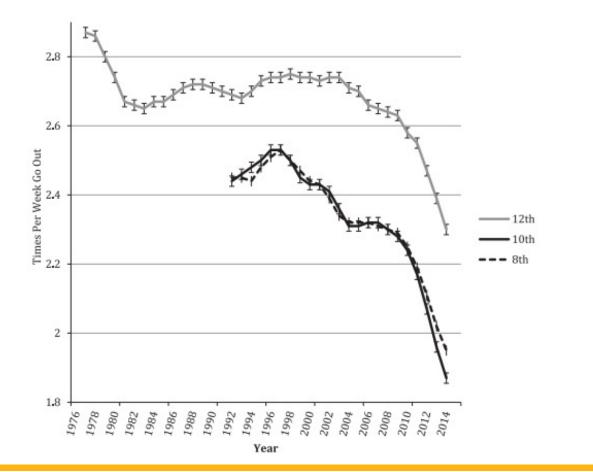


Twenge et al, 2018





Decline in going out without parents







Twenge et al, 2018

College Mental Health Care Trends

- 2010-2015: Increase in utilization by average of 30-40%
 - Enrollment increased by 5% over same period
- Increased prevalence of threat-to-self indicators over past 9 years
- Rate of prior treatment increasing
- Average rates of self-reported anxiety and depression have increased over past 8 years

Center for Collegiate Mental Health, Annual Report, 2020





College Mental Health Care

Mental Health Trends (2010–2019)

Item	9-Year Change	2010-2019	Lowest	Highest	2018–2019		
Prior Treatment							
Counseling	+10.0%		46.0%	56.0%	56.0%		
Medication	+3.5%		31.3%	34.8%	34.8%		
Hospitalization	+2.6%		7.2%	10.3%	9.8%		
Threat to Self							
Non-Suicidal Self-Injury	+6.9%		21.8%	28.7%	28.7%		
Serious Suicidal Ideation	+12.7%		24.0%	36.7%	36.7%		
Suicide Attempt(s)	+2.6%		8.0%	10.6%	10.6%		
Some Suicidal Ideation (past 2 weeks)	+7.7%		31.9%	39.6%	39.6%		

Center for Collegiate Mental Health, Annual Report, 2020





Trends: Average Subscale Scores (2010 to 2020)

Item	10-Year Change	2010-2020	Lowest	Highest	2019–2020		
CCAPS-62							
Depression	+0.22		1.59	1.82	1.82		
Generalized Anxiety	+0.27		1.61	1.88	1.88		
Social Anxiety	+0.25		1.82	2.07	2.07		
Academic Distress	+0.02	• • • • • • • • • • • • • • •	1.85	1.89	1.87		
Eating Concerns	+0.06	• • • • • • • • • • • •	1.00	1.06	1.06		
Hostility	-0.07	• • • • • • • • • • • •	0.97	1.04	0.97		
Substance Use	-0.14		0.63	0.77	0.63		
Family Distress	+0.08	····	1.29	1.38	1.38		

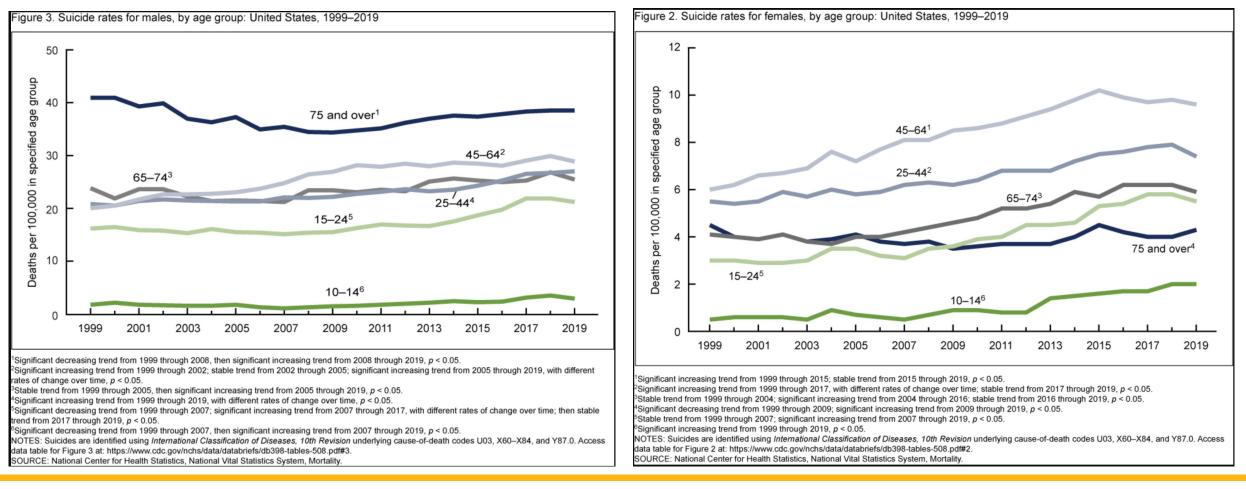


Center for Collegiate Mental Health, Annual Report, 2020



Suicide Rate 1999-2019

Females





Males



Why is this generation so depressed and anxious?





Twenge, 2017, The Atlantic

Have Smartphones Destroyed a Generation? More comfortable online than out partying, post-Millennials are safer, physically, than adolescents have ever been. But they're on the brink of a mental-health crisis.





Prevalence of smart-phone use

- 95% of teens now report they have a smartphone or access to one.
- 45% of teens now say they are online on a nearconstant basis.
 - Source: Pew Research Center, Survey conducted March 7-April 10, 2018 – "Teens, Social Media, and Technology 2018"



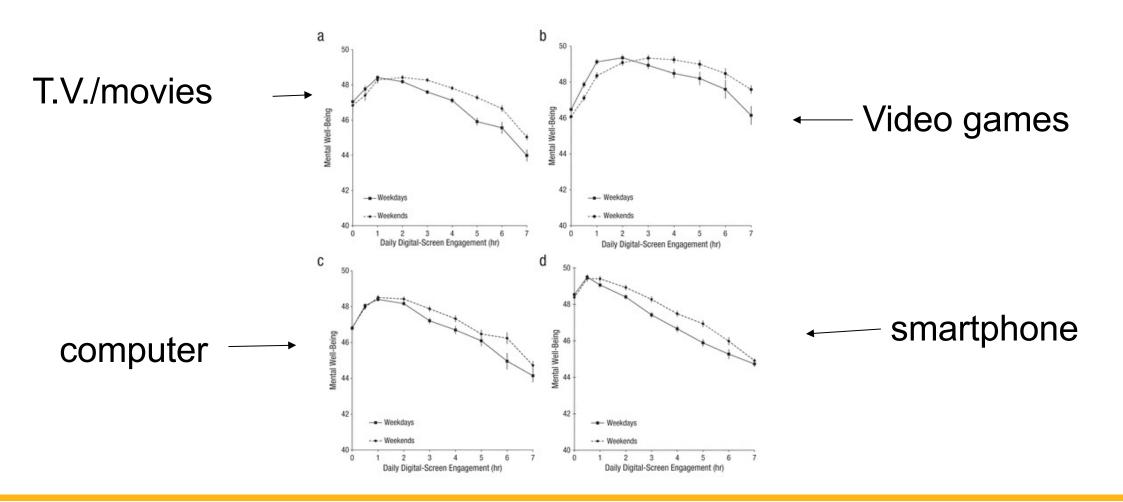


- In the UK: Secretary of State for Health and Social Care Matt Hancock issued a warning on the potential dangers of social media on children's mental health, stating that the threat of social media on mental health is similar to that of sugar on physical health.
- -October, 2018 gov.uk





Przybylski et al, 2017







What does the data show?

- Three large-scale data sets
 - Monitoring the Future (MTF) US
 - Youth Risk and Behaviour Survey (YRBS) US
 - Millenium Cohort Study (MCS) UK
- Orben and Przybylski, 2019
 - Applied specification curve analysis
 - Digital technology use has a small negative association with well-being
 - Wellbeing more strongly associated with other variables





Orben and Przybylski, 2019

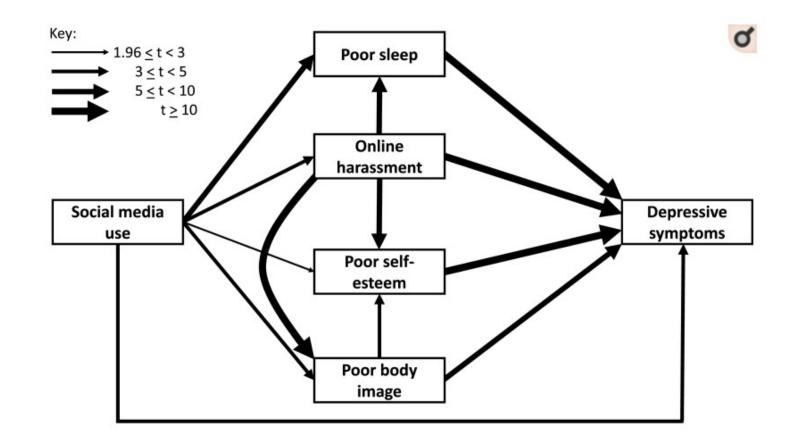
 "When viewed in the broader context of the data, it becomes clear that the outsized weight given to digital screen time in scientific and public discourse might not be merited on the basis of the available evidence. For example, in all three data sets the effects of both smoking marijuana and bullying have much larger negative associations with adolescent well-being."





