2016

Annual Meeting of the American Society for Adolescent Psychiatry (ASAP)

Bellevue Hospital's Farber Auditorium | New York, New York
March 18 - 20, 2016

Comprehensive Review Course in Adolescent Psychiatry

"Past, Present, and Future of Adolescent Psychiatry"

Welcome to the

2016 American Society for Adolescent Psychiatry

Annual Meeting

"Past, Present, and Future of Adolescent Psychiatry"

American Society for Adolescent Psychiatry

Disclosure Statement

- The Bureau of Psychiatric Services & Research Institute Support relies upon planners and faculty participants to provide educational information that is objective and free of bias. In this spirit and in accordance with BPSRIS/MSSNY guidelines, all speakers and planners must disclose relevant financial relationships with commercial interests whose products, devices, or services may be discussed in the CME content of may be perceived as a real or apparent conflict of interest. Any discussion of investigational or unlabeled use of a product will be identified.
- The following planners/presenters have indicated a relationship as listed:
- Alec L. Miller is an Author for Guilford Press, Trainer for Behavioral Tech, and Co-founder and Clinical Director for Cognitive & Behavioral Consultants
- John T. Walkup is a paid speaker for the Tourette Syndrome Center for Disease Control, the American Academy of Child & Adolescent Psychiatry, and the American Psychiatric Association. He was paid for a one-time consultation with Shire and received royalties from Guildford and Oxford Press. John Walkup receives grant funding from the Hartwell Foundation and the Tourette Syndrome Association and is an unpaid advisor to Anxiety Disorders Association of America, Consumer Reports, and Trichotillomania Learning Center. John Walkup has also received free drug/placebo from Eli Lily, Pfizer, and Abbott for studies funded by the National Institute of Mental Health.
- Glenn Saxe receives royalties from Guilford Press for the book *Collaborative Treatment of Traumatized Children and Teens: The Trauma Systems Therapy Approach*
- Argelinda Baroni received an honorarium as speaker at the AACAP Annual Conference
- *Sarah Eckhardt – pending clarification*
- *Camilla L. Dahlgren – pending clarification*
- *Nicole Singleton – pending CV and RFR*
- All of the other planners and presenters associated with this CME activity have indicated they have no financial arrangements or affiliations with

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Sleep Disorders in Adolescents

Argelinda Baroni M.D.
Assistant Professor Child and Adolescent Psychiatry
NYULMC

Sleep in infancy and childhood: implications for emotional and behavioral difficulties in adolescence and beyond

Avi Sadeh[a], *Liat Tikotzky*[b], *and Michal Kahn*[a]

Sadeh *et al*., 2014.

PEDIATRICS®

Impact of Sleep Extension and Restriction on Children's Emotional Lability and Impulsivity

AUTHORS: Reut Gruber, PhD,[a,b] Jamie Cassoff, BSc,[a,b] Sonia Frenette, PhD,[c] Sabrina Wiebe, MSc,[a,b] and Julie Carrier, PhD[c,d]

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Barriers and Facilitators of Evidence-Based Practice in Pediatric Behavioral Sleep Care: Qualitative Analysis of the Perspectives of Health Professionals

Barriers

1) **Lack of knowledge, skills, techniques, training, or education**
2) Lack of resources or materials
3) Lack of time

Facilitators

1) **Knowledge, skills, techniques, training, or education**
2) Resources or materials
3) Time

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Boerner *et al.*, 2015

Basic Facts

- In adolescents total sleep time need is approx. **9 to 9 ¼ hours**
- Often present sleep deprivation
  - Average sleep duration is 7-7 ½ hours of sleep, especially in 11th-12th graders – cumulative sleep debt
  - Any guess why?

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Common Sleep Issues

- Early high school starts- tardiness and absences
- Irregular wake-sleep schedule (schooldays vs. weekends)
- Chronic sleep deprivation with cognitive and emotional consequences
- Excessive Daytime Sleepiness- 25% adolescents fall asleep once a week, more than 1 in 5 fall asleep doing homework. More than half report drowsy driving
- Inappropriate use of caffeine or other stimulants

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Common Sleep Disorders in Adolescents

- Insufficient sleep and Inadequate sleep hygiene
- Insomnia
- Delayed sleep phase
- Obstructive Sleep Apnea
- Parasomnias- sleepwalking, sleep talking, sleep inertia
- Restless legs syndrome/periodic limb movement disorder
- Narcolepsy

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Common Sleep Disorders in Adolescents

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Parent and Teen Education

- ✓What's normal
  - Sleep duration
  - Sleep regulation
  - Sleep cycles
- ✓Sleep hygiene- importance of associations
- ✓Cognitive and emotional consequences of sleep deprivation

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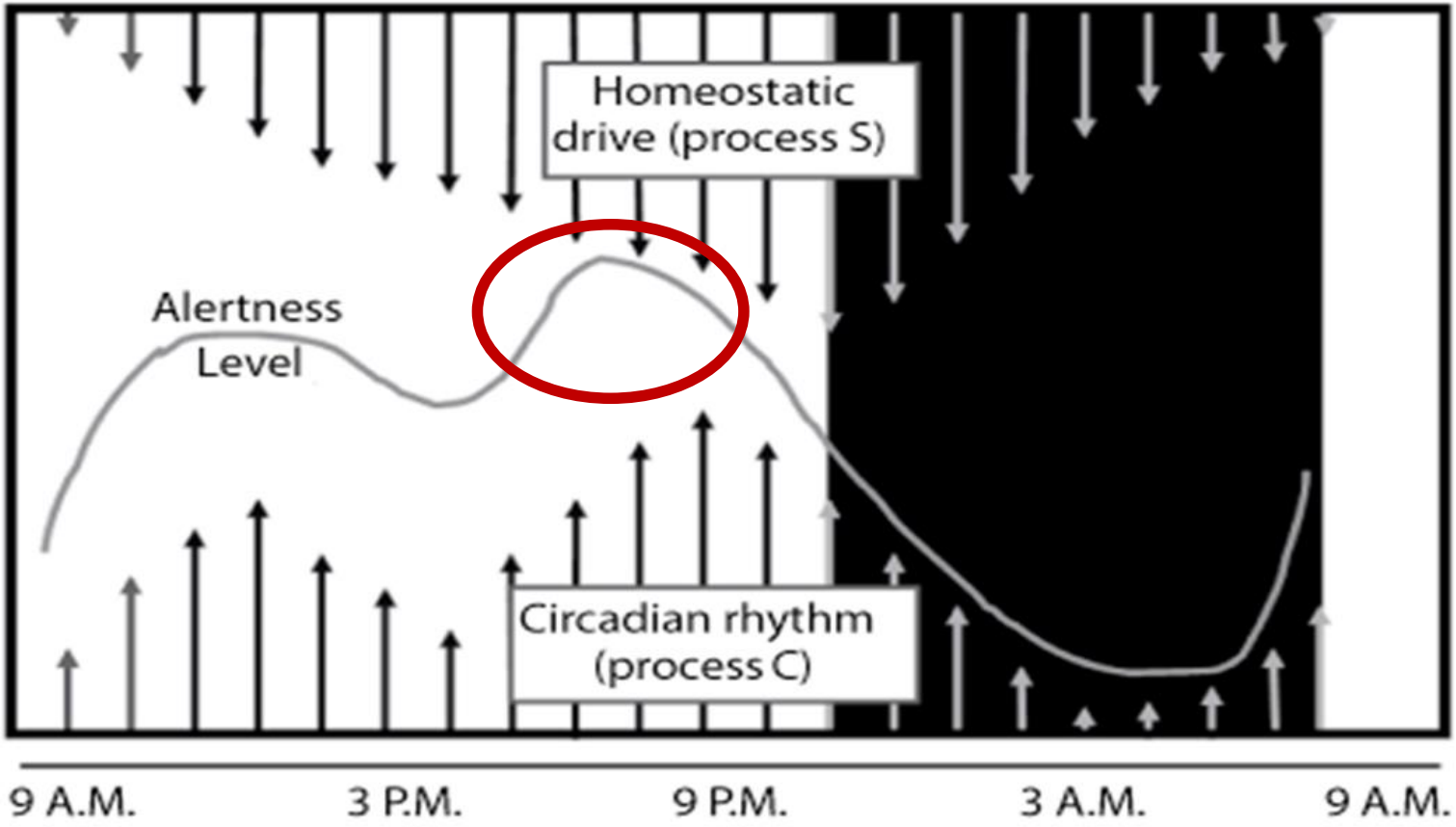
Honaker & Meltzer 2014.

Sleep Regulation



Circadian Process responsible for “Forbidden zone” or “second wind”

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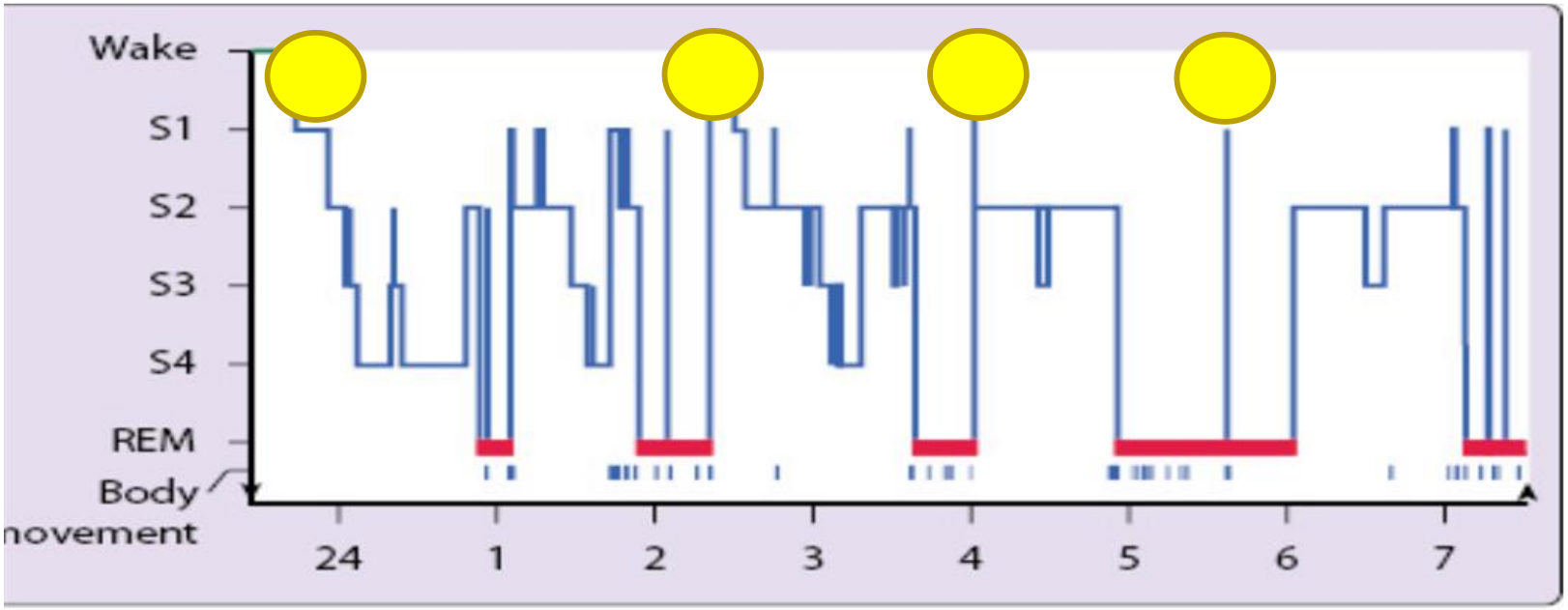
Sleep Cycles



Multiple brief awakenings are normal

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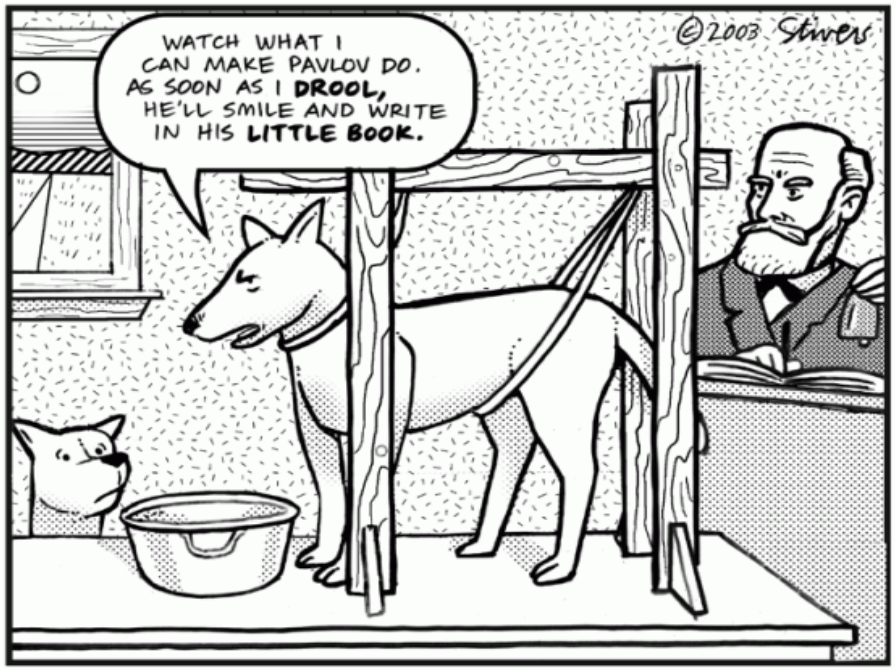
Sleep is All About Conditioning

- Regular wake-time and bedtime (±2 hours)
- Sleep-conducive bedtime routines
- Adequate sleep environment
- Avoidance of stimulating activities 1-2 hours prior to bedtime
- No wake-promoting activities in bed
- No napping during the day
- No caffeine, nicotine, alcohol, MJ close to bedtime

The brain needs to salivate sleep in presence of bed.



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Hannah

- Hannah is 16 yo female
- History of depression on venlafaxine, in remission
- Negative medical history
- Came in for difficulties falling asleep and difficulties waking up in the morning that has led to multiple tardiness in school
- She is a good student and she is upset about the situation
- No clear precipitants
- Started about 2-3 years ago, but is progressively getting worse

Charlie

- Charlie is a 19 yo male
- History of ADHD, on Concerta
- PMH of multiple concussions, no h/o seizure
- Came in at the end of July “to fix” his sleep before getting back to college
- Difficulties falling asleep, worries about his sleep a lot, often sleeps in to recuperate
- Symptoms started with stress related to college application but never been a good sleeper

How to screen: B.E.A.R.S.

- Bedtime issues
- Excessive daytime sleepiness
- Awakenings/abnormal behaviors during sleep
- Regularity and duration of sleep
- Snoring

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Owens & Dalzell, 2005.

Sleep History

- History of sleep problems
  - Onset/Course
  - Excessive daytime sleepiness
- Sleep-wake schedule
  - Time in bed vs. time asleep
  - Awakenings-how long?
  - Wake up time
  - Naps
  - Regular over school days vs. vacation days
- Bedtime routine
  - Regular? Soothing? Screen use?

Sleep History

- Bedtime environment
  - Consistent
  - Dark
  - Quiet
  - Co-Sleeping?

- Sleep ROS
  - Snoring/Gasping
  - Excessive movements during sleep
  - Restless Leg Syndrome
  - Abnormal behaviors during sleep
  - Enuresis

- Medications
- Medical and psychiatric history

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When to Refer to Sleep Specialist?

Respiratory Indications

- **Suspicion for obstructive sleep apnea**
  - Presence of respiratory symptoms or associated symptoms
- **Neurodevelopmental syndromes**
  - Down Syndrome
  - Prader Will
  - Chiari malformation
- **Craniofacial abnormalities**
- **Neuromuscular disorders or abnormal chest wall**
  - Achondroplasia or dysostosis
- **Pre- and post-tonsillectomy in selected cases**

Non-Respiratory Indications

- **Suspicion for Periodic Limb Movement Disorder (Restless Leg Syndrome)**
- Evaluation of hypersomnia and narcolepsy (with multiple sleep latency test)
- In presence of **frequent or severe** abnormal sleep behaviors (parasomnias as sleepwalking or night terrors, suspicion for epilepsy)

- **(When the case is very unclear and nothing works!)**

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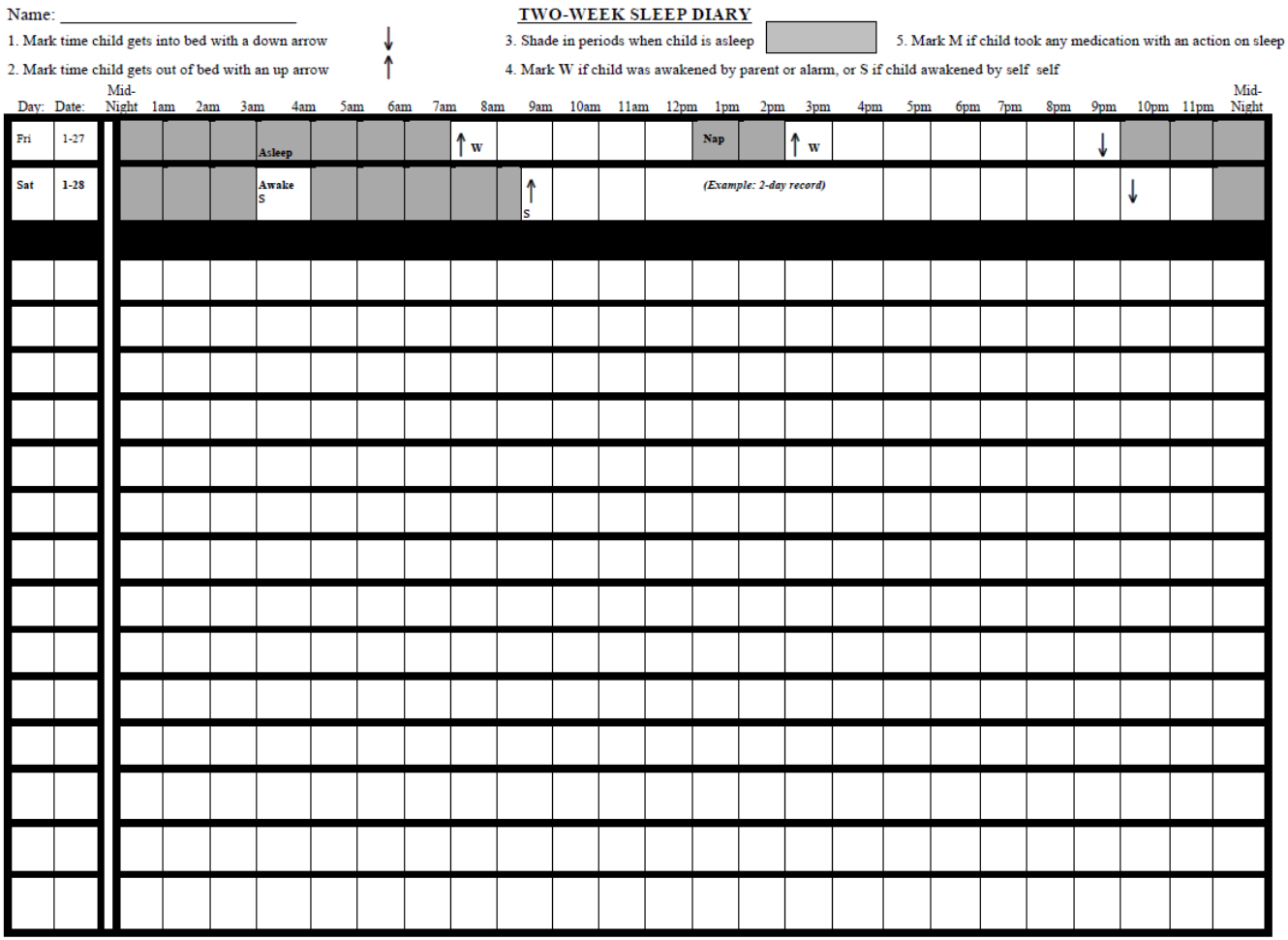
Aurora *et al*., 2011, AASM Practice Guidelines.

Sleep Diary



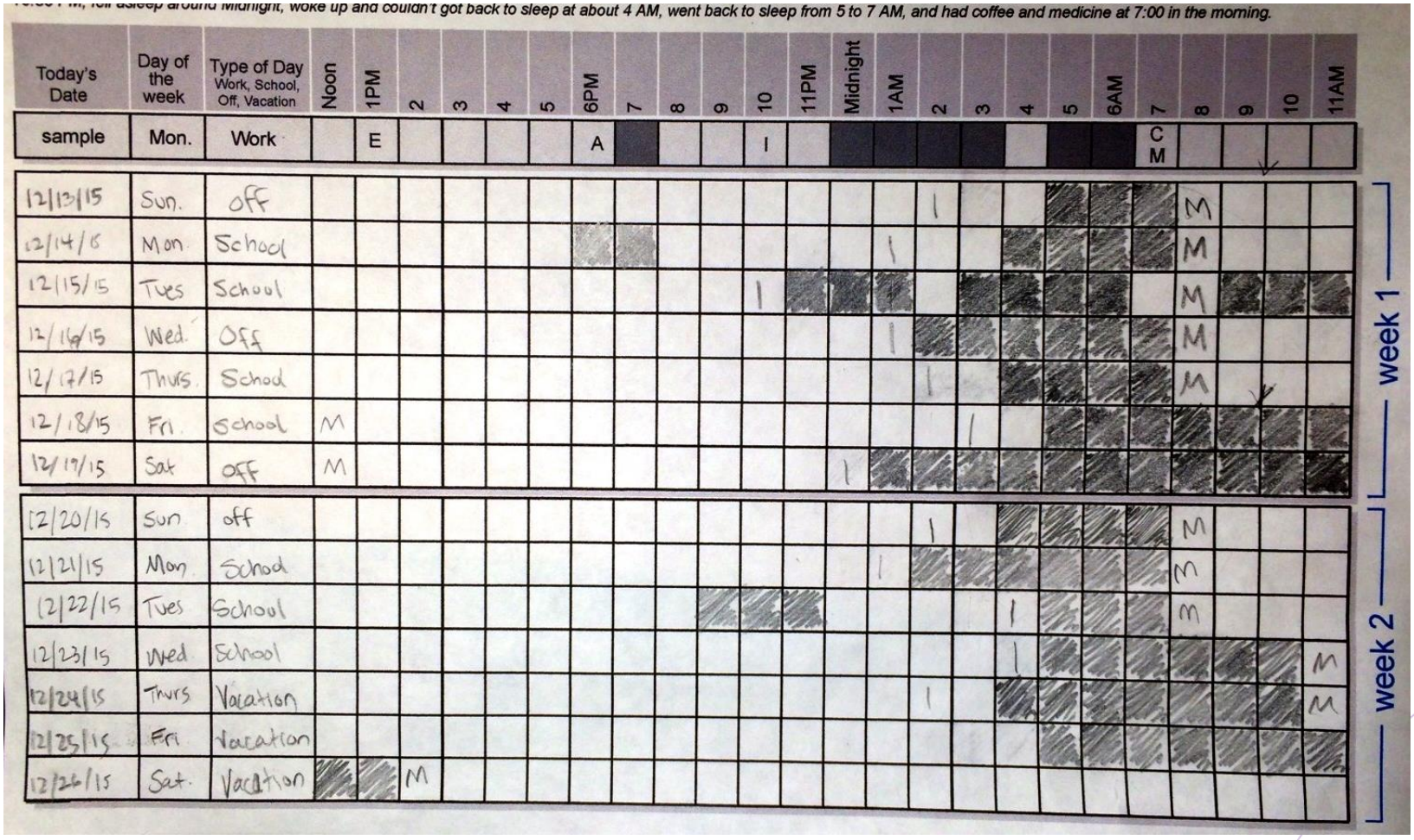
Name: _____

TWO-WEEK SLEEP DIARY

1. Mark time child gets into bed with a down arrow ↓
2. Mark time child gets out of bed with an up arrow ↑
3. Shade in periods when child is asleep
4. Mark W if child was awakened by parent or alarm, or S if child awakened by self self
5. Mark M if child took any medication with an action on sleep

Day:	Date:	Mid-Night	1am	2am	3am	4am	5am	6am	7am	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm	Mid-Night
Fri	1-27					Asleep				↑ W					Nap		↑ W						↓			
Sat	1-28					Awake S					↑ S			*(Example: 2-day record)*										↓		

Hannah's Sleep Diary



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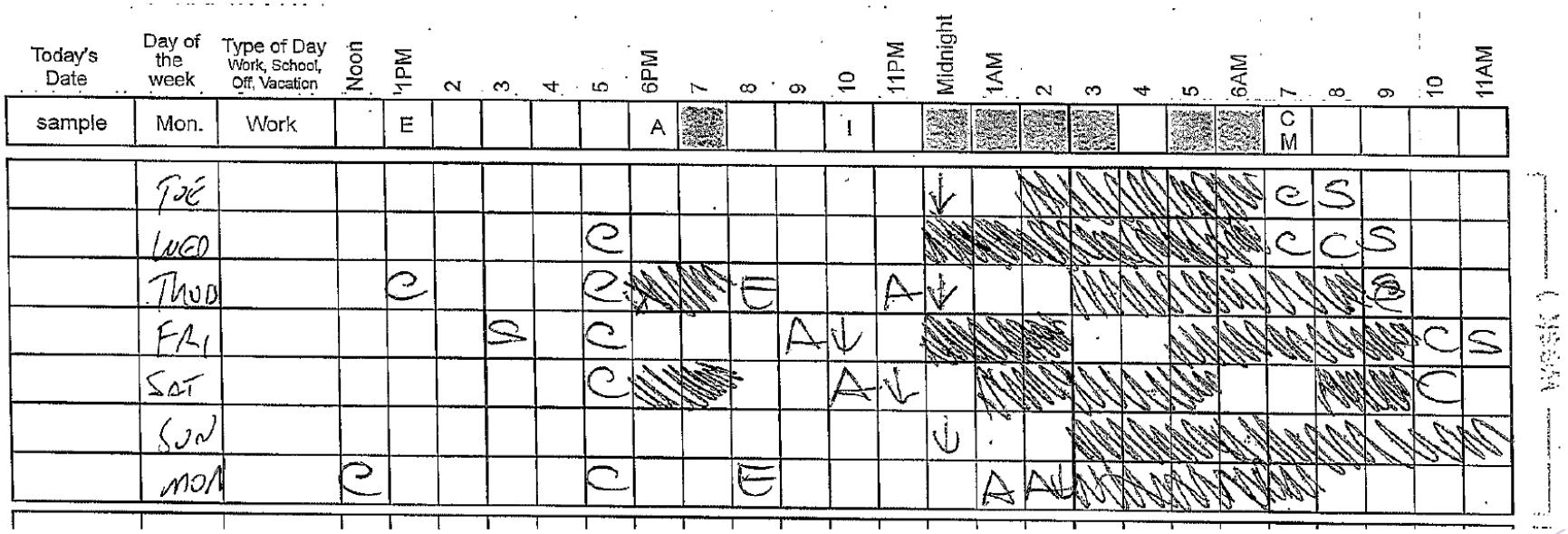
Charlie's Sleep Diary



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Criteria for Insomnia *DSM-5*

- Difficulties initiating sleep (**in children without caregiver intervention**)
- Difficulties maintaining sleep characterized by frequent awakening or problems returning to sleep (**in children difficulties to return to sleep without caregiver intervention**)
- **Coexisting mental disorders and medical conditions do not adequately explain the complaint of insomnia**

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Circadian Rhythm Sleep-Wake Disorders *DSM-5*

- Sleep disruption due to a **misalignment** between the **endogenous circadian rhythm** and the sleep–wake **schedule required**
- The sleep disruption leads to excessive sleepiness or insomnia, or both
- **Delayed sleep phase type:** Pattern of delayed sleep onset and awakening times, inability to fall asleep and awaken at a desired or conventionally acceptable earlier times (usually at least 2 hours delay)

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Insomnia


MY INSOMNIA WOULDN'T BE SO BAD IF I DIDN'T LIE AWAKE WORRYING ABOUT IT!
CARTOONSTOCK .com
Search ID: mfln6513

Epidemiology

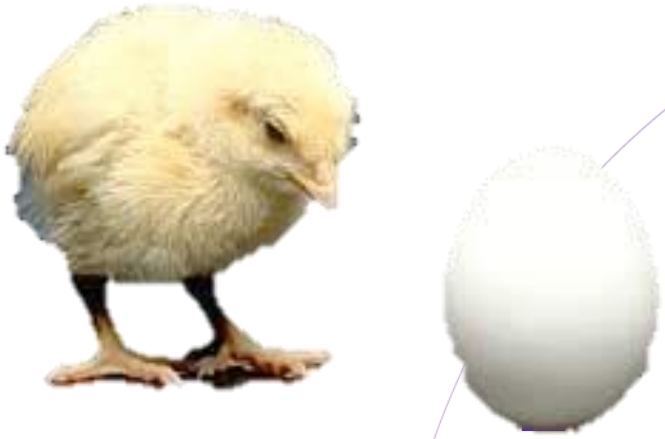
- 10% of adolescents meet criteria for an insomnia disorder (however many might be misdiagnosed and in fact have delayed sleep phase)
- Complaints increase with age and are twice as prevalent in women
- High comorbidity with psychiatric and medical disorders

Pathophysiology of Insomnia

- No clear pathogenesis, likely multifactorial
- **Positive family history** is common
- **Indication of biological hyper-arousal state**
  - Increased activation of Autonomic Nervous System
  - Elevations in brain glucose metabolism in sleep & wake, and smaller sleep-related reductions in brain glucose metabolism in wake-promoting regions at PET studies
  - SWS is generally decreased and increases in faster frequencies (e.g., beta & gamma) are observed in EEG

Insomnia and Psychiatric & Medical Disorders: Chicken or the egg?

- Traditionally insomnia was conceptualized as a symptom of another psychiatric disorder
- Now also considered a risk factor for depression, anxiety, substance use, suicidal behavior
- DSM-5 allows insomnia diagnosis as a comorbid condition even in presence of a primary psychiatric diagnosis (as depression)



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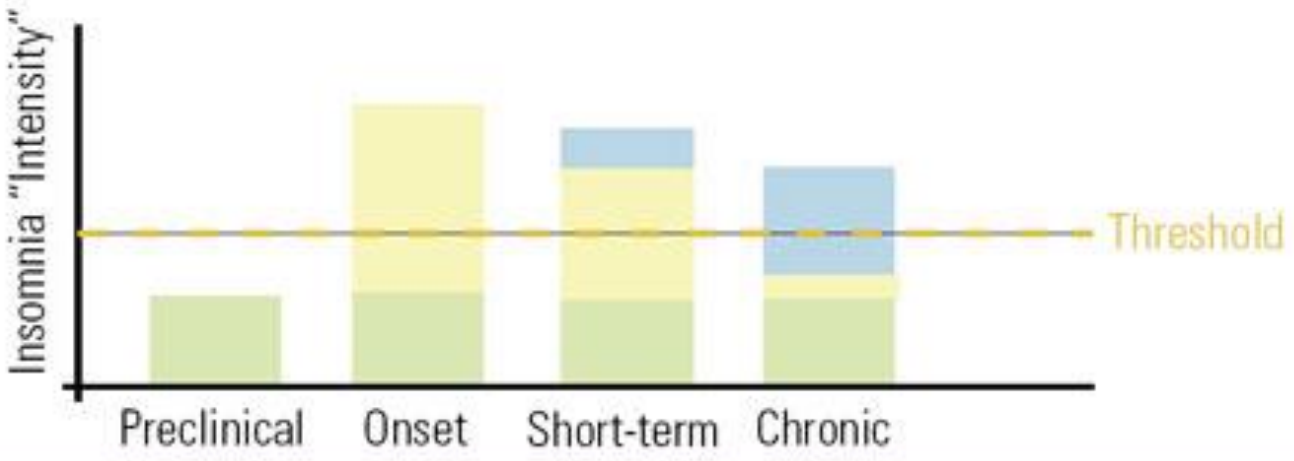
A Model of Chronic Insomnia

Predisposing Factors
- Biological traits
- Psychological traits
- Social factors

Precipitating Factors
- Medical illness
- Psychiatric illness
- Stressful life events

Perpetuating Factors
- Excessive time in bed
- Napping
- Conditioning



Treatment of Insomnia

- CBT-I
- Biofeedback
- Medications

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Treatment of Insomnia

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Components of CBT-I for Insomnia

- Education
- Sleep Hygiene
- Correction of Cognitive Distortions
- Stimulus Control (++)
- Sleep Restriction (++)
- Arousal Reduction (Relaxation techniques) (++)
- Circadian Rhythm Maintenance (not strictly part of CBT-I)

Delivery & Efficacy of CBT-I

- Typically 4 – 6 sessions (one per week)
- Generally well accepted by patients
- Can be delivered 1:1 or in groups or as web-program

- Indicated for all types of insomnia

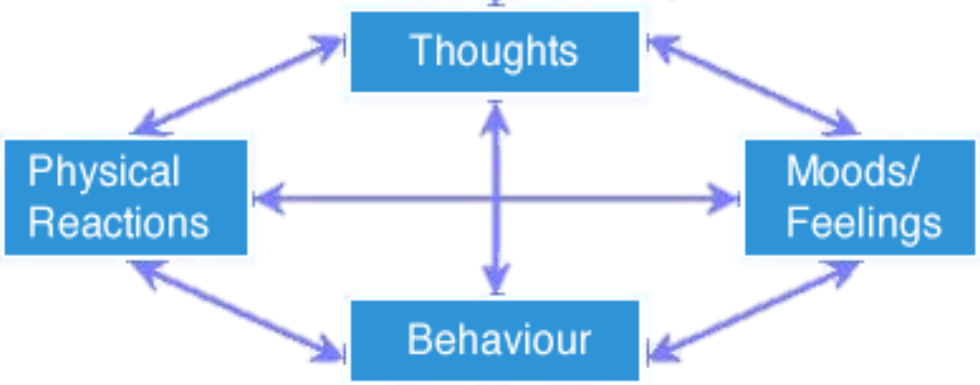
- CBT produces benefits for sleep onset latency, sleep quality, reduces awakenings, increases total sleep time
- **70 – 80%** of patients achieve a therapeutic **response**, whereas about **40% achieve clinical remission**

- CBT produces sleep improvements that are sustained over time, a clear advantage compared with drug treatment

CBT for Insomnia

I won't be able to work
I'll never sleep well
What if I can't fall sleep?

Difficulties falling/staying asleep



Muscular tension
Restlessness
EDS
Impaired focus

Anxiety
Frustration
Sadness
Anger

Avoiding going to bed or spending too much time awake in bed
Watching TV/texting/emailing in bed
Checking the clock in the middle of the night
Napping during the day
Alcohol/Marijuana use before bed

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CBT-I Model of Insomnia

- **Dysfunctional Thoughts**
  - Worry over sleep loss
  - Rumination over consequences
  - Unrealistic expectations
  - Misattributions/ amplifications
- **Maladaptive Behaviors**
  - Excessive time in bed
  - Checking the time in bed
  - Irregular sleep schedule
  - Daytime napping
  - Sleep-incompatible activities in bed

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Cognitive Distortions & Misinformation

- Thoughts that contribute to insomnia:
  - **Cognitive Distortions**
    - "I won't be able to work tomorrow"
  - **Worries and rumination**
    - "I'll be a wreck if I don't sleep"
  - **Incorrect beliefs about sleep**
    - "I should not wake up through the night"
    - "If I don't get 8 hours of sleep, I'll feel terrible"
  - **Misperception of sleep**
    - "I did not sleep all night"

CBT-I: Stimulus Control Therapy

The brain needs to salivate sleep in presence of bed

- Based on conditioning theories: learned association between wakefulness and the bed/bedroom
- To break the cycle, the **patient must not spend time wide awake in the bedroom**
- Go **to bed only when sleepy**
- Do not use the bedroom for sleep-incompatible activities – work, email, texts, etc
- **Leave the bedroom if awake for more than 20 minutes**
- **Return to bed only when sleepy**
- **No clock watching** at night (ideally outside bedroom)
- **Do not nap** during the day
- **Arise at the same time every morning**
- While awake @ night- **BORING activities**

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Stimulus Control Therapy (2)

- Use sleep logs to track how much sleep they getting
- Not only use the bed only for sleep, but also sleep only in bed in order to associate the bed only with sleep

CBT: Sleep Restriction Therapy

- **Reeducate the body to sleep in a consolidated fashion**
- **Increase propensity to sleep by increasing homeostatic sleep drive with partial sleep deprivation**
- Systematic reduction of time in bed to the amount of total sleep time from sleep log data
  - e.g., you must get out of bed after 5-6 hours of sleep
- Increase time in bed by 15 minutes only when sleep efficiency exceeds 90% for 5 nights
- Hold driving
- Avoid in Bipolar Disorder

Worry Diary

- To address ruminations and worries at night
- The patient is instructed to set aside (10-15 min) once a day in the afternoon to write down ALL the possible worries and start addressing one per day
- This approach tends to decrease worries at bedtime. Occasionally patients might be allowed to write down worries before sleep or in the middle of the night

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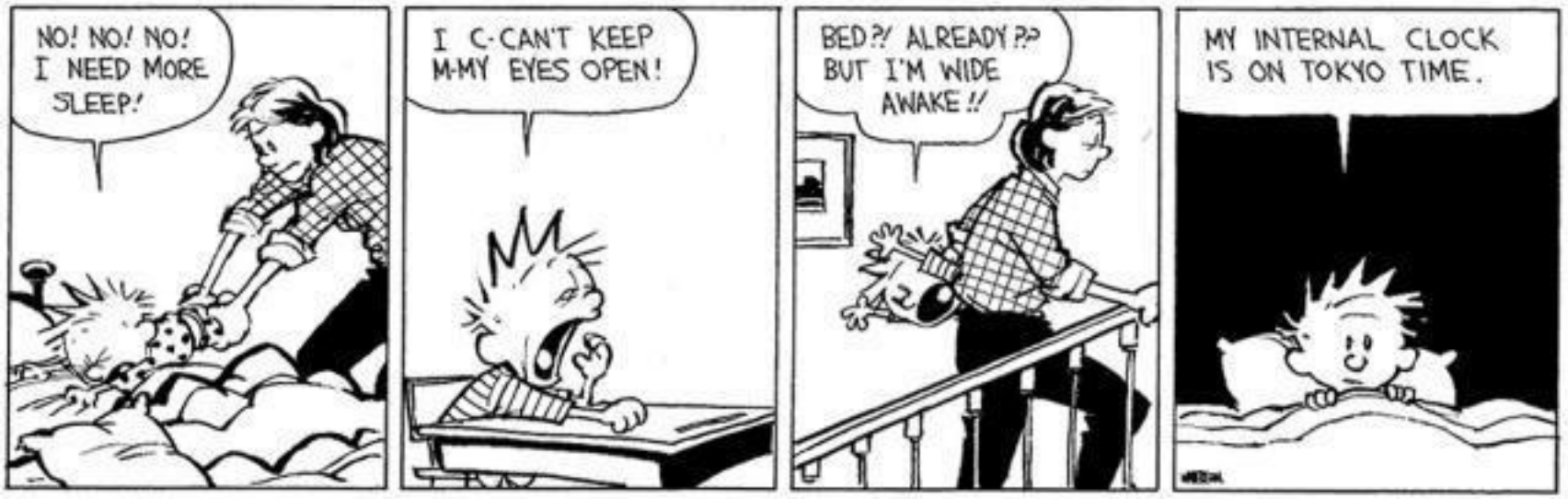
Relaxation techniques

- Visual imagery
- Sleep Body Scan (e.g. UCLA podcast/Headspace)
- Progressive muscle relaxation during the day and prior to sleep
- Deep breathing during the day and prior to sleep
- Biofeedback is also indicated in cases not responding to usual relaxation techniques

Delayed Sleep Phase Disorder



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Delayed Sleep Phase Pathogenesis

- Likely primarily biological
  - Problem with entrainment of circadian clock
  - Abnormal response to light with increased sensitivity to evening light
  - Genetic predisposition (DSPD runs in families)

- Secondary gain and social factors also present

Differential Diagnosis with Insomnia

- Sleep Diary
- NYC vs SF?
- Vacation?
- Daily variation of energy level?
- Difficulties falling asleep depending of time in bed?

Delayed Sleep Phase Disorder is associated with:

More depression and anxiety symptoms

Suicidality

Aggressive and antisocial behavior, and rule-breaking

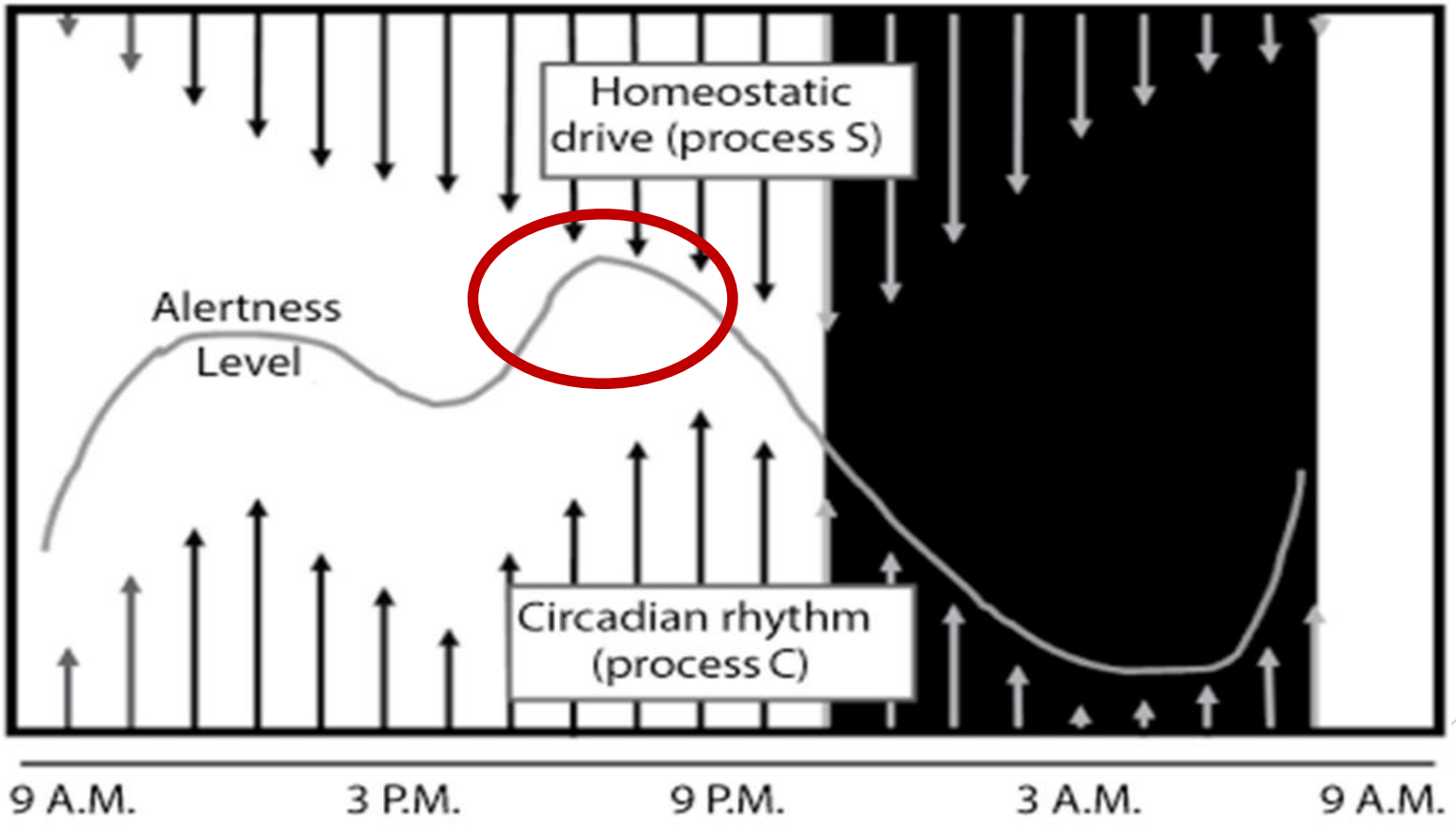
Poor self-regulation

Greater use of alcohol and nicotine

Greater tendency for impulsivity

Phase advance is associated with improved mood and decreased anxiety both

Sleep Regulation



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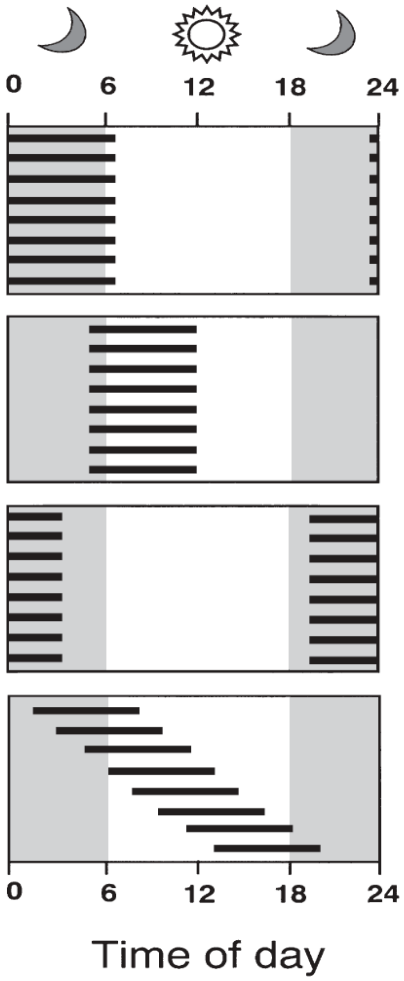
Circadian Sleep Preferences



Normal

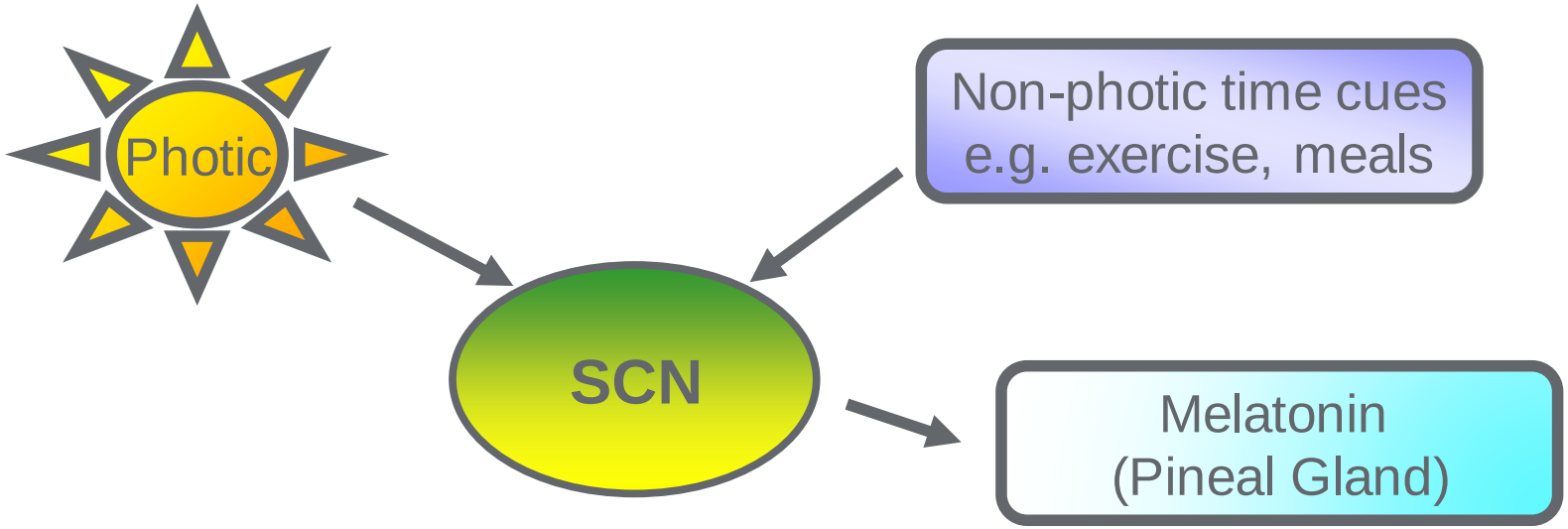
Delayed Sleep Phase

Advanced Sleep Phase

“Free-running”

Modified from Ebisawa, J Pharmacol Sci, 2007

Process C: the master clock SCN
Influences on timing of the circadian pacemaker



- SCN period is not exactly 24 hours, usually slightly longer
- External time cues necessary for constant entrainment
- Light is the most important time cue (zeitgeber) to reset the master clock
- SCN stimulates timed melatonin secretion

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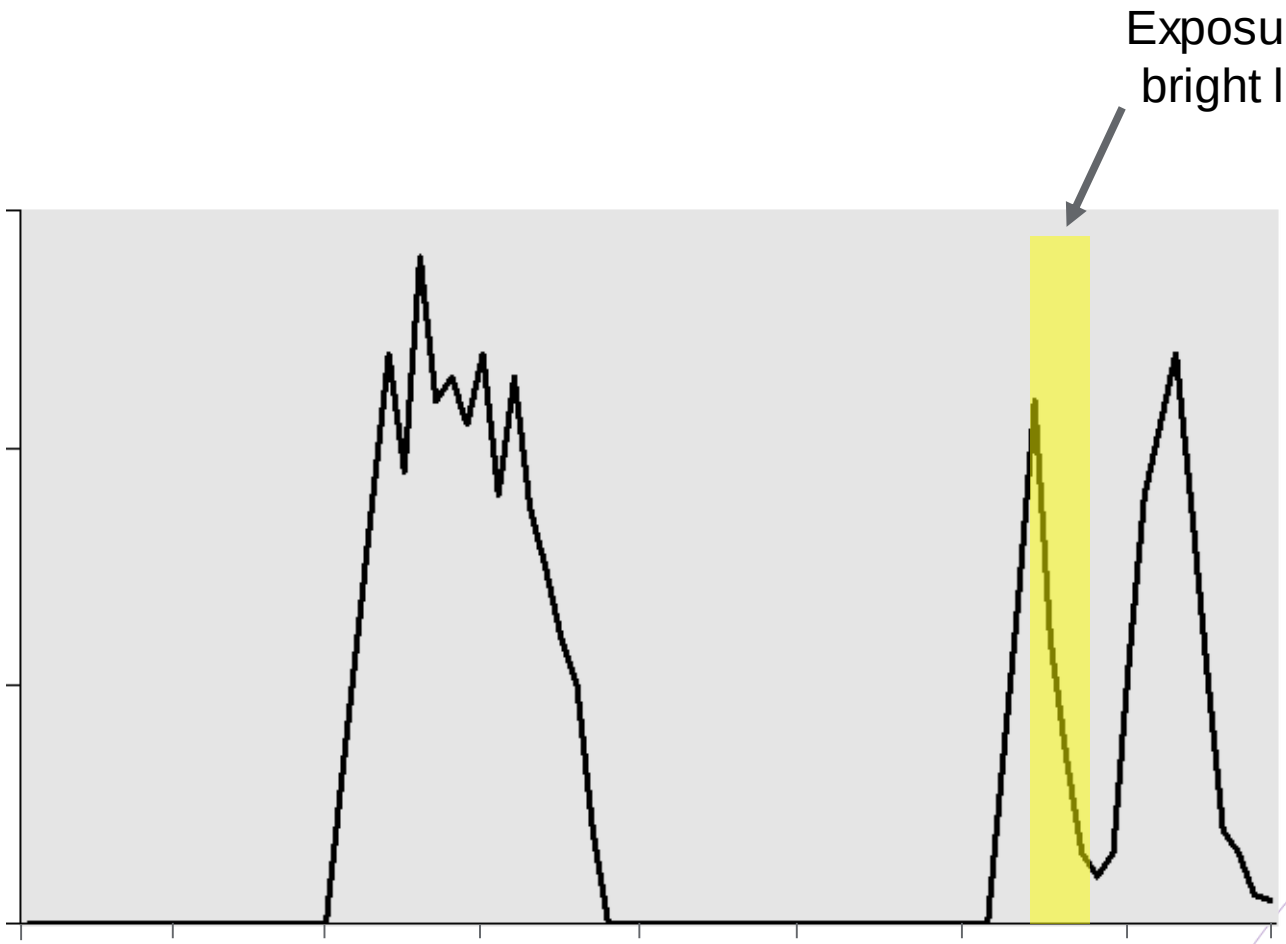
Light suppresses melatonin and affects the phase



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Redrawn from Czeisler et al., N Engl J Med, 1995

1232–1237 | PNAS | January 27, 2015 | vol. 112 | no. 4

Evening use of light-emitting eReaders negatively affects sleep, circadian timing, and next-morning alertness

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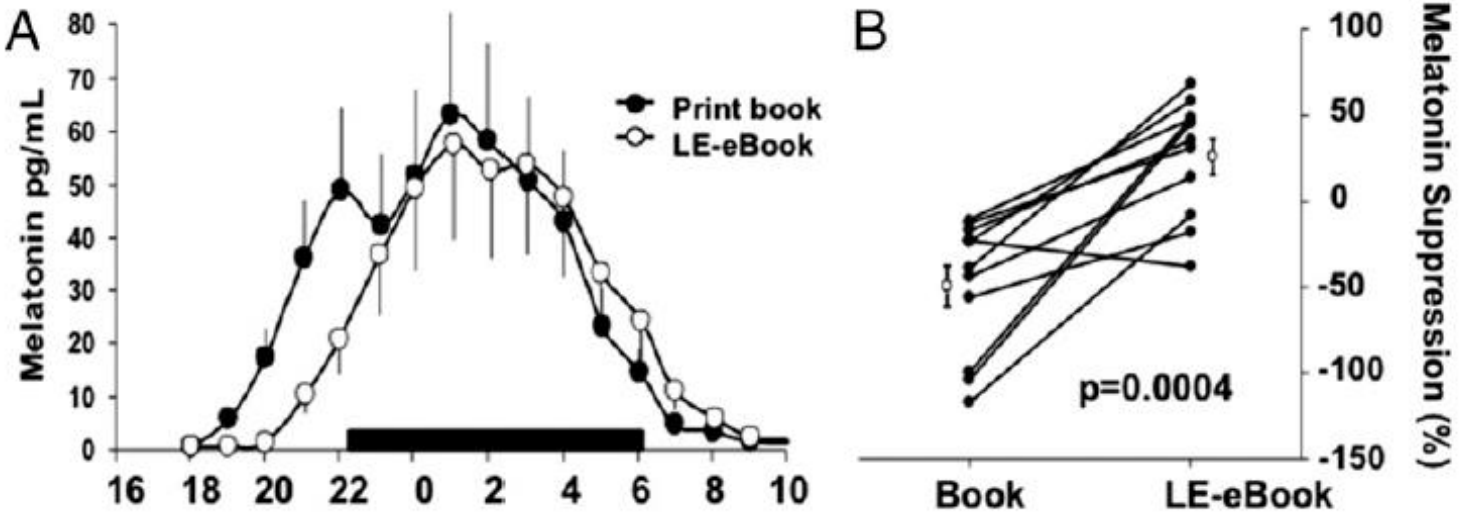
Edited by Joseph S. Takahashi, Howard Hughes Medical Institute, University of Texas Southwestern Medical Center, Dallas, TX, and approved November 26, 2014 (received for review September 24, 2014)



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Melatonin secretion times shift with age

- Adult melatonin production begins around 6-8 PM and peaks until 4 AM, stopping production around 5 AM
- Adolescent melatonin production begins around 11 PM and peaks until 7 AM, stopping around 8 AM
- Waking at 7 AM for a teenager is like waking at 4 am for an adult
- Basis for delayed high school start

Carrell et al, 2011

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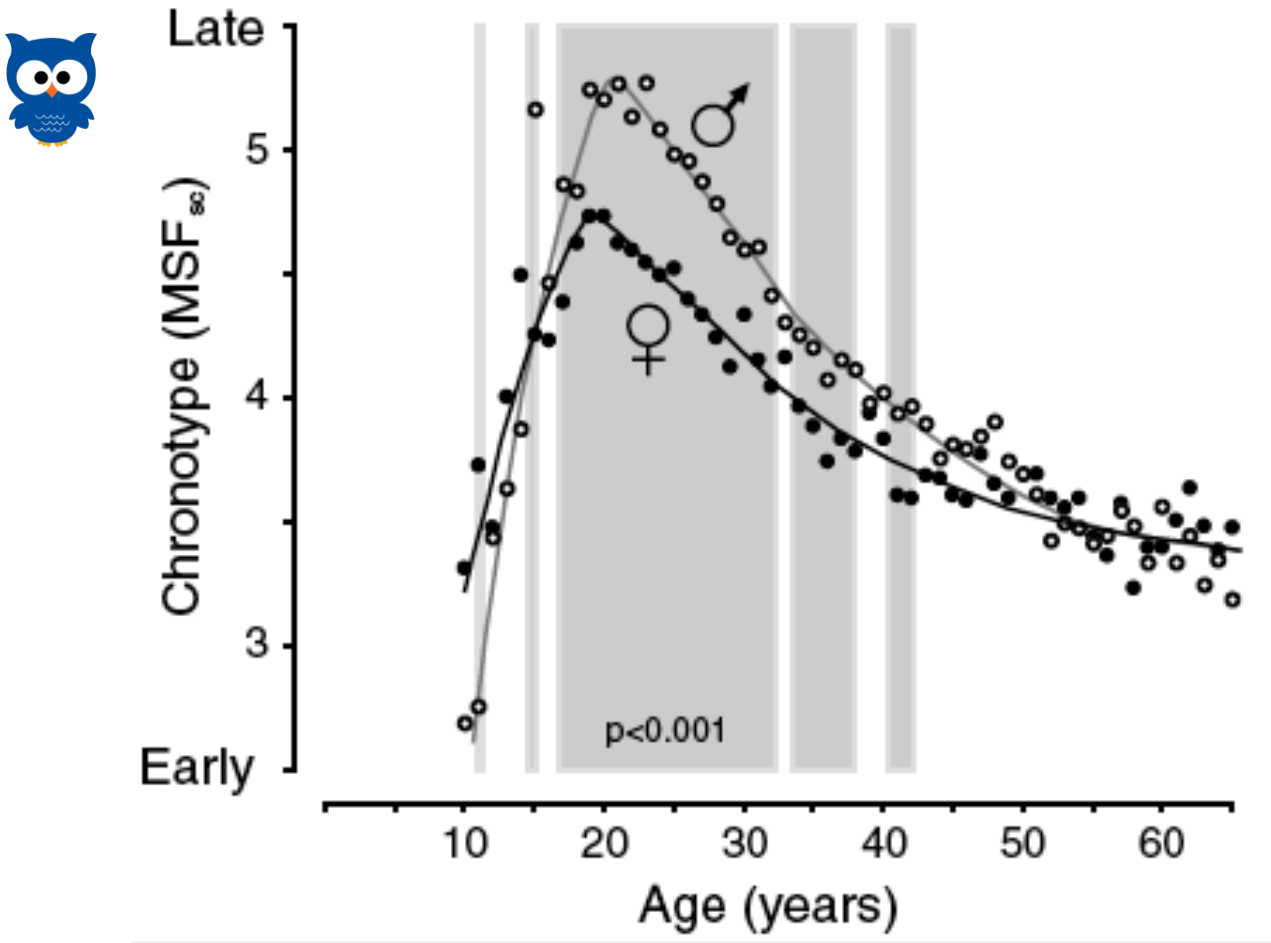
Circadian preference shifts with age



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Roenneberg et al., Curr Biol, 2004

Treatment of Delayed Sleep Phase

- Education
- Strict sleep hygiene
- Phase Shift
  - Phase Advance
  - Phase Delay (chronotherapy)
  - Bright light
  - Melatonin

Treatment DSPD: Education

- Sleep regulation and two-process model
- Need to avoid weekend “jet lag”
- Effect of light exposure on melatonin
- Motivation- Negotiation- Leverage

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Treatment DSPD: Sleep Hygiene

- Regular wake-time and bedtime (±2 hours)
- Sleep-conducive bedtime routines
- **Dim light (sunglasses) 1-2 hours prior to sleep**
- **Bright light ?- WHEN**
- Adequate sleep environment
- Avoidance of stimulating activities 1-2 hours prior to bedtime
- No napping during the day
- No caffeine, alcohol, MJ

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Light Therapy for Delayed Sleep Phase

- Light exposure in AM
- Dim light/sunglasses/F.Lux
- Rule of thumb- Light after the latest wake up time (usually weekend)
- Dose 2,000 -10,000 lux- time varies accordingly
- Advance of bedtime/wake-time
  - 30 min every 3 days to once a week
- 30 min of light maintenance dose at wake time if necessary
- Melatonin 0.5 mg 4 hours prior to scheduled sleep time can also be used

Chronotherapy (Phase Delay)

- Move bedtime and rising time **later** each day, around the clock
- Stop when the person is sleeping on a normal schedule.
- Family support is essential

Example….

Day 1: sleep 04:00 to 12:00
Day 2: sleep 07:00 to 15:00
Day 3: sleep 10:00 to 18:00
Day 4: sleep 13:00 to 21:00
Day 5: sleep 16:00 to 00:00
Day 6: sleep 19:00 to 03:00
Day 7 to 13: sleep 22:00 to 06:00
Day 14 and thereafter: sleep 23:00 to 07:00

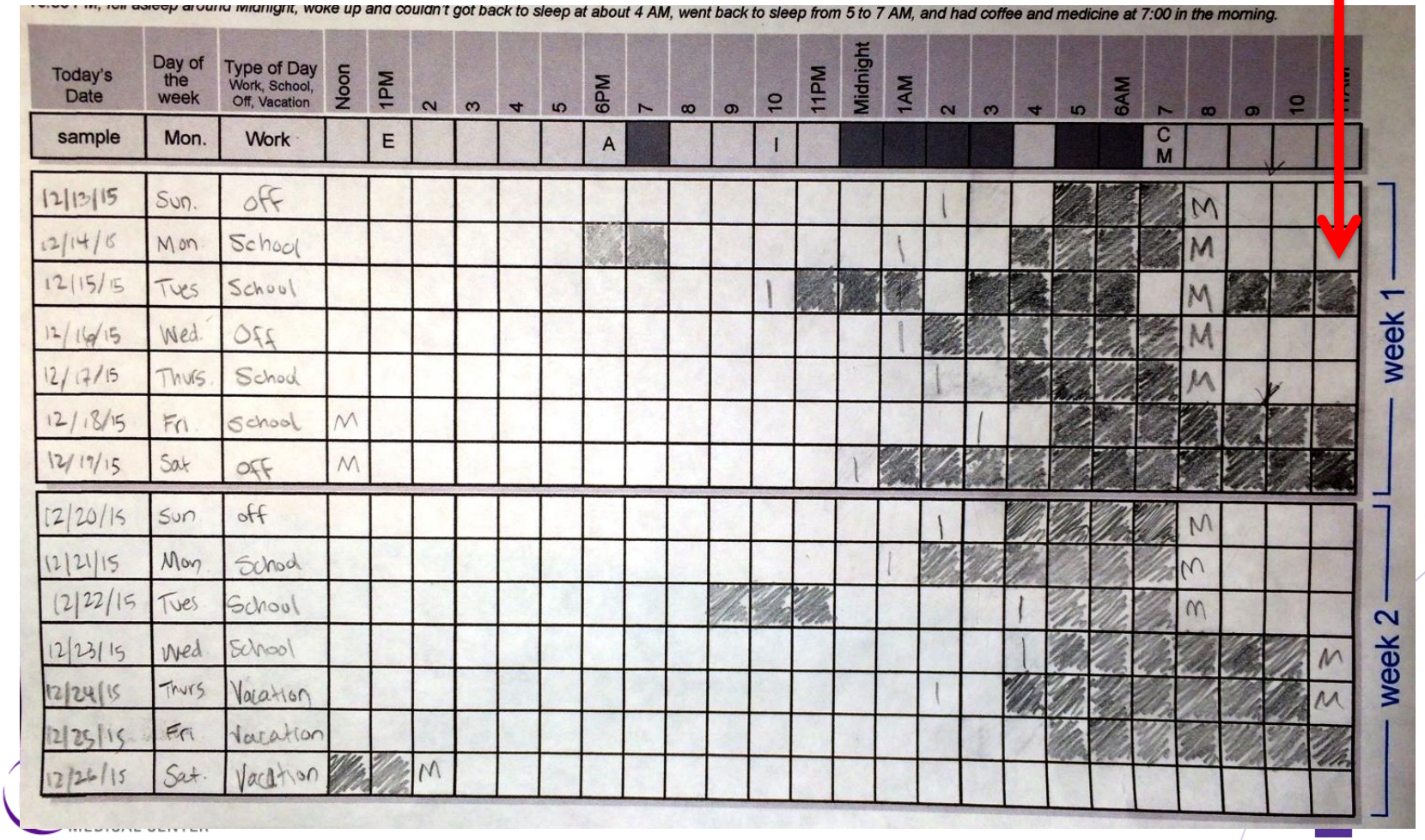
Treatment of Delayed Sleep Phase

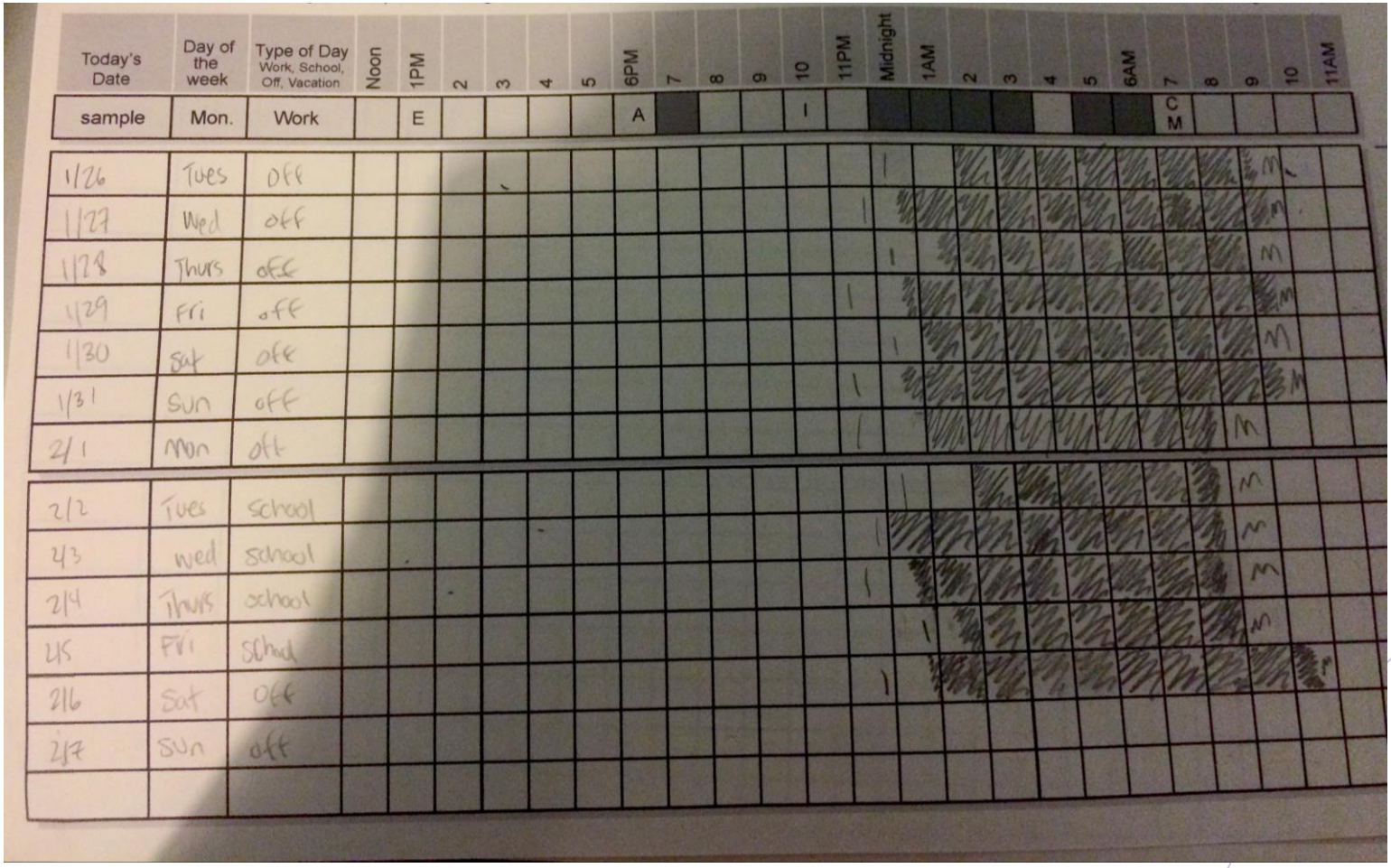
Don't Forget

- Light is a treatment… Misuse is dangerous and common.
- Psychiatric co-morbidities are high
- Actigraphy & diary for compliance
- Inform school
- No naps to preserve homeostatic sleep drive
- Chronic treatment is common
- Enlist help of family and friends for adherence
- Warn of increased potential sleepiness until treatment is completed
- Secondary gain is common

Hannah's bright light time

Initial time of bright light





Today's Date	Day of the week	Type of Day Work, School, Off, Vacation	Noon	1PM	2	3	4	5	6PM	7	8	9	10	11PM	Midnight	1AM	2	3	4	5	6AM	7	8	9	10	11AM
sample	Mon.	Work		E					A				–									C M				
1/26	Tues	off																								
1/27	Wed	off																								
1/28	Thurs	off																								
1/29	Fri	off																								
1/30	Sat	off																								
1/31	Sun	off																								
2/1	Mon	off																								
2/2	Tues	school																								
2/3	wed	school																								
2/4	Thurs	school																								
2/5	Fri	School																								
2/6	Sat	off																								
2/7	Sun	off																								

Medications for Insomnia

OTC

- Antihistamines
- Melatonin
- Herbals/Supplements

Prescription FDA approved in adults

- BZDs*
- NonBzRAs*
- Melatonin receptor agonists*
- Low dose doxepin*

Other Prescription

- Alpha agonists
- Antidepressants
- Antipsychotics
- Anticonvulsants
- Other

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Insomnia medications in children

- There are currently no sleep medications labeled for use in children by the FDA
- Little empirical data: case reports/series
- Few pediatric randomized controlled trials
- Basis of use generally extrapolation adult data
- Clinical experience guides usage

Melatonin

- Mechanism: supplementation effects endogenous pineal hormone
- Has both hypnotic (MT1) and chronobiotic (MT2) properties
- Pharmacokinetics: plasma levels peak 1 hr
- Effects sleep architecture: minimal
- Concentration may vary (pharmaceutical grade)

Melatonin

- Mild side effects
- No long term effects known
- Dosing:
  - Hypnotic: 0.1-1 mg younger, 2.5-3mg older, 5 mg adol; up to 10 mg special needs reported;
  - Chronobiotic: 0.5 mg 5-7 hours before habitual sleep onset
- Timing of dose dependent on DLMO (3-6 hrs prior)?

van Geijswijk 2010

Melatonin: Pediatric Studies

- RCT PC/DB melatonin for idiopathic insomnia in healthy children
- Children with chronic sleep onset insomnia
- (n=72) received either melatonin 0.05, 0.1, and 0.15 mg/kg or placebo x 1 wk
- Melatonin advanced SO and DLMO by ~1hr and decreased SOL by 35min (actigraphy)

van Geijlswick 2010

Melatonin: Pediatric Studies (ADHD)

- Premise: Children with ADHD have a delayed endogenous circadian clock
- ADHD patients with sleep onset insomnia vs normal controls have significantly later sleep onset, morning wake time, melatonin onset
- Several studies suggest 5 mg bedtime melatonin significantly shortens SOL in children with ADHD

Smits et al 2001, 2003; Van der Heijden et al 2005,2007; Weiss 2006

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Melatonin: Pediatric Studies (ASD)

- Several studies suggest alterations of melatonin secretion in children with ASD:
- Daytime elevation, lack of or later nighttime elevation, decreased amplitude
- Growing evidence melatonin effective in treating sleep-onset and possibly maintenance insomnia in ASD
- Open label, RCT
- Improvement sleep latency; minimal adverse effects
- Dose range 1-6mg

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Nir et al 1995; Kulman et al, 2000; Paavonen 2003; Jan 2004; Garstang 2006; Giannotti et al, 2006; Andersen 2008; Wasdell 2008; Braam 2009; Wright 2011

Diphenidramine: Pediatric Studies

- Double-blind RCT 50 children 1mg/kg: subjective improvement SOL, NW (Russo 1976)
- "TIRED" study
- Design: 44 **6-15 month olds** with night wakings
- 1-week DB, PC RCT; f/up 2,4 wks
- Outcomes: subjective improvement night wakings, SOL
- Results: 1/22 DPH vs 3/22 improvement (!)
- Data safety monitoring board stopped trial due to lack of efficacy (Merenstein 2006)

Hypnotics: Benzodiazepines

- BzD GABA-A receptor agonists
- Examples: temazepam, triazolam, clonazepam
- Anticonvulsant, anxiolytic, myorelaxant properties
- Decrease SOL, WASO; increase TST
- Effects on sleep architecture: most suppress SWS, variable REM, decreases arousals
- Side effects:
  - Potential daytime sedation/cognitive impairment, rebound insomnia; anterograde amnesia, disinhibition
  - Respiratory depression; relative contraindication OSA
  - Dependence/abuse potential
- Limited utility in children

Non-Benzodiazepine RAs

- Non-BzD GABAA receptor agonists:
- Short-acting (zaleplon, zolpidem)
- Sleep maintenance (eszopiclone, zolpided-CR)
- Greater selectivity, improved safety profile; lower risk dependence
- Mechanism: binds GABA; high affinity BZD receptor agonist

- Side effects:
  - Daytime drowsiness
  - Headache, dizziness, confusion, anterograde amnesia; some rebound insomnia
  - Hallucinations
  - Complex sleep-related behaviors

NBZDRAs: Pediatric Studies

- Open-label, dose-escalation, PK/PD study (2-18yo)
- Effect of age group significant for AUC (p=0.02); recommended max 20mg
- Mean SOL decrease 5 min; TST increase 20 min
- Sleep parameters exhibited considerable variability and potential paradoxical effects. PK measures not predictive of sleep outcomes
- Role of age-related differences in concentrations of GABA receptors and degrees of maturity of the inhibitory circuitry in children

Zolpidem Pediatric Study

- RDBPC Trial of Zolpidem for insomnia associated with ADHD
- N = 201 (6-17 y/o), 0.25 mg/kg, max dose 10 mg
- No change in mean SOL or TST at week 4 vs. placebo
  - Subjective sleep improvement noted
- No residual sedation/rebound
- Side Effects: dizziness, H/A, hallucinations (7%)
- Children may require > dose than adults

- Blumer et al, 2009

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Eszopiclone Pediatric Study

- Eszopiclone for ADHD related insomnia
- 12 week RDBPC trial, 6-11 y/o (1-2 mg) & 12-17 y/o (2-3 mg), N=486
- 12 month open label extension for safety (N≈300)
- No difference between placebo and active treatment on SOL (PSG), WASO (PSG), CGI, ADHD scales
- Side Effects: headache, dysgeusia (distorted taste), dizziness, 11% d/c due to adverse effects
- No rebound insomnia upon d/c

- Sangal et al, 2014

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Other Agents

- Alpha-2 Agonists
- Antidepressants (*doxepine)
- Antipsychotics/Mood Stabilizers

ASAP ADOLESCENT PSYCHIATRY REVIEW COURSE

Adolescent Mood Disorders: Part III

Bipolar Disorder Adolescents

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Asst. Prof. Child & Adolescent Psychiatry

*Some material for this presentation provided by NIMH Publication No. 00-4778 (2003)

Bipolar Disorder: General Introduction

- Bipolar disorder is a biologically based disorder that causes unusual shifts in a person's mood, energy, and impairs their ability to function.
- It causes dramatic mood swings - from overly "high" ***and/or*** irritable mood to sad and hopeless mood, and then back again.
- In older adolescents and adults there are often periods of normal mood in between.
- These mood related changes are accompanied by severe changes in energy and behavior.
- The periods of highs and lows are called **episodes** of mania and depression.