Social Media Use and Adolescent Mental Health: Findings From the UK Millennium Cohort Study

Yvonne Kelly ¹, Afshin Zilanawala ¹, Cara Booker ², Amanda Sacker ¹







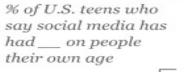
Smartphones, Social Media, and Sleep

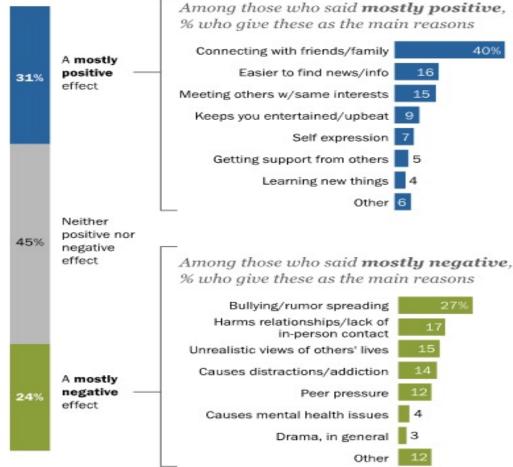
- adolescents with smartphones significantly more likely to have shorter sleep duration than non-owners. (Schweizer et al, 2016)
- \downarrow sleep \rightarrow \uparrow depression \rightarrow \downarrow sleep (Roberts et al, 2014)





Teens have mixed views on social media's effect on people their age; many say it helps them connect with others, some express concerns about bullying







Note: Respondents who did not give an answer are not shown. Verbatim responses have been coded into categories, and figures may add up to more than 100% because multiple responses were allowed. Source: Survey conducted March 7-April 10, 2018.

"Teens, Social Media & Technology 2018"

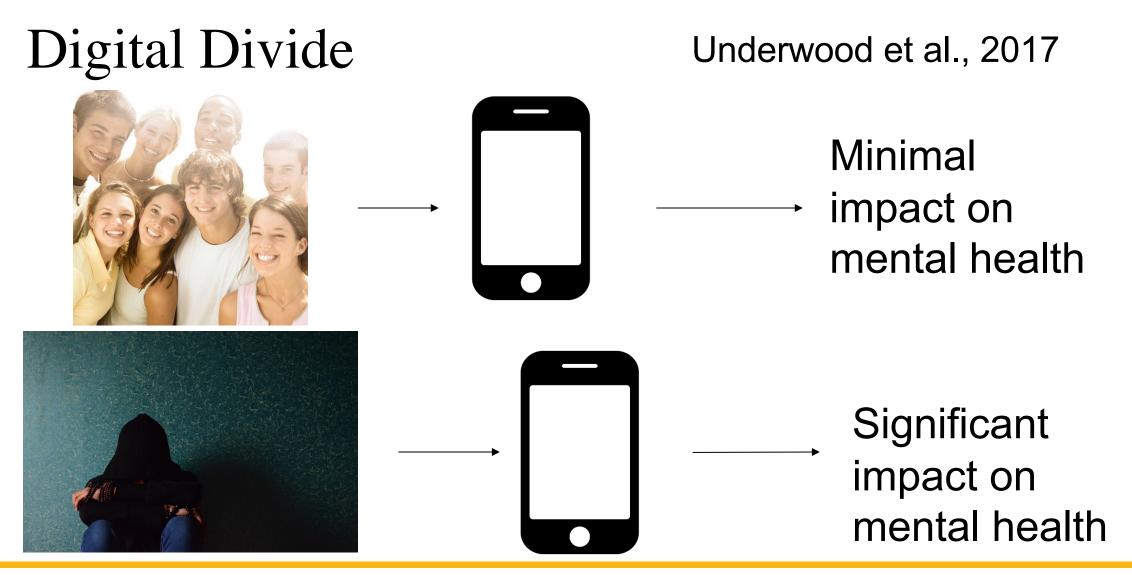


Smartphone/Internet Use and Mental Health

- Unclear relationship and strength of effect
 - Studies have mixed results, magnitude seems to not be that large
 - Correlations, not causal
- Can enhance teen relationships (Yau et al, 2017)
- Virtual communication can help adolescents to 'bounce back' after social rejection (Gross et al, 2009).
- May be worsening pre-existing vulnerabilities









COVID-19 Impacts on GenZ

Mental Health – CDC survey

- "Mental health conditions are disproportionately affecting specific populations, especially young adults, Hispanic persons, Black persons, essential workers, unpaid caregivers for adults, and those receiving treatment for preexisting psychiatric conditions."
- 63% of 18- to-24-year-olds reported symptoms of anxiety or depression, with 25% reporting increased substance use to deal with that stress and 25% saying they'd seriously considered suicide





Employment

- 50% of the oldest GenZers (ages 18 to 23) reported that they or someone in their household had lost a job or taken a cut in pay because of the outbreak. This was significantly higher than the shares of Millennials (40%), Gen Xers (36%) and Baby Boomers (25%) who said the same.
 - Marcy 2020 Pew Research Center survey





Observations

- Increased stress, anxiety, depressive symptoms
- Identified causes: changes in school, social isolation, decreased family income, future employment

Observed in universities across the world

• Among the most commonly reported changes were lack of motivation, anxiety, stress, and isolation

• Browning et al 2021, PLOSone





Risk factors for psychological impacts

- In multivariate models controlling, being a woman, being younger (18 to 24 years old), having poor/fair general health, reporting more screen time, and knowing someone infected were statistically significant risk factors.
- SES and identifying as non-Hispanic Asian were additional significant risk factors in the subsample of respondents obtained from representative sampling, whereas screen time was not significant in this sensitivity analysis.



Psychological impacts from COVID-19 among university students: Risk factors across seven states in the United States

Matthew H. E. M. Browning , Lincoln R. Larson, Iryna Sharaievska, Alessandro Rigolon, Olivia McAnirlin, Lauren Mullenbach, Scott Cloutier, Tue M. Vu, Jennifer Thomsen, Nathan Reigner, Elizabeth Covelli Metcalf, Ashley D'Antonio, Marco Helbich, Gregory N. Bratman, Hector Olvera Alvarez

Published: January 7, 2021 • https://doi.org/10.1371/journal.pone.0245327

Summary

• Generation Z is demonstrating:

- higher rates of anxiety, depression, suicidality
- · less alcohol use, sexual activity, independence from family
- increased utilization of mental health resources at college campuses across the country
- COVID-19 may disproportionately impact this generation's mental health but trends were pre-existing
 - Particularly groups with higher risk factors
- Smartphone/social media use has unclear correlation to MH
 - More research needed!





What can we do?

- Research
 - ·Be critical of media hype
 - psychiatrists, neuroscientists, computer scientists --> better understanding of intersection of the developing brain and social media/smartphone access.
 - Develop a more nuanced understanding of psychological risk factors and effective interventions to reduce risk





What Can We do?

Incorporate generational changes in clinical practice

Questions regarding identity

Open, nonjudgmental, resist assumptions and labels, use cultural-formulation interview

Ask about computer/smartphone habits

Involve in safety planning, mood regulation, sleep

Cultivate resiliency amidst stressors, including COVID-19

- Sense-making, meaning-making, grief-processing, narrative building
- Check generational transference
 - Build therapeutic alliance, avoid empathic failures









Emerging Addictive Disorders During the Time of COVID

Timothy W. Fong MD UCLA Gambling Studies Program UCLA Cannabis Research Initiative ASAP Annual Meeting CFH April 2021

UCLA Cannabis Research Initiative



Disclosures

Research Support Milestones **Creative Care Connections in Recovery Speaker's Bureau** Indivior Consultant Kindbridge

Presentation Objectives:

- Illuminate current trends in addictive disorders among adolescents, specifically cannabis use disorder, vaping behaviors and Internet Gaming Disorder
- 2. Review screening and assessment tools for emerging addictive disorders
- 3. Discuss current treatment options emerging addictive disorders in adolescents

UCLA Cannabis Research Initiative

Cannabis in Adolescents

Cannabis and COVID-19

- In March 2020 recreational sales dropped almost 50% in late March in the four states – at least until federal stimulus checks started hitting consumers' bank accounts in April and sales rebounded.
- Now -- spending more money per visit to recreational retail outlets but shopping less often, perhaps for safety, or scheduling, reasons.

My Name is Bud

- Parents contact seeking assistance with their HS son who is declining
- Up to freshman year in HS, everything "normal"
- Starting freshman year, using cannabis occasionally with friends, KNOWN to parents and PERMITTED

"Bud"

- Sophomore
 - Grades up and down
 - Band
 - Math team
 - Some opposition at home but it's considered "normal"
 - No mental health interventions

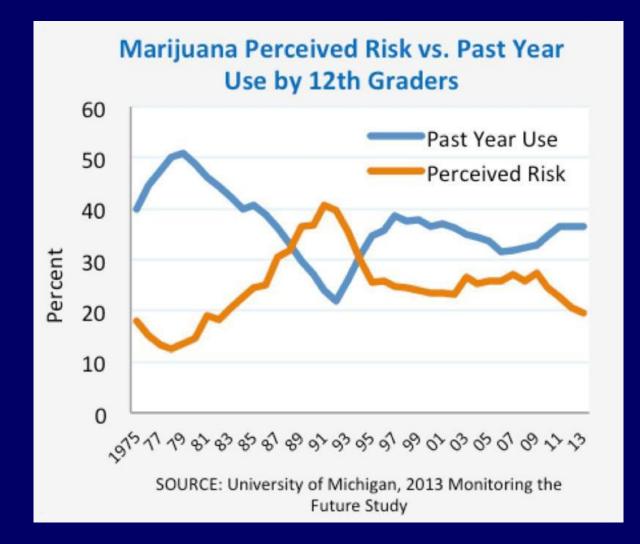
"Bud"

- Junior Year
 - Grades decline Cs and Ds
 - Friends vanish
 - Isolates in room
 - Parents think Video Game Addiction!
 - ADLs decline, responsibilities fade
 - Cannabis use is more obvious at home (smell)

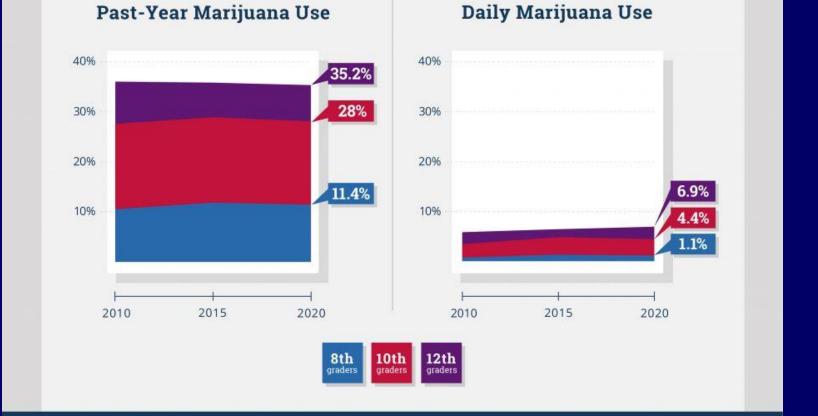
"Bud"

- Parents come to seek advice at start of senior year (fall 2020)
- 3 years of increasingly steady cannabis use, progressive
- Mood, cognitive, self-care impairments
- WHAT IS THE FIRST THING TO DO?