Symptoms of Bipolar Disorder: Mania or Manic Episode

- Increased energy, activity, and restlessness
- Excessively "high," euphoric mood
- Extreme irritability
- Racing thoughts, talking very fast, jumping from one idea to another
- Distractibility, inability to concentrate
- Decreased need for sleep
- Unrealistic beliefs in one's abilities and powers

Symptoms of Bipolar Disorder: Manic Episode

- Poor judgment
- Spending sprees
- Increased sexual drive
- Abuse of drugs, particularly cocaine, alcohol, and sleeping medications
- Provocative, intrusive, or aggressive behavior
- Denial that anything is wrong
- **A manic episode is diagnosed if elevated mood occurs with three or more of the other symptoms most of the day, nearly every day, for 1 week or longer. If the mood is irritable, four additional symptoms must be present.**

Symptoms of Bipolar Disorder: Hypomania

- A mild to moderate level of mania is called "**hypomania**".
- Hypomania may feel good to the person who experiences it and may be associated with good functioning and enhanced productivity.
- Without proper treatment, however, hypomania can become more severe in some people or can switch into depression.

Symptoms of Bipolar Disorder:

Depressive Episode

- Sad, anxious, or empty mood
- Feelings of hopelessness or pessimism
- Feelings of guilt, worthlessness, or helplessness
- Loss of interest or pleasure in activities once enjoyed, including sex
- Decreased energy, a feeling of fatigue or of being "slowed down"
- Difficulty concentrating, remembering, making decisions
- Restlessness or irritability

Symptoms of Bipolar Disorder:

Depressive Episode

- Sleeping too much, or can't sleep
- Change in appetite and/or unintended weight loss or gain
- Chronic pain or other persistent bodily symptoms that are not caused by physical illness or injury
- Thoughts of death or suicide, or suicide attempts
- A depressive episode is diagnosed if five or more of these symptoms last most of the day, nearly every day, for a period of 2 weeks or longer.

Mood Swings & Symptoms of Psychosis

- Severe episodes of mania or depression can include symptoms of psychosis (or psychotic symptoms).
- Common psychotic symptoms are hallucinations and delusions.
- Psychotic symptoms in bipolar disorder tend to reflect the extreme mood state at the time (are mood congruent.
- People with bipolar disorder who have these symptoms are sometimes incorrectly diagnosed as having schizophrenia.

Bipolar Disorder and Suicide

- Bipolar disorder can result in an increased risk of suicide.
- This increased risk seems to be higher earlier in the course of the illness.
- Recognizing bipolar disorder early and learning how best to manage it may decrease the suicidal risk.

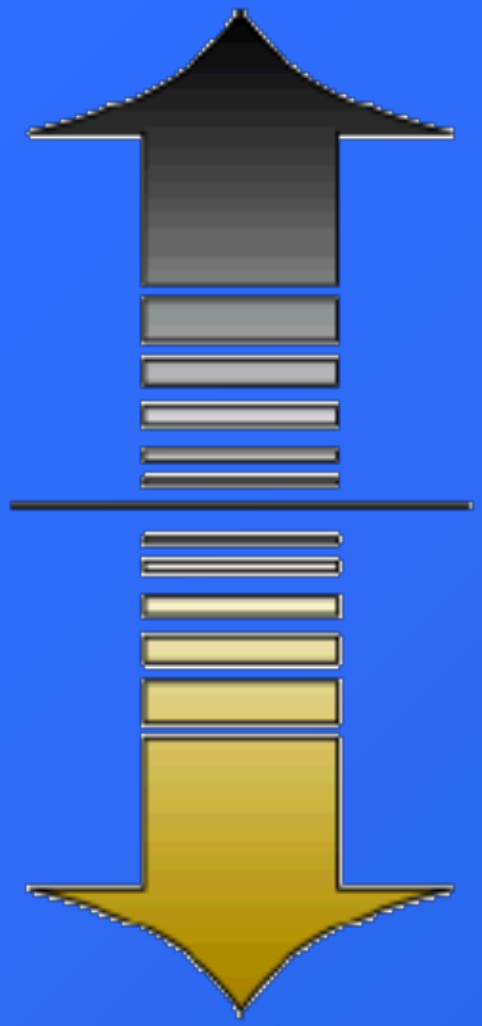
Suggestions of Suicidal Risk

- talking about feeling suicidal or wanting to die
- feeling hopeless - nothing will ever change or get better
- feeling helpless - nothing I do makes any difference
- feeling like a burden to family and friends
- alcohol or drug abuse
- putting affairs in order or giving away possessions to prepare for one's death
- suicide note
- putting oneself in situations where there is a danger of being killed

Bipolar Spectrum Disorders

- It may be helpful to think of the various mood states in bipolar disorder as a spectrum or continuous range.
- At one end is severe depression, above which is moderate depression and then mild low mood.
- This mild low mood is often short-lived (it is termed "dysthymia" when it is chronic.
- Then there is normal or balanced mood, above which comes hypomania (mild to moderate mania), and then severe mania.

Bipolar Spectrum Disorders



severe mania

hypomania (mild to moderate mania)

normal/balanced mood

mild to moderate depression

severe depression

Bipolar Disorder: Mixed States

- Symptoms of mania and depression may occur together in what is called a **mixed** state.
- Symptoms of a mixed state often include agitation, trouble sleeping, significant change in appetite, psychosis, and suicidal thinking.
- This may be accompanied by a sad, hopeless mood while feeling extremely energized.

Diagnosis of Bipolar Disorder Subtypes

- The classic form of the disorder involves *recurrent episodes of both mania and depression* (Bipolar I).
- In some cases the person never develops severe mania, but experiences *milder episodes of hypomania that alternate with depression* (Bipolar II).
- When four or more episodes of illness occur within a 12-month period, a person is said to have rapid-cycling bipolar disorder.
- Some people experience multiple episodes within a single week, or even within a single day.
- Rapid cycling tends to develop later in the course of illness and is more common among women than among men.

Adolescent Bipolar Disorder

- Bipolar disorder can emerge in early childhood but may not be clearly identified until adolescence
- Mothers often report that as children they were extremely difficult to soothe and slept erratically.
- They seemed extraordinarily clingy and, from a very young age, often displayed uncontrollable, seizure-like tantrums or rages *out of proportion to any event*.
- These severe tantrums often appear to be without provocation.

Frequency of Adolescent Bipolar Disorder

- Prevalence is largely unknown as there are no well accepted criteria for the diagnosis of Adolescent Bipolar disorder
- The best guess is that the disorder occurs at least as often as adult bipolar disorder (e.g., about 1%)
- May be significantly under diagnosed in adolescents.

Frequency of Adolescent Bipolar Disorder

- It is suspected that a significant number of adolescents diagnosed with ADHD at an early age actually have early-onset bipolar disorder instead of (or along with) ADHD.
- According to the American Academy of Child and Adolescent Psychiatry, up to one-third of children and adolescents with depressive disorders may actually have early onset of bipolar disorder.
- 20 to 40 % of adults with Bipolar Disorder report a childhood onset of symptoms.

Adolescent Bipolar Disorder: Clinical Presentation

- As with adults, Bipolar disorder in adolescents is viewed a serious mental disorder
- Characterized by recurrent episodes of depression, mania, and/or mixed symptom states.

Adolescent Bipolar Disorder: Clinical Presentation

- While older adolescents often have a clinical presentation that is somewhat similar to that seen with adults.
- The clinical presentation of early-onset bipolar disorder in children can look quite different than that seen in older individuals.

Adolescent Bipolar Disorder: Clinical Presentation

- Most cases of adolescents with bipolar disorder do not present with the sudden or acute onset often found with adults.
- Most do not show the improvement between episodes, often found with adult bipolar disorder.
- With adolescents the symptom onset may be more insidious.

Adolescent Bipolar Disorder: Clinical Presentation

- With children,
  - initial symptoms of the disorder can be depressive in nature
    - With these being confused with and treated as MDD.
  - In other cases, ADHD like symptoms appear first
    - with these symptoms being followed later by a full manic episode.
- Unlike adults - adolescents in a manic state are more likely to be irritable and prone to destructive outbursts than to be elated or euphoric.

Adolescent Bipolar Disorder: Clinical Presentation

- Adolescents more often show
  - rapid cycling and mixed states rather than clear manic or clear depressive episodes, and
  - an "ongoing and continuous mood disturbance that is a mix of mania (or hypomania) and depression".
- The rapid and severe cycling between moods produces chronic irritability and few clear periods of wellness between episodes.

Adolescent Bipolar Disorder: Clinical Presentation

- Depression and dysphoria are an almost constant part of pediatric bipolar disorder.
- As noted earlier, hyperactivity is often the first manifestation of early-onset bipolar disorder.
- When adolescents are initially seen because of bipolar symptoms,
  - approximately 90% of early-onset, and
  - 30 % of adolescents with bipolar disorder meet criteria for a diagnosis of ADHD.
- Comorbid conduct disorder is common.

Bipolar Disorder vs. ADHD

Bipolar Disorder (Mania)

1. More talkative than usual, or pressure to keep talking
2. Distractibility
3. Increase in goal directed activity or *psychomotor agitation*

ADHD

1. Often talks excessively
2. Is often easily distracted by extraneous stimuli
3. Is often "on the go" or often acts as if "driven by a motor"

Differentiation: Elated mood, Grandiosity, Decreased need for sleep, Hypersexuality, and Irritable mood.

Hart (2005)

Adolescent Bipolar Disorder: Comorbidity

- Attention Deficit Hyperactivity Disorder (ADHD)
  - Between 60 - 80% display symptoms
- Oppositional Defiant Disorder (ODD) & Conduct Disorder (CD)
  - 70 - 75%
- Substance Abuse (adolescents)
  - 40 - 50%
- Anxiety Disorders
  - 35- 40%

Adolescent Bipolar Disorder: Genetics

- Bipolar Disorder has a heavy genetic loading
- In the general population, a conservative estimate of an individual's risk of bipolar disorder is about 1.2 %.
- More than two-thirds of those with bipolar disorder have at least one close relative with the disorder or with unipolar major depression

Adolescent Bipolar Disorder: Genetics

- When one parent has bipolar disorder, the risk to each child is about 15 – 30 %
- When both parents have bipolar disorder, the risk increases to 50 – 75 %
- The risk to siblings and fraternal twins=15 – 27 %
- The risk in identical twins is approximately 70 %

Etiology :What is Inherited?

- A significant question is What is Inherited??
- The answer is not entirely clear, but …
  - It's believed this condition is caused by an imbalance in neurotransmitters.
  - a low or high level of a specific neurotransmitter such as serotonin, norepinephrine or dopamine is the likely cause.
  - Others have suggested that it is an imbalance of these substances that may be the problem
  - Here, a specific level of a neurotransmitter may not as important as its amount in relation to the other neurotransmitters.
  - Still other studies have found evidence that a change in the sensitivity of the receptors may be the issue.
  - It seems likely that the neurotransmitter system is at least part of the cause of bipolar disorder, but further research is still needed to define its exact role.

Etiology of Bipolar Disorder Environmental Factors

- That more than hereditary is involved in Bipolar Disorder is indicated by the fact that in studies involving identical twins, raised in the same home, one twin sometimes develops bipolar disorder while one does not .
- Here it is suggested that environmental factors may play a role in bipolar disorder.
- For some, stresses such as a death in the family, divorce, or other traumatic events seem to trigger a first episode of mania or depression.

Etiology of Bipolar Disorder Environmental Factors

- Puberty may trigger the disorder in adolescent females.
- Stressful life events can lead to the onset
  - Once the disorder is triggered and progresses, it seems to develop a life of its own.
  - Once the cycle begins, a psychological or pathophysiological process takes over and ensures that the disorder will continue.
- The best explanation for this disorder seems to be reflected in the "Diathesis-Stress Model."
- Genetics PLUS environmental percipients.

Treatment of Adolescent Bipolar Disorder

- Treatment of adolescents with bipolar disorder is generally similar to adults with this disorder.
  - Less is known about the effectiveness & safety of the medications used.
  - Lithium appears to frequently have a strong prophylactic effect against mania, and is sometimes used with adolescents.

Treatment of Adolescent Bipolar Disorder

- As with adults, anti-convulsants are often used to control rapid cycling and aggressive behavior.
  - **Depakote – an anti-convulsant – used to control rapid cycling.**
  - **Tergetol – an anti-convulsant – has anti-manic and anti-aggressive qualities.**
  - **Other anti-convulsants (Neurontin, Lamictal, Topamax)**

  Sometimes these are used in combination with Lithium.

Treatment of Adolescent Bipolar Disorder

- As with adults, certain antipsychotic drugs may also be used to control symptoms.

Included here are atypical antipsychotic medications such as Clozaril®, Zyprexa®, Risperdal®, and Seroquel®.

- Such drugs have been shown to sometimes function as mood stabilizers in cases were drugs like lithium and anticonvulsants may not work
- They are used to deal with acute mania, and/or to treat psychotic depression.

Issues in the Pharmacological Treatment of Adolescent Bipolar Disorder

- Bipolar youth often require multiple medications for *mood stabilization*, treatment of *attention problems*, *depression*, and sometimes psychotic symptoms.
- There can, however, be risks with drug treatments
- Problems can arise in cases of misdiagnosis.
- Sometimes adolescents with undiagnosed bipolar disorder are mistakenly treated for MDD with antidepressants.

Issues in the Pharmacological Treatment of Adolescent Bipolar Disorder

- Treating such adolescent with antidepressants (in the absence of a mood stabilizer) can precipitate a manic episode.
- In adolescents with ADHD symptoms, treatment with stimulant drugs (in the absence of a mood stabilizer) can result in manic symptoms and/or worsen symptoms.

Issues in Pharmacological Treatment of Adolescent Bipolar Disorder

- It is difficult to determine which adolescent will become manic or experience a worsening of symptoms.
- There is a greater likelihood among adolescents with a strong family history of bipolar disorder.
- Medication side effects in adolescents.
- Risk of intoxication with lithium in adolescents, i.e. dehydration
- Risk of metabolic syndrome
- Severe teratogenic effects in pregnant adolescents

Additional Treatment Approaches

- **As with adults, treatments in addition to medication are often necessary to assist adolescents with bipolar disorder and their families.**
- **These interventions may involve**
  - Educating the family about the nature of adolescent bipolar disorder and involving the family in treatment.
  - Insuring that the adolescent receive the special educational services necessary to prevent them from falling behind academically
  - Appropriate classroom accommodations to help them function effectively in the academic environment.
  - Family and individual approaches to therapy should be provided as necessary.

Examples of Educational Accommodations

- **Provide student with a safe place and person to go to when feeling overwhelmed or stressed**
- **Shortened day (permit late start as needed)**
- **Prior notice of transitions**
- **Consistent schedule**
- **Scheduling the student's most challenging tasks at a time of day when she/he is best able to perform**
- **Modified or shortened assignments**
- **Adjust for medication needs, dispensing, as well as plans for addressing side effects (e.g., sedation)**

Hart (2005)

CURRENT TRENDS OF DESIGNER DRUG USE IN ADOLESCENTS

American Society for Adolescent Psychiatry
2016 Annual Meeting

Manuel Lopez-Leon, M.D.

Clinical Assistant Professor of Child & Adolescent Psychiatry

New York University School of Medicine
Child Study Center

- DESIGNER DRUGS
- LEGAL HIGHS
- LEGAL & ILLEGAL SUBSTANCE USE
- LEGAL INTOXICANTS

Definition of “Legal Highs”

- A substance with stimulant of mood altering properties whose sale or use is not banned by current legislation regarding the misuse of the drugs.

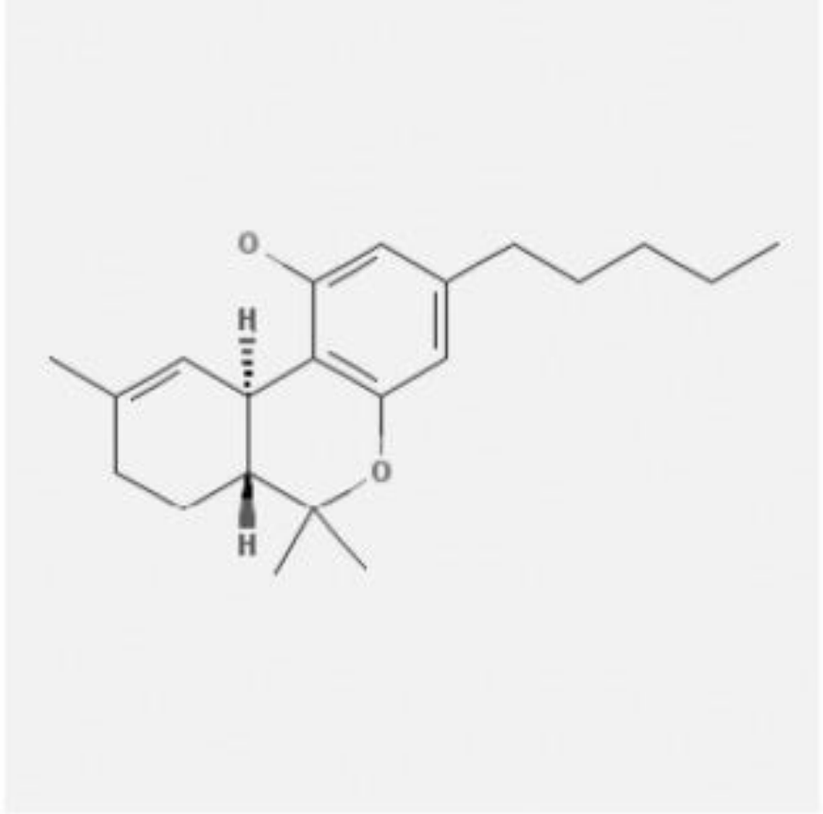
- *(Oxford Dictionary)*

Legal Intoxicants

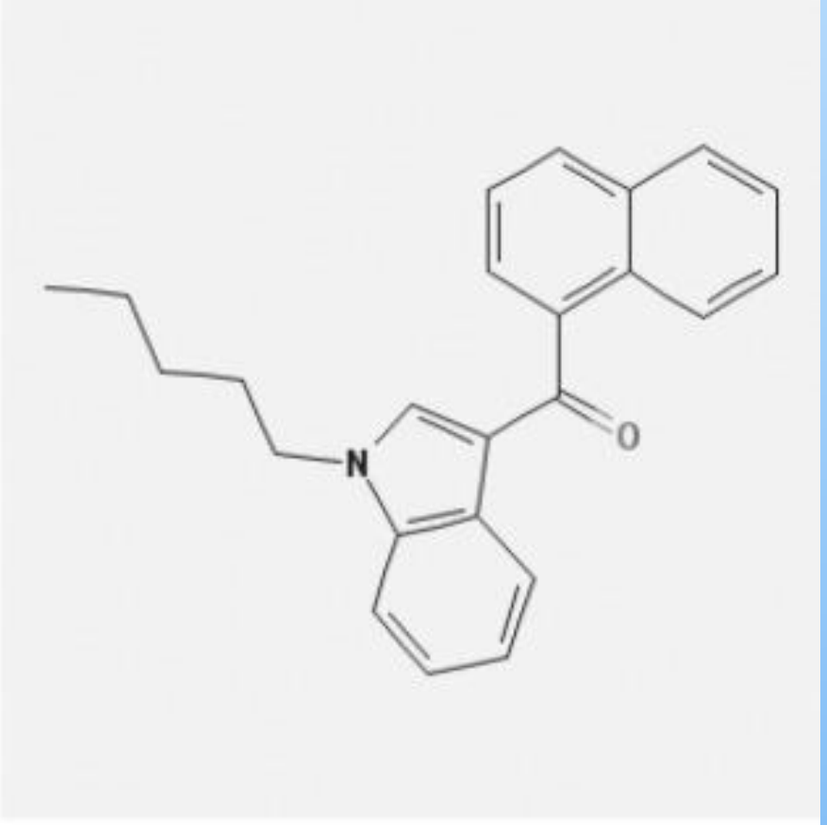
- intoxicating drugs which are not prohibited by drug laws
- the most commonly used intoxicant is alcohol
- native intoxicating plants historically used by indigenous cultures
- modern chemical intoxicating substances that have not been defined as illegal, i.e. many synthetic cannabinoids and cathinones

Why Designer Drugs in the First Place?

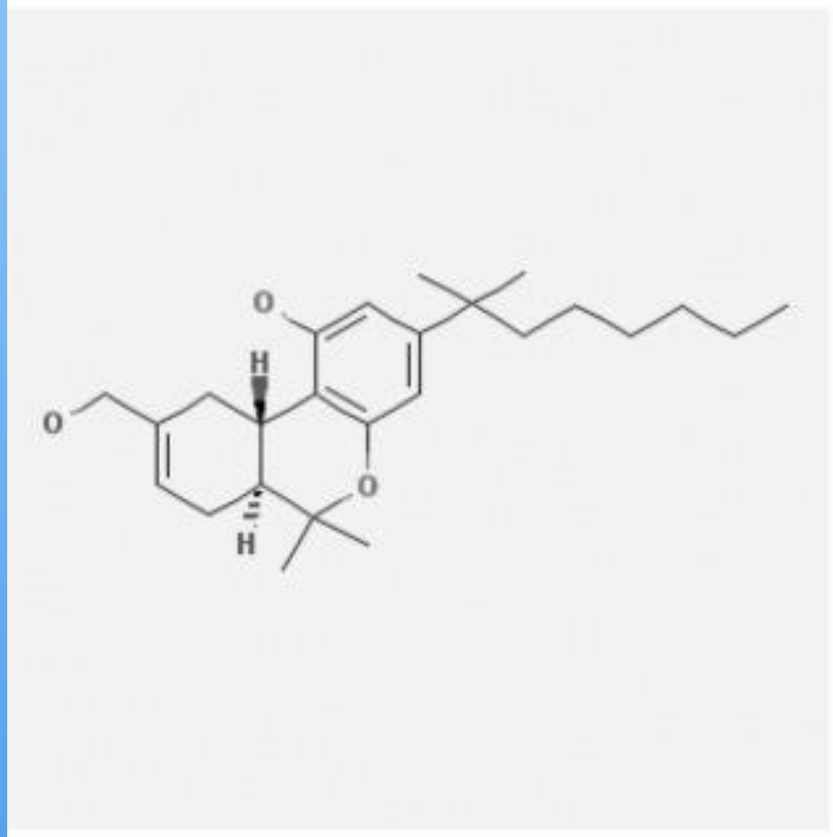
- Legal
- Good effects
- Readily available - online, convenience stores
- Some people prefer the edgier high
- Exploring new experiences
- **Not detected in most routine drug tests**



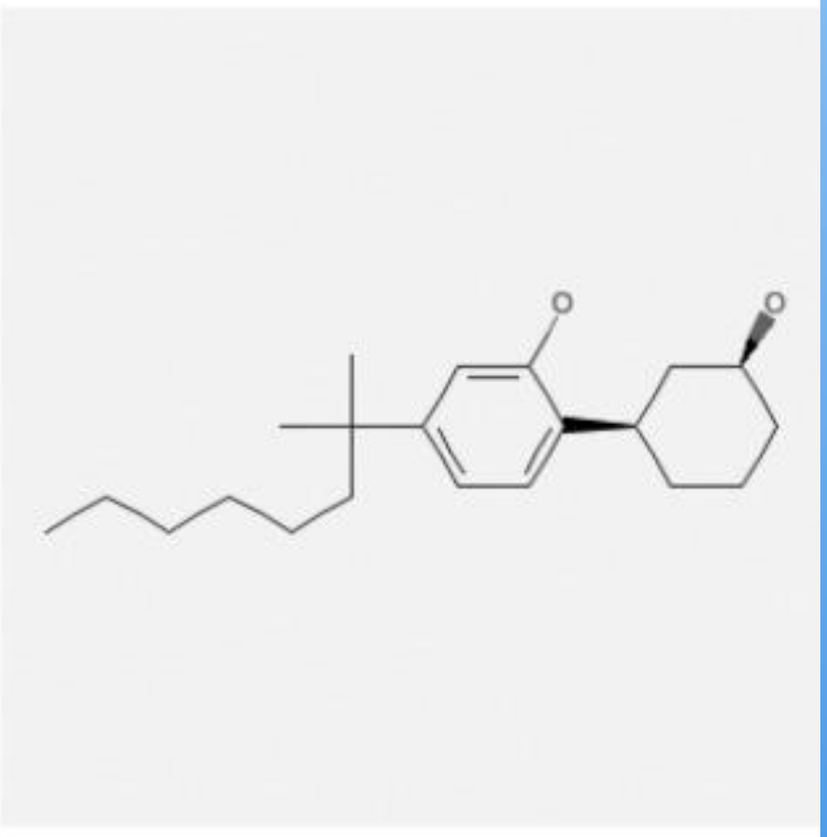
tetrahydrocannabinol (THC)



JWH-018



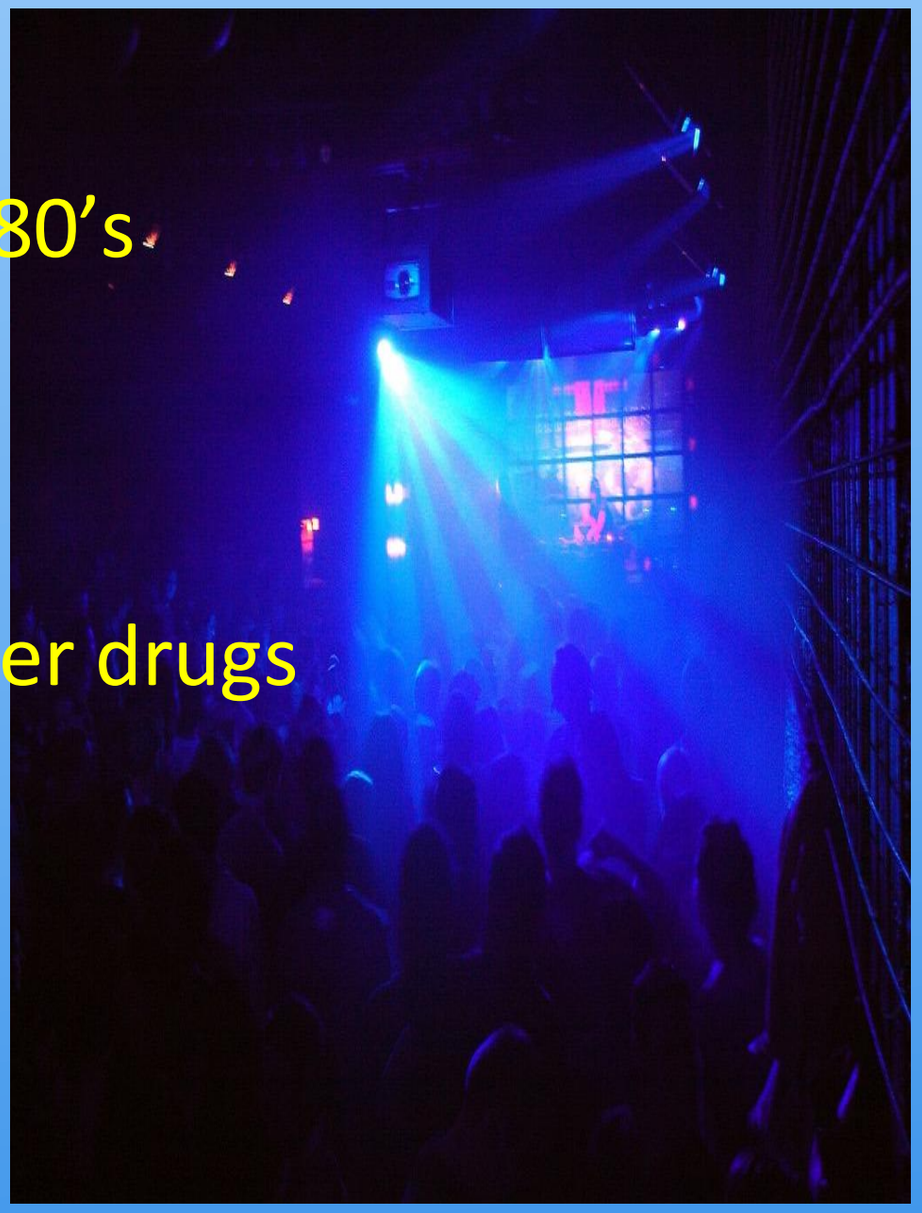
HU-210



CP-47, 497

HISTORY OF DESIGNER DRUGS

- Modern use of the term in the mid-1980's
- MDMA (Ecstasy)
- In the 1990's, explosion of new designer drugs



Synthetic Cannabinoids Then

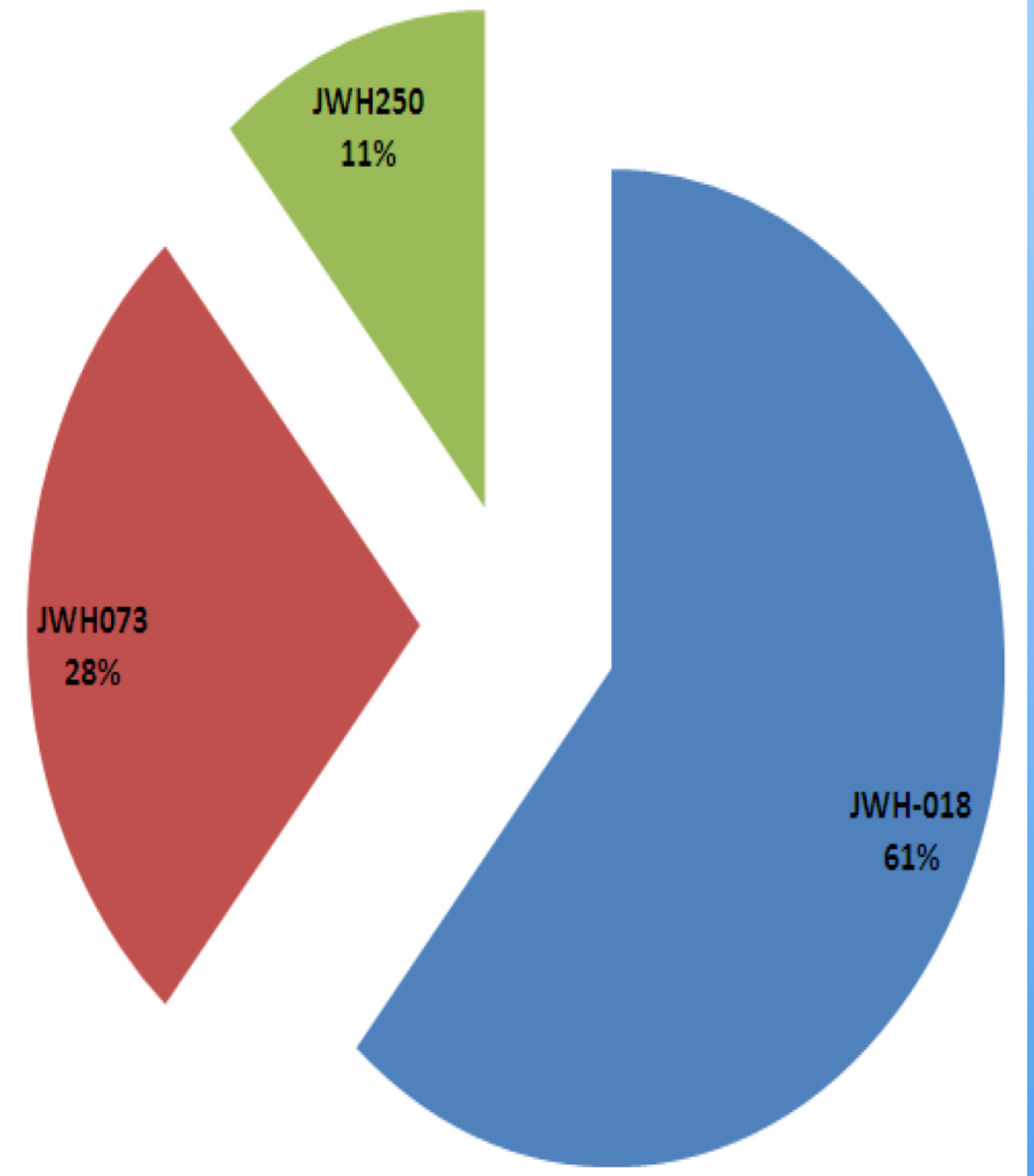
2004 – 2008

- First products identified on the street in 2004, contain HU-210.
- Widely available in stores and online.
- “Fake Pot”
- Considered novelty products.

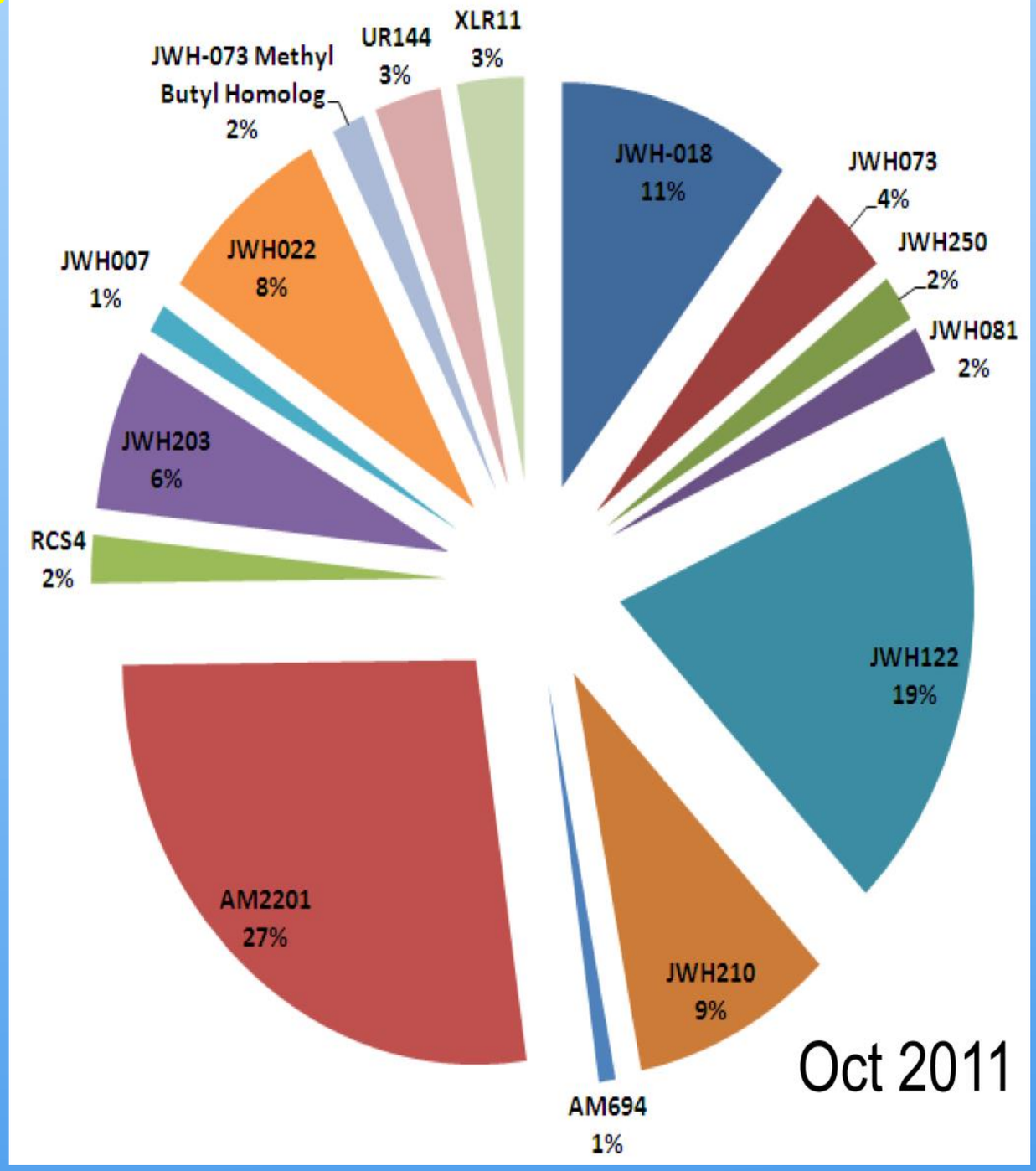
Synthetic Cannabinoid Evolution

2010	2011	2012	2013	2014
JWH-018	AM-2201	JWH-203	PB-22	AB-PINACA
JWH-073	AM-694	JWH-022	F-PB-22	AB-FUBINACA
JWH-019	JWH-081	JWH-018 Cl-analog	BB-22	ADBICA
JWH-250	JWH-122	UR-144	MAM-2201	5-F-ADBICA
	JWH-200	XLR-11	AKB-48	ADB-PINACA
	JWH-210	AM-2233	F-AKB-48	ADB-FUBINACA
	RCS-4	AM-1248		5-F-ADB-PINACA
	RCS-8	A-796260		AB-001
				F-AB-001/STR135
				APICA
				PB-22
				APINACA/AKB48
				EAM-2201
				THJ-2201
				THJ-018
				…

Synthetic Cannabinoid Prevalence 2010-2012

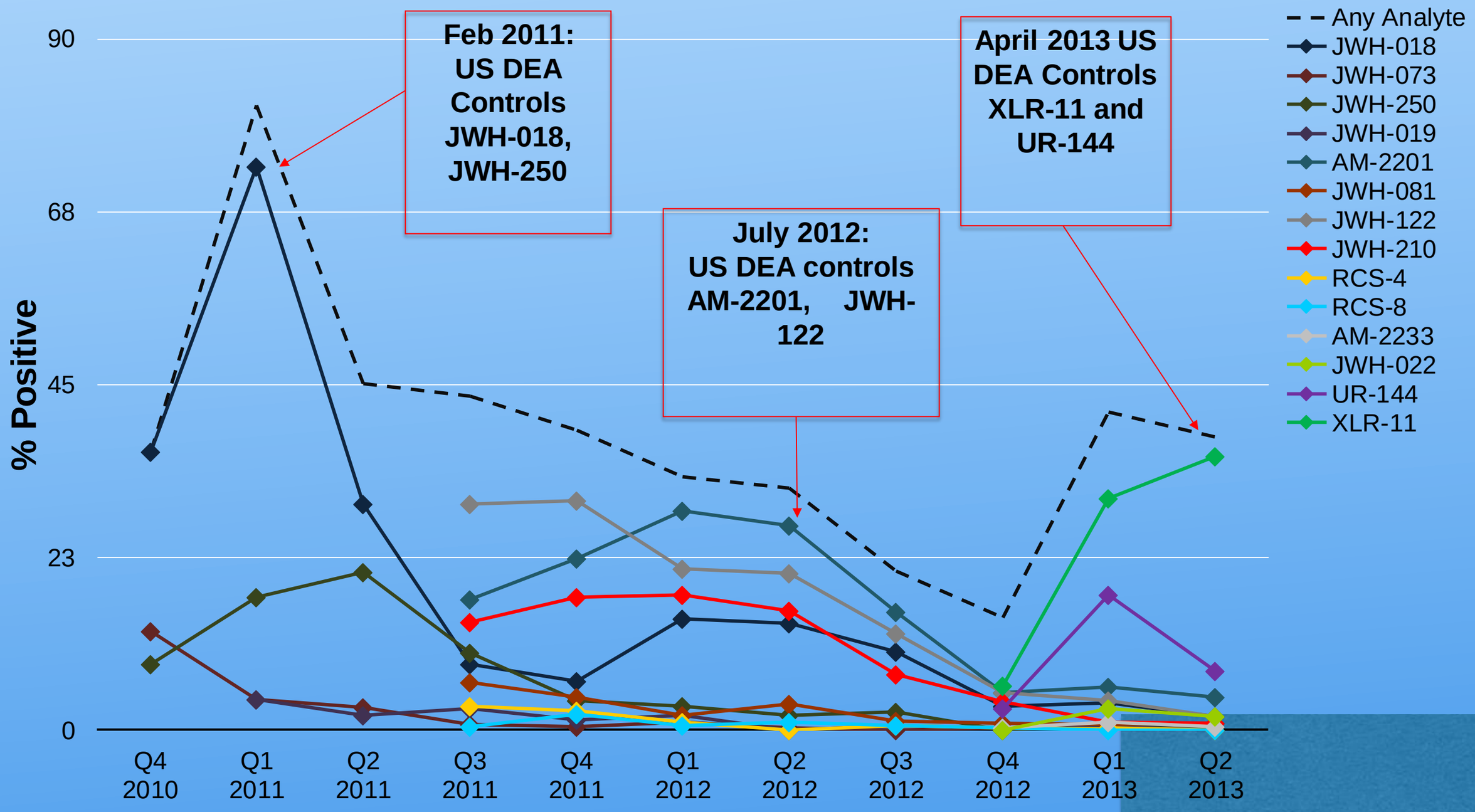


July- December 2010



Oct 2011 – April 2012

Synthetic Cannabinoid Blood



Source: Data extracted from NMS Labs *Laboratory Information Management System* . October 2010 May 2013.