Adolescent Trends



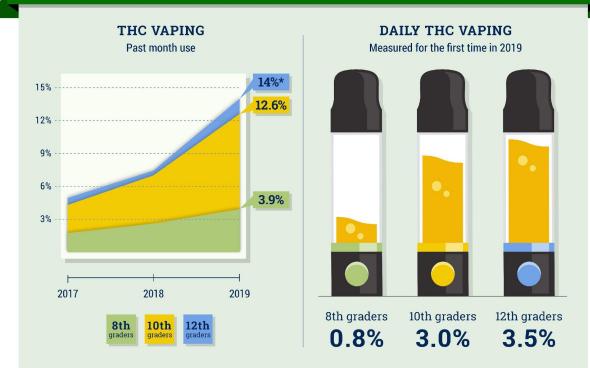
Marijuana Use Remains Steady



NIH National Institute on Drug Abuse

drugabuse.gov

TEEN VAPING CLIMBS SIGNIFICANTLY*



*2018 – 2019 INCREASE IS THE SECOND LARGEST ONE-YEAR JUMP EVER TRACKED FOR ANY SUBSTANCE IN THE 45-YEAR SURVEY HISTORY (NICOTINE VAPING WAS THE LARGEST FROM 2017 – 2018)

To view information on other drugs from the 2019 Survey visit: www.drugabuse.gov/related-topics/trends-statistics/infographics/monitoring-future-2019-survey-results-overall-findings



DRUGABUSE.GOV

Cannabis Use Disorder

Cannabis-Related Disorder

- Cannabis Use Disorder
- Cannabis Intoxication
- Cannabis Withdrawal
- Other Cannabis-Induced Disorders
- Unspecified Cannabis-Related Disorder

Cannabis Abuse Screening Test (CAST)

In the last 12 months, have you smoked cannabis ?

In the last 12 months Mark one box for each line.	Never	Rarely	From time to time	Fairly often	Very often
1. Have you smoked cannabis before midday?	0	1	2	D 3	0
2. Have you smoked cannabis when you were alone?	0	1	2	10 3	0 4
3. Have you had memory problems when you smoked cannabis?	0	1	2	0. 3	0 4
4. Have friends or members of your family told you that you ought to reduce your cannabis use?	o	T 1	2	3	0 4
5. Have you tried to reduce or stop your cannabis use without succeeding?	0	-	2	0	-
6. Have you had problems because of your use of cannabis (argument, fight, accident, bad result at school, etc)? Which ones?	0	1	2	3	(1) 4

Cannabis Use Disorder

- 1. _____ is often taken in larger amounts or over a longer period than was intended.
- 2. There is a persistent desire or unsuccessful efforts to cut down or control _____ use.
- 3. A great deal of time is spent in activities necessary to obtain ______, or recover from its effects.
- 4. Craving, or a strong desire or urge to use _
- 5. Recurrent ______ use resulting in a failure to fulfill major role obligations at work, school, or home.
- 6. Continued ______ use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.
- Important social, occupational, or recreational activities are given up or reduced because of _______use.
- 8. Recurrent ______ use in situations in which it is physically hazardous.
- 9. _____ use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
- 10. Tolerance, as defined by either of the following:
 - 1. A need for markedly increased amounts of alcohol to achieve intoxication or desired effect.
 - 2. A markedly diminished effect with continued use of the same amount of ______
- 11. Withdrawal, as manifested by either of the following:
 - 1. The characteristic withdrawal syndrome for alcohol (refer to Criteria A and B of the criteria set for alcohol withdrawal).
 - 2. _____ is taken to relieve or avoid withdrawal symptoms.

Reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (Copyright © 2013). American Psychiatric Association. All rights reserved.

Cannabis Withdrawal

- Three (or more) of the following signs and symptoms develop within approximately 1 week:
 - Irritability, anger, or aggression.
 - Nervousness or anxiety.
 - Sleep difficulty (e.g., insomnia, disturbing dreams).
 - Decreased appetite or weight loss.
 - Restlessness.
 - Depressed mood.
- At least one of the following physical symptoms causing significant discomfort: abdominal pain, shakiness/tremors, sweating, fever, chills, or headache.

Cannabis Induced Conditions

- Cannabis-Induced Mood Disorders
 - Bipolar
 - Depression
- Cannabis-Induced Psychosis
- Cannabis-Induced Anxiety Disorder
- Cannabis-Induced Toxicity
 - Sleep, cognition, coordination, etc...

APA Official Actions

Position Statement in Opposition to Cannabis as Medicine

Approved by the Board of Trustees, July 2019 Approved by the Assembly, May 2019

"Policy documents are approved by the APA Assembly and Board of Trustees... These are ... position statements that define APA official policy on specific subjects..." – APA Operations Manual

Issue:

The medical use of cannabis has received considerable attention as several states have moved to legalize cannabis for various purposes. On a national level, cannabis remains a schedule I substance under the Controlled Substances Act (CSA), the most restrictive schedule enforced by the Drug Enforcement Administration (DEA). This juxtaposition of practice and policy has prompted many professional medical organizations to issue official positions on the topic. This statement reflects the position of the American Psychiatric Association (APA) on the use of cannabis for psychiatric indications.

APA Position:

- There is no current scientific evidence that cannabis is in any way beneficial for the treatment
 of any psychiatric disorder. In contrast, current evidence supports, at minimum, a strong
 association of cannabis use with the onset of psychiatric disorders. Adolescents are particularly
 vulnerable to harm, given the effects of cannabis on neurological development.
- Further research on the use of cannabis-derived substances as medicine should be encouraged and facilitated by the federal government. The FDA has approved synthetic cannabis-derived medications for specific indications (examples of medications are Marinol, Syndros, Cesamet and Epidiolex.) The adverse effects of cannabis, including, but not limited to, the likelihood of addiction, must be simultaneously studied.
- There is great variability of in the form, dose and potency of cannabis. Furthermore, there are
 numerous other compounds in products marketed as cannabidiol or cannabis with unknown
 health effects.
- Policy and practice surrounding cannabis-derived substances should not be altered until sufficient clinical evidence supports such changes.
- If scientific evidence supports the use of cannabis derived substances to treat specific conditions, the medication should be subject to the approval process of the FDA.



- There is no current scientific evidence that cannabis is in any way beneficial for the treatment of any psychiatric disorder. In contrast, current evidence supports, at minimum, a strong association of cannabis use with the onset of psychiatric disorders.
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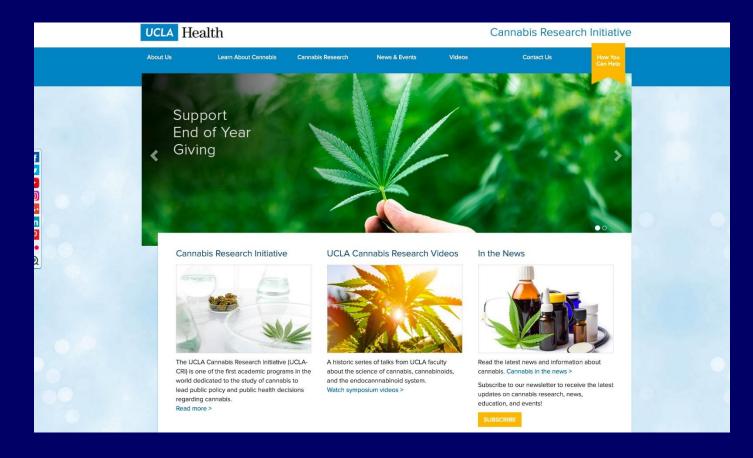


- There is <u>great variability</u> of in the form, dose and potency of cannabis. Furthermore, there are numerous other compounds in products marketed as cannabidiol or cannabis with unknown health effects.
- Policy and practice surrounding cannabis-derived substances should <u>not</u> be altered until sufficient clinical evidence supports such changes.
- If scientific evidence supports the use of cannabis derived substances to treat specific conditions, the medication should be subject to <u>the approval process</u> <u>of the FDA</u>.

Take Home Points

- No "safe amount" of cannabis for anyone under 21
- Younger onset, more frequent use = – INCREASED CUD Risk
- Cannabis withdrawal subtle
- No FDA-approved meds for CUD
- No superior form of psychotherapy for CUD

uclahealth.org/cannabis



Vaping Facts and Fiction

COVID-19 and Smoking

- Global surveys report increased sales in tobacco and vaping products BUT also increased interest in smoking cessation because of the risks associated with COVID-19
- MAJOR opportunity for providers / behavioral health

E-Cig Use Before and During COVID

- Investigators found that the most commonly reported reasons for individuals reducing or quitting were a fear of weakened lungs as a result of e-cigarettes (25%), parents find out about vaping habits (15.2%), and the inability to access e-cigarettes (19.5%)
- Investigators said that they are unsure whether quit attempts will be sustained after the pandemic is over.