Synthetic Cannabinoids 2014

- Open sale of scheduled compounds is prohibited.
- Lag in scheduling persists.
- Broad analog provisions are in place but confusing and unworkable.
- Acute and chronic human health effects are now better documented.
- First deaths reported.

CASE REPORT

- January 2012, Murray et. al described case report of a 40 year old man with bipolar disorder

- Was using cocaine but switched to ‘bath salts’

http://www.businessinsider.com/problems-prosecuting-bath-salts-2013-8

CASE REPORT

- Shortly after he snorted and injected an unknown quantity, he became *“aggressive, uncontrollable, delusional, removed all of his clothing, and ran outside.”*

CASE REPORT

- Police were called
- He struggled with the police exhibiting strength, violence, aggression
- He was restrained with an electronic control device and physically restrained in ambulance

www.news.com.au

CASE REPORT

- Noted to have labored breathing and was placed on NRB with 100% O2
- “*yelling incomprehensibly*”, had dilated pupils. HR: 164
- Was still not sedated after 2 mg of IM Lorazepam

CASE REPORT

- In hospital, he was still yelling and aggressive
- Medical records showed routine medications of quetiapine, methadone, and Temazepam
- HR was down to 91 bpm, BP 100/64

CASE REPORT

- While being transferred from ER stretcher to hospital bed, he suddenly became quiet and withdrawn

- Within 5 minutes of arrival to hospital, he developed bradycardia and then had cardiac arrest with pulseless electrical activity

CASE REPORT

- He was resuscitated and admitted to the MICU
- Given IV fluids, and treated for persistent hypotension
- Developed metabolic acidosis, renal failure, hepatic failure, anoxic brain injury

CASE REPORT

- 42 hours after presenting, declared brain dead
- During evaluation, blood and urine toxicology were negative for barbiturates, amphetamines, benzos, cocaine, marijuana, methadone and opiates

http://www.dojni.gov.uk/fsni-alcohol-drugs

CASE REPORT

- Further specialized testing in tertiary care center showed positive for MDPV, and negative for quetiapine.

- Symptoms of MDPV toxicity were consistent with Excited Delirium Syndrome (ExDS)

Murray BL, Murphy CM, Beuhler MC. Death following recreational use of designer drug “bath salts” containing 3, 4-methylenedioxyprovalerone (MDPV). J. Med. Toxicol. (2012) 8:69-75.

BATH SALTS IN THE ER

- In April, 2015, Mohsen et al conducted a survey of ER clinicians experience with Bath Salts
- Utox confirmation of Bath salts in ER, impractical because results take several days

http://www.imdb.com/title/tt0108757/

BATH SALTS IN THE ER

- Clinicians need to rely on patient's self report
- In survey, 77% of the 25 ER doctor respondents did not specifically ask patients about bath salts use
- 60% of them had encountered bath-salt intoxicated individuals

BATH SALTS IN THE ER

- Patients mostly male, between 19 and 29 years old and used other drugs as well
- Presentations of agitation, aggression/violence, and hallucinations.
- IV/IM tranquilization used
- Most discharged home

Mohsen V, Jerry J, Jeffrey J, Dale RM. Bath Salts in the Emergency Department: A Survey of Emergency Clinician's Experience with Bath Salt-intoxicated patients. Journal of Addiction Medicine. March/April 2015; 9(2): 94-98.

SYNTHETIC MJ IN THE ER

- In April of 2015, Governor Cuomo issued a health alert warning New Yorkers of a recent increase in synthetic marijuana (Spike, K2) that sent more than 160 patients to the ER in a period of about a week in April.

- This is 3 years after the governor urged the New York State Department of Health to issue regulations banning the sale and possession of many substances used to make synthetic cannabinoids and bath salts in August of 2012

- Owner and/or employee of an establishment selling these substance would be charged with possession and a fine of $500, or 15 days in jail, or a civil penalty of up to $2000 per violation

Albany Press Office, Governor Cuomo Issues Health Alert: Illegal Synthetic Marijuana Sends
more than 160 New Yorkers to the Hospital since April 8. April 17, 2015

SYNTHETIC MJ IN THE ER

- In August of 2015, Governor Cuomo expanded the list of banned substances found in synthetic marijuana

- Between June 7 and August 1, 2015, Emergency room visits in NY were ten times what they were in that period last year.

http://www.mytwintiers.com/news/local-news/nys-health-department-expands-list-of-banned-substances-in-synthetic-cannabinoids, NYS Health Department Expands List of banned substances in synthetic cannabinoids. August 6, 2015

SYNTHETIC MJ IN THE ER

- CNN reported on August 4, 2015 that a surge of synthetic marijuana over the summer have caused overdoses and crime.

- Police chiefs met in Washington to discuss developing field tests to detect synthetic marijuana

Perez E, Prokupecz S, Bruer W, Summer surge of synthetic marijuana causes overdoses, crime. CNN August 4, 2015

SYNTHETIC MJ IN THE ER

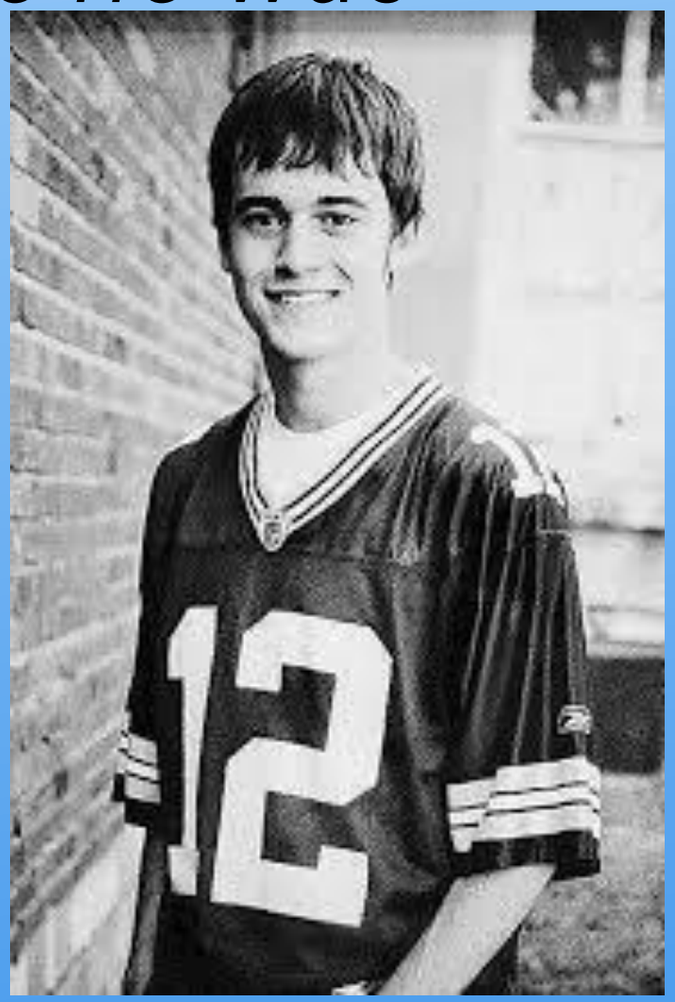
- Survey of 35 major city police departments across U.S found that 30% of violent crimes related to synthetic MJ use

http://www.mapleshade.com/police/

Perez E, Prokupecz S, Bruer W, Summer surge of synthetic marijuana causes overdoses, crime. CNN August 4, 2015

DEATH BY SUICIDE

- David Rozga killed himself in 2010 after taking synthetic marijuana. According to his father, he had told a friend *"that he felt like he was in hell"*



http://www.csindy.com/coloradosprings/incense-nonsense/Content?oid=1786148

Salter J, Suhr J. Synthetic drugs sent thousands to ER. NBC News. April 6, 2011.

DEATH BY SUICIDE

- He had no documented history of depression
- After getting high on K2, he got a shotgun and killed himself

Salter J, Suhr J. Synthetic drugs sent thousands to ER. NBC News. April 6, 2011.

http://www.drugabuse.gov/publications/drugfacts/k2spice-synthetic-marijuana

DEATH BY SUICIDE

- In 2011, Jarod Moody shot himself in the head with a pistol he took from a friend.
- He had been sober from his former drug of choice, Dilaudid
- Hospital toxicology negative
- Later discovered he was on “Ivory Wave,” A bath salt

Braiker B. ‘Bath Salts’: Cracking Down on a Dangerous Legal High. www.abcnews.go.com Jan. 13, 2011

SUICIDE-MURDER

- Army Sergeant David Stewart of Spanaway Washington killed his wife, Kristy Sampels and their 5-year old son, Jordan, and then shot himself in front of a state trooper in April 2011.

Clarridge C. Drug may have been behind the murder-suicide of Spanaway family. Seattletimes.com April 22, 2011

SUICIDE/MURDER

- Coroner Gary Warnock found granules of bath salts in Stewart's car and in the home.
- A 500-mg jar of "Lady Bubbles" brand bath salts found in pocket

http://www.dallasobserver.com/news/texas-house-bans-crack-y-bath-salts-get-your-lady-bubbles-while-you-can-7112276

SUICIDE/MURDER

- Toxicology results showed that both Sgt. David Stewart and Kristy S. Sampels had methylenedioxypyrovalerone (MDPV) in their systems at the time of their deaths.

Mulick S. 'Bath salts' found in bodies of Washington murder-suicide victims. www.mcClatchydc.com June 14, 2011

MURDER UNDER THE INFLUENCE

Bath Salts Linked to the Cannibal Zombie Attack youtube May 31, 2012

MURDER UNDER THE INFLUENCE

- Spires, 18, arrested for robbing passengers and stabbing 24 year old Kevin Sutherland on the Washington Metro on July 4, 2015.

Sources suspect synthetic MJ but unclear. Judge ordered psych exam

http://dcist.com/2015/07/charging_documents_paint_a_grisly_p.php

http://www.wusa9.com/story/news/local/dc/2015/07stabbing-noma-american-university/29739327/

MURDER UNDER THE INFLUENCE

- In Cranford, NJ, William J. Parisio (Bill), a 22 year old college student at Rutgers allegedly killed his longtime girlfriend, Pamela Schmidt in 2011
- Bill had drug problems and had been in rehab. He also had bipolar disorder according to the media, that his mother claimed was made worse by “bath salts.”

http://www.nj.com/news/index.ssf/2011/03/rutgers_student_accused_of_kil.html

BATH SALTS AND VIOLENCE

August 23, 2015, Daily Mail reported that an ex-convict in Idaho city while on bath salts, assaulted five people.

- Sean Daniel Carnell, aged 23:
- attacked a construction worker with his own shovel

Daily Mail reporter, Ex-con on 'bath salts-fueled rampage assaults five people, kicks a dog and pushes over a man in a wheel chair in 90 minutes of random violence, Daily Mail. August 23, 2013.

BATH SALTS AND VIOLENCE

- kicked a little boy's dog
- beat a skateboarder
- choked a woman and may have burned down her apartment
- grabbed a man in a wheelchair and tipped him over and left him in the street

Daily Mail reporter, Ex-con on 'bath salts-fueled rampage assaults five people, kicks a dog and pushes over a man in a wheel chair in 90 minutes of random violence, Daily Mail. August 23, 2013.

BATH SALTS AND VIOLENCE

- In Orland in June 2015, Christopher Wells assaulted four people and claimed to have killed his mother, although she was later found to be fine.
- Police found "*294 hypodermic needles, drug paraphernalia and a usable amount of bath salts, cocaine, and marijuana*" in his house.

http://www.pressherald.com/2015/06/17/orland-man-arrested-on-drug-assault-charges/ Orland man on bath salts attacks four people, police say. June 17, 2015

DEA CONTROL

- September 7, 2011 the DEA used it's emergency scheduling authority to temporarily control Mephedrone, 3, 4, methylenedioxypyrovalerone (MDPV) and Methylone) to protect the public from "imminent hazard posed by these dangerous chemicals."

- Possessing and selling these chemicals or the products containing them illegal in the U.S of at least one year while further research.

- As of May 7, 2014, DEA classified "bath salts" as schedule 1 (high potential for abuse, and no medical uses), meaning penalties for possession and sale.

http://www.dea.gov/pubs/pressrel/pr090711.html
http://circanews.com/news/dea-bans-bath-salts

LAWS BANNING

- Many states have already banned NPS. However, chemists alter the molecular structure slightly, staying ahead of the ban. DEA started putting strains of synthetic marijuana on list of scheduled 1 drugs since 2011. In January 2015, put 3 more on the list.

- In August of 2015, Boston Mayor, Marty Walsh signed an ordinance outlawing the possession, sale, manufacturing and distribution of synthetic marijuana

- Boston police would have the authority to enforce a $300 fine for each violation

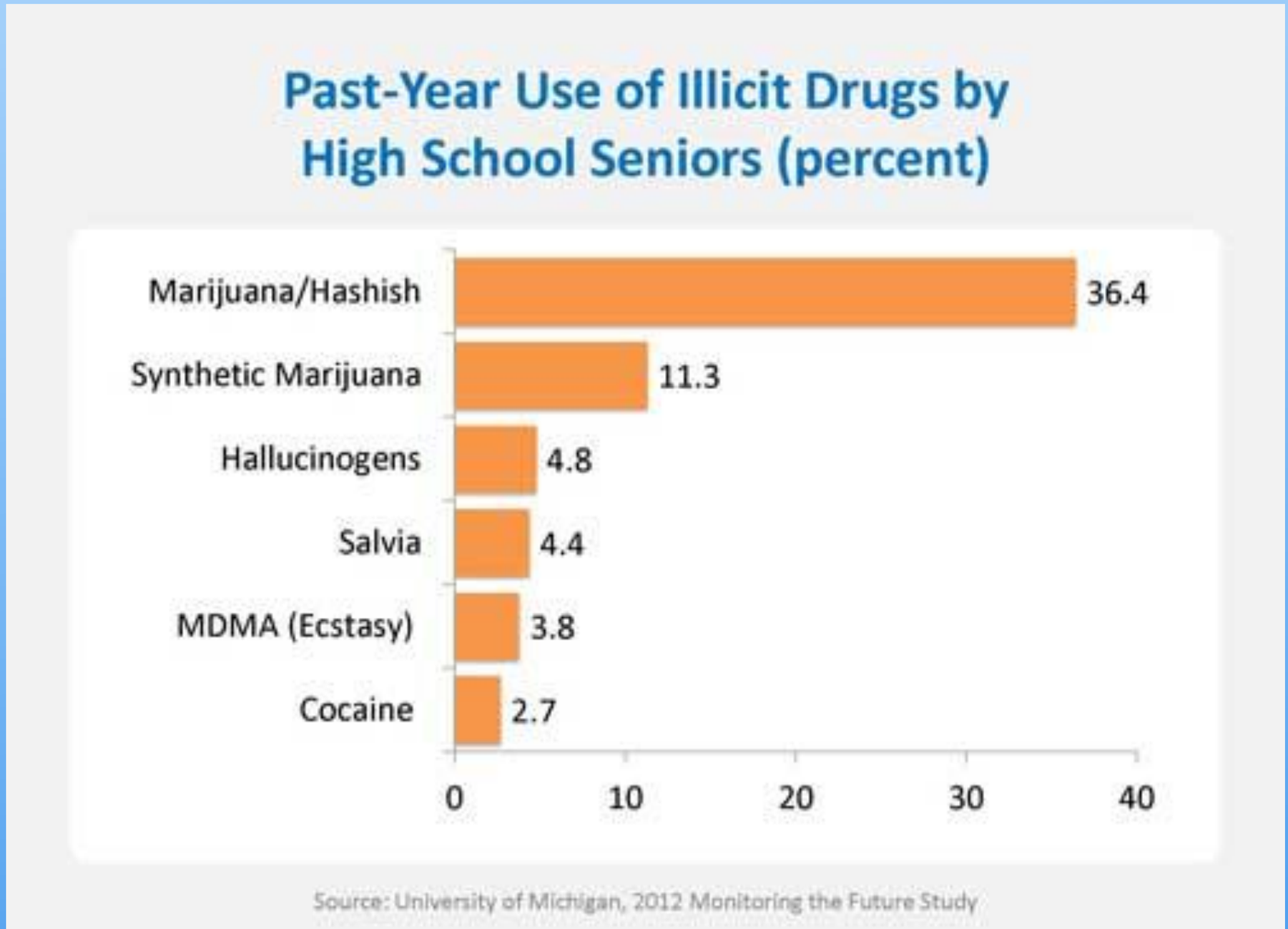
Hoover, A. Synthetic marijuana now banned in Boston. Boston.com August 14, 2015.

LAWS BANNING

- According to www.whitehouse.gov:
  - At least 43 states have taken action to control one or more synthetic cannabinoids
  - At least 44 states have taken action to control one or more synthetic cathinones.

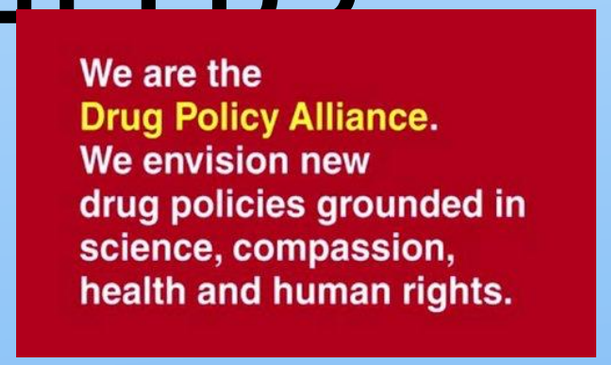
https://www.whitehouse.gov/ondcp/ondcp-fact-sheets/synthetic-drugs-k2-spice-bath-salts

LAWS BANNING



https://www.whitehouse.gov/ondcp/ondcp-fact-sheets/synthetic-drugs-k2-spice-bath-salts

WILL LAWS BANNING H



- New York State Senate introduced a bill that would criminalize the sales of synthetic marijuana in August 2015.

- Kassandra Frederique, Policy manager at the Drug Police Alliance argued that criminalizing use of synthetic cannabinoids and bath salts will “only make it harder to regulate the these substances and harder for people who struggle with their use to get help.

- Suggested prevention and harm reduction education, regulation, and control

Drug Policy Alliance, New York Returns to Failed Drug War Approaches to Address Synthetic Cannabinoids, www.thedailychronic.net. August 13, 2015

WILL LAWS BANNING HELP?

- Van Amsterdam et al (2015) looked at 25 experienced drug users in 2012 in the Netherlands. Prevalence of NPS use low

- One finding was that the legality of the NPS was not important.

- Already used ecstasy, cocaine, etc. More interested in experimenting

- Speculated legal status more significant for populations regularly tested for substance use: athletes, military personnel, etc.

http://www.care2.com/greenliving/forget-cannabis-the-3-most-deadly-drugs-are-completely-legal.html

Van Amsterdam JGC, Nappen T, Keiman D, Haanschoten G, Korf D. Exploring the Attractiveness of New Psychoactive Substances (NPS) among Experienced Drug Users. Journal of Psychoactive Drugs. July-August 2015. Vol. 47(3).

WILL LAWS BANNING HELP?

- Winstock and Wilkins discuss the challenge of policy makers to keep up with the constant/rapid changing of molecular structures of NPS

- As well as the wide distribution which has increased in the last few years.

- NPS have been around for decades. What has changed has been their diversity, potency, and the internet: "*drug market without borders*"

http://vestavialibrary.org/events/internet-101-13/

Winstock A, Wilkins C. 'Legal highs' The challenge of new psychoactive substances. Transnational institute Series on Legislative Reform of Drug Policies Nr. 16 October 2011.

WILL LAWS BANNING HELP?

- Decrease in the supply of MDMA and purity of ecstasy and cocaine also contributed to increase in seeking synthetic compounds with similar effects especially in UK

- Also marketed as “safer” alternatives to illicit drugs

- Discussed advantages and disadvantages to criminalization of NPS and alternatives

http://www.vpul.upenn.edu/alcohol/ecstasy.php

Winstock A, Wilkins C. ‘Legal highs’ The challenge of new psychoactive substances. Transnational institute Series on Legislative Reform of Drug Policies Nr. 16 October 2011.

WILL LAWS BANNING HELP?

- A few other approaches besides criminalization:
- Legal sale with age, place of sale and advertising restrictions

http://thompsonhall.com/minnesota-medicinal-marijuana-lawyer/

- Restricted sale without medical supervision
- Restricted sale with medical supervision

Winstock A, Wilkins C. 'Legal highs' The challenge of new psychoactive substances. Transnational institute Series on Legislative Reform of Drug Policies Nr. 16 October 2011.

WILL LAWS BANNING HELP?

- Prohibition with civil penalties (i.e. fines)
- Prohibition with diversion and education options
- Prohibition with criminal penalties

Winstock A, Wilkins C. 'Legal highs' The challenge of new psychoactive substances. Transnational institute Series on Legislative Reform of Drug Policies Nr. 16 October 2011.

FIREBOX

Search me

30% OFF EXCLUSIVE

BATHING BAD BATH SALTS

Just add Walter

$16.09
(WAS $23.00)

ADD TO BASKET

add to wishlist

- ✔ Firebox UK Exclusive
- ✔ Carefully crafted from all-natural ingredients
- ✔ Won't melt your bath like a certain memorable scene
- ✔ Enjoy a relaxing and rejuvenating bath time experience

IMAGES DESCRIPTION MORE INFO CUSTOMER REVIEWS RELATED GIFTS

-Synthetic cannabinoids are commonly known as “synthetic marijuana,” “K2,” or “spice.”

-Often sold in legal retail outlets as “herbal incense” or “potpourri.”

-Most popular among young people.

-Labeled “not for human consumption” to mask their intended purpose and avoid Food and Drug Administration (FDA) regulatory oversight.

SYNTHETIC CANNABINOIDS

- "Spice" is the common name
- Other names include K2, fake weed, Yucatan Fire, Skunk, and Moon Rocks

Increasing Overdoses From Synthetic Cannabinoids (“Spice,” "K2,” etc.) in Several States (MAY 2015)

- Recent surges in hospitalizations and calls to poison control centers linked to consumption of synthetic cannabinoid in southern and northeastern U.S. states.

- -Officials issued health warnings.

- -Maryland Poison Center issued an urgent notice about the dangers of these drugs.

- -New York Governor Andrew Cuomo issued an alert after more than 160 patients were hospitalized following synthetic cannabinoid use in under two weeks in mid April, 2015.

- -Users can experience anxiety and agitation, nausea and vomiting, high blood pressure, shaking and seizures, hallucinations and paranoia, and they may act violently.

K2	Dank	Zombie World Bad-to-the-Bone
Spice Gold	Demon Passion	Blaze
Spice	Ninja	Dark Night Earthquake
Spice Diamond Yucatan Fire	Ono Budz	Berry Blend
Solar Flare	Panama Red Ball	The Moon
K2 Summit	Puff	G-Force
Genie	Sativah Herbal	Bombay Blue
PEP Spice	Ultra Chronic	Berry Blend
Fire n” Ice	Vodoo Spice	Black Mamba
Bliss	Aroma	The Moon
K2 Blonde	Blueberry Haze	Smoke Hawaiian
K2 Standard	Hybrid Magma	Smoke Skunk

-Other recently reported names include Geeked Up, Ninja, Caution, Red Giant, and Keisha Kole.

-New York State health alert lists other common names: Blonde, Summit, Standard, Blaze, Red Dawn X, Citron, Green Giant, Smacked, Wicked X, AK-47

- - The Maryland notice lists several chemical compounds in materials from crime labs, including MAB-/AB-CHMINACA, FUBINACA, FUB-PB-22, and XLR1

BATH SALTS

- Surged in UK and Europe first, then US
- Sold online and in drug paraphernalia stores
- Similar to cocaine and MDMA

BATH SALTS

- Synthetic cathinones, derived from khat plant
- Other names include jewelry cleaner, plant food, and phone screen cleaner

BATH SALTS

- Euphoria, increased sociability, increased sex drive
- Paranoia, agitation, and hallucinatory delirium

Cathinones (Bath Salts) and Substituted Cathinones

- -Structurally related to methcathinone, similar to amphetamines and methamphetamine
- -Refer to hundreds of compounds with unpredictable effects
- -Are 10 to 50 times more potent than cocaine in their ability to increase dopamine in the brain
- -Are dangerous, deadly, and unpredictable

CASE 2

- 21yo M found running through streets naked and was subdued by police
- Found with a package labeled “jewelry cleaner”

BATH SALTS

- Psychotic and violent behavior
- Cardiac symptoms (tachycardia, hypertension, chest pain)
- Excited delirium

CASE 3

- 40yo M was naked and claiming he was Thor
- Found by police having intercourse with a tree stump

In Name Only

- The synthetic cathinone products marketed as “bath salts” to evade detection by authorities should not be confused with products such as Epsom salts that are sold to improve the experience of bathing. The latter have no psychoactive (drug-like) properties.

DANGER[illegible] USERS

- "Bath Salts" relate[illegible]alls r[illegible]porte[illegible] to U[illegible] Poison Control Centers: Over 1,400 ca[illegible]n 201[illegible]com[illegible]red with 301 in all of 2010

Difficulties Legislating Synthetic Drugs

- *U.S. laws prohibit the sale or possession of all substances that mimic illegal drugs, but ONLY if federal prosecutors can show that they are intended for human use.*
- *People who make bath salts and similar drugs work around this by printing "not for human consumption" on virtually every packet.*

“Flakka" (alpha-PVP)

Use of a dangerous synthetic cathinone drug called alpha-pyrrolidinopentiophenone (alpha-PDP), popularly known as "Flakka," is surging in Florida and is also being reported in other parts of the country, according to news reports.

Alpha-PVP is chemically similar to other synthetic cathinone drugs popularly called "bath salts.”

White or pink, foul-smelling crystal that can be eaten, snorted, injected, or vaporized in an e-cigarette or similar device.

Vaporizing, which sends the drug very quickly into the bloodstream, may make it particularly easy to overdose.

It can cause “excited delirium”

FLAKKA

- Comes from southeast Asia
- Particularly problematic in Florida
- Eaten, snorted, injected, or vaporized

FLAKKA

- Excited delirium
- Paranoia and hallucinations
- Violent aggression and self-injury
- Deaths by suicide and heart attack

CONFUSION

- 32 yo F presents to the local ED with severe paranoia and hyperstimulation
- Tox screen at local ED is negative

Synthetic Cathinones
Nomenclature

- Bath Salts, Bath Powder, Plant Food, Pond Cleaner, Jewelry Cleaner, Phone Screen Cleaner

- Brand Names – Ivory Wave, Bloom, Cloud Nine, Lunar Wave, Vanilla Sky, Scarface

- Street Names – meow meow, molly, gravel, flakka, crackmeth

- Chemical Name –MDPV, mephedrone, alpha- PVP, …

Bigger image

Close up of khat

Khat

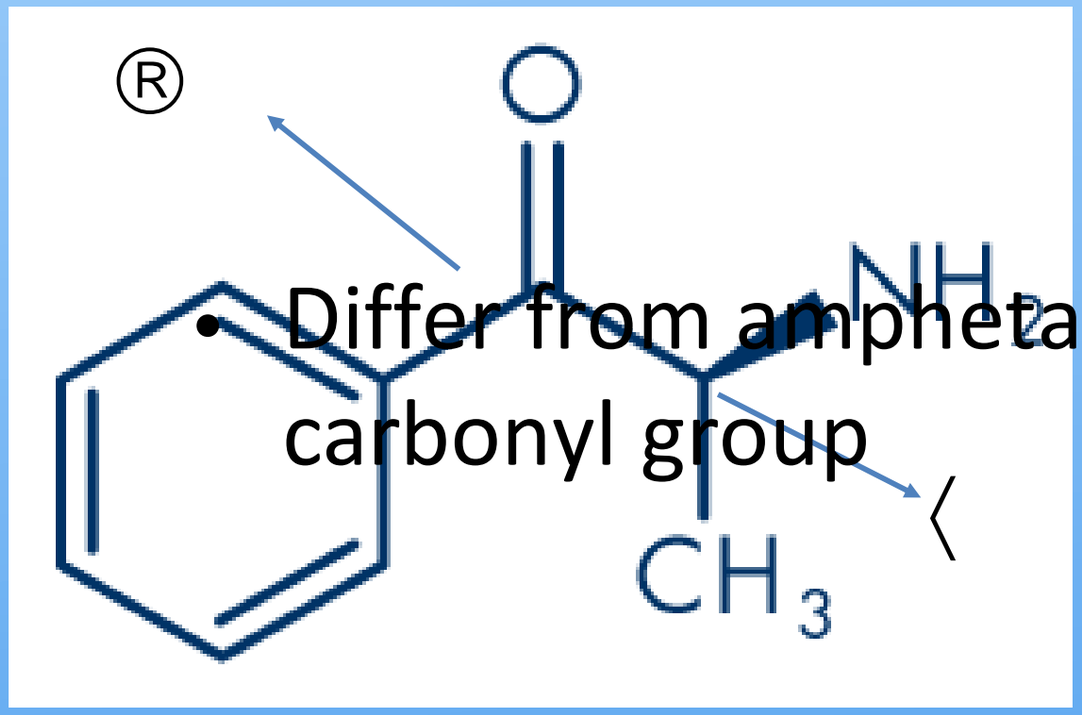
Pharmacology

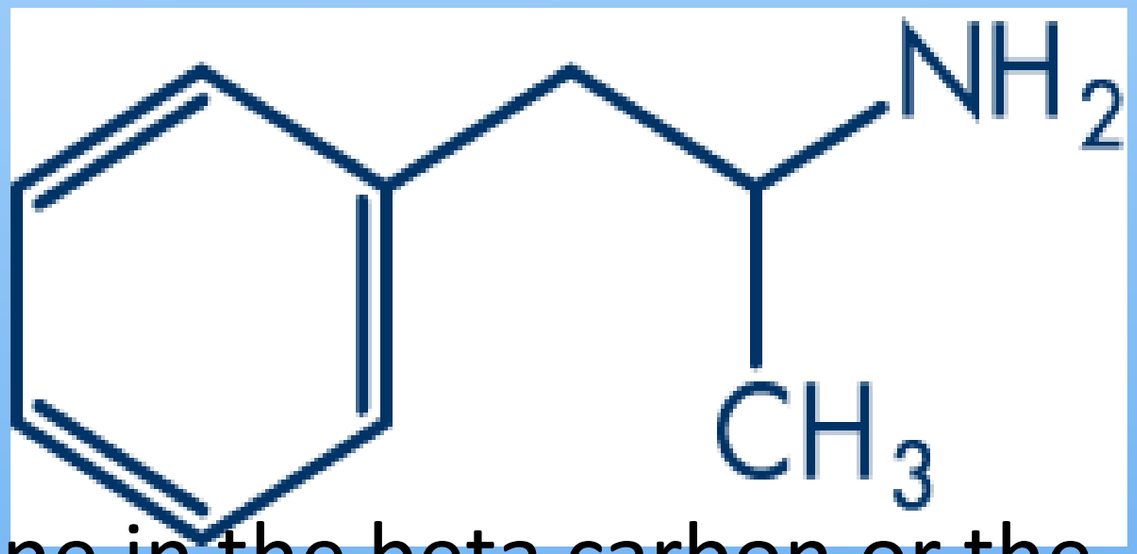
Two general classes

1. Amphetamine related / stimulant activity

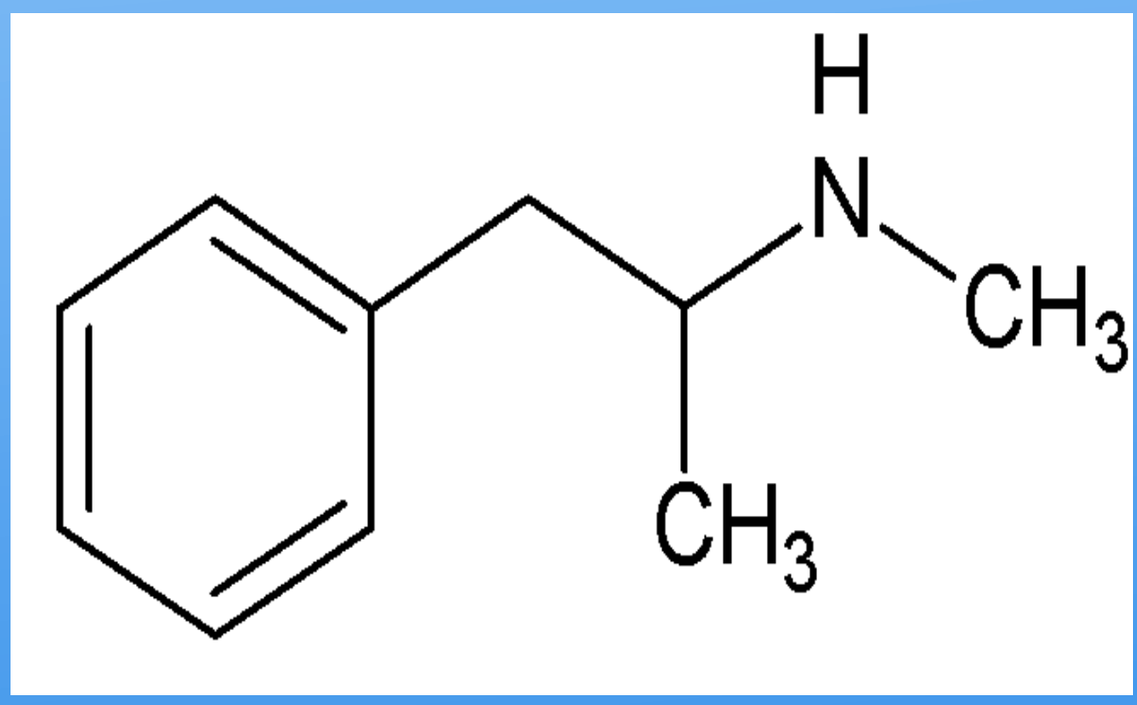
2. Serotonergic effects / hallucinations