Gaiha SM, Lempert LK, Halpern-Felsher B. Underage youth and young adult e-cigarette use and access before and during the coronavirus disease 2019 pandemic. *JAMA Network Open*. December 3 2020;3(12):e2027572. doi:10.1001/jamanetworkopen.2020.27572

Main Message

 Ideally, non-tobacco users should never vape.

 Vaping carries health risks and the long-term harms still aren't known.

Glossary

- Smoke all particulates created by combustion (lots of substances)
- Vapor when substance transforms phases (i.e. liquid to gas)
- Aerosol is a suspension of tiny particles of liquid, solid or both within a gas
- Vaping became recognized as a word (2000)

Vaping Devices



Vaping Devices

- Battery-operated devices that heat liquid to make it an aerosol, which contains a substance, flavorings, and chemicals
- E-cigarettes, e-vaporizers, or electronic nicotine delivery systems; e-hookah, mods, vape pens, tank systems, pod mods, or by brand names like JUUL.

What substances can be vaped?

- Nicotine
- Cannabis
 - Liquid
 - Flower
- Spice (synthetic cannabis)
- Hallucinogens

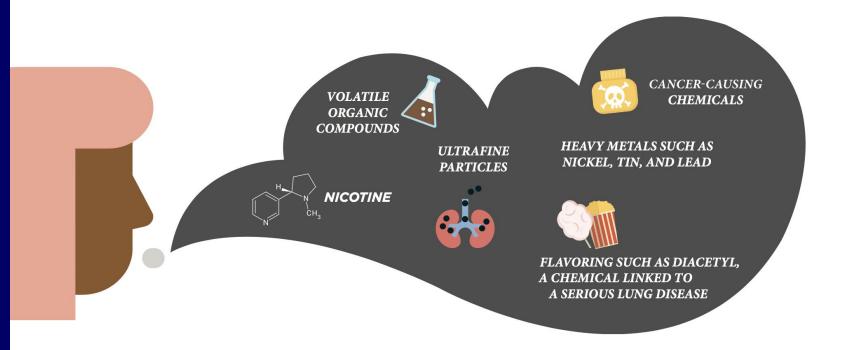
What's in the e-liquid?

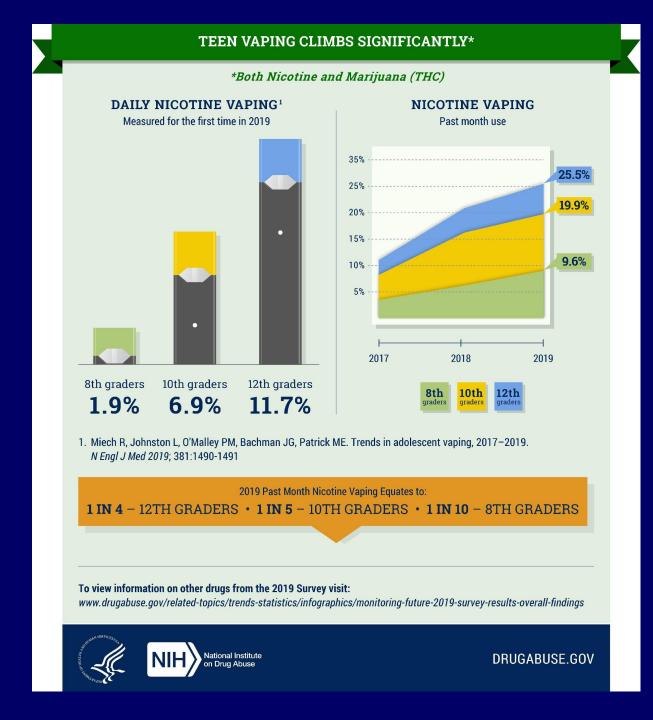
- Nicotine (usually)
 –Up to 4%
- Flavorings (chemicals)
 - –Mint, menthol, cotton candy, gelato…
- Humectants

-Retains and draws moisture in

What's in the Aerosol?

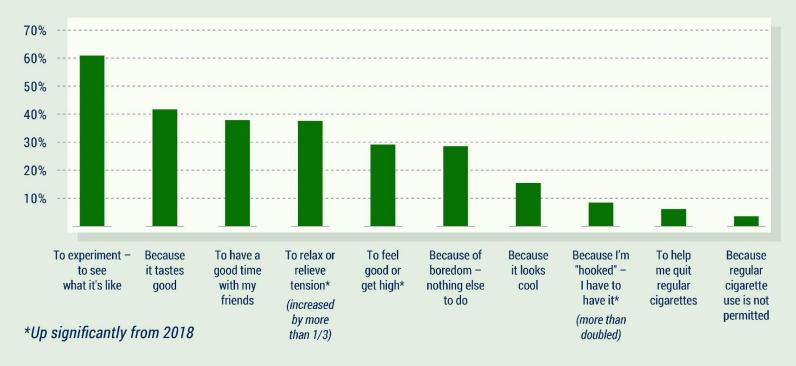
E-cigarette aerosol is not harmless. It can contain harmful ingredients. However, e-cigarette aerosol generally contains fewer harmful chemicals than smoke from burned tobacco products, like regular cigarettes.





TEEN VAPING CLIMBS SIGNIFICANTLY*

TEENS REPORT REASONS FOR VAPING



To view information on other drugs from the 2019 Survey visit:

www.drugabuse.gov/related-topics/trends-statistics/infographics/monitoring-future-2019-survey-results-overall-findings



DRUGABUSE.GOV

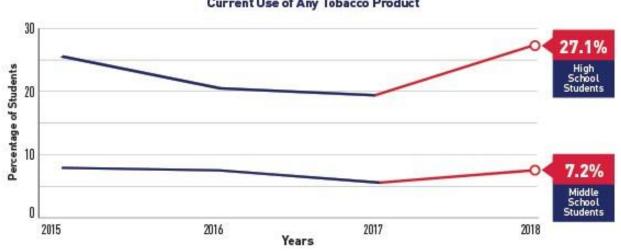
Increase in Youth Use Due to FLAVOR

AMONG HIGH SCHOOL CURRENT E-CIGARETTE USERS – Rise in Use of Flavors



Increase E-Cigs Lead to Increase Tobacco Use

E-CIGARETTE USE SURGE LED TO UPTICK IN OVERALL TOBACCO USE -**Reversing Previous Declines**



Current Use of Any Tobacco Product

Vaping: Clear Harms

- Introductory product to other nicotine products, including cigarettes (normalizes behavior)
- Less likely to stop smoking cigarettes
- Tobacco Use Disorder
- Emerging Health risks
 - Lungs
 - Mental Health

Other Health Impacts

- Exposure, ingestion of e-liquids
- Explosions
- Secondhand aerosol exposure
- Seizure
- Uncertain cardiovascular impact
 Blood pressure, heart attacks

How Much To Become Addicted?

 The amount of nicotine needed to establish an addiction has been estimated at around 5 mg a day, or roughly one-quarter of an e-cigarette pod.

Tobacco Withdrawal

- Irritability, frustration or anger
- Anxiety
- Difficulty concentrating
- Increased appetite
- Restlessness
- Depressed mood
- Insomnia

Can vaping help a person quit smoking?

- No conclusive scientific evidence on the effectiveness of vaping for long-term smoking cessation.
- It should be noted that there are seven FDA-approved quit aids that are proven safe and can be effective when used as directed.

Screening

- In the past year, have you used a tobacco product, like cigarettes, e-cigarettes (vaping devices such as tanks, mods or JUUL) or cigarillos/little cigars?
- Do You Smoke? = Not enough.

FDA-Approved Medications

Drug of Abuse	Brand Name	Generic Name
Nicotine	Nicotine Replacement Therapies	Patches, Lozenge, Inhalers, Gums
	Chantix	Varenicline
	Zyban	Bupropion

Nicotine impacts attention, learning & memory.

Don't get hooked on vaping. Text Quit Vaping to 66819 or call 1-844-8-NO-VAPE

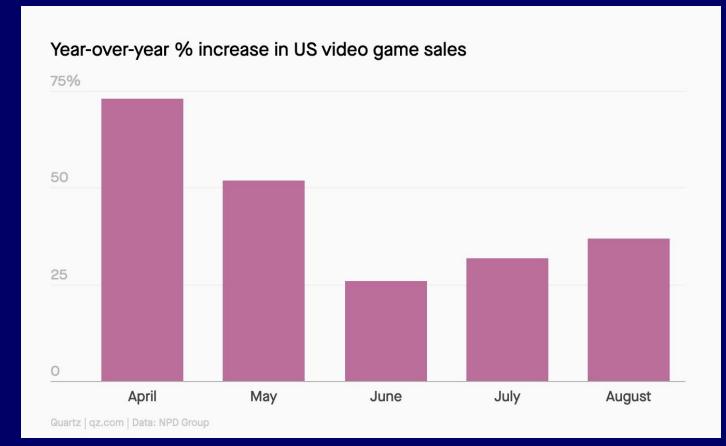




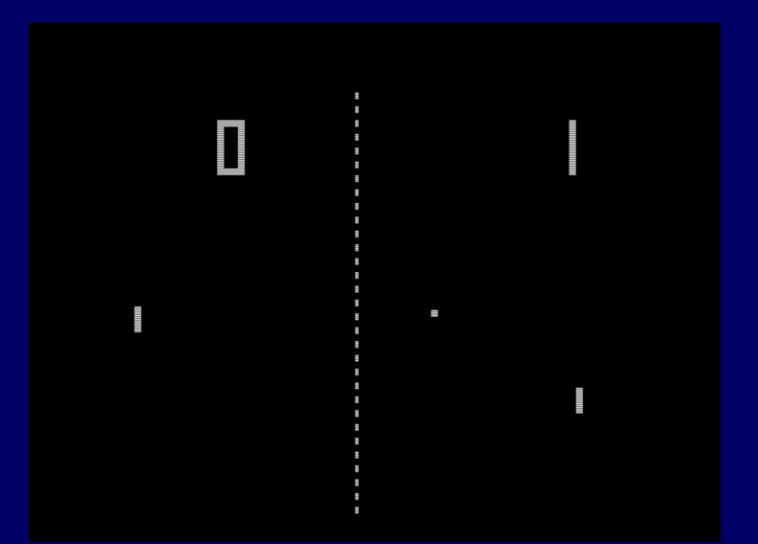
Shall we play a game?