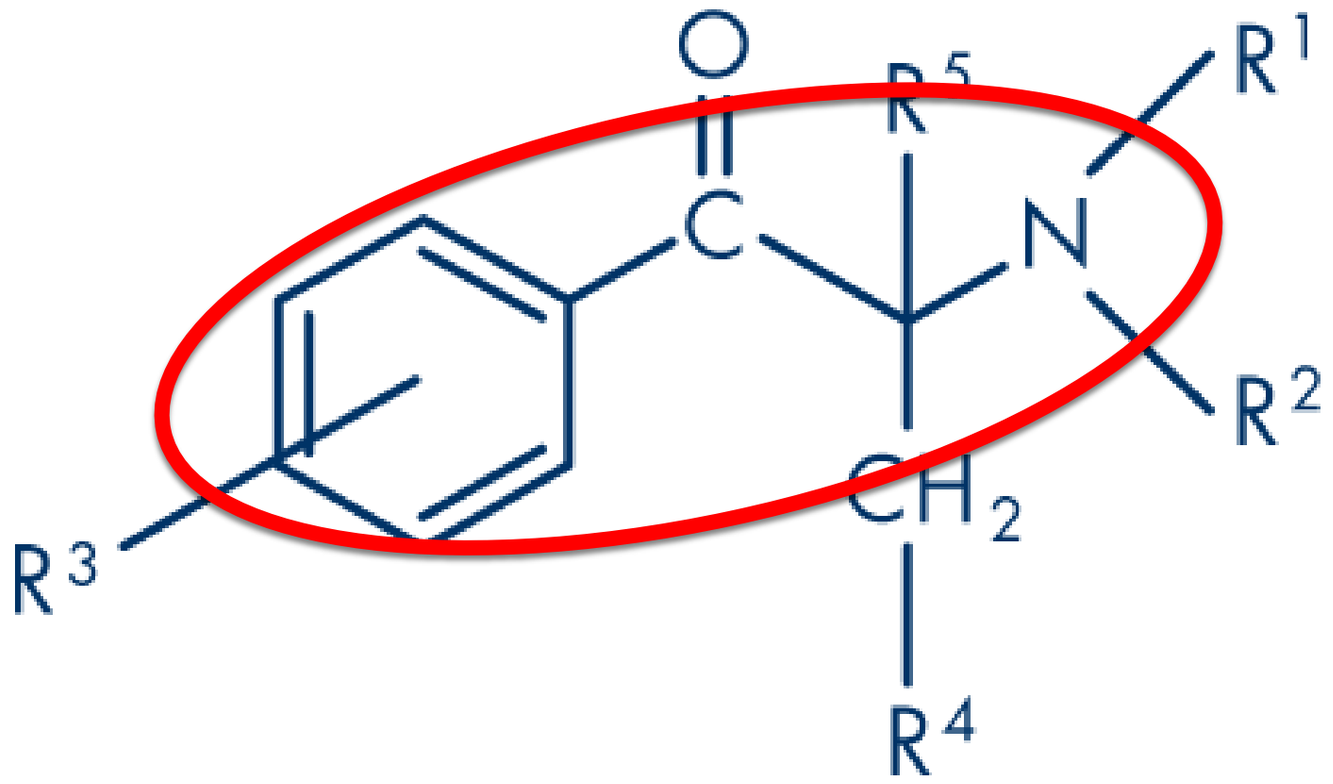
Structural comparison to amphetamine & methamphetamine**Amphetaminerelated** compounds





- Differ from amphetamine in the beta carbon or the carbonyl group



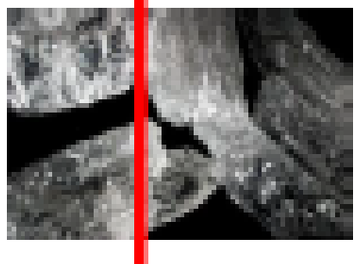


Name	R^1	R^2	R^3	R^4	R^5
Mephedrone	Methyl	H	4-Methyl	H	H
Methylone (βk-MDMA)	Methyl	H	3,4-Methylenedioxy	H	H
Butylone (βk-MBDB)	Methyl	H	4-Methyl	Methyl	H
Pyrovalerone	{pyrrolidino}		4-Methyl	Ethyl	H
MDPV	{pyrrolidino}		3,4-Methylenedioxy	Ethyl	H

“Bath Salts” Effects

Excitement
Euphoria
Tachycardia
Increased pupil size
Rapid Speech
Motor Restlessness
Anxiety
Paranoia
Mood Changes
Withdrawal/Depression
Delusions
Hallucinations
Seizures/Convulsions
Death

Meth

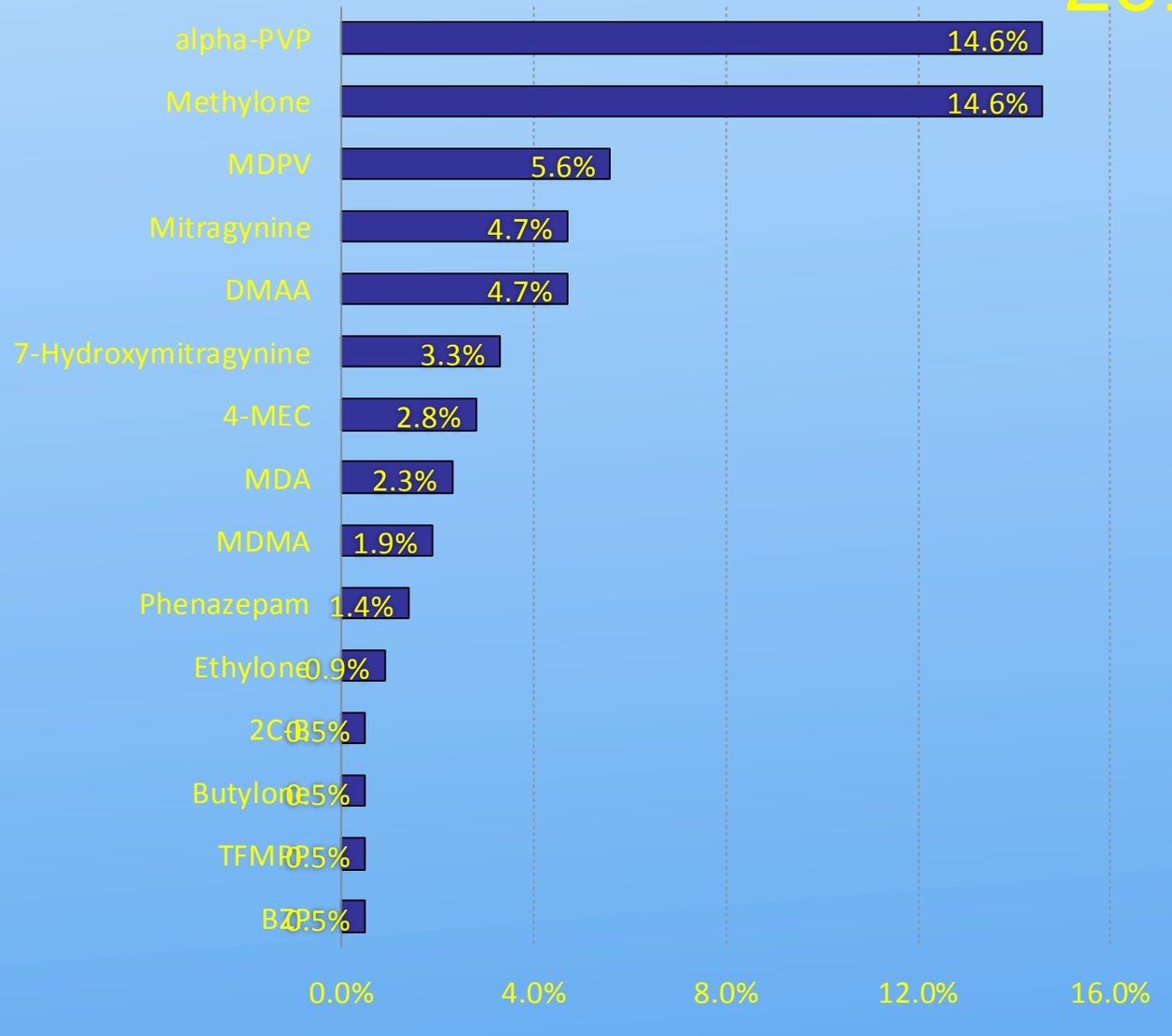


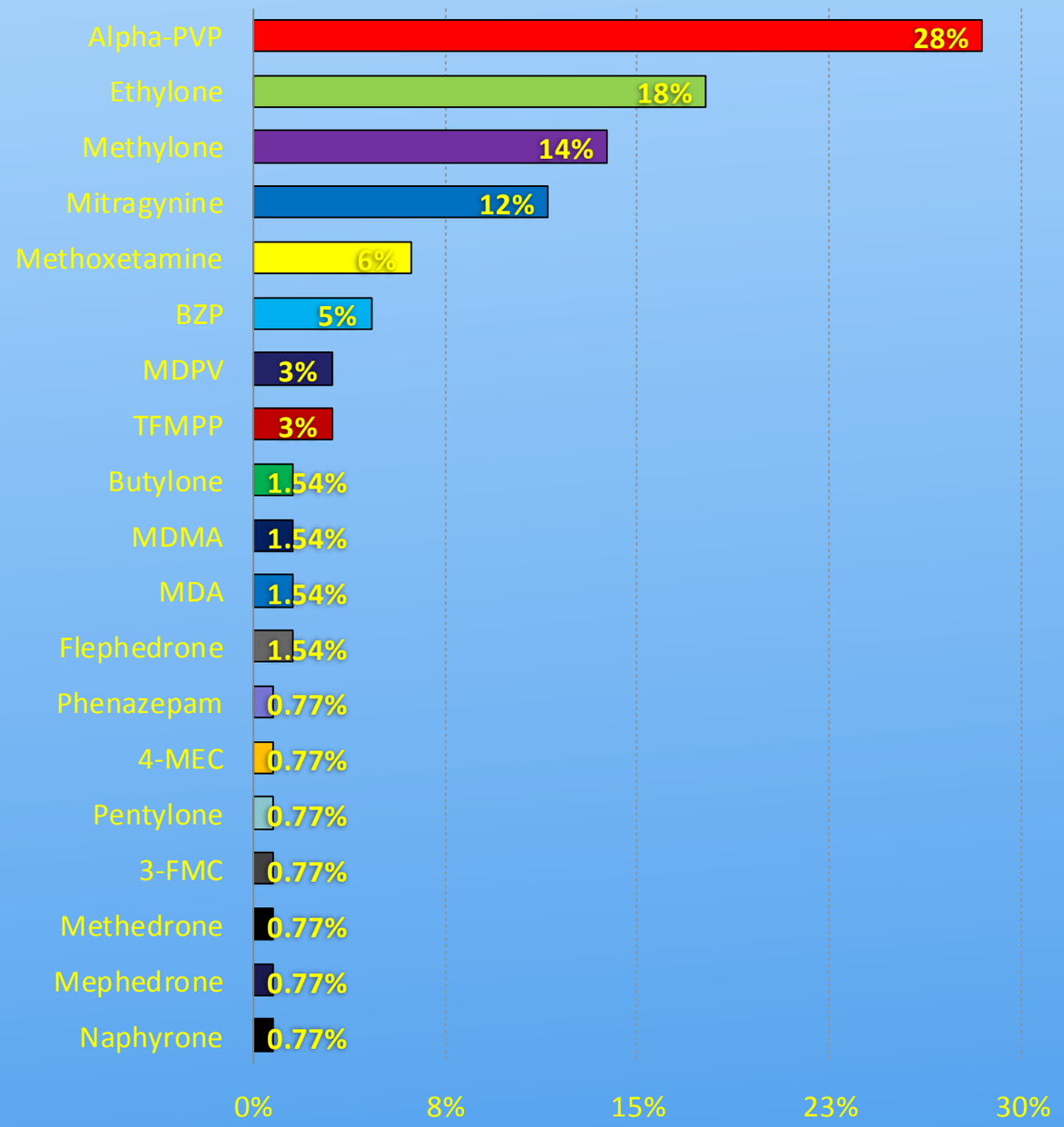
Ecstasy

Bath Salts

Hallucinogens, Designer Stimulants

2013

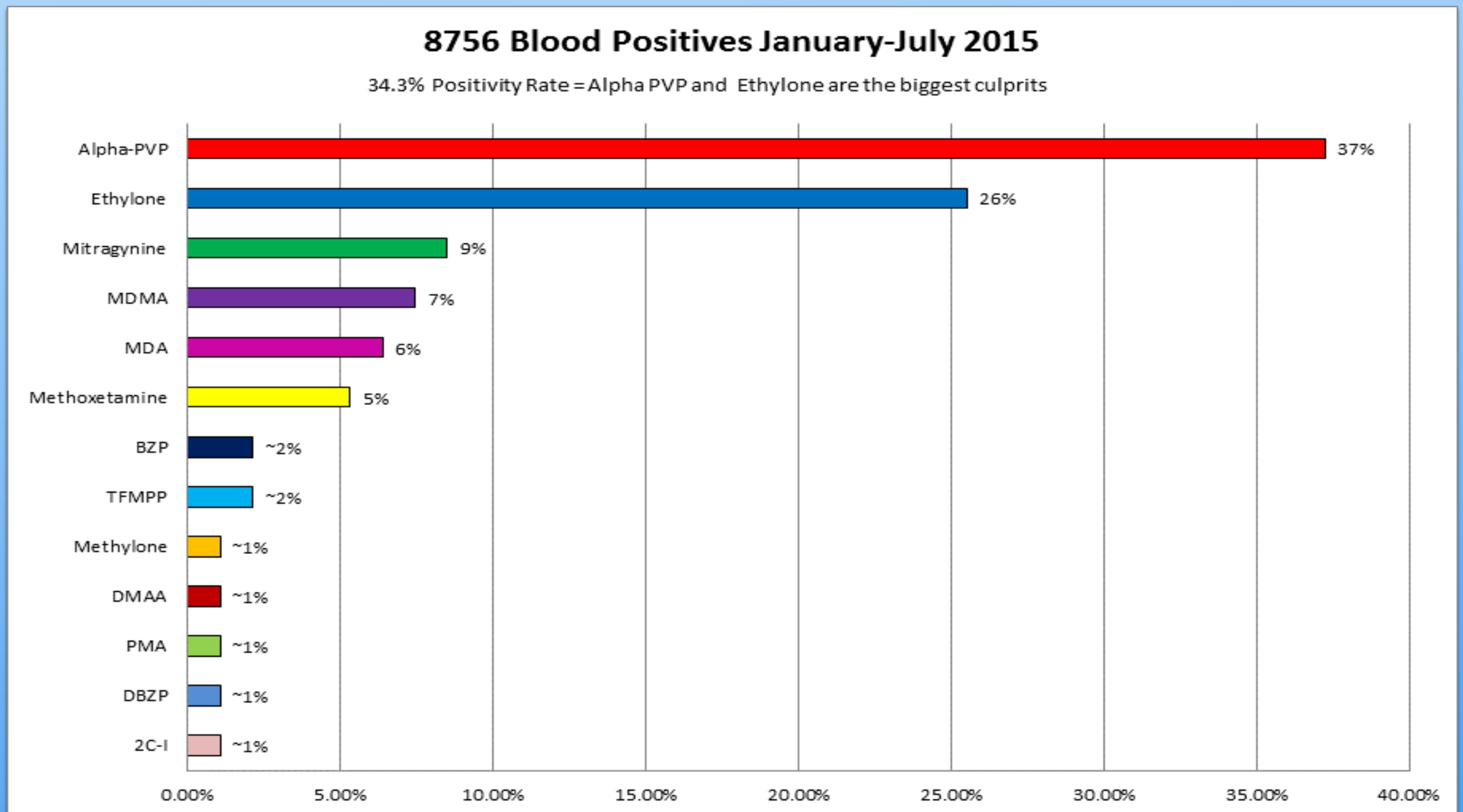




Source: Of the 472 blood samples submitted to NMS Labs in 2013, 30% confirmed positive for 1 or more analytes in the Expanded Bath Salts & Stimulants Panel (8756B). Alpha PVP was outside the scope of the assay prior to 7/2013 updates; positive results were verified by secondary analysis. Since the updated scope with alpha PVP, there have been 31 positives in 362 blood cases for alpha PVP. Confirmed positive cases (n=145) included methamphetamine and amphetamine; of the 213 positive analytes, methamphetamine and amphetamine were 41.4% of the positives.

- Source: Of the 459 blood samples submitted to NMS Labs in 2014, 28.3% samples were positive for 1 or more analytes in the Expanded Bath Salts & Stimulants Panel (8756B). Confirmed positive cases (n=130) included methamphetamine and amphetamine; of the 198 positive analytes, methamphetamine and amphetamine

Hallucinogens, Designer Stimulants 2015 (first 6



Source: Of the 300 blood samples submitted to NMS Labs in between Jan and July 2015 prior to new scope launch, 34.3% samples were positive for 1 or more analytes in the Expanded Bath Salts & Stimulants Panel (8756B). Confirmed positive cases (n=103) included methamphetamine and amphetamine; of the 138 positive analytes, methamphetamine and amphetamine were 28.3% of the positives.

Flakka Frenzy

$5 Insanity

Flakka

- ***Flaca*** *– Skinny*
- ***Flaka*** *– Beautiful, elegant woman who charms all*
- *Elsewhere called* ***Gravel*** *alpha-PVP*

Flakka

- **Brand Names – none**
- **Street Names – flakka**

- Active compound is -
- alpha-pyrrolidinovalerophenone (Alpha PVP, α-PVP, α-pyrrolidinopentiophenone)

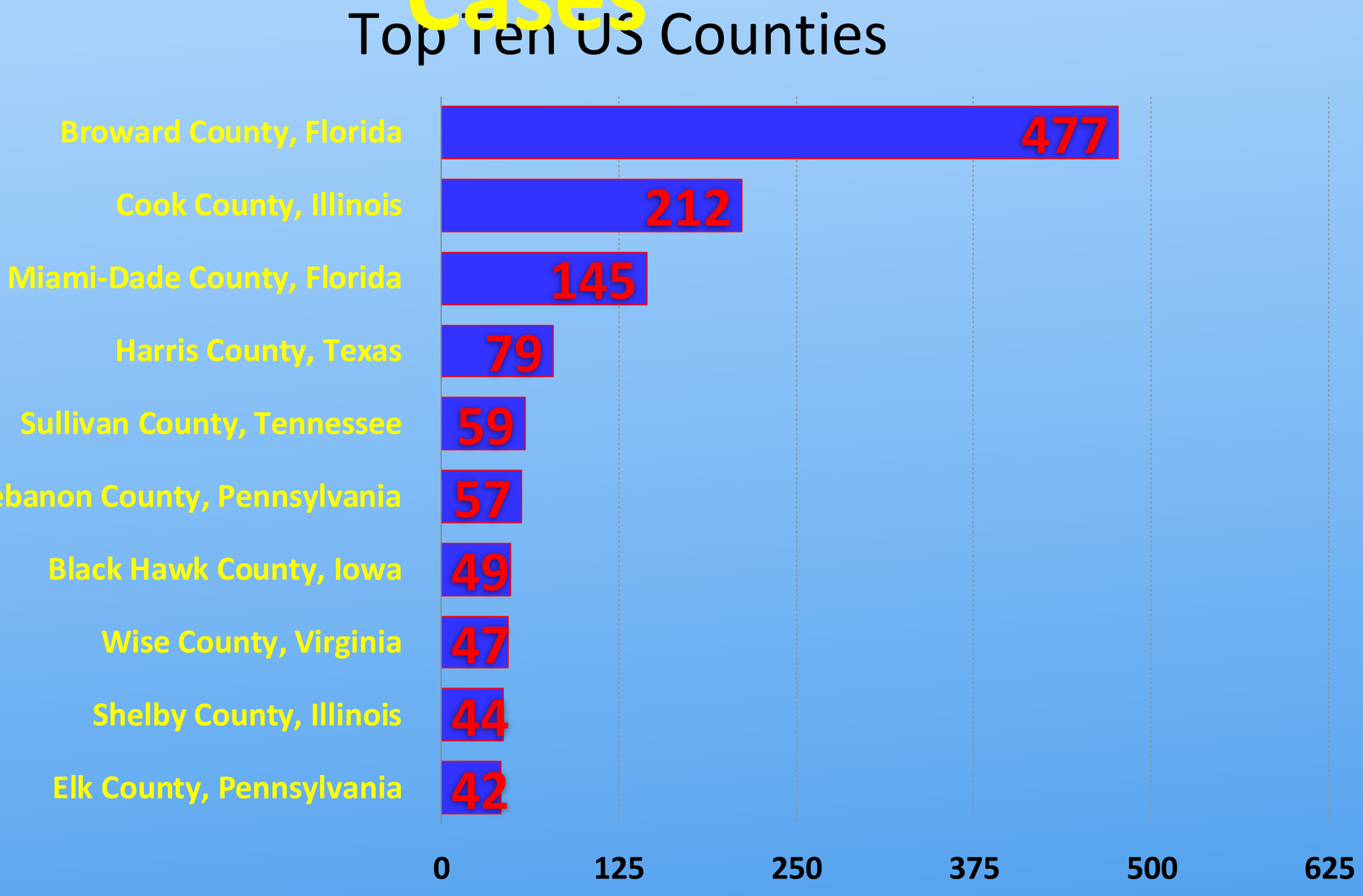
Flakka Economics 101

1 kg cost $1,500.00 online
= 10,000 doses @ 15 cents per 1/10th gram dose

@ $3-5.00 = $30,000. to $50,000

quires 10,000 sales….
. Back to the streets

alpha-PVP Crime Lab Cases



orensic Laboratory Information System (NFLIS)

SouSouSouth Florida Crime Lab Cases alpha PVP (flakka)

- 20122012 2

2013 6

2014 576

Flakka Hospital Cases: Broward Health

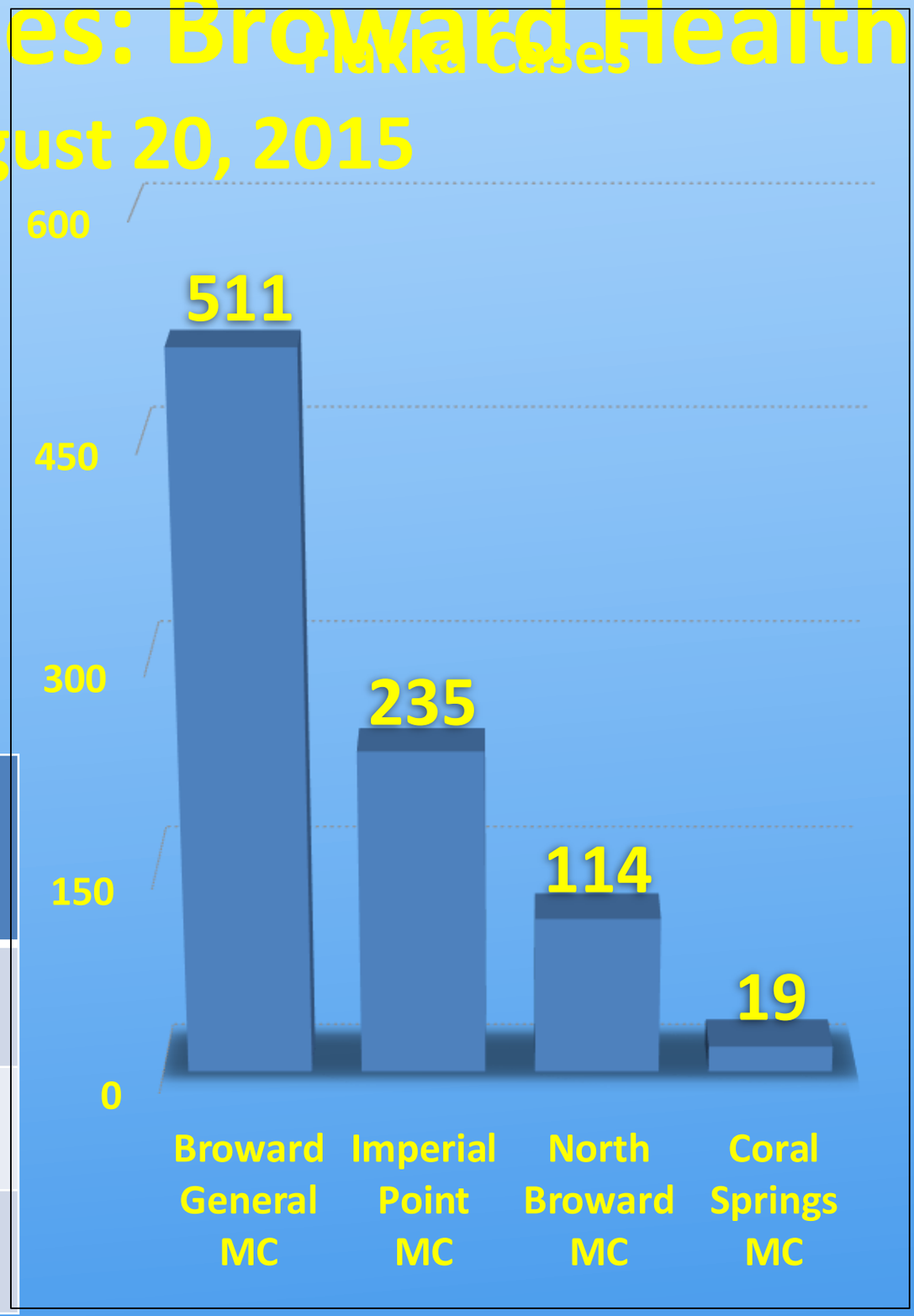
June 1 – August 20, 2015

n = 882 Flakka Cases

June 1 – August 20, 2015

Source: **Broward Health Medical Centers**

Time Period	Total Cases	Cases per Day
June 1 - 30	341	11.36
July 1 - 31	342	11.03
Aug. 1 - 20	199	9.95



Flakka-Related Deaths

Broward County, Florida

34 Confirmed

3 Pending

September 2014 – August 2015

September 2015 Update
Now seeing *alpha*-PHP

yrrolidinyl-hexaphenone

On the Horizon

PX1

PX2

5F-AMB

5F-ADB

EG-018

FUB-144

FUB-JWH-018

EG-2201

MMB-Chminaca

NM-2201

PX3

Excited Delirium

- Hyperstimulation

- Paranoia

- Hallucinations

- Lead to violent aggression and self-injury

Deadly

- Suicide

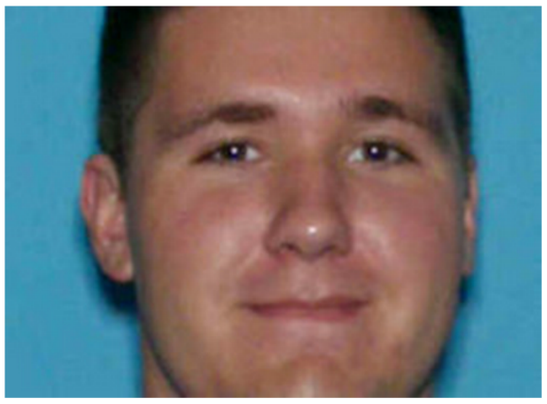
- Heart attack.

- Malignant Hyperthermia - dangerously raise body temperature (similar to NMS).

- May lead to kidney damage or kidney failure.

Rutgers Student William Parisio, Accused In Pamela Schmidt's Murder, Used 'Bath Salts' To Get High

First Posted: 03/16/11 01:12 PM ET | Updated: 05/25/11 07:40 PM ET



A Rutgers University student has been charged in the death of another student, whose badly beaten body was discovered Sunday.

William "Bill" Parisio, 23, was charged Monday with the murder of 22-year-old Pamela Schmidt, reports CBS.

According to the *Daily Targum*, Parisio's mother discovered Schmidt's body in her basement on Sunday afternoon, after the young woman had spent the night at the Parisio household. An autopsy by the county medical examiner confirmed that Schmidt had been dead when found. Officials ruled that she had been the victim of a homicide.

According to the Newark *Star-Ledger*, Schmidt and Parisio had been dating for four to five years. She was to graduate from Rutgers in May with degrees in psychology and labor studies and had plans to pursue a master's degree at the university next fall.

Parisio's mother told the *Star-Ledger* that her son had withdrawn from Rutgers this semester due to his struggles with drugs. He was slated to check in to rehab on Monday.

She added that her son had been diagnosed with bipolar disorder at the age of 19, but that he had rarely been violent. She believes that his use of mephedrone, commonly referred to as bath salts, drove him to a paranoid state.

Bath Salt Drugs Found On Man In Murder-Suicide

By GENE JOHNSON | 04/22/11 06:22 PM ET | AP

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SEATTLE -- Authorities are investigating whether a Washington state soldier had been using synthetic drugs packaged as bath salts before he shot and killed his wife and himself during a high-speed car chase near Olympia this month.

Thurston County Coroner Gary Warnock said Friday that Sgt. David Franklyn Stewart had 500 mg of "Lady Bubbles" bath salts in his pockets when his body was recovered from his car, and some of the powder was found in the vehicle and on the roadway as well. It will take weeks for a toxicology report to come back from a lab in Pennsylvania that can detect whether Stewart or his wife, Kristy Sampels, had inhaled the drugs before their deaths on April 5.

After the chase, the couple's 5-year-old son was found dead in their Spanaway home, suffocated with a plastic bag at least 24 hours earlier. Investigators continue to untangle the evidence to determine who killed him.

Pierce County sheriff's detective Ed Troyer said several packets of the synthetic drugs, which are increasingly sickening people who use them to approximate the effects of cocaine or methamphetamine, were found at the couple's home. The drugs, often packaged as bath salts or

Sister Suggests 'Bath Salts' Could be Behind Blue Springs Murder-Suicide

Posted on: 5:42 pm, June 6, 2012, by Kim Byrnes, *updated on: 05:44pm, June 6, 2012*

BLUE SPRINGS, Mo. — It's like sniffing demons up your nose. That's how Tonya Scott describes the drug known on the street as bath salts. Scott is the sister of Jessy Letellier, the man involved in an apparent murder-suicide that left two adults and two young children dead in Blue Springs. And Scott thinks the drug may be to blame.

Jessy Letellier, 23, his 22-year-old girlfriend Lindsey Money, their two-year-old daughter Jazmine and her four-year-old sister Shenayah were all killed in May. Lindsey's mom found all four of them dead in Lindsey's duplex. But what Scott found may shed some light on that tragic night.

Did bath salts push John McAfee to murder?

The anti-virus software genius is on the lam in Belize, where a drug addiction may have driven him insane

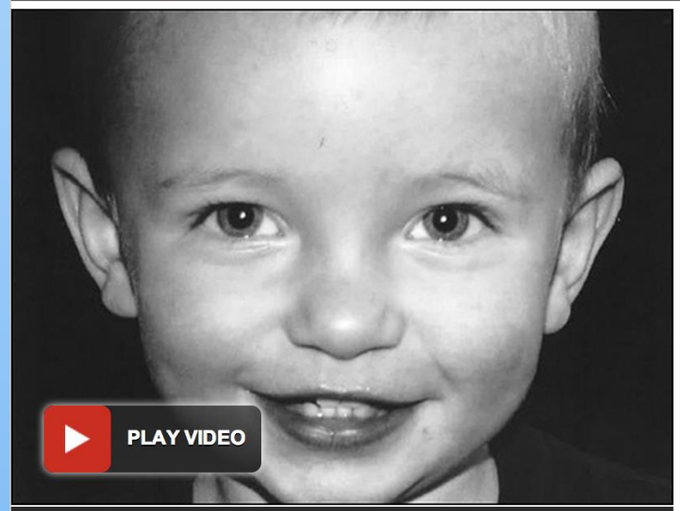
MAY WILKERSON, THE FIX

TOPICS: THE FIX, MURDER, JOHN MCAFEE, BELIZE, ANTI-VIRUS SOFTWARE, GREGORY FAULL, NEWS

John McAfee (Credit: AP/Ambergris Today Online-Sofia Munoz)

'Bath salts' suspected in Spanaway double murder-suicide

By Michelle Esteban | Published: Apr 21, 2011 at 3:18 PM PST | Last Updated: Apr 21, 2011 at 5:26 PM PST



Jordan Stewart

SPANAWAY, Wash. -- Thurston County investigators are now questioning whether the designer drug called bath salts are linked to the double murder-suicide that left a couple and their son dead.

It was the Washington Poison Center that recognized the so-called bath salts are not bath salts at all; the name is just a cover so they could be sold without being detected. They're really a new and popular drug that is so dangerous it can lead to days of hallucinating, paranoia, suicide and even homicide.

Now investigators suspect those so-called bath salts may explain the deaths of 5-year-old Jordan Stewart, and his parents, David Stewart and Kristy Sampels, earlier this month.

NEWS

Bath salts linked to bizarre Camano Island crime

by JESSIE STENSLAND, *Whidbey News-Times Assistant Editor*
posted Jun 5, 2012 *at* 3:28 PM

The bizarre and gruesome case of a naked man who ate the face off of a homeless man in Miami this month has led to speculations that the attacker was high on a designer street drug known as “bath salts.”


Adolescent Brain Cognitive Development

Longitudinal Study of Adolescent Brain and Cognitive Development (ABCD)

- - ABCD Study

- - Conducted by the National Institutes of Health (NIH)

- Recruit 10,000, ages 9 to 10, before they initiate drug use
- Follow them over 10 years into early adulthood to assess how substance use affects the trajectory of the developing brain
- Use advanced brain imaging as well as psychological and behavioral research tools to evaluate brain structure and function
- Track substance use, academic achievement, cognitive skills, and mental health over time

TRENDS

MONITORING THE FUTURE

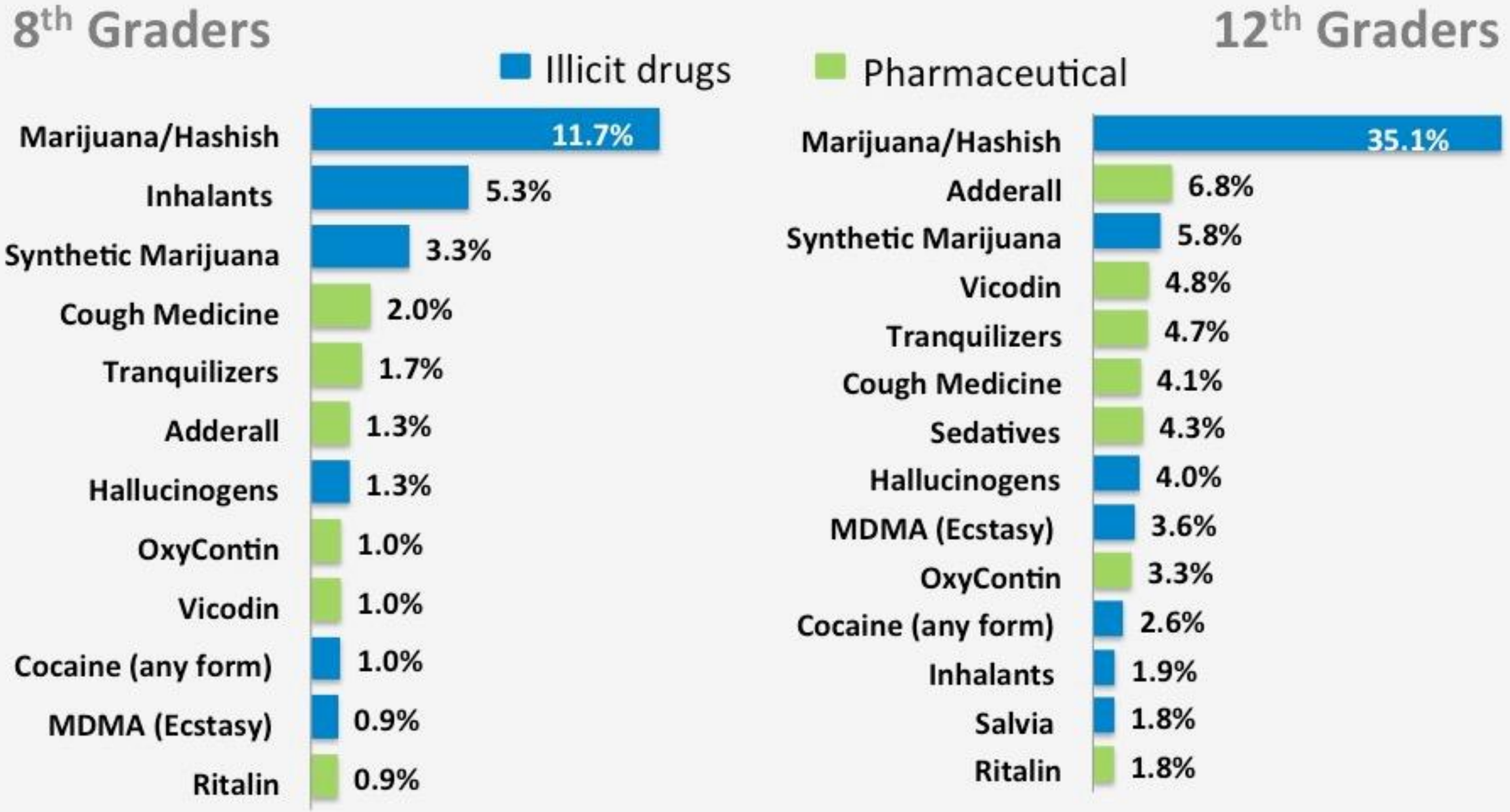
Since 1975 the MTF survey has measured drug, alcohol, and cigarette use and related attitudes among adolescent students nationwide.

Began including new designer drugs in 2011

Overall, 41,551 students from 377 public and private schools participated in this year's Monitoring the Future survey.

The survey is funded by the NIDA, a component of the National Institutes of Health (NIH), and conducted by the University of Michigan.