Internet Gaming Disorder

COVID-19 and Video Games



From This Game (1970s)



To These Games (2021)



Name of Game?



Name of Game?



Name of Game?

There are 3 Impostors amon9 us

Gaming vs Gambling

Gaming

Outcomes determined by skill

Gambling

Outcomes determined by chance

The combinations are dizzying
 – Gamble on video games

- Games that have gambling within

Other Digital Activities

- Social Media
 - Social Media Games "Words with Friends"
- Streaming content

 Passive consumption
- Internet Gambling
 - Fantasy sports
- Augmented Reality
- Shopping

Internet Gaming Disorder (IGD)

Past Terminology (Pre DSM-5)

- Internet dependency
- Internet compulsivity
- Pathological Computer Use
- Problematic Internet Use
- Video Game Addiction
- Technology Addiction
- Digital Addiction
- Compulsive Digital Gaming

History of Internet Gaming Disorder

- 2013
 - DSM-5 Released and IGD included as "conditions for further study"
- 2017

- WHO adds Gaming Disorder into ICD-11

• 2017

- NIH funds IGD at University of Connecticut

Diagnostic Criteria

 Persistent and recurrent use of the Internet to engage in games, often with other players, leading to clinically significant impairment or distress as indicated by five (or more) of the following in a 12-month period

IGD Criteria

- Preoccupation Lying / Deceives
- Tolerance Withdrawal
- Lost opportunity
- Can't control
- Continued use Despite harm

- Escape / Relieves
- Loss of interest

APA: IGD

- At this time, the criteria for this condition are limited to Internet gaming and do not include general use of the Internet, online gambling or social media.
- The condition can include gaming on the internet, or on any electronic device, although most people who develop clinically significant gaming problems play primarily on the internet.

WHO and ICD-11

2017 Inclusion

Gaming Disorder (considered an addiction)

 Gaming disorder is characterized by a pattern of persistent or recurrent gaming behaviour ('digital gaming' or 'video-gaming'), which may be online (i.e., over the internet) or offline, manifested by: 1) impaired control over gaming (e.g., onset, frequency, intensity, duration, termination, context); 2) increasing priority given to gaming to the extent that gaming takes precedence over other life interests and daily activities; and 3) continuation or escalation of gaming despite the occurrence of negative consequences. The behaviour pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning. The pattern of gaming behaviour may be continuous or episodic and recurrent. The gaming behaviour and other features are normally evident over a period of at least 12 months in order for a diagnosis to be assigned, although the required duration may be shortened if all diagnostic requirements are met and symptoms are severe.

Epidemiology

 AJP study (2017) of Internet surveys found 1% of the general population would fit the DSM criteria for addiction, but found little evidence of impairment

Source: Przybylski AK, Weinstein N, Murayama K (2017) Internet gaming disorder: Investigating the clinical relevance of a new phenomenon Am J Psychiatry 174:230–236.

Internet gaming youth not more prone to psychiatric disorders

Some passionate gamers may even be less anxious than their non-gaming peers

- Date: October 1, 2020
- Source: Norwegian University of Science and Technology
- *Summary:* Children who show addiction-like gaming signs are not any more susceptible to mental health problems than their non-gaming peers. Some even experience less anxiety than others, according to researchers.

 Beate Wold Hygen, Věra Skalická, Frode Stenseng, Jay Belsky, Silje Steinsbekk, Lars Wichstrøm. The co-occurrence between symptoms of internet gaming disorder and psychiatric disorders in childhood and adolescence: prospective relations or common causes? *Journal of Child Psychology and Psychiatry*, 2020; 61 (8): 890 DOI: 10.1111/jcpp.13289

Screening

- When and how to conduct?
- Use validated screening instrument

 Internet Addiction Test
- DSM-5 or ICD-11

Openers:

- "Tell me about your relationship with video games"
- "How do you spend your screen (digital) time?"

Assessment

- Create section on Digital Lifestyle
 - Games
 - Social Media
 - Computer Use
 - Television / Movies
 - Phone Apps
- Probes on video game behavior
 - Focus on skills , social experiences, reasons for play, family views

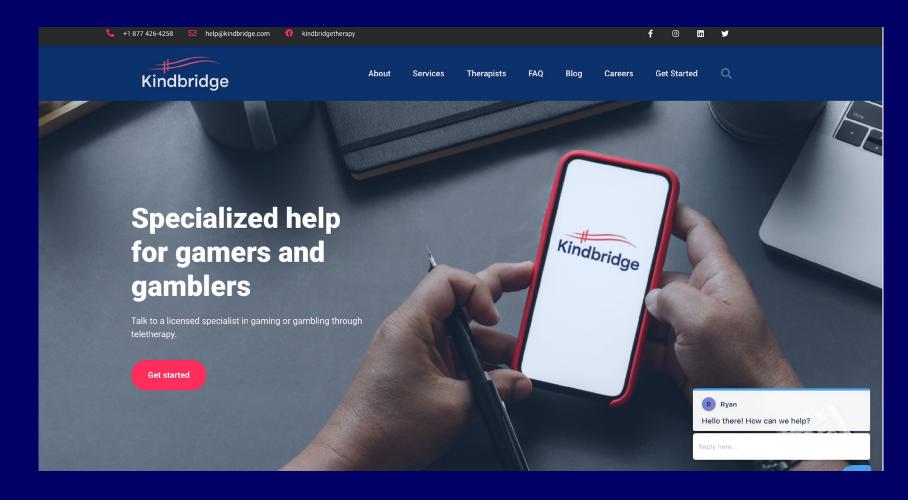
Zajac, K., Ginley, M. K., Chang, R., & Petry, N. M. (2017). **Treatments for Internet gaming** disorder and Internet addiction: A systematic review. Psychology of Addictive Behaviors, 31(8), 979-994.

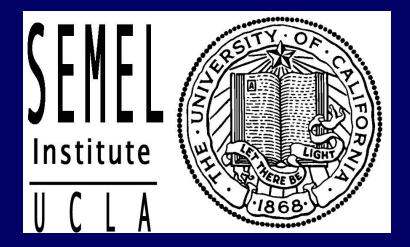
The results highlighted a paucity of well-designed treatment outcome studies and limited evidence for the effectiveness of any treatment modality.

Treatment Principles for IGD

- Medication
- Psychotherapy
- Social support / fellowship
- Improved self-care
 - Sleep, nutrition, fitness, stress management
- Increasing social integration
- Restoring purpose and passion

Kindbridge.com Telehealth for IGD







UCLA Cannabis Research Initiative

Contact Information Timothy Fong MD UCLA Gambling Studies Program Twitter: @fongster98 @UCLACannabis tfong@mednet.ucla.edu uclagamblingprogram.org

FROM ADOLESCENCE TO SENESCENCE: HALLUCINOGENS ACROSS THE LIFE SPAN

Charles S. Grob, M.D. Harbor-UCLA Medical Center April 18, 2021

DISCLOSURE OF FINANCIAL RELATIONSHIPS

Grant support

- Heffter Research Institute
- Betsy Gordon Foundation
- MAPS
- Cohen Foundation
- National Institute for Mental Health GCRC
- None of my slides and/or handouts contain any advertising, trade names or product-group messages. Any treatment recommendations I make will be based on clinical evidence or guidelines.

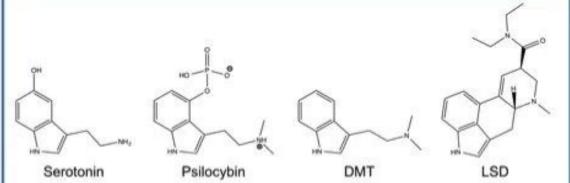
OVERVIEW

- Nomenclature
- Pharmacology
- Ethnobotany
- Indigenous ritual use
- Epidemiology
- Potential adverse effects
- Potential therapeutic applications
- Recent advances and challenges for the future

NOMENCLATURE

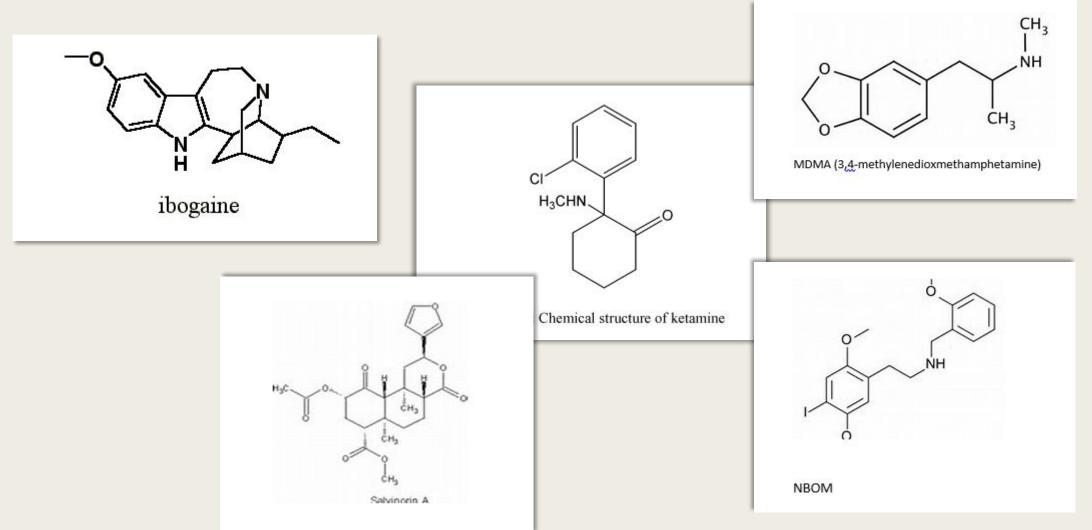
- Psychedelic Mind Manifesting (Aldous Huxley, Humphrey Osmond)
- Entheogen Accessing the Divine Within (Huston Smith)
- Hallucinogen Mind Journeying (ancient Latin "Allucinari"
- Alternative Terms "Deliriants", "Delusionegens", "Eidetics", "Misperceptinogens", "Mysticomimetics", "Phanerothymes", "Phantasticants", "Psychodysletpics", "Psychogens", "Psychointegrators", "Psychosomimetics", "Psychotaraxics", "Psychoticants", "Psychotogens", "Psychotomimetics", "Schizogens"