Top Drugs among 8th and 12th Graders, Past Year Use



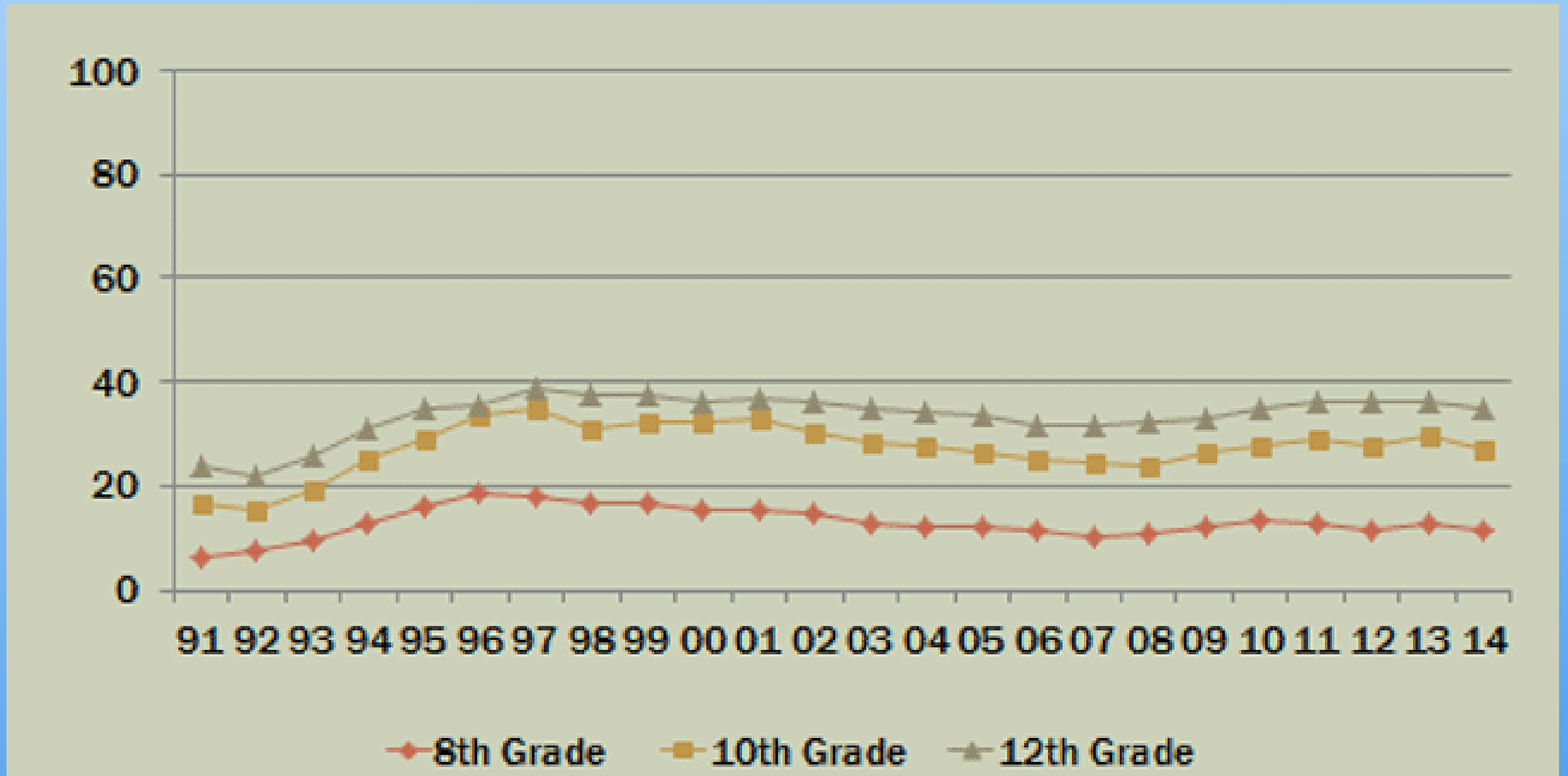
*** Only 12th graders surveyed about sedatives use**

Source: University of Michigan, 2014 Monitoring the Future Study

DANGEROUS INCREASE IN USERS

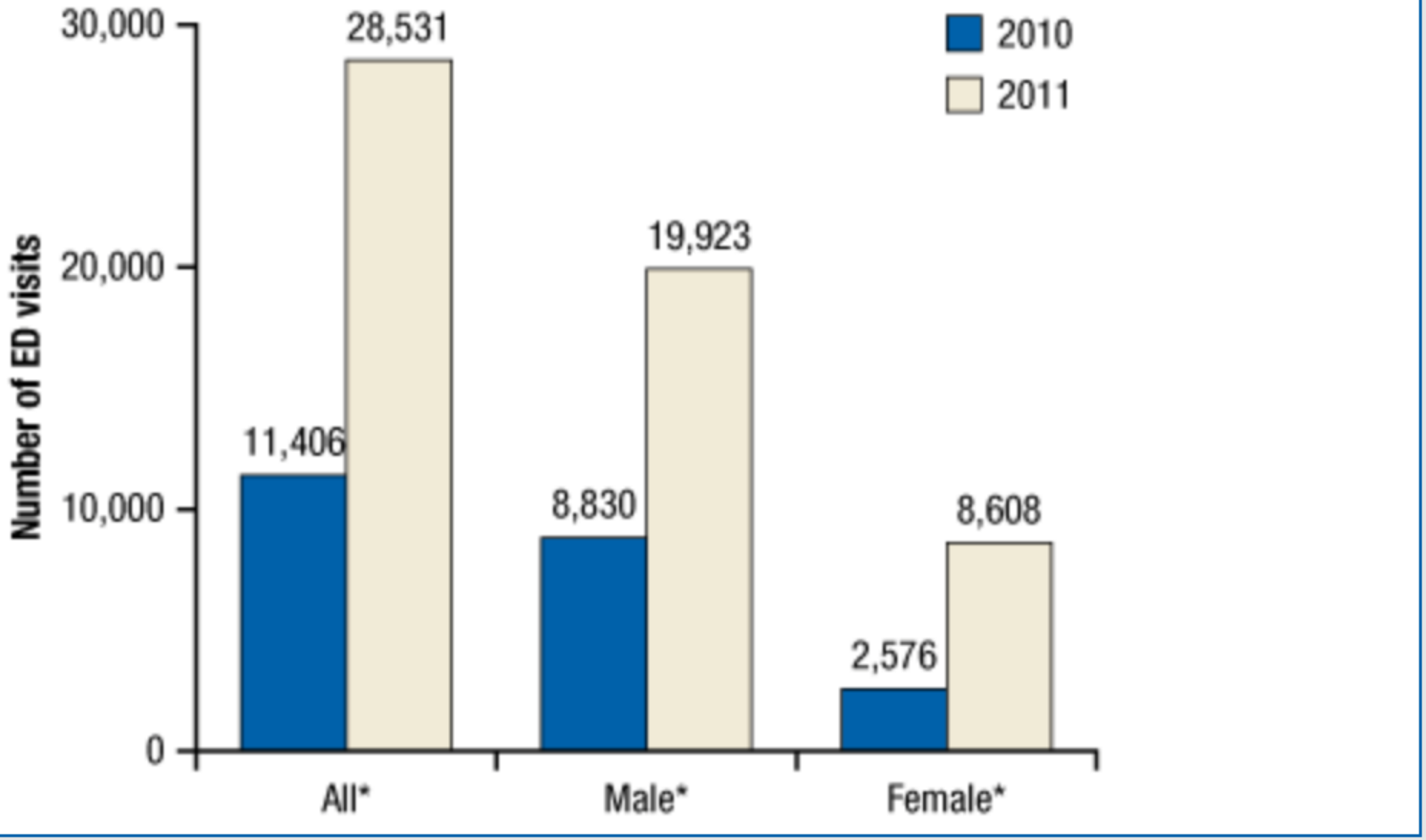
- 2013 World Drug Report Finds Increase in Synthetic and Designer Drug UseSome molecules are up to 800 times more potent than THC
- A national survey has revealed nearly 45 per cent of regular drug users have used a synthetic drug
- “Spice”-Related Calls Reported to U.S. Poison Control Centers:
  - 2009 - 14 calls
  - 2010 - 2,906 calls
  - 2011 - 6,959 calls

Percent of Students Reporting Use of Marijuana in Past Year



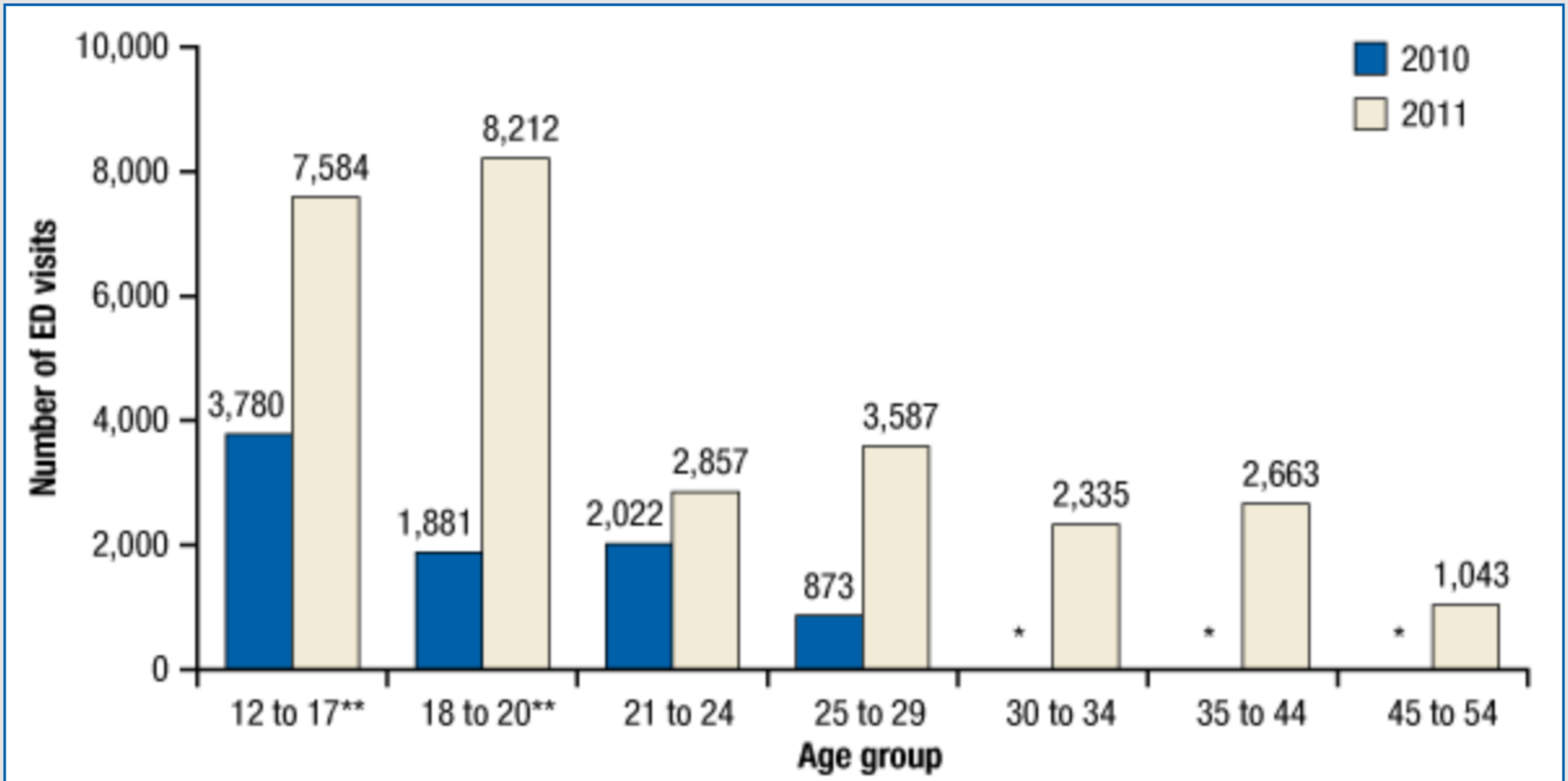
Percent of Students Reporting Use of Marijuana in Past Year
Source: University of Michigan, 2014 Monitoring the Future Study

Figure 1. Emergency department (ED) visits involving synthetic cannabinoids, by gender: 2010 and 2011



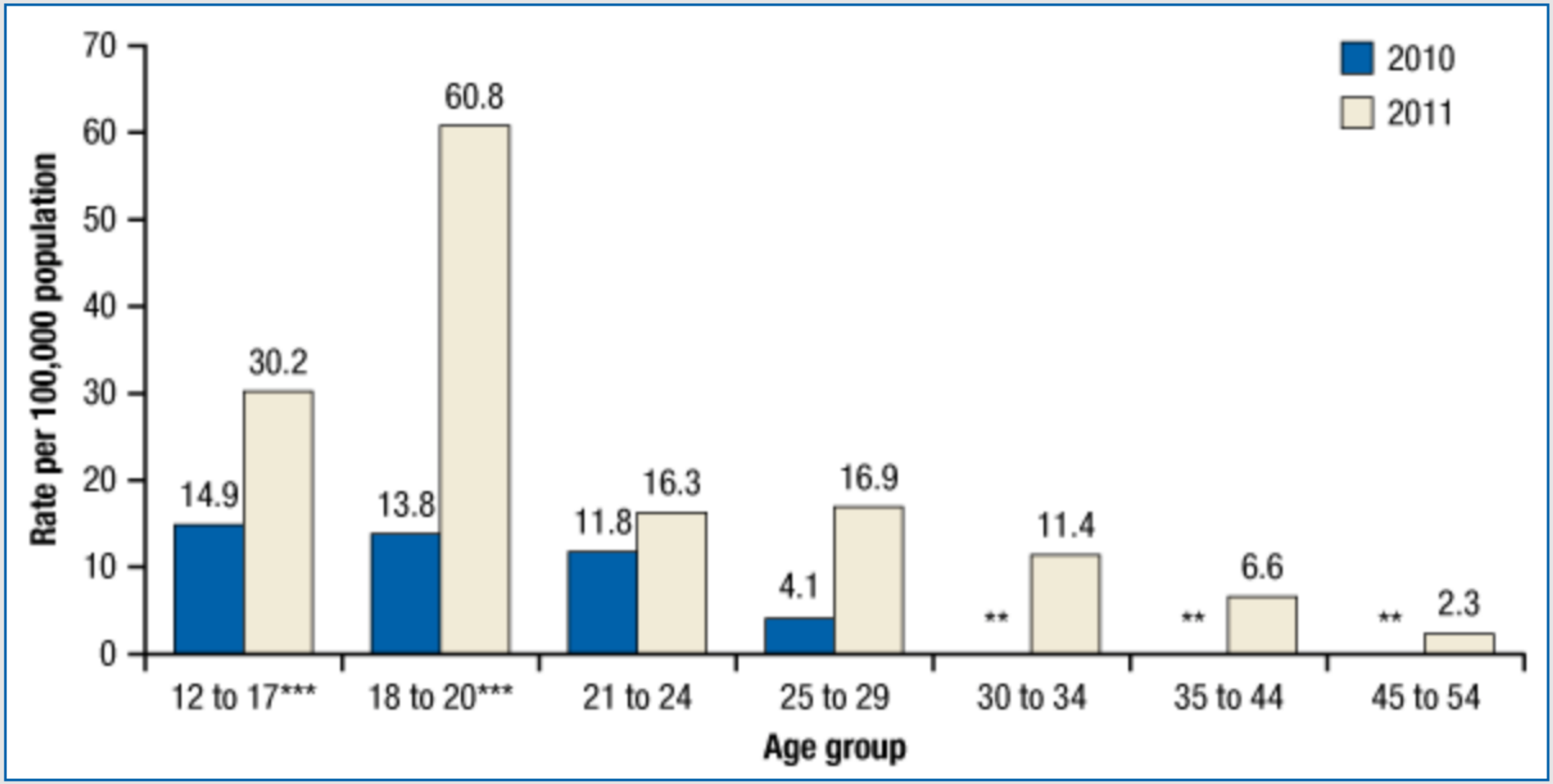
* The difference between 2010 and 2011 was statistically significant at the .05 level.
Source: 2011 SAMHSA Drug Abuse Warning Network (DAWN).

Figure 2. Emergency department (ED) visits involving synthetic cannabinoids, by age group: 2010 and 2011



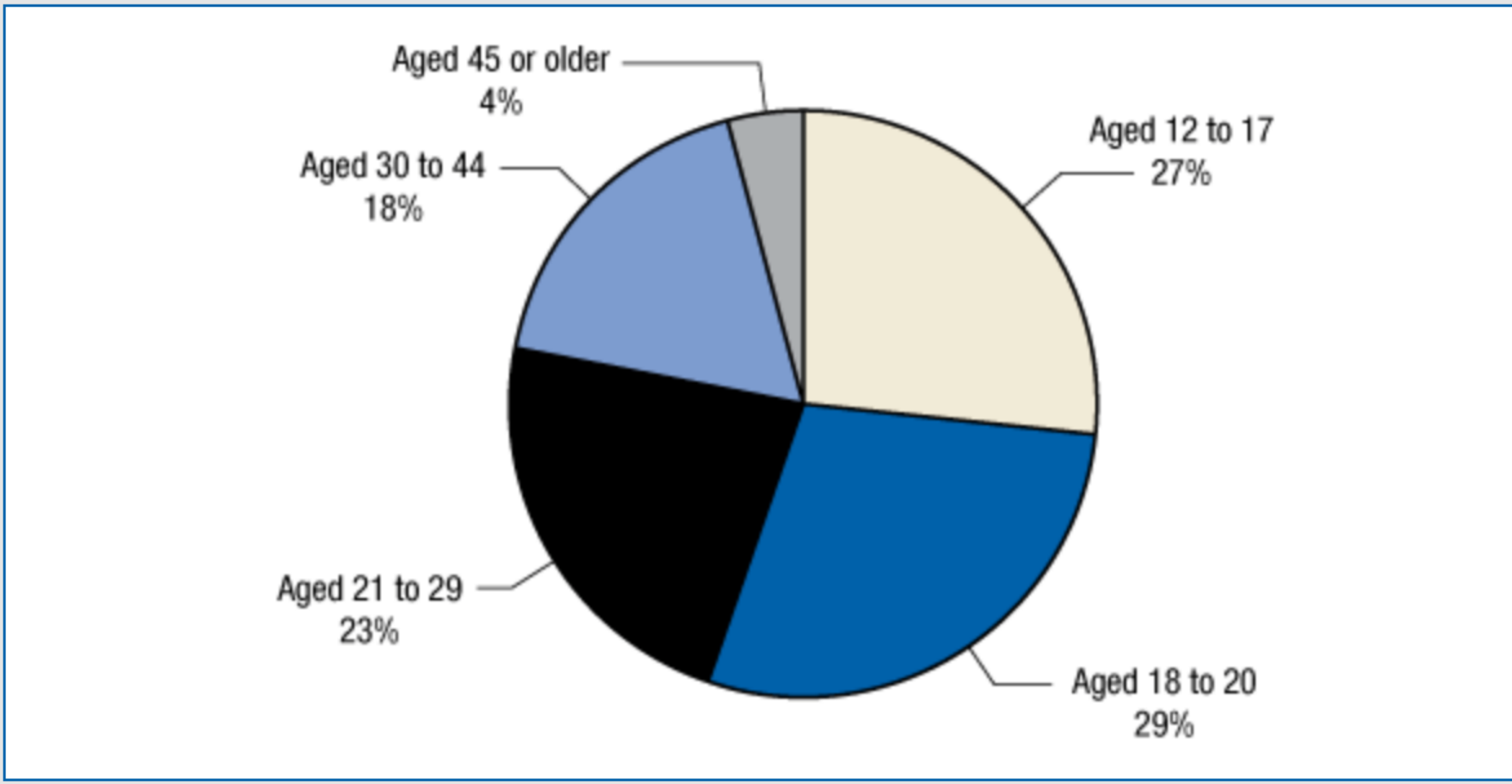
* Low precision; no estimate reported.
** The difference between 2010 and 2011 was statistically significant at the .05 level.
Source: 2010 and 2011 SAMHSA Drug Abuse Warning Network (DAWN).

Figure 3. Emergency department (ED) visits involving synthetic cannabinoids, rate per 100,000 population,* by age group: 2010 and 2011



* Rates take into consideration the population size of each group; therefore, groups of different sizes may have varying numbers of ED visits but have similar population rates.
** Low precision; no estimate reported.
*** The difference between 2010 and 2011 was statistically significant at the .05 level.
Source: 2010 and 2011 SAMHSA Drug Abuse Warning Network (DAWN).

Figure 4. Emergency department (ED) visits involving synthetic cannabinoids, by age group*: 2011



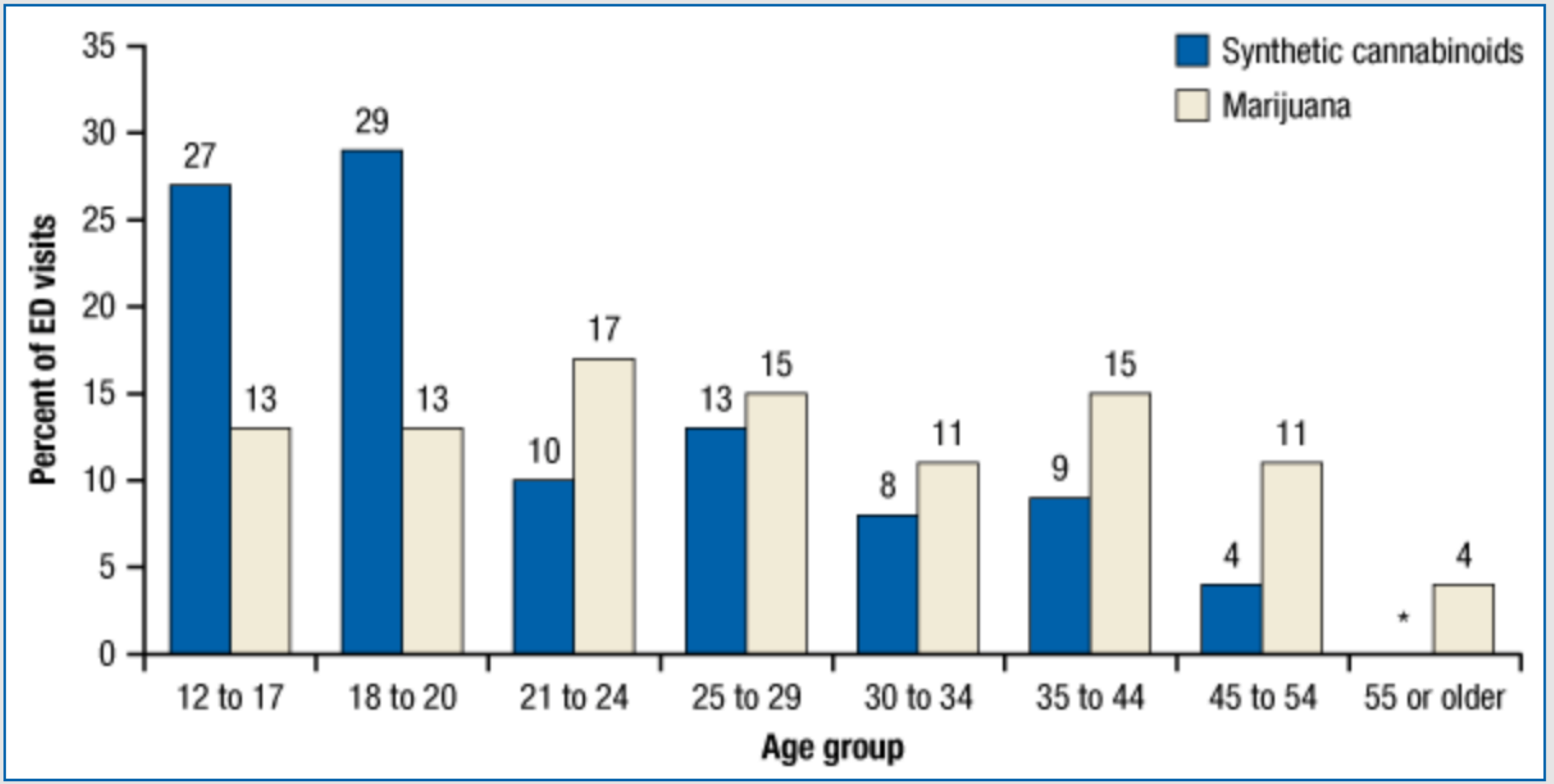
*Percentages may not sum to 100 due to rounding.
Source: 2010 and 2011 SAMHSA Drug Abuse Warning Network (DAWN).

Table 1. Emergency department (ED) visits involving synthetic cannabinoids only or in combination with other substances, by age group: 2011

Drug combination	Aged 20 or younger		Aged 21 or older	
	Number of ED visits*	Percent of ED visits*	Number of ED visits*	Percent of ED visits*
Total	**15,998**	**100**	**12,533**	**100**
Synthetic cannabinoids only	10,335	65	5,886	47
Synthetic cannabinoids in combination	5,664	35	6,646	53
Illicit drugs	3,404	21	3,335	27
Other marijuana	2,708	17	**	**
Stimulants***	**	**	1,018	8
Pharmaceuticals	2,531	16	3,243	26
Alcohol	2,438	15	1,368	11

*Because multiple drugs may be involved in each visit, estimates of visits by drug may add to more than the total, and percentages may add to more than 100 percent.
** Low precision; no estimate reported.
*** Includes amphetamines and methamphetamine.
Source: 2011 SAMHSA Drug Abuse Warning Network (DAWN).

Figure 5. Age distribution of synthetic cannabinoid and marijuana-related emergency department (ED) visits: 2011



* Low precision; no estimate reported.
Source: 2011 SAMHSA Drug Abuse Warning Network (DAWN).

CURRENT FACTS

- Synthetic marijuana (K-2, “Spice”):
  - - Is sold over the counter in many states—particularly in gas stations, convenience stores and head shops—
  - - Has synthetic chemical components of marijuana sprayed onto shredded plant material that is then smoked.
  - - It is manufactured and sold in an unregulated system—often being imported from overseas—
  - - It can be very potent and unpredictable in its effects.
  - - Side effects are many and are reported to be as severe as acute psychosis and heart attacks.
  - - Most teens still do not recognize synthetic marijuana as a dangerous class of drugs
  - - The proportion of 12th-graders reporting it as dangerous to use did rise significantly in 2014.
  - - Efforts at the federal and state levels to close down the sale of these substances may be having an effect
  - - The proportion of 12th-graders reporting use of synthetic marijuana in the prior 12 months has fallen by nearly half!
  - - It was 11 percent when first included in the survey in 2011 and was down to 6 percent in 2014.

CURRENT FACTS

- "Bath Salts" - CATHIONINES

- - another class of synthetic drugs sold over-the-counter

- - Use has also declined with the percentages of students in all three grades now down to less than 1 percent!

Important Facts

Synthetic marijuana

-has become the second most popular illegal drug among American teenagers, after MJ

-It is especially popular among teenage boys

-Perceived by teens to be “natural,” “safe,” and (until recently) legal alternative to pot

-However this very un-natural class of designer chemicals has shown itself to be a dangerous threat

-Thousands of teens and young adults, mostly young males, are ending up in emergency rooms with severe symptoms that may include vomiting, racing heartbeat, elevated blood pressure, seizures, or hallucinations

- -14% of male and 8% of female high school seniors abused synthetic marijuana in the past year

Synthetic Marijuana Lands Thousands of Young People in the ER, Especially Young Males

Since bursting on the scene a few years ago, synthetic marijuana (MJ)—often called "Spice" or "K2"—has become the second most popular illegal drug among American teenagers, after MJ. It is especially popular among teenage boys. Sometimes touted as a "natural," "safe," and (until recently) legal alternative to pot, this very *un-natural* class of designer chemicals has shown itself to be a dangerous threat. Thousands of teens and young adults, mostly young males, are ending up in emergency rooms with severe symptoms that may include vomiting, racing heartbeat, elevated blood pressure, seizures, or hallucinations.

How Many Teens Are Using Synthetic MJ?

In 2012, 11% of American high school seniors used synthetic marijuana in the past year.[1]

11,406 ER Visits In 2010 Were Associated With Synthetic MJ.[2]

75% were among adolescents and young adults ages 12-29.

22.5% of these visits involved females, and 77.5% involved males.

1. Monitoring the Future Survey, 2012; 2. Drug Abuse Warning Network, 2012

Recent survey results

- Interventions may have already resulted in teens being less likely to use “synthetic marijuana”.

- past year use among 12th graders dropped from 11.3 percent in 2012 to 7.9 percent in 2013, and 6 percent in 2014.

- However, 8th, 10th and 12th graders report a low level of perceived risk of using synthetic cannabinoids once or twice.

-Because most synthetic cannabinoid–related ED visits result in discharge, a patient's time in the ED is a valuable opportunity for intervention and education.

Johnston, L. D., O’Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2014). Monitoring the Future national results on drug use: 1975–2013: Overview, Key findings on adolescent drug use. Retrieved from http://www.monitoringthefuture.org/pubs/monographs/mtf-overview2013.pdf

CASE 1

- 16yo M presents with hallucinations and increased HR
- Drank an herbal tea mixed with a substance he bought at a gas station

CASE 1

A 17-year-old Caucasian male was found by his mother slumped over on the couch with increased generalized muscular tone in the extremities, cyanosis, and apnea. Upon stimulation, he began to breathe spontaneously and progressively regained responsiveness in a stuporous and confused state for the 10 minutes prior to arrival of emergency medical services. He was noted to have ocular redness and swelling. His initial heart rate in the prehospital setting was 180 BPM, with questionable supraventricular tachycardia. He was given adenosine, 6 mg intravenously, which decreased the heart rate to 140 BPM, consistent with sinus tachycardia. Upon presentation to the emergency department (ED), his muscular tone had improved, and his sinus rhythm had returned to normal. He continued to have altered mental status, with confused speech and somnolence, but he was able to complain of chest and back pain. In the ED, the patient admitted inhaling "K2" via a pipe approximately 2 hours prior to admission. He stated that he purchased it from a local store and reported using it previously on multiple occasions with no adverse reactions. It was unclear the exact brand and amount of product used by the patient. He was admitted to the pediatric intensive care unit (PICU) for close observation of his mental status and chest pain and for monitoring of recurrence of arrhythmias.

CASE 2

A 15-year-old Caucasian male was found unconscious and was transported to the ED, where he was unresponsive and had a heart rate of 172 BPM and a blood pressure of 162/57 mm Hg. His respiratory rate and oxygen saturation were 16 breaths per minute and 99% on room air, respectively. An EKG performed at the time showed sinus tachycardia. The patient regained consciousness but was unable to recall the event and complained of a mild headache and fatigue. In the ED, he reported smoking “K2” via cigarette approximately an hour prior to admission. The quantity and brand of product ingested were unknown. Thirty minutes after regaining consciousness, his heart rate and blood pressure decreased to 92 BPM and blood pressure to 129/65 mm Hg, respectively. The patient was admitted to the PICU to monitor his mental status, blood pressure, and telemetry for arrhythmias. Upon admission to the PICU, urine drug screen and serum drug concentration tests for acetaminophen, ethanol, and salicylates were performed with negative results, including cannabinoids. His serum chemistry results were normal with the exception of serum potassium of 2.5 mEq/L (normal range 3.5 to 5 mEq/L). The patient was placed on continuous telemetry and maintenance intravenous fluids containing potassium. Overnight, the patient's heart rate, blood pressure, and serum potassium levels normalized. The following morning, he was at his mental baseline and was discharged home with outpatient substance abuse follow-up.

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Sexual Development and Problematic Sexual Behaviors in Adolescence

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Sexual Development is a Complex Process

- Adolescence is a period of risk taking, peer identification and individuation
- Occurs in the context of physical, emotional, cognitive, moral and social development
- Sexuality is a complex human behavior

Normative Sexual Development

- Sexual behavior is a function of:
  - Biological drive
  - Social and cultural influences
  - Learning and reinforcement
  - Internal psychodynamics
  - Psychiatric factors
- Occurs on a spectrum

Stages of Development

- Childhood:
  - Curiosity driven sexual play
  - Explores gender roles and biology
  - Typically occurs alone or with same aged peers
  - Not associated with shame or fear
  - Kissing, hugging, peeking, touching, exposure

Stages of Development

- Early and middle adolescence:
  - Development of secondary sexual characteristics
  - Beginning of sexual identity and attraction
  - Sexual joking, self stimulation, conversation and fantasy
  - Open mouth kissing, mutual touching, simulated intercourse

Stages of Development

- Late adolescence:
  - Approaches adult sexuality
  - Peer aged consensual interaction
  - Includes oral sex and intercourse
  - Mutable

Commonality of Sexual Behaviors

- Masturbation: Most common sexual behavior
  - 43% 14 yo males, 68% 17 yo males
  - 35% more males than females
- Followed by mutual masturbation, oral, intercourse
  - Initiated by males more frequently than females

(Robbins, 2011; Feldman, 2002)

Commonality of Sexual Behaviors

- Intercourse:
  - 10-20% prior to 15, 50% 15-19
  - 25% with only one partner
  - 7-16% with four or more partners
- Ethnic, cultural and socioeconomic variation
  - PER example

(US National Survey of Family Growth, 2010)

Sexual Behaviors that are a Cause for Concern

- Preoccupation causing impairment
- Coercive behaviors
- Degradation/humiliation
- Shame/fear
- Position of vulnerability/morbidity
- Unusual behaviors
- Age or developmental discrepancy

(Ryan, 2000)

Types of Problematic Behaviors

- 1. High risk: Normative behaviors that cause risk of pregnancy, STDs, etc
- 2. (Non-Paraphilic) Compulsive: Normative, consensual, but excessive behaviors
- 3. Deviant: Sexual pathology

High Risk Sexual Behaviors

- Multiple partners
- Unprotected sex
- Early sexual activity
- Frequent intoxication
- Sexting

Compulsive Sexual Behaviors

- Excessive normative behaviors
  - Proposed as “hypersexual” or as a “sexual addiction” in DSM-5
  - Excessive engagement in pleasurable sexual behaviors despite adverse consequences, with perceived compulsion, loss of insight and tolerance
  - Generally harmful to the individual
- Elements of both sexual and substance use disorders

(Kafta, 2010; Goodman, 1993; Carnes, 2001)

Compulsive Sexual Behaviors

- Progressive risk taking
- May serve to ameliorate dysphoric states
- Multifactorial: May result from psychiatric disturbance, medical disorders, intoxicants

Types of Compulsive Sexual Behaviors

- Studies generally done in adult male populations
  - Compulsive masturbation (avg reported 3x/week)
  - Pornography dependence (passive)
  - Cybersex dependence (active: chats, live video, sexting)
  - Promiscuity (most report 3 or less partners in the prior year)

Paraphilic Disorders

- Abnormal behaviors/Deviant sexual arousal
- Generally illegal and harmful to others
- Arousal towards either an abnormal object of desire or an abnormal behavior
- Most juvenile offenders are not paraphilic

DSM-5 Criteria for Paraphilic Disorder

The diagnostic construct for all of the paraphilias is similar:

- "A" criteria: Over a period of at least 6 months: recurrent and intense sexual arousal involving the specific paraphilia, relating to non human objects, children or other non-consenting persons, or suffering or humiliation, as manifested by fantasies, urges or behaviors (paraphilia)
- "B" criteria: Causes distress or impairment, or the person has acted on the urges with a non consenting person (must cause impairment for "disorder')

- These specific paraphilic disorders include
  - Exhibitionistic disorder
  - Fetishistic disorder
  - Frotteuristic disorder
  - Pedophilic disorder
  - Sexual masochism disorder
  - Sexual sadism disorder
  - Transvestic disorder
  - Voyeuristic disorder

- DSM-5 also includes:
  - Other specified paraphilic disorder
    - Includes specific paraphilias that are not listed, such as necrophilia, zoophilia/bestiality, urophilia, coprophilia and others
  - Unspecified paraphilic disorder
    - Presentation insufficient to make a more specific diagnosis
    - Equivalent to the older NOS category

Sexual Behavior Occurs on a Spectrum

- There is a continuum between “normal” and “deviant”
- No clear threshold for pathology
- Patterns of sexual arousal are not fixed in youth (Veneziano et al, 2002).
- Inappropriate behaviors do not, per se, predict sexual offending (Saleh & Vincent, 2004)

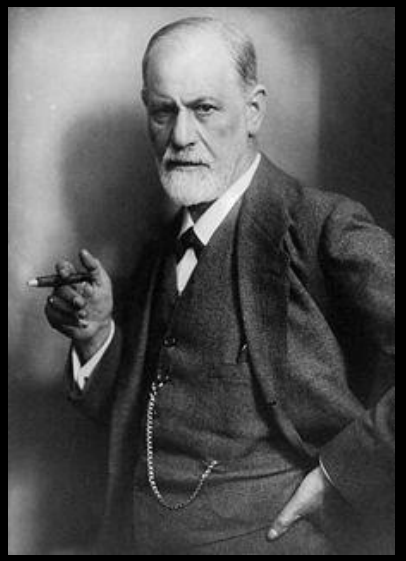
Deviance is a Process

- For most, deviant sexual fantasies are first experienced around the time of puberty
- Arousal is reinforced through masturbation
- Arousal patterns become relatively fixed in the early, to mid 20s, and remain stable, although behavioral expression may vary with age
- Time to offense generally 3-5 years or more in offenders

(Veneziano, 2002)

Etiology of Paraphilias

- Theories range from psychodynamic, to behavioral to biologic models
- Proposed mechanisms have included models implicating various monoamines neurotransmitters, fronto-temporal dysfunction, heredity, hormonal synthesis, and non biological contributors
- No single robust finding

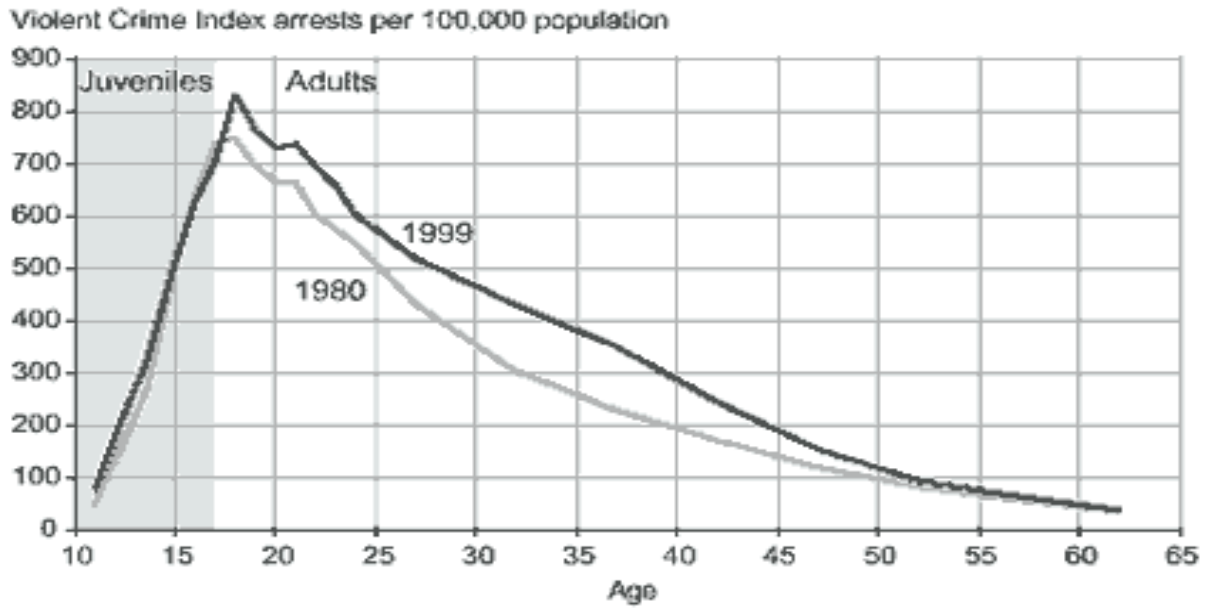


Sexual Offending

- Adolescents commit as high as 20% of all rapes and 30-50% of all child sexual abuse cases (Davis,1987)
- Very high rates of recidivism, up to 45% over three years (Borduin, 1989)
- 10% may continue to offend into adulthood (Rasmussen, 1999)

Effects of Age on Violent Recidivism

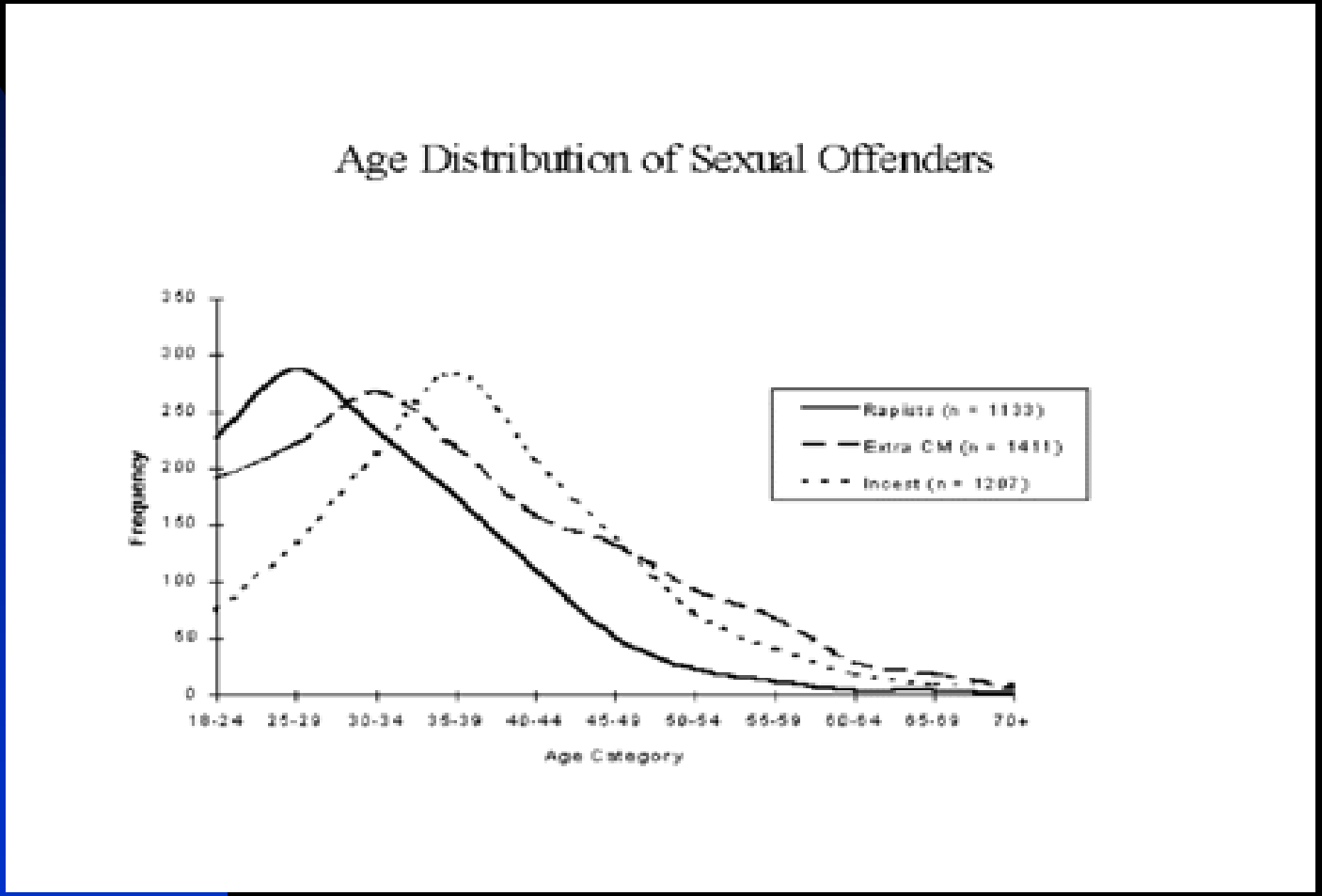
Violent Crime Index arrest rates were higher in 1999 than in 1980 for all adult age groups—for juveniles, 1999 rates were nearly at or below the 1980 rates



- Between 1980 and 1999, the Violent Crime Index arrest rates for persons ages 15–17 decreased about 2%. In comparison, the rates increased for persons age 18 and older, with the largest increases being for persons between ages 30 and 45. More specifically, the rate increased 11% for persons ages 18–24, 20% for persons ages 25–29, 42% for persons ages 30–34, 53% for persons ages 35–39, and 43% for persons ages 40–44. Even the arrest rate for persons ages 60–64 increased by 14%.

- FBI Data, US Census Bureau, 2002

Age Distribution of Sexual Offenders



Hanson, R. K. (2002). Journal of Interpersonal Violence, 17, 1046-1062

Characteristics Associated with Type: Offenses Against Children

- Juveniles that offend against children:
  - Greater social dysfunction.
  - Less aggressive and antisocial.
  - Higher levels of depression.
  - Higher scholastic functioning.
  - Victimization through bullying.

(Hunter, 2003, Epps, 2004)

Juveniles That Offend Against Peers and Adults

- Higher rates of psychopathy
- More intrusive acts
- More aggressive and violent
- Other criminal behaviors

(Brown, 1997, Andrade, 2005)

Reasons for Juvenile Offending Behavior

- Criminal attitudes
- Intoxication
- Intellectual disability/Autistic spectrum
- Psychiatric disturbance
- Paraphilic Drive
- No diagnosis

Referrals and Assessment

- Patients may come from many different sources: Pediatricians, social workers, school officials, law enforcement
- Some referrals may be normative, and some not
- Primary goal to clarify role, determine scope of behaviors, and urgency

Evaluation

- Review of collateral information is paramount
- Determination of the presence of a traditional psychiatric disorder
- Exploration of medical/biological contributors
- Substance misuse

Focus on Sexual Behaviors

- Determine scope of behaviors and urgency:
  - Illegal behaviors
  - Abusive relationships
  - Physical or emotional harm
  - Association with fear or shame
  - Presence of bizarre sexual behaviors
- May warrant hospitalization or removal from the home while evaluation and intervention ongoing

If Non-Urgent

- Time for more extensive evaluation
  - Comprehensive sexual history
    - History of experiences
    - Sexual knowledge
    - Self perception
    - Sexual orientation

(Ryan, 1997)

Assessment Tools

- Few diagnostic instruments developed for adolescents
- Proposed screening tool: PATHOS (Carnes, 2012)
  - Preoccupation with sexual thoughts
  - Ashamed or hide sexual behaviors
  - Sought out treatment or help for the sexual behaviors
  - Anyone hurt by the behaviors
  - Feel out of control
  - Feel sad after the sexual behaviors (pos=>3/6)

Assessment Tools

- Internet Sex Screening Test (ISST, Delmonico 1999), self report, available online, diagnostic screen
- JRAS (Hiscox, et al 2007) Sexual offense risk
- JSOAP-II (Prentky et al, 2003) Sexual offense risk

Results of Initial Assessments

- Acute safety considerations (victim/victimizer access; triggers; legal concerns)
- Acute psychiatric disorders
- General formulation regarding the nature of the sexual pathology
- Determination for further work-up: pediatric, neurological, forensic etc

Treatment

- Early intervention may significantly impact the course of compulsive or potentially deviant behaviors
- Treatment goals:
  - Prevent harm
  - Develop healthy sexuality
  - Address psychological deficits (social, esteem)
  - Increase quality of life

Psychosocial Interventions

- Multidisciplinary
  - Educational
  - Substance misuse treatment
  - Relapse prevention
  - Family involvement
  - Crisis intervention

Psychosocial Interventions

- Limiting access (inpt vs outpt)
- Self regulation
- Addressing dysfunctional coping and interpersonal skills
- Addressing dysfunctional family processes

Pharmacologic Interventions

- Literature generally focused on treating paraphilic disorders
- Non paraphilic compulsive behaviors may benefit from SSRIs, naltrexone, lithium and others
- Paraphilic disorders may benefit from SSRIs, or off label GnRH inhibitors (antiandrogen)

Additional Resources

The SaferSociety Foundation Inc.

CENTER FOR SEX OFFENDER MANAGEMENT
A Project of the Office of Justice Programs, U.S. Department of Justice

Public Safety Canada | Sécurité publique Canada

Research and Clinical Adaptations of Dialectical Behavior Therapy with Adolescents

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Montefiore Medical Center/Albert Einstein College of Medicine
Bronx, NY

March 19, 2016
ASAP Conference

CBC of Westchester & Manhattan

Outline

1. Rationale for applying DBT to adolescents
2. Emotion Dysregulation and Multi-problem Case Conceptualization
3. Research update
4. Adaptations to school settings and for youth who are chronically medically ill
5. Biosocial Theory
6. DBT assumptions, targets and modes
7. Future directions

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Adolescent DBT in Clinical Settings

- In 1995, Miller & Rathus based adolescent adaptation on Linehan's inclusion criteria with adults:
  - Suicidal & NSSI
  - Multi-problem/multi-diagnosis
  - BPD
- Over time, inclusion criteria has broadened for patient populations and settings: outpatient, day treatment, inpatient, residential, and forensic.
  - Transdiagnostic applications of DBT w/ teens
    - Ritschel, Miller, & Taylor, 2013

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Adolescent Suicide: The Problem (CDC, 2015)

In 2013, 9th-12th graders nationwide reported…

- 17% seriously considered suicide
- 13.6% made a plan for how to commit suicide
- 8% attempted suicide

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Nonsuicidal Self-Injurious Behaviors

- NSSI = "the deliberate, direct destruction or alteration of body tissue, without conscious suicidal intent but resulting in injury severe enough for tissue damage to occur." (Gratz, 2003, p. 192)

- NSSI is a risk factor for suicide.
- Coping strategy of youth in 21st century?

Prevalence of NSSI

- **Pre-Adolescent Community Samples**
  - 7% (Hilt, Nock, et al., 2009)
- **Community Studies with Teens**
  - 35.6% adolescents at least once (Zetterqvist et al., 2013)
  - 14-28% HS students (e.g., Giletta et al., 2012; Muehlenkamp et al., 2012)

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Problem of NSSI

- **Clinical Samples**
  - 21%-61% in youth
    - Age of onset is typically between 12-14
  - 20% in adults
- **Gender Differences**
  - Not consistently evident, especially among adolescents
- **Ethnic Differences**
  - Not consistently evident

Multi-Problem Teenagers

- **Suicide and NSSI are two of a cluster of high-risk behaviors including:**
  - School refusal, academic difficulties, drop-out
  - Sexual risk behaviors
    - HIV transmission and teen pregnancy
  - Substance abuse
  - Violent behaviors

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Raise your hand if this teen sounds familiar

Reacts out of fear of rejection

Is not able to make or keep friends

Does not seem sure of self or changes personas often

Acts out impulsively in self-damaging ways

Makes recurrent suicidal threats or self-mutilates

Reacts with intense anxiety or dysphoria

Feelings of emptiness

Experiences intense, inappropriate anger

At times seems paranoid or just "checks out" when under stress

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BPD in Adolescents?

BPD is found internationally in community and clinical samples of children and adolescents.

Reference:

***Handbook of Borderline Personality Disorder in Children and Adolescents (2014)*, C. Sharp & J. Tackett (Eds). Springer.**

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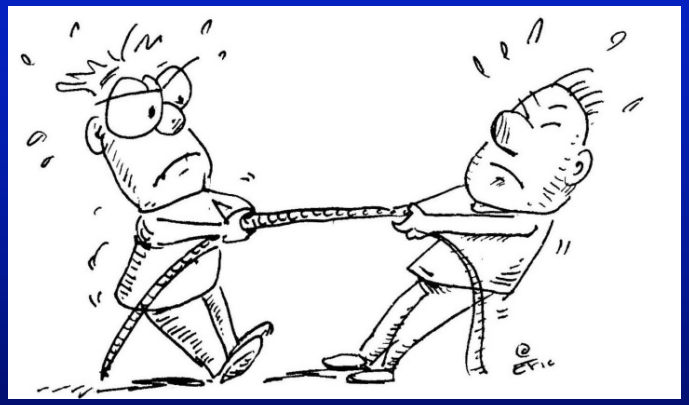
What is Borderline Personality Disorder?

- In short, BPD is a PERVASIVE disorder of the emotion regulation system
- The symptoms of BPD are both the consequence of extreme emotional dysregulation and an attempt to regulate emotions



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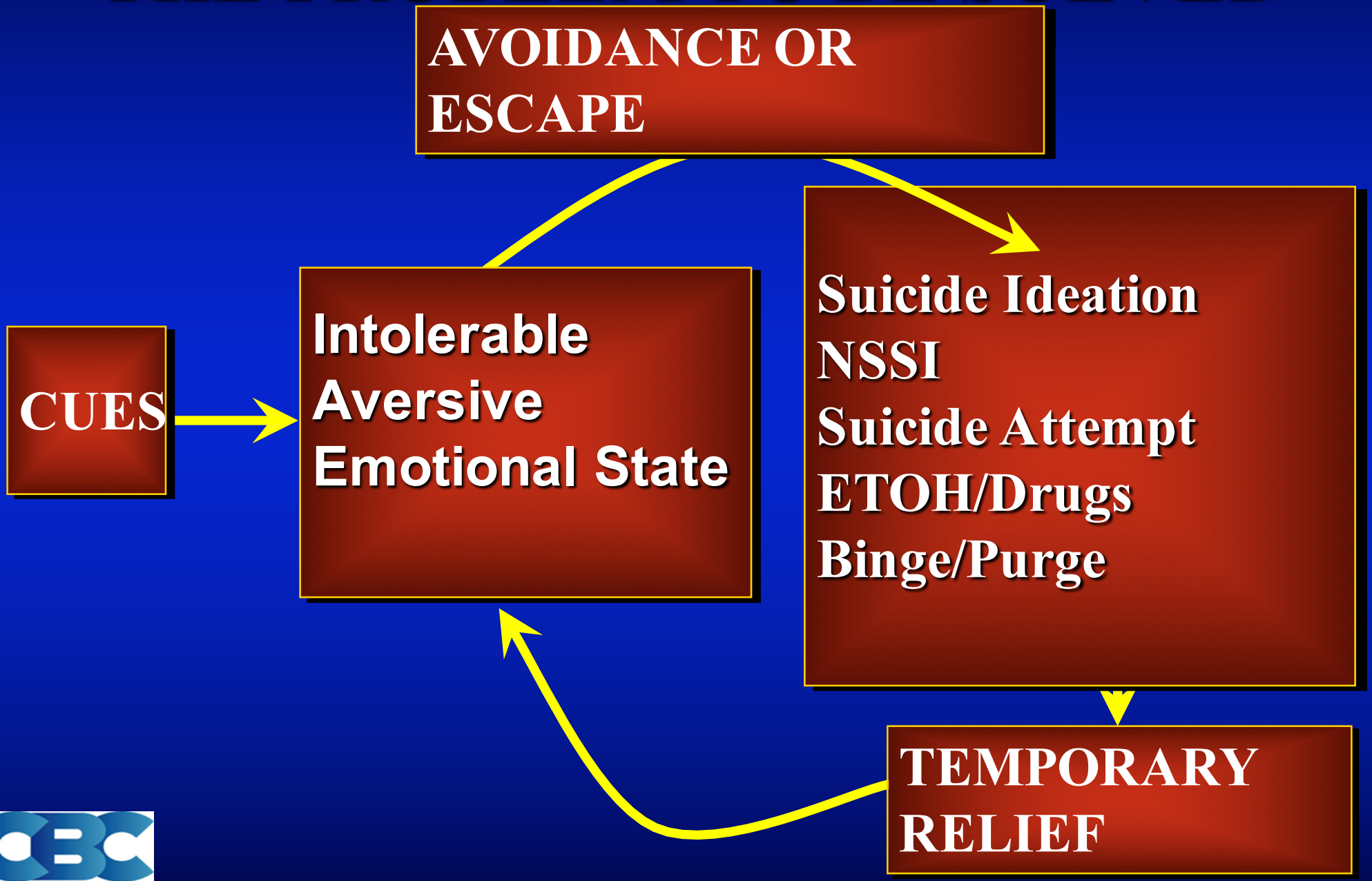
THE PROBLEM TO BE SOLVED



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Borderline Personality Disorder (Re-organized)

Emotional Dysregulation

- Affective lability
- Problems with anger

Interpersonal Dysregulation

- Chaotic relationships
- Fears of abandonment

Behavioral Dysregulation

- Suicidal and NSSI behavior
- Impulsive behavior

Self Dysregulation

- Identity disturbance/ difficulties with sense of self
- Sense of emptiness

Cognitive Dysregulation

- Dissociative responses/ paranoid ideation

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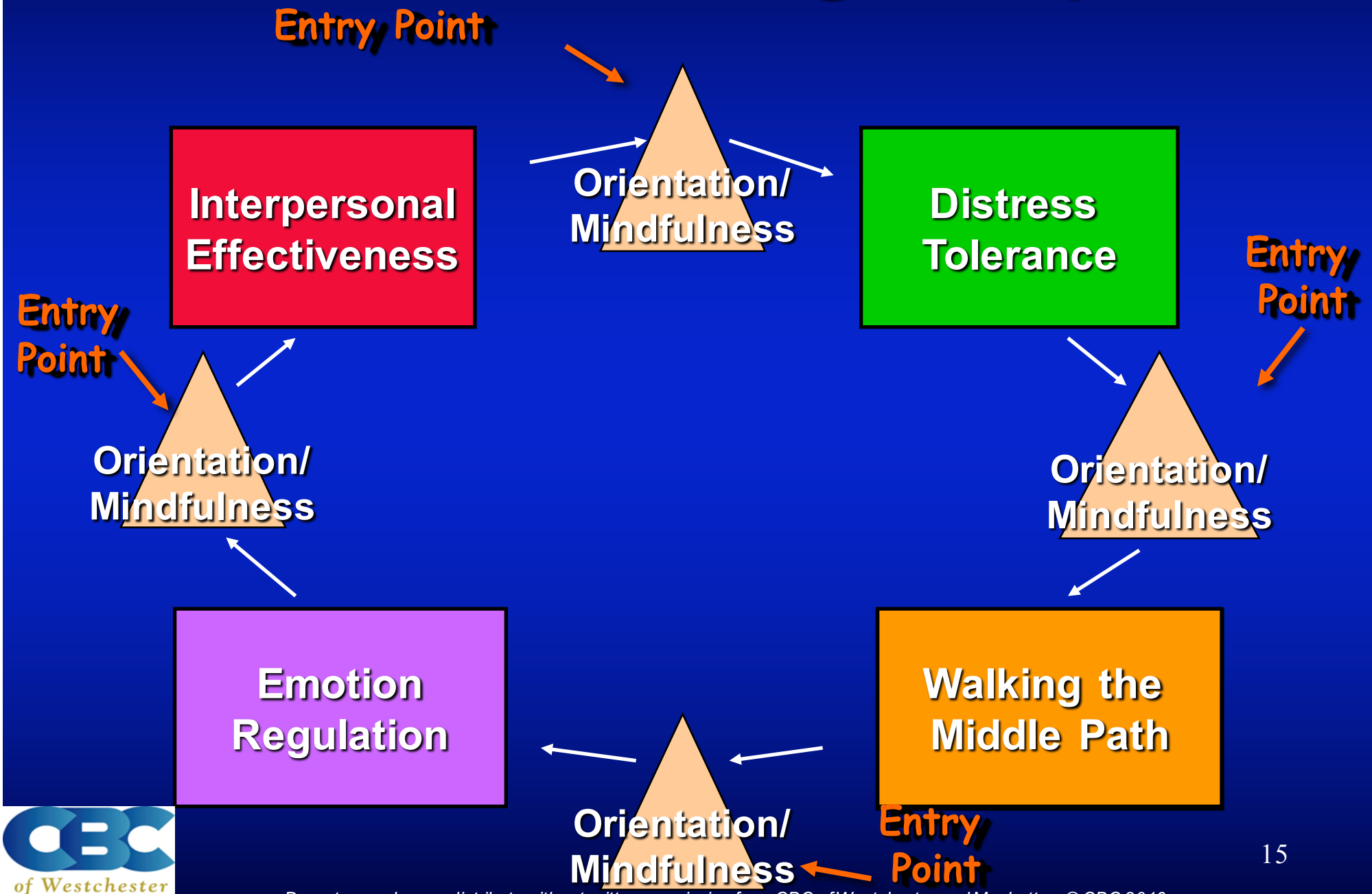
Problem Areas	Skills
1. Reduced Awareness and Focus; Confusion about Self	1. Mindfulness
2. Impulsivity	2. Distress Tolerance
3. Emotional Dysregulation	3. Emotion Regulation
4. Interpersonal Problems	4. Interpersonal Effectiveness
5. Teenager and Family Challenges (i.e., non-dialectical thinking, invalidation, poor contingency mgmt)	5. Walking the Middle Path

Skills Training Group



Acceptability of Walking the Middle Path

(Campbell, Rathus, Miller, and Smith, 2015, *American Journal of Psychotherapy*)

- 50 parents & teens; mixed-methods study
- Results: High acceptability of the module, to teens & parents.
- Middle Path skills ranked highly among DBT skills perceived most helpful.
- The Middle Path skill, Validation, was considered most beneficial skill among all DBT skills, with reinforcement close behind.

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Additional Skills

DBT Skills Training with Adolescents (Rathus & Miller, 2015)

- **Teen "wise mind" values and priorities list**
  - E.g., be a leader, be healthy, be part of a group.
  - Helps inform goals
- **Teen-parent shared pleasant activity list**
  - 2-pronged approach: Emotion regulation strategy (↑ short-term pleasant events + ↑ positive family interactions)
- **Best ways to get rest: 12 tips for better sleep**
- **Food and Your Mood**

Why DBT for teens?

- Data! (RCT, quasi-experimental, and open trials)
- Biosocial Theory: Offers a compassionate explanation of the etiology and maintenance of emotion dysregulation to students, families and professionals. The theory directly informs the treatment targets.
- DBT is skills-based and helps us all recognize the notion of skills deficits and the need for skills training. Teaching, learning, rehearsing, generalizing.
- The multi-modal nature of DBT affords us multiple entry points into the teens lives (via individual therapy, skills group, family involvement, and inter-session coaching).

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DBT Outcome Data with Adolescents

Suicide and Life-Threatening Behavior 32(2) Summer 2002

Outpatient Study

Dialectical Behavior Therapy Adapted for Suicidal Adolescents

JILL H. RATHUS, PHD, AND ALEC L. MILLER, PSYD

We report a quasi-experimental investigation of an adaptation of Dialectical Behavior Therapy (DBT) with a group of suicidal adolescents with borderline personality features. The DBT group ($n = 29$) received 12 weeks of twice weekly therapy consisting of individual therapy and a multifamily skills training group. The treatment as usual (TAU) group ($n = 82$) received 12 weeks of twice weekly supportive-psychodynamic individual therapy plus weekly family therapy. Despite more severe pre-treatment symptomatology in the DBT group, at post-treatment this group had significantly fewer psychiatric hospitalizations during treatment, and a significantly higher rate of treatment completion than the TAU group. There were no significant differences in the number of suicide attempts made during treatment. Examining pre-post change within the DBT group, there were significant reductions in suicidal ideation, general psychiatric symptoms, and symptoms of borderline personality. DBT appears to be a promising treatment for suicidal adolescents with borderline personality characteristics.

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Summary: DBT with Adolescents

- **Preliminarily, DBT - A:**
  - Reduces hospitalizations.
  - Increases treatment retention.
  - Reduces suicidal ideation.
  - Reduces depression, anger, anxiety, and interpersonal sensitivity. (SCL90)
  - Reduces borderline symptomatology (confusion about self, interpersonal chaos, emotional dysregulation, impulsivity.)

Rathus & Miller, 2002

Adolescent DBT Randomized Trials

1) Norway Lars Mehlum, MD, PhD (PI)
- University of Oslo Suicide Prevention and Research Unit
- 16 weeks of DBT-A vs. Enhanced Care as Usual (77 subjects)
- Suicidal and NSSI adolescents with BPD features

2) U of Washington & UCLA Marsha Linehan, Liz McCauley, Joan Asarnow, & Michelle Berk (PIs)
- 24 weeks of DBT-A vs. Supportive psychotherapy (manual)
- Elevated S/I, NSSI and 1 lifetime SA, and BPD features

3) U of Pittsburgh Tina Goldstein, PhD (PI)
- 24 weeks of DBT vs. Care as Usual
- Bipolar disorder and suicidality

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Dialectical Behavior Therapy for Adolescents with Recent and Repeated Self- harming Behaviors - First Randomized Controlled Trial

Mehlum, L, Tormoen, A, Ramberg, M, Haga, E, Diep, L, Laberg, S, Larsson, B, Stanley, B, Miller, AL, Sund, A, Groholt, B. (2014). Dialectical behavior therapy for adolescents with recent and repeated self-harming behavior-first randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 53,* 1082-1091.

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Treatment methods

1. DBT – Adapted for adolescents – 16 weeks

2. Enhanced Usual Care (EUC) – 16 weeks

   Psychodynamic or CBT oriented therapy (non-DBT)

Treatments were delivered at five Child and Adolescent Outpatient Clinics in Oslo, Norway

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Design

- Randomized Controlled Trial with independent and blinded pre-, post and follow-up evaluations
- Measurements at:
  - Baseline (interview, self-report and testing)
  - 16 weeks - End of treatment (interview, self-report and testing)
  - 1 year posttreatment follow-up
  - 2 years posttreatment follow-up (interview, self-report and testing)
- Ten year follow-up planned

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Conclusions

- Patients receiving DBT-A experienced significant reductions in all 3 primary outcome measures, in contrast to patients receiving EUC where only self-reported depression was significantly reduced

- Patients who received DBT-A had a significantly
  - Stronger reduction in the number of self-harm episodes
  - Stronger decline in suicidal ideation
  - Stronger reduction in interviewer rated depressive symptoms
  - Stronger reduction in hopelessness feelings
  - Stronger reduction in borderline symptoms

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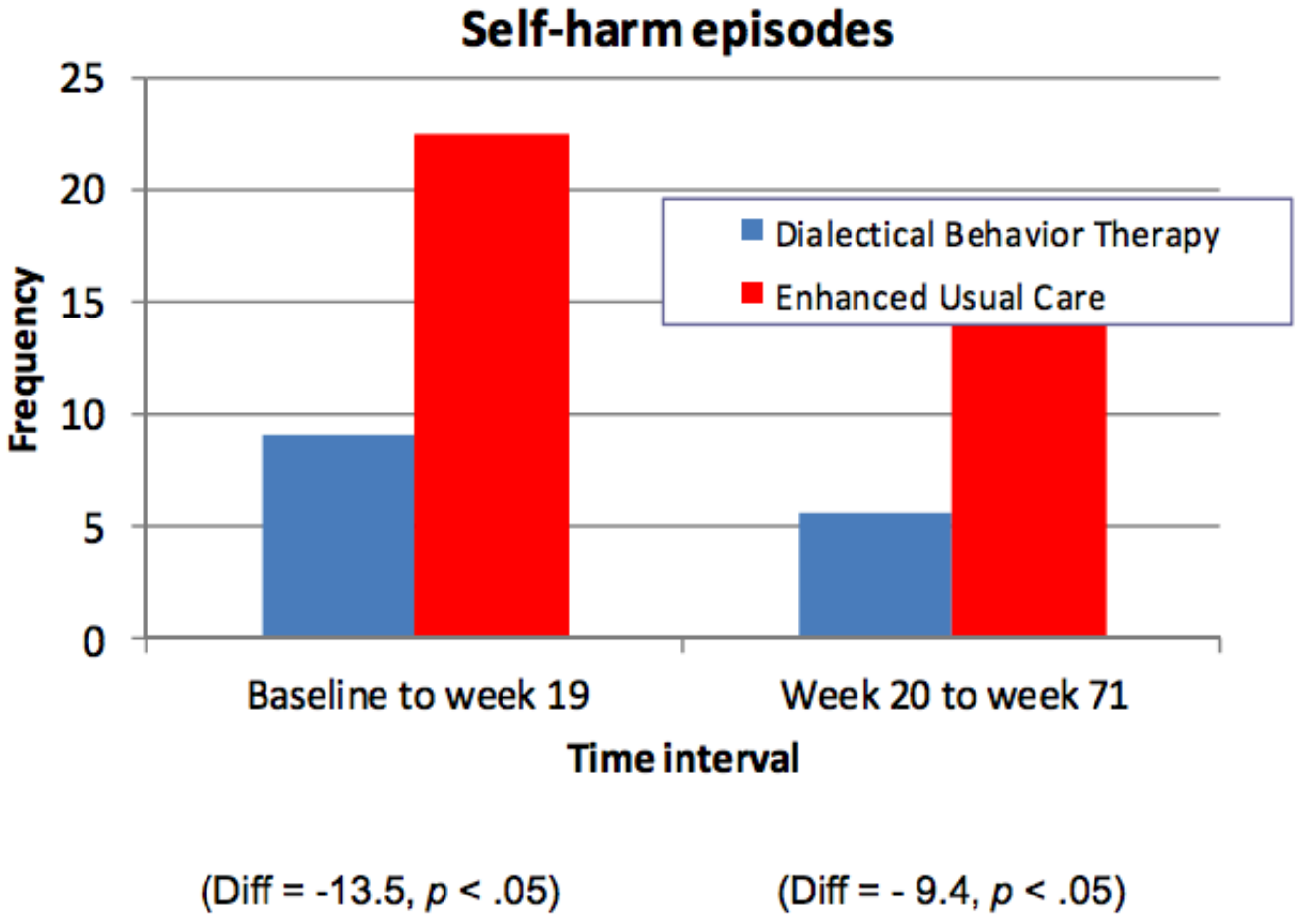
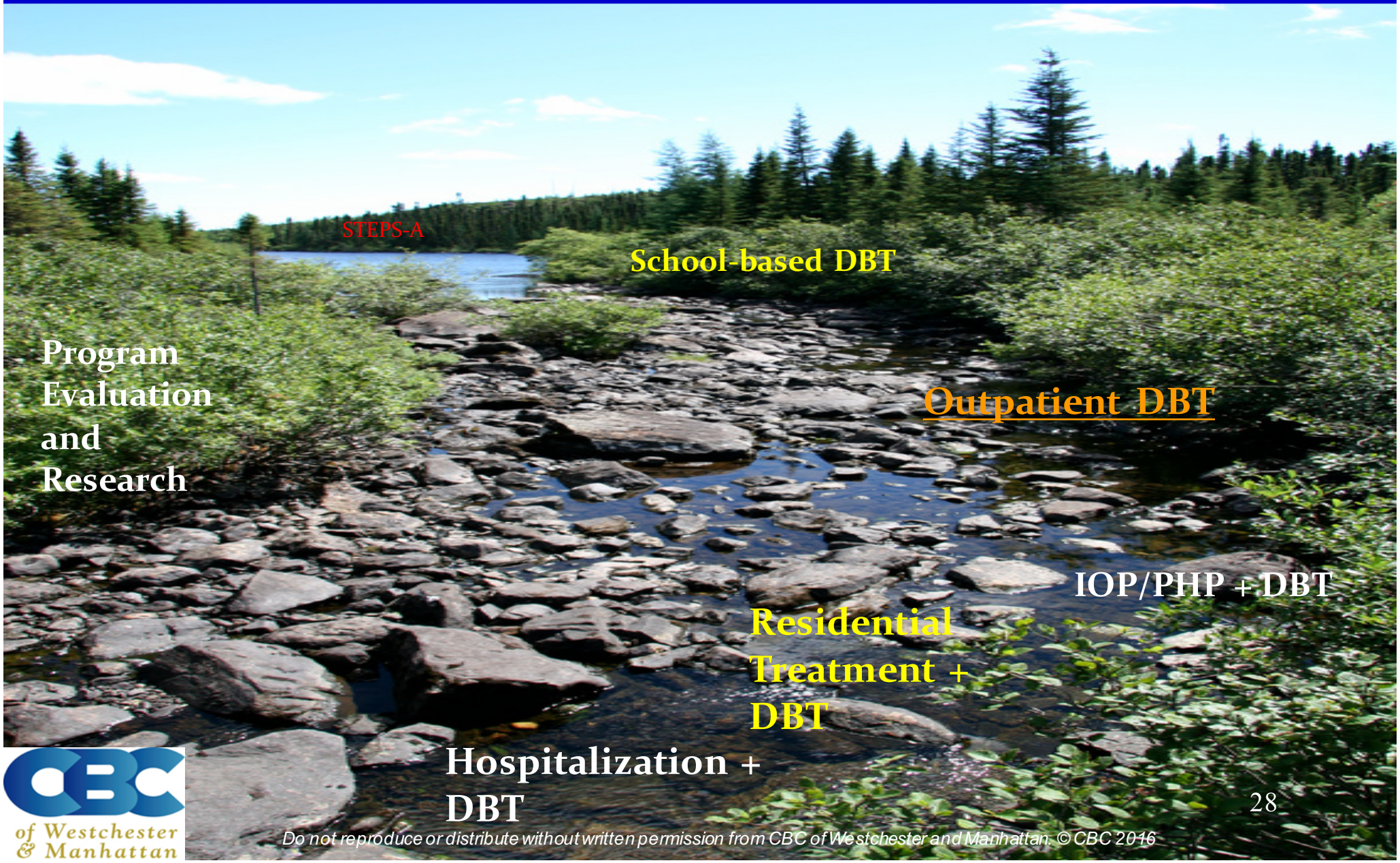
1 Year Follow-Up

JAACAP, 2016

- **No completed suicides in either group**



DBT: Starting upstream
(Mazza & Miller, 2014)



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DBT in School Settings

- **Selected/Indicated/Targeted Application (Secondary and Tertiary Prevention)**
  - Elementary, Middle School and High School
- **Universal Application (Primary Prevention Interventions)**
  - Elementary Middle School and High School

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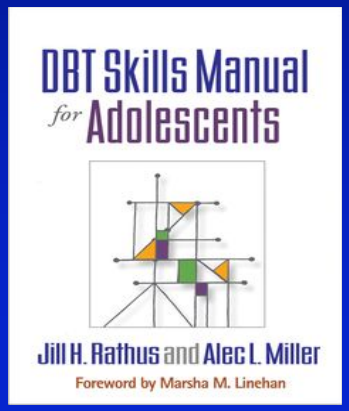
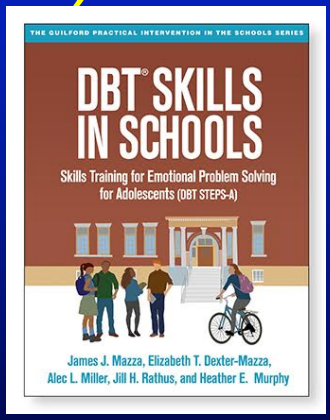
DBT in Schools (two types)

- **Targeted/Selected Intervention (School-Based DBT)**
  - Comprehensive DBT model within schools
  - Rathus JH & Miller, AL, (2015) DBT Skills Manual for Adolescents. Guilford Press



- **Universal Intervention (STEPS-A)**
  - Mazza, JJ, Dexter-Mazza, ET, Miller, AL, Rathus, JH, & Murphy, HE, (In press). DBT *Skills in Schools: Skills Training for Emotional Problem Solving for Adolescents (STEPS-A).* Guilford Press.



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Why Comprehensive DBT in Schools?