PHARMACOLOGY OF CLASSIC HALLUCINOGENS



- Role of classic hallucinogens in discovery of serotonin neurotransmitter system (Freedman, 1961)
- **5-HT2A** receptor agonists
- Blocked by 5-HT2A antagonist ketanserin (Vollenweider et al, 1998)
- Repeated administration - > rapid development of tolerance and downregulation of 5-HT2A receptor (Nichols, 2016)

PHARMACOLOGY OF NON-CLASSIC HALLUCINOGENS



RANGE OF EFFECTS OF HALLUCINOGENS

- Sustained alterations of consciousness
- Altered state of consciousness marked by changes in perception, mood and cognition in the presence of an otherwise clear sensorium, along with visual illusions and internal visionary experiences (though rarely frank hallucinations), synesthesia, states of ecstasy, dissolution of ego boundaries and the experience of union with others and with the natural world
- Similar to dreams, spontaneous epiphanies and psychotic states, usually with preservation of orientation, memory and ego identity
- Significance of Set (mental expectations) and Setting (environment) in determining outcome

ETHNOBOTANY OF HALLUCINOGENS



Psilocybe cubensis



Lophophora williamsii



Claviceps purpurea

ETHNOBOTANY OF HALLUCINOGENS





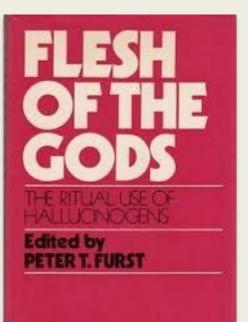


Psychotria viridis

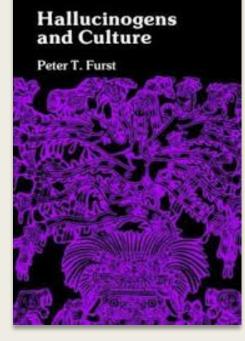
Banisteriopsis caapi

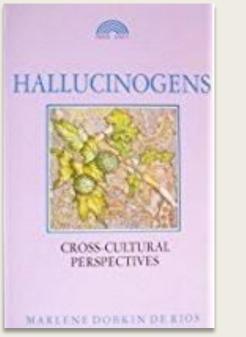
Ayahuasca

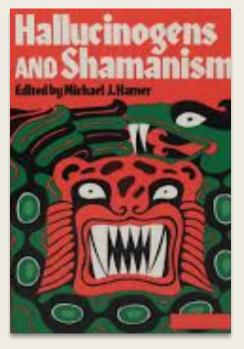
INDIGENOUS RITUAL USE



GEORGE ALLEN & UNWIN







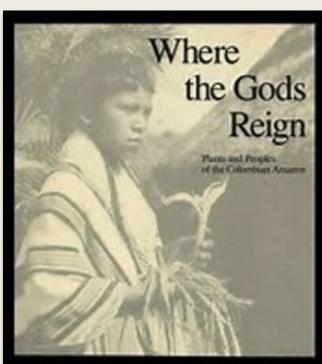
INDIGENOUS RITUAL USE

HALLUCINOGENIC PLANTS

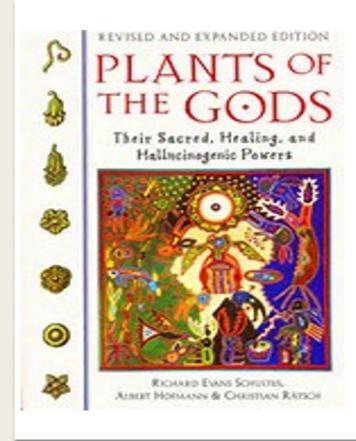
by RICHARD EVANS SCHULTES

> Illustrated by ELMER W. SMITH





Richard Evans Schultes



THE ANTHROPOLOGY OF HALLUCINOGENS

Sacramental use for 7,000+ years

- Religious and medicinal uses
- Rites of initiation
- Used by widely diverse cultures
- Influenced religion, philosophy, art



INDIGENOUS RITUAL PLANT HALLUCINOGEN USE

- Shamanic model dates back to prehistory strict purification practices (fasting and other dietary restrictions, sexual abstinence, isolation)
- Preparation (Set & Setting)
- Powerful expectation effects directed toward predetermined therapeutic goals importance of intention
- Formalized structure of the session
- Induction of the altered state of consciousness
- Navigating the altered intrapsychic terrain
- Initiatory death/rebirth
- Integration

INDIGENOUS RITUAL PLANT HALLUCINOGEN USE





INDIGENOUS RITUAL PLANT HALLUCINOGEN USE



PUBERTAL INITIATION RITES

- Role of plant hallucinogen rituals in transforming adolescent boys and girls into fully participating members of adult society
- Managed states of consciousness
- Role of hypersuggestible effects of plant hallucinogens
- Elder facilitated, culturally sanctioned
- Strengthens social cohesion
- Cultural contexts of meaning associated with plant hallucinogens in traditional societies
- Integrative rituals at adolescence address societal problems of alienation, economic disenfranchisement, social status ambiguity and meaninglessness

PUBERTAL INITIATION RITES



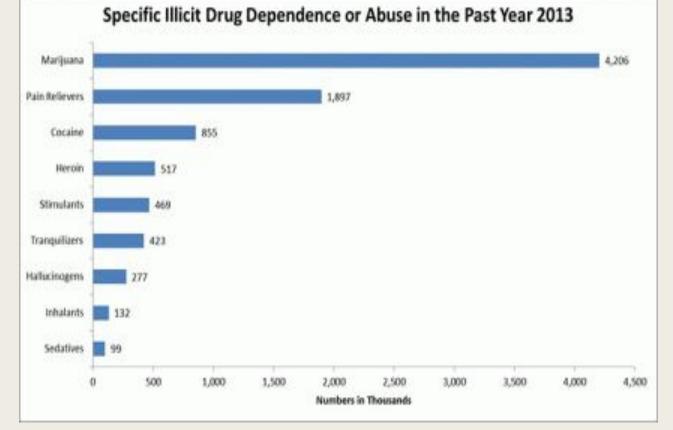




EPIDEMIOLOGY OF HALLUCINOGEN USE

- Hallucinogen use virtually non-existent until 1960s
- 1960s to early 1970s
 - large numbers of youth believed to have taken LSD
 - no organized data collected
- Mid 1970s onward
 - annual prevalence of LSD among adolescents less than 10%
- Whites comprise the ethnic majority of adolescent users

EPIDEMIOLOGY OF HALLUCINOGEN USE



EPIDEMIOLOGY OF HALLUCINOGENUSE Monitoring the Future Study: Trends in Prevalence of Various

Drugs for 8th Graders, 10th Graders, and 12th Graders; 2016 (in percent)*

Drug	Time Period	8th Graders	10th Graders	12th Graders
Hallucinogens	Lifetime	1.90	4.40	6.70
	Past Year	1.20	2.90	4.30
	Past Month	0.60	0.90	1.40
LSD	Lifetime	1.20	3.20	4.90
	Past Year	0.80	2.10	3.00
	Past Month	0.40	0.70	1.00
Ketamine	Past Year	-	-	1.20
РСР	Lifetime	-	-	-
	Past Year	-	-	1.30

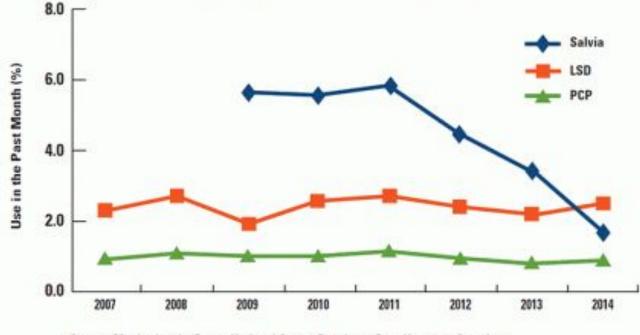
EPIDEMIOLOGY OF HALMatora Surveyor Drg Joe and Health Strends in Prevalence of Various Drugs for Ages 12 or Older, Ages 12

to 17, Ages 18 to 25, and Ages 26 or Older; 2015 (in percent)*

Drug	Time Period	Ages 12 or Older	Ages 12 to 17	Ages 18 to 25	Ages 26 or Older
Hallucinogens	Lifetime	15.30	3.10	18.60	16.20
	Past Year	1.80	2.10	7.00	0.80
	Past Month	0.50	0.50	1.80	0.20
LSD	Lifetime	9.50	1.30	7.70	10.70
	Past Year	0.60	1.00	2.80	0.10
	Past Month	0.10	0.20	0.60	0.00
РСР	Lifetime	2.40	0.20	0.80	2.90
	Past Year	0.00	0.10	0.10	0.00
	Past Month	0.00	0.00	0.00	0.00

EPIDEMIOLOGY OF HALLUCINOGEN USE

Past-Year Use of Hallucinogenic and Dissociative Drugs Among 12th-Grade Students



Source: Monitoring the Future National Survey Results on Drug Use, 2014 Overview



"I don't know about you, but I say it's time we started experimenting with drugs." "Once you get the message, you can hang up the phone." -- Alan Watts