- **The rationale for administrators:**
  - Mounting pressure to keep ED (emotionally disabled) students within District
  - Costs District @ 100K/per student per year when sent out of District for specialized programs.
  - Reduce ER visits, psychiatric and medical hospitalizations, keep students IN SCHOOL
  - DBT is an evidence-based therapy for multi-problem adolescents (Mehlum et al. 2014)

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Why Comprehensive DBT in schools?

- Rationale for ALL school personnel (administrators, mental health professionals, counselors):

- It provides school personnel and students with common language and skills-based toolkit
- It reduces numerous problem behaviors that often result in suspensions, ER visits, and interfere in education
- In turn, DBT can reduce staff/administrator burnout
- School-friendly, DBT can be taught in groups/classes
- DBT can be applied transdiagnostically
  - Ritschel, Miller, & Taylor, 2013
  - Not just anti-bullying, anti-anxiety, anger management
- DBT has observable and measurable outcomes

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DBT in Schools (Comprehensive DBT)

- Far Rockaway, NY, High School (2001-2002)
- Lincoln HS, Portland Oregon (2007-present) Jim Hanson
- Ardsley School District, NY- Elementary, MS, and HS (2008-present)
  - Presented data at conferences (Catucci et al.; Mason et al)
- PS 8 Elementary School Bronx, NY/Albert Einstein College of Medicine
  - Lander, Miller, Edwards et al, (2009-2012)
- Pleasantville, NY School District- MS and HS (2009-present)
- Mamaroneck, NY Elementary, MS, HS (2010-present)
- BOCES Rockland County,NY Elementary and HS (2012 – Present)
- New Rochelle, NY, Elementary, MS, & HS (2012 – Present)
- Florida, NY, Golden Hill Elementary (2013 – Present)
- Irvington, NY, Elementary, Middle, and High Schools, NY (2013- present)
- Hastings on Hudson NY, High School (2013- present)
- Briarcliff Manor, NY, High School (2013- present)
- Astor School Child and Adolescent Day Treatment Programs (2013-present)
- NYC, Robert Louis Stevenson HS (2015-present)
- Westport, CT, Staples High School (2015-present)
- Southern Westchester BOCES HS, White Plains NY (2015-present)

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Data from Schools

- **Preliminary results from an open trial of comprehensive DBT at Ardsley HS**

  (Mason, Catucci, Lusk, and Johnson, 2011)

  - **Reduced referrals to assistant principal**
  - **Reduced cutting class, detentions and suspensions**
  - **Anecdotal reduction in depression, anxiety, NSSI**
  - **Requires change of culture re: how schools manage problem behavior**

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Data from Schools

- **Preliminary results from an open trial at Pleasantville HS (Dadd, 2015, unpublished dissertation)**
  - Comprehensive school-DBT program
    - Reductions in depression and social stress as measured by BASC, 2nd edition
    - Increases in adaptive coping skills, in particular mindfulness skills
    - Increases in ability to tolerate distressing situations and reduction in maladaptive coping
  - Requires change of culture re: how schools manage problem behavior

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Lincoln High School, Portland, OR

Lincoln HS Statistics

- 1720 students
- Middle to high socio-economic status
- 100 Best High Schools in United States
- High stress and anxiety (OHTS 2008: 13% of students considered suicide in last twelve months; 2012: 8.4%)
- About 20 parent meetings/year for cutting, suicidal ideation or attempt (record year high was 45)
- Suicide was leading cause of death until SB-DBT
  - Jim Hanson, 2015

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Lincoln HS Statistics

Hanson, 2015

- Identified at-risk youth (ie, NSSI ,SI, attempts) and provided Comprehensive DBT to 56 HS students.
- Results:
  - Before DBT: one to two suicides per year, since starting DBT in school 9 years ago there have been no suicides
  - Before DBT: two placements into Portland Public School's day treatment classroom per year, since DBT one placement in nine years
- Statistically significant improvements in GPA from pre- to post-intervention

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7-YEAR SUMMARY

Jim Hanson, 2015

BASC Subscale	Mean Pre (SD)	Mean Post (SD)	95% CI	*t*-score	Cohen's *d*
Anxiety	59.57 (12.17)	53.90 (13.62)	2.13-9.21	3.22*	.91
Depression	62.27 (14.65)	51.45 (10.29)	6.75-14.90	5.34**	1.51
Internalizing	60.51 (11.95)	52.65 (11.86)	4.14-11.59	4.24**	1.20
Anger Control	57.70 (10.74)	51.63 (10.22)	2.50-9.63	3.42*	1.02
* <.005 ** < .001; Bonferroni correction = .0125					

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DBT in Schools (STEPS-A)

- Ulster County HS Health Class Curriculum (1999)
- Ardsley School District, NY- HS (2008-present)
  - Ardsley Health Class
- **Lincoln HS, Portland Oregon (2007-present) Jim Hanson**
- Mazza & Mazza (2010-)
  - University of Washington, MS & HS Education
- Mastery Charter School, Philadelphia, PA HS (2013-present)
- Briarcliff Manor, NY, High School (2013- present)
- Manteca, CA, Middle School and High School (2014-present)
- Oakland, CA, Middle School (2014-present)
- Project GRAD, LA (2014-present)
- Stamford, CT, High School (2015-present)
- Northern Westchester BOCES (2015-present)

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DBT in Schools: (Mazza et al., in press)

STEPS-A

Structure

1. Designed for 50 minute periods
   A. 30 lessons – standard
   B. Flexible curriculum
2. Format – similar to a class
3. Covers the 4 domains
4. Standardized with Rathus & Miller – DBT for adolescents

Curriculum

1. Designed at the universal level for general education teachers
   A. Ideal – Health teacher
   B. Profess. Staff – school psychs & counselors, school social workers
2. Manualized lessons AND provides degree of flexibility
3. Teacher Manual
4. Student Workbook

DBT for chronic medical conditions

Children's Hospital at Montefiore (CHAM, 2010-)

- **Chronic kidney disease**

  Hashim (Lois), Vadnais, & Miller, (2013). Improving adherence in adolescence chronic kidney disease: A DBT feasibility trial. *Clinical Practice in Pediatric Psychology*, 1-11.

  -8 sessions

  -multi-disciplinary (validation, validation, validation)

- **Diabetes (RCT underway), Becky Lois, PhD (PI)**
- **Obesity, sickle cell, asthma**

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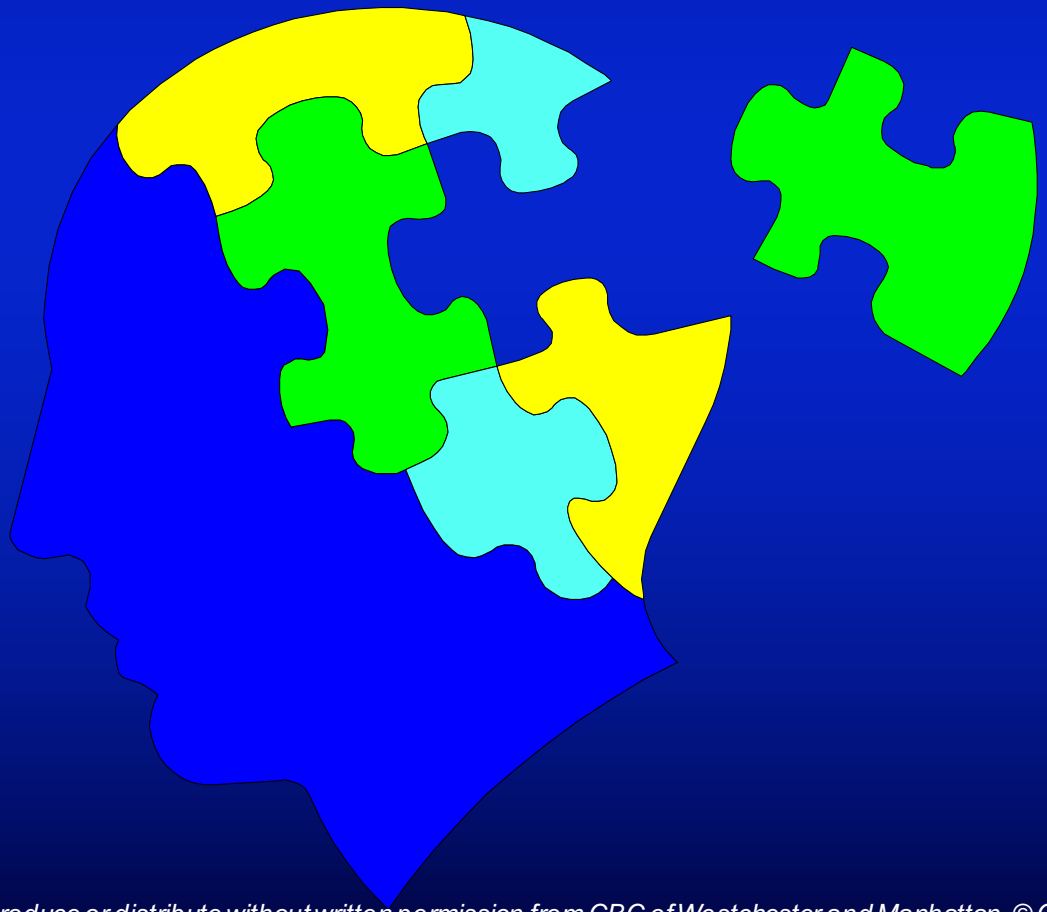
Theory "Treats" the Teen, Therapist, Family, School personnel, MDs, and…..

Changing Attitudes with Biosocial Theory



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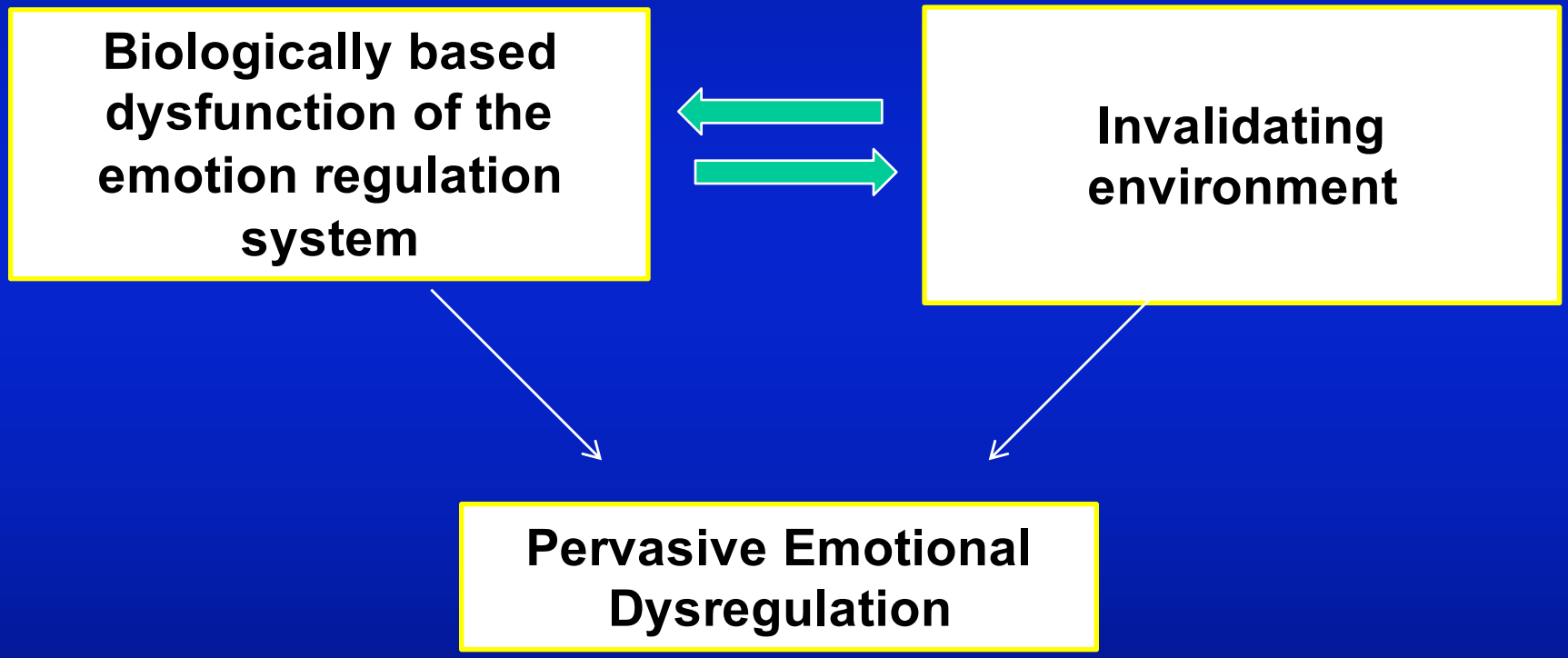
Biosocial Theory of BPD

Transaction between…



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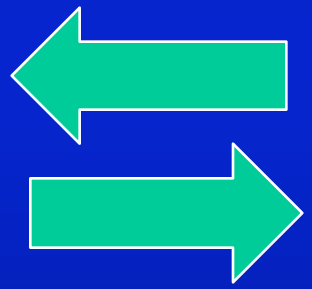
Emotion Vulnerability

- High Sensitivity
  - Immediate reactions
  - Low threshold for emotional reaction
  - "Emotional Burn Victim"
- High Reactivity
  - Extreme reactions
  - Dysregulated cognitive processing
- Slow Return to Baseline
  - Long-lasting reactions
  - Inability to recover before the next emotional reaction



Inability to regulate and modulate emotions

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Invalidating Environment

Pervasively negates, punishes, corrects, ignores or dismisses behavior independent of the actual validity of the behavior.

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Invalidating Environment

The environment includes:

- **Family members**
- **School staff**
  - Teachers, administrators, security guards
- **Peers**
- **Mental health professionals**
- **Medical doctors/nurses, etc**

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Characteristics of an Invalidating Environment

1. **INDISCRIMINATELY REJECTS** communication of private experiences and self-generated behaviors

   E.g,. Teen upset about failing test….. "It's your fault. If you studied more you would have passed."

   OR "Stop worrying, it's not a big deal, honey, it's only 1 test."

2. **IGNORES or PUNISHES lower level** emotional displays and **INTERMITTENTLY REINFORCES** emotional escalation

   "You're over-reacting…it's not that big a deal!"

   Crying escalates—threat-I'm not going back to school.

   "OK, let's go out for a nice dinner tonight so you'll feel better and I'll help you study next time."

3. **OVER-SIMPLIFIES** ease of problem solving and meeting goals.

   "Just study more next time and you'll do great."

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Invalidating Environment Teaches Individual to:

1. Actively self invalidate and search social environment cues on how to respond

2. Oscillate between emotional inhibition and extreme emotional styles

3. Form unrealistic goals and expectations

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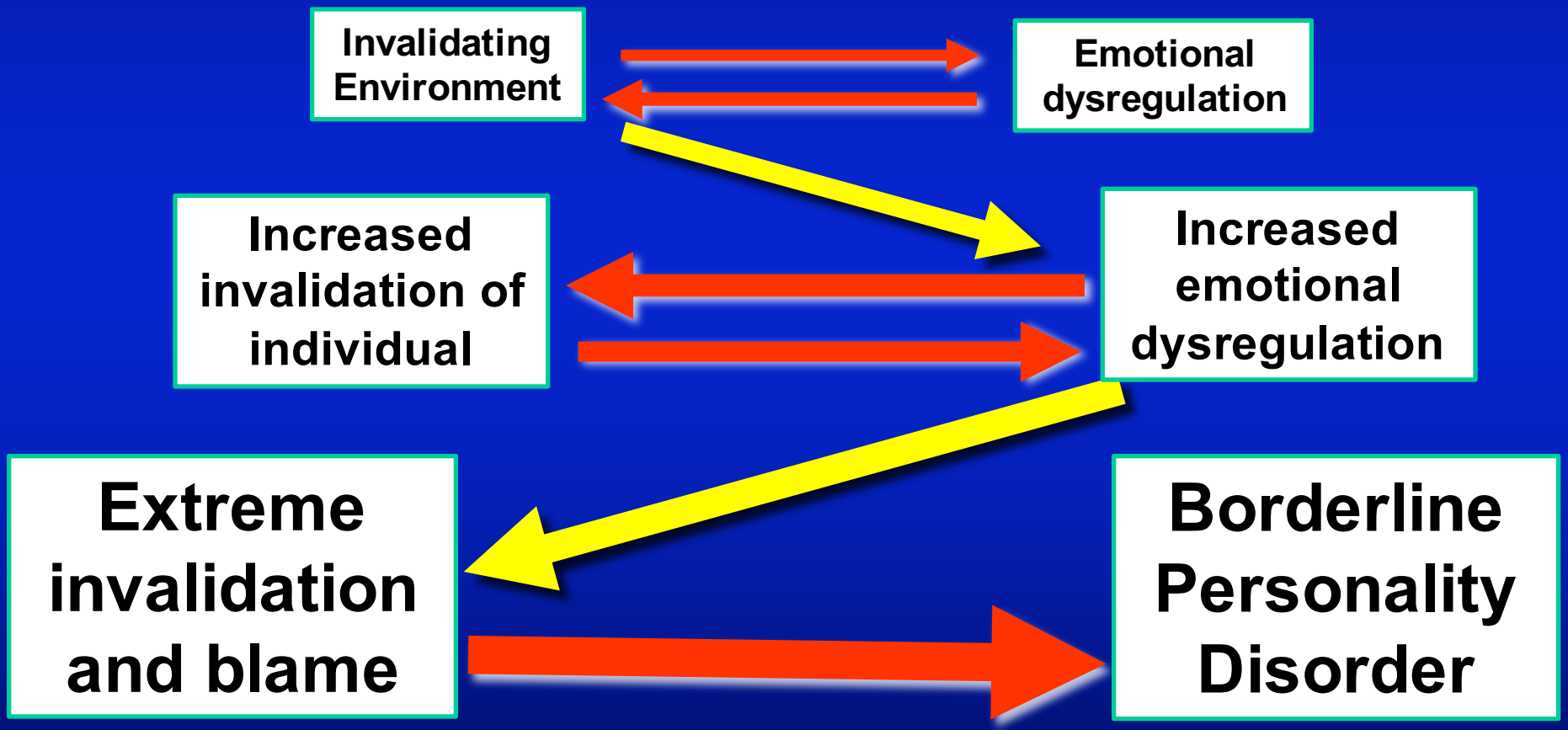
BPD/Emotion dysregulation results from transaction of biological vulnerability with invalidation over time



Teaching Biosocial Theory to Students, Parents, School Personnel, Medical Doctors, Therapists

STRUCTURE the Treatment FRAME

Outpatient Adolescent DBT Modes

Phase I: 16-24 weeks

- Multi-family skills training group
- Individual psychotherapy/Counseling
- Telephone consultation (teens and parents)
- Family therapy, PRN
- Therapist consultation meeting

Phase II: 16 weeks (optional)

- Graduate group
- Telephone consultation
- Family therapy, PRN

*All patients are eligible for pharmacotherapy

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Stage 1 Primary Targets

Dialectical Synthesis

Severe Behavioral Dyscontrol → **Behavioral Control**

- **Decrease**
  - Life-Threatening Behaviors
  - Therapy-Interfering Behaviors
  - Quality-of-Life Interfering Behaviors

- **Increase behavioral skills**
  - Core Mindfulness
  - Distress Tolerance
  - Interpersonal Effectiveness
  - Emotion Regulation
  - Walking the Middle Path
  - Self-Management

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Target Hierarchy

Target 1:
Life-Threatening
Behaviors

Target 2:
Therapy-Interfering
Behaviors

Target 3:
Quality-of-Life Interfering
Behaviors

Target 4:
Increased
Skillful Behavior

Target 3 Sub-Targets

E.g.
Substance use
Anxiety
peer/family conflict,
disordered eating,
school refusal,
impulsive behaviors

BALANCE TREATMENT STRATEGIES

Change *Acceptance*

Irreverence

Reciprocity

Problem Solving

Validation

Core

Consultation-to-the-Patient

Environmental Intervention

Team Consultation

Dialectical Behavior Therapy
Adolescent Diary Card

First Name | Filled out in session? Y/ N | How often did you fill out this section? ___Daily __ 2-3x ___ Once
How often did you use phone consult? ___ | Date started / /

Date	Self Harm		Suicidal		Alcohol		Drugs		Meds		Other			Emotions								Notes/DBT homework:
	Urge	Actions	Thoughts	Actions	Urge	Use amount/type	Urge	Use amount/type	Taken as Prescribed	Cut class/ school	Risky Sex	What time did you go to sleep?	What time did you wake?	Anger	Fear	Happy	Anxious	Sad	Shame	Misery	Skills *	
	0-5	Yes / No	0-5	Yes / No	0-5		0-5		Yes/No	Yes/No		Ex: 10:00PM	EX: 6:00AM	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-7	
/																						
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*USED SKILLS
0=Not thought about or used
1=Thought about, not used, didn't want to
2=Thought about, not used, wanted to
3=Tried but couldn't use them
4= Tried, could do them but they didn't help
5= Tried, could use them, helped
6= Didn't try, used them, didn't help
7= Didn't try, used them, helped

Rating Scale for Emotions and Urges (above):

0=Not at all 1=A bit 2=Somewhat 3=Rather Strong 4=Very Strong 5=Extremely Strong

Urge to quit therapy: _____ Misery Index: _____

Instructions: Circle the days you worked on each skill

Core Mindfulness	1. Wise mind	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	2. Observe (Just notice what's going on inside)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	3. Describe: (Put words on the experience)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	4. Participate (Enter into the experience)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	5. Don't Judge (Non-judgmental stance)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	6. Stay Focused (One-mindfully: in-the-moment)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	7. Do what works (Effectiveness)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
Distress Tolerance	8. ACCEPTS (Distract)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	9. Self-soothe (5 senses)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	10. IMPROVE the moment	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	11. Pros and cons	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	12. TIPP	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	13. Radical Acceptance	Mon	Tues	Wed	Thur	Fri	Sat	Sun
Walking the Middle Path	14. Think dialectically (non black and white)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	15. Act dialectically (walk the middle path)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	16. Validate someone else	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	17. Validate self	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	18. Positive reinforcement	Mon	Tues	Wed	Thur	Fri	Sat	Sun
Emotion Regulation	19. Identify and label emotions	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	20. PLEASE (Reduce vulnerability to emotion mind)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	21. MASTER (Building mastery, feeling effective)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	22. Engage in pleasant activities	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	23. Values and priorities	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	24. Work toward long-term goals	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	25. Build structure // time, work, play	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	26. Check the facts	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	27. Do problem solving	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	28. Opposite ACTION to current emotion	Mon	Tues	Wed	Thur	Fri	Sat	Sun
Interpersonal Effectiveness	29. DEAR MAN (Getting what you want)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	30. GIVE (Improving the relationship)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	31. FAST (Feeling effective & keeping your self-respect)	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	32. Cheerleading statements for worry thoughts	Mon	Tues	Wed	Thur	Fri	Sat	Sun
	33. THINK	Mon	Tues	Wed	Thur	Fri	Sat	Sun

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What is the function of this behavior?

STANDARD CBT

DBT Problem Solving

Behavioral Analysis

Insight

Solution Analysis

SKILLS TRAINING
CONTINGENCIES
EXPOSURE
COGNITIVE MODIFICATION

Didactic

Orienting

Commitment

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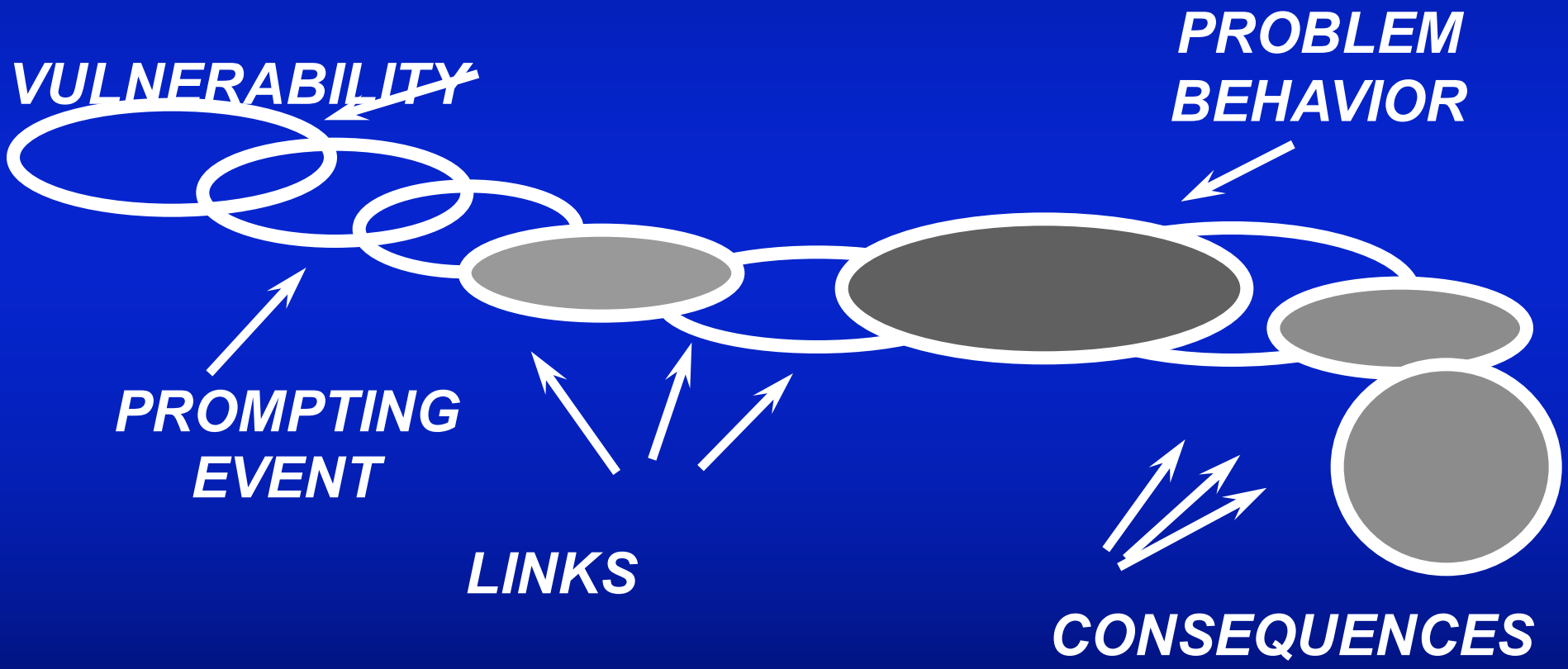
Conduct B.A.:
Analyze the chain of events moment-to-moment over time



BALANCE TREATMENT STRATEGIES

Change *Acceptance*

Irreverence

Reciprocity

Problem Solving

Validation

Core

Consultation-to-the-Student

Environmental Intervention

Team Consultation

Future Directions for Adolescent DBT Research

- Publish results from all existing randomized controlled trials with adolescents.
- DBT vs. Mentalization-Based Therapy?
  - DBT plus MBT?
- Is DBT skills training with adolescents and families effective without concurrent DBT individual therapy?

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Future Directions for Adolescent DBT Research

- How effective is comprehensive DBT and
- STEPS-A in school settings?
- Can we help prevent and reduce emotional and behavioral problem behaviors in youth?
  - Universal: DBT Skills Class—Primary Prevention? Teaching elementary and middle school-aged children DBT "Life Skills"?
- Determine most effective training protocols.

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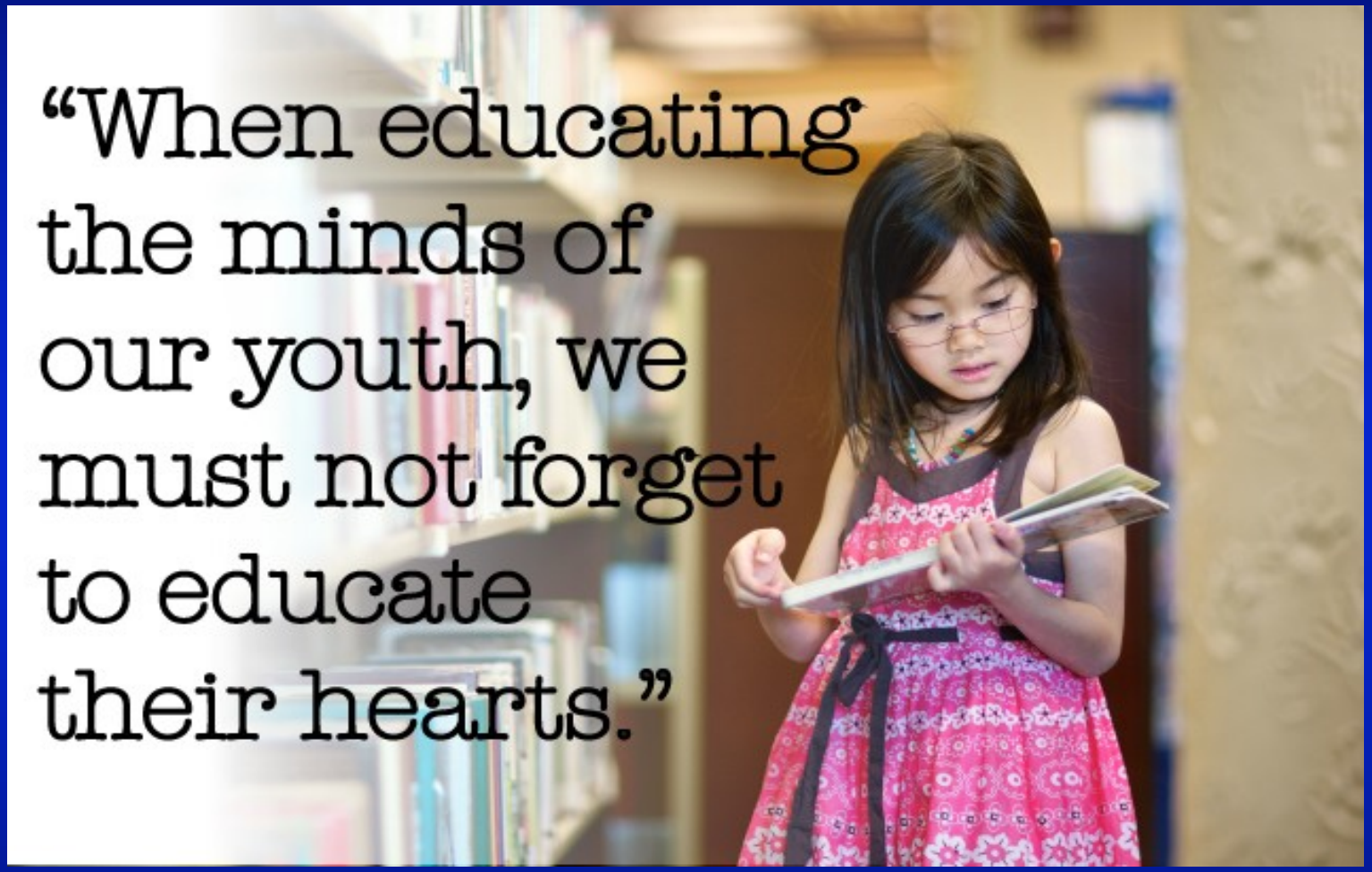

Dalai Lama

Adolescent DBT Books/Manuals

- Miller, Rathus, & Linehan (2007). *DBT with Suicidal Adolescents.* Guilford Press.
- Rathus & Miller (2015). *DBT Skills Manual for Adolescents.* Guilford Press.
- Mazza, JJ, Dexter-Mazza, ET, Miller, AL, & Rathus, JH & Murphy, H. (In press). DBT *Skills Training in Schools: DBT for Emotional Problem Solving for Adolescents (DBT STEPS-A).* Guilford Press.

For more treatment and training information:

- CBC

www.cognitivebehavioralconsultants.com

www.cbc-psychology.com

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Know It? Prove It!
A Review of ADHD and Disruptive Behavior Disorders

Eric. R. Williams, MD

Asst. Prof, U. of South Carolina

March 18th, 2016

Objectives

1. Diagnosis
2. Differential diagnosis
3. Treatment

What could it be?
(DSM-5 differential diagnosis for ADHD)

- ADHD
- ODD
- Intermittent explosive disorder
- Specific learning disorder
- Intellectual disability
- Autism spectrum disorder
- Reactive attachment disorder
- Anxiety disorder
- Depressive disorder
- Bipolar disorder
- Disruptive mood dysregulation d/o
- Substance use disorder
- Psychotic disorder
- Personality disorder

Hyperactivity/impulsivity

- Fidgets or taps hands or feet/squirms in seat
- Leaves seat when shouldn't
- Runs or climbs when inappropriate
- Unable to play or engage in leisure activities quietly
- Talks excessively
- Blurts out answers
- Difficulty waiting his/her turn
- Interrupts or intrudes on others
- "On the go"/"Driven by a motor"

DSM-5 changes

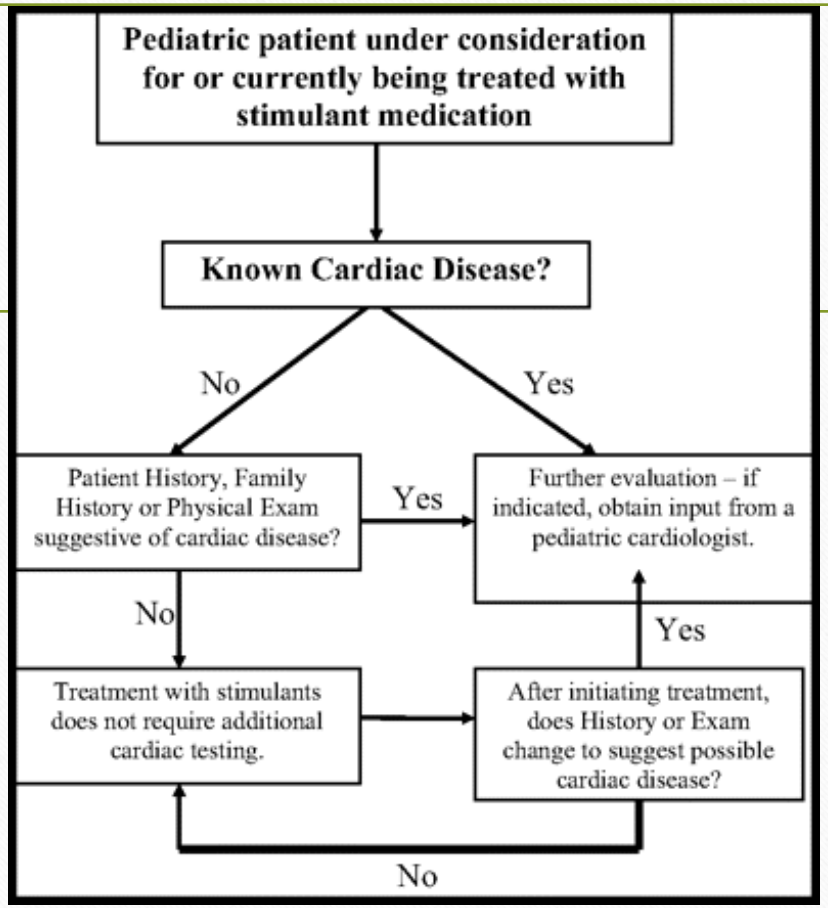
- Now by age 12!
- Autism spectrum no longer excluded!
- 17% less symptoms required for older adolescents and adults!

Inattention

- Fails to give close attention to details/makes careless mistakes
- Difficulty sustaining attention
- Does not seem to listen
- Does not follow through
- Difficulty organizing tasks/activities
- Avoids tasks that require sustained effort
- Loses things necessary for tasks or activities
- Easily distracted
- Often forgetful

Stimulants

- Last about as long as the half-life of the medication
- Not habit-forming
- Start low
- Side effects
- Just pick one



Perrin et al., 2008

Others

- Alpha-2 agonists - vitals
- Atomoxetine
- Bupropion
- Modafinil
- Behavior treatments

Pringsheim et al., 2015

What could it be? (DSM-5 differential diagnosis for ODD)

- Conduct disorder
- ODD
- ADHD
- Depressive and bipolar disorders
- Intermittent explosive disorder
- Disruptive mood dysregulation disorder
- Intellectual disability
- Language disorder
- Social anxiety disorder

Oppositional Defiant Disorder

Angry/Irritable Mood

- Often loses temper
- Easily annoyed
- Angry and resentful

Argumentative/defiant behavior

- Argues with authority figures
- Defies adult requests or rules
- Deliberately annoys other people
- Blames others for their mistakes or difficulties

DSM-5 changes

- Now with spite and vindictiveness!

Treatment

- Parent management training
- No indicated meds for core symptoms

Pringsheim et al., 2015

What could it be?
(DSM-5 differential diagnosis for Conduct d/o)

- Oppositional defiant disorder
- ADHD
- Depressive and bipolar disorders
- Intermittent explosive disorder
- Adjustment disorder

Conduct Disorder

Aggression to people/animals

- Bullies, threatens, intimidates others
- Initiates physical fights
- Physically cruel to people
- Physically cruel to animals
- Stolen while confronting victim

Destruction of property

- Destroyed others' property
- Firesetting to cause serious damage

Conduct Disorder

Serious violations of rules

- Truant

Deceitfulness or theft

- Broken into house, car, building
- Lies to obtain favors or avoid obligations
- Stolen nontrivial items without confronting victim

DSM-5 changes

- Now with 40% more aggression! (Used a weapon that can cause serious physical harm and forced someone into sexual activity.)
- Now with 50% more serious violations of rules! (Staying out at night before age 13.)

Treatment

- **M**ulti**S**ystemic **T**herapy

What could it be?
(DSM-5 differential diagnosis for IED)

- Delirium, major neurocognitive disorder, and due to another medical condition
- Antisocial personality disorder
- Borderline personality disorder
- Oppositional defiant disorder
- Disruptive mood dysregulation disorder
- Substance