- Hallucinogens are non-addictive
- Psychological dependence can occur
- Physiological withdrawal does not occur
- Tolerance to euphoric and psychedelic effects develops rapidly
- Cross-tolerance does exist between various classic hallucinogens

- Hallucinogen use disorder as per DSM 5
 - Functional impairment at work, school, home
 - Impaired social judgment
 - Failure to control use when attempted
 - Increased tolerance
 - Use of larger quantities of drug over time
 - Persistence of use despite harmful consequences
 - Engaging in high risk activities associated with drug use

- The "<u>bad trip</u>"
 - Transient anxiety
 - Anxiolytic metabolite 13 hydroxy-LSD (Nichols, 2016)
 - Degree and duration of anxiety influenced by dose, setting, underlying psychological stability and experience of user with altered states of consciousness
 - Sustained psychotic reaction rare
 - Severe underlying vulnerability
 - Strong biological family history for severe mental illness
 - Excessive frequency hallucinogen use and high dosing
 - Poor support system and pattern of relationship and environmental instability
 - Pattern of polydrug abuse
 - History of untreated, chronic PTSD

- Acute intervention for "bad trip" includes:
 - Quiet setting
 - Reorientation
 - Reassurance of return to baseline
 - Benzodiazepines (if medication necessary)

Post-traumatic response

- Persistent post-traumatic stress catalyzed by amplified hallucinogen induced state
- Risks heightened when taking drug in uncontrolled setting with overstimulating environment and in the context of alcohol and polydrug use
- When working with inexperienced and/or unethical facilitator

- HPPD (hallucinogen persisting perception disorder) rare
- Often associated with frequent use and polydrug pattern
- Delayed onset
- Persists long after acute effects wane
- Visual symptoms (eg. auras, trails following objects in motion, distortion of dimensions)
- Comorbidity with anxiety and depressive disorders
- Condition exacerbated by risperidone (Abraham and Mamen, 1996)
- Possible treatment application with lamotrigine (Hermle, 2012)
- Heightened risk possibly associated with poor quality drug and multiple exposures

Polysubstance abuse

- Combining hallucinogens with alcohol and other drugs may lead to acute psychological decompensation
- Toxic interactions between hallucinogen and alcohol and other drugs can lead to severe confusional states along with affective and aggressive dysregulation

POTENTIAL THERAPEUTIC APPLICATIONS

- "Golden age' of psychedelic research in the 1950s and 1960s
- Over one thousand clinical papers published in professional literature discussing the experiences of 40,000 patients treated with hallucinogens (Grinspoon and Bakalar, 1979)
- Treatment of alcoholism and drug addiction
- Psychosomatic disorders
- Chronic post-traumatic stress disorder
- Obsessive-compulsive disorder
- Anti-social behavior
- Existential depression and anxiety in terminal cancer

POTENTIAL THERAPEUTIC APPLICATIONS

- New generation of psychedelic research, 1990s to present
- Phase 1 studies with DMT, MDMA and ibogaine
- Psilocybin treatment model to evoke psycho-spiritual states
- Psilocybin treatment model for refractory psychiatric conditions, including cancer-anxiety, obsessive-compulsive disorder, alcoholism, cocaine addiction, opioid addiction, cigarette addiction
- Ayahuasca treatment model for refractory depression, addiction, anti-social disorder
- MDMA treatment model for chronic PTSD, social anxiety in autistic adults
- Suggested hallucinogen treatment for medical indications, including cluster headaches (psilocybin), Parkinson's disease (ayahuasca), autoimmune conditions (DOI)

STUDY RESULTS

ORIGINAL ARTICLE

ONLINE FIRST

Pilot Study of Psilocybin Treatment for Anxiety in Patients With Advanced-Stage Cancer

Charles S. Grob, MD; Alicia L. Danforth, MA; Gurpreet S. Chopra, MD; Marycie Hagerty, RN, BSN, MA; Charles R. McKay, MD; Adam L. Halberstadt, PhD; George R. Greer, MD

Context: Researchers conducted extensive investigations of hallucinogens in the 1950s and 1960s. By the early 1970s, however, political and cultural pressures forced the cessation of all projects. This investigation reexamines a potentially promising clinical application of hallucinogens in the treatment of anxiety reactive to advanced-stage cancer.

Objective: To explore the safety and efficacy of psilocybin in patients with advanced-stage cancer and reactive anxiety.

Design: A double-blind, placebo-controlled study of patients with advanced-stage cancer and anxiety, with subjects acting as their own control, using a moderate dose (0.2 mg/kg) of psilocybin.

Setting: A clinical research unit within a large public sector academic medical center.

Participants: Twelve adults with advanced-stage cancer and anxiety.

Main Outcome Measures: In addition to monitoring safety and subjective experience before and during experimental treatment sessions, follow-up data including results from the Beck Depression Inventory, Profile

Archives of General Psychiatry. (2011); 68(1):71-78.

Results: Safe physic sponses were docume There were no clinicall doi:10.1001/archgenpsychiatry.2010.1

psilocybin. The State-Train protecty inventory trait anxiety subscale demonstrated as pficant reduction in anxiety at 1 and 3 months after treatment. The Beck Depression Inventory revealed an improvement of mood that reached significance at 6 months; the Profile of Mood States identified mood improvement after treatment with psilocybin that approached but did not reach significance.

of Mood States, and Sta

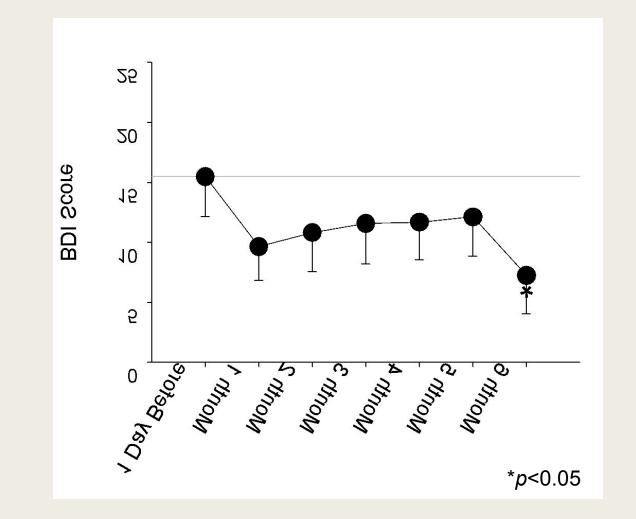
collected unblinded fo

Conclusions: This study established the feasibility and safety of administering moderate doses of psilocybin to patients with advanced-stage cancer and anxiety. Some of the data revealed a positive trend toward improved mood and anxiety. These results support the need for more research in this long-neglected field.

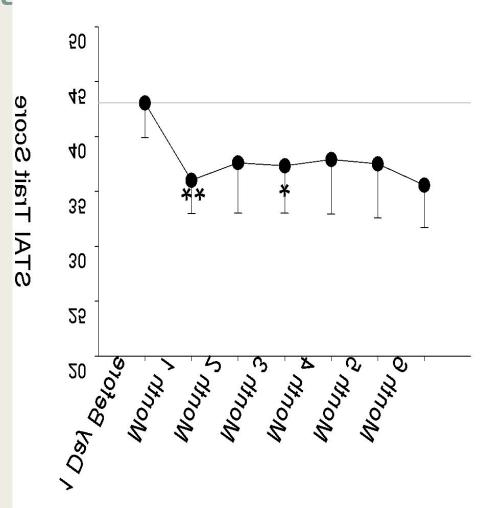
Trial Registration: clinicaltrials.gov Identifier: NCT00302744

Arch Gen Psychiatry. Published online September 6, 2010. doi:10.1001/archgenpsychiatry.2010.116

Beck Depression Inventory



STAI Trait



p*<0.05, *p*<0.01

FUTURE CHALLENGES

Learn the lessons of the past **Optimize safety Strengthen ethical standards Prioritize public health implications Respond to need for greater diversity Navigate regulatory obstacles Assess funding options carefully**





Telepsychiatry for Young Adults: Opportunities and Challenges during the Pandemic and Beyond

Pam Hoffman, MD

Medical Director, Telehealth, Yale New Haven Health System, Yale Medicine Assistant Professor, Child Study Center, Yale Medicine

Pamela.Hoffman@yale.edu



Disclosures

I have no relevant disclosures for this presentation.



Learning Objectives

- Appreciate the evidence base for telehealth in young adults
- Identify 2 specific challenges in the use of telepsychiatry in adolescent and young adults
- Describe special considerations when using telehealth on young adults



Agenda

- Background evidence base
- Recent Changes Pandemic changes
 - Regulatory/legislative
- Overview of Telepsychiatry
 - Review of basics/Advanced topics
 - Clinical opportunities and challenges
 - Resources
- Future
 - Outcomes



Telemental Health Evidence Base

- Comparable Diagnostic Accuracy
 - 1998: Baltimore VA (Ruskin, et al) demonstrated diagnoses are as accurate using telehealth as in person
 - 2000: Elford et al completed a RCT showing similar diagnosis and treatment recommendations for children and adolescents
- Comparable Treatment Outcomes
 - 2004: Baltimore VA (Ruskin, et al) demonstrated comparable outcomes for depression in patients treated remotely or in person
 - 2003: Nelson et al demonstrated treatment works for childhood depression over videoteleconferencing
- Clinical Outcomes Improvement
 - 2008: Yellowlees showed boys showed improvements in oppositional behavior scores and girls showed improvements in mood scores after 3 months of TMH
 - 2012: VA Telehealth Services (Godleski, Darkins, Peters) demonstrated hospitalization rates decreased by approximately 25% after initiation of Telemental Health services



Telemental Health Evidence Base

- Systematic Reviews:
 - Pesämaa, L., Ebeling, H., Kuusimäki, M. L., Winblad, I., Isohanni, M., & Moilanen, I. (2004). Videoconferencing in child and adolescent telepsychiatry: a systematic review of the literature. Journal of telemedicine and telecare, 10(4), 187-192.
 - Hilty, D. M., Ferrer, D. C., Parish, M. B., Johnston, B., Callahan, E. J., & Yellowlees, P. M. (2013). The effectiveness of telemental health: a 2013 review. Telemedicine and e-Health, 19(6), 444-454.
 - Hilty, D., Yellowlees, P. M., Parrish, M. B., & Chan, S. (2015). Telepsychiatry: effective, evidence-based, and at a tipping point in health care delivery?. Psychiatric Clinics, 38(3), 559-592.



Recent Changes



- Before PHE: 30-40 video visits/month with pilot programs; tele-ICU; Tele-stroke; Tele-neuro services;
- Since PHE: 2400-3500 video visits/day for all ambulatory programs in YM, NEMG, YNHHS services and other locations



Regulations related to interstate practice of telemedicine

- State licensure requirements differ based on the state.
- At all other times besides the PHE, Practitioner must be licensed in the state where the patient is receiving services
- During PHE, there are different rules (varying by state) that decide if the provider requires a state license in that state for telehealth services.
- Important for college age patients who reside in other states during different times throughout the year
- Important Websites:
 - <u>https://www.fsmb.org/siteassets/advocacy/pdf/state-emergency-declarations-licensures-requirementscovid-19.pdf</u>
 - <u>https://www.fsmb.org/siteassets/advocacy/pdf/states-waiving-licensure-requirements-for-telehealth-in-response-to-covid-19.pdf</u>

Legislative Changes due to COVID-19

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- CT legislative changes:
 - Allows for any originating site
 - **Requires** telehealth be reimbursed at parity to in person visits.
 - Allows for telephone only visits to be paid as well at parity.
 - Permits 3rd party video communication technology that otherwise would not be HIPAA compliant
 - Allows providers from outside CT to practice without a CT state license.
 - Keeps the expanded list of potential telehealth providers.
 - Identifies additional funding that will be used should telehealth costs more (more appointments than expected in person) with the expectation that after this ends, the premiums will cover the increased cost.
 - Continues restrictions on controlled substances and electronic prescribing of prescriptions.
 - Continues expectation to consent on first visit.
 - Continues expectation that will not charge a facility fee.



Procedures and Clinical Guidance

Understanding the laws:

- Ryan Haight Act, regarding controlled substances:
 - the Ryan Haight Act specifies whether an initial face to face visit is required by law before prescribing controlled substances.
 - Exemption for patients seen through VA or IHS clinics
 - Any other circumstances need local legal review to determine if they meet the Ryan Haight Act exemption, such as PUBLIC HEALTH EMERGENCIES.



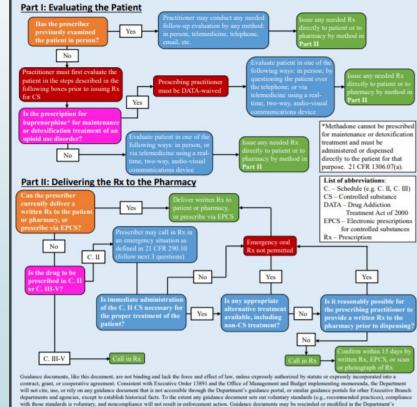
DEA Rules for Controlled Substances during PHE

How to Prescribe Controlled Substances to Patients During the COVID-19 Public Health Emergency

In response to the COVID-19 public health emergency declared by the Secretary of Health and Human Services, the Drug Enforcement Administration (DEA) has adopted policies to allow DEA-registered practitioners to prescribe controlled substances without having to interact in-person with their patients. This chart only addresses prescribing controlled substances and does not address administering or direct dispensing of controlled substances, including by narcotic treatment programs (OTPs) or hospitals. These policies are effective beginning March 31, 2020, and will remain in effect for the duration of the public health emergency, unless DEA specifies an earlier date.

This decision tree merely summarizes the policies for quick reference and does not provide a complete description of all requirements. Full details are on DEA's COVID-19 website (https://www.deadiversion.usdoj.gov/coronavirus.html), and codified in relevant law and regulations.

Under federal law, all controlled substance prescriptions must be issued for a legitimate medical purpose by an individual practitioner acting in the usual course of his/her professional practice. 21 CFR 1306.04(a). In all circumstances when prescribing a controlled substance, including those summarized below, the practitioner must use his/her sound judgment to determine that s/he has sufficient information to conclude that the issuance of the prescription is for a bona fide medical purpose. Practitioners must also comply with applicable state law.



complete discretion, consistent with applicable laws. Drug En

https://www.deadiversion.u sdoj.gov/GDP/(DEA-DC-023) (DEA075) Decision_Tree (Final) <u>33120</u> 2007.pdf



Important Considerations: Proxy issues

Adolescents 13-17yo

 Specific health information must be kept separate from parent chart/access (appointments, results, notes, etc)
 varying by state, but could include: reproductive health care, substance use treatment, prenatal care

Privacy/Security/Connectivity

- During session Information discussed remains confidential; safe place to connect; families need a way to contact providers/set up session
- After Session 21st Century Cures Act requirements; updates to treatment plan; private notes kept safe

Wood, S. M., White, K., Peebles, R., Pickel, J., Alausa, M., Mehringer, J., & Dowshen, N. (2020). Outcomes of a rapid adolescent telehealth scale-up during the COVID-19 pandemic. *Journal of Adolescent Health*, 67(2), 172-178. https://www.psychiatrictimes.com/view/telepsychiatry-practical-pointers-and-potential-pitfalls



Review of Telepsychiatry Concepts

- Preparing the Environment
- Clinical Appropriateness
- Training
- Consent
- Physical Exam
- Communication
- Preparing for emergencies/technical difficulties



Advanced Issues - Environment

- Preparing your virtual space
 - Consider your background
- Colors/Pattern choices
 - Fans
- Expectations with Attendings/other people joining
 - Have a plan
 - Share plan with patient



Advanced Issues – Clinical Appropriateness

Patient selection – Diagnosis

- Engagement
- Verbal and non-verbal skills
- Age
- Technology or Wifi Literacy/AvailabilityConsent



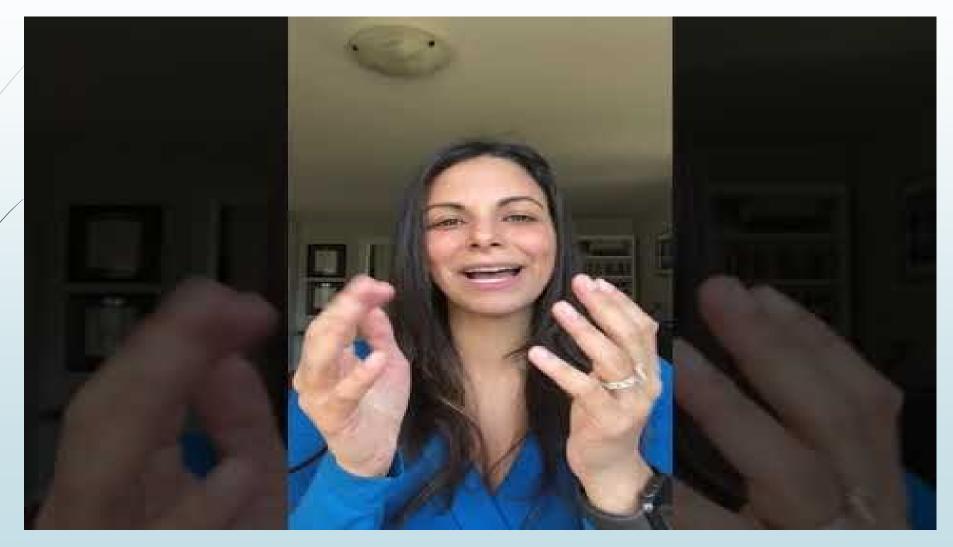
Advanced Issues - Consent

Verbal vs. Written Consent

- Required elements
 - Voluntary
 - Verified person
 - Revokable
- Documentation



Advanced Issues – Physical Exam



https://youtu.be/4hRObfNyDvc

Advanced Issues – Communication

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- Verbal Communication
- Non-verbal Communication
- Family Interactions Collateral information (with or without patient)
 - Technology
- Team Communication
 - During interview Attending participation
 - Plan and follow up with other treatment team members
 - Emergencies/Changes in care plan
 - Multidisciplinary team visits



Advanced Issues – Emergencies/Difficulties

- Clinical Emergencies
 - ■911 or equivalent
 - ► E-911 phone number: 267-908-6605
 - Alternative means to reach patient/family
 - Alternative means to reach out to supervisors
- Technical Issues
 - Sound issues
 - Basic troubleshooting



Helpful Tips and Tricks for Successful Video Visits

- National Resources:
 - <u>https://www.cchpca.org/</u>
 - <u>https://www.telehealthresourcecenter.org</u>
- Other Links to consider:
 - Youtube (within reason)
 - Pamela Hoffman-Telehealth Physical Exam Playlist: https://www.youtube.com/playlist?list=PLT9necN1x_B3 rrS9m67jEZ1TQBmyEb2jS



Things to Consider for Private Telepsychiatry Practice

- Malpractice/Liability coverage
- Licensure
- Contracting with companies
 - Breaks
 - Ownership of patients
- Resources
 - Facebook (within reason!)

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Future Outcomes

Measurements

- Hospitalization/re-hospitalization rates
- No show rates (improved during shut down, now trending back up, still better)
- Clinical care outcomes for various chronic diseases integration with Remote Patient Monitoring
- Hybrid models of in person and video visits groups/individual
- Relying on patient satisfaction/anxiety to help promote telehealth
- State/Federal Advocacy efforts to continue to drive telehealth forward



Conclusion - Thanks

What did you learn?

► Where to go from here?

Questions?

Comments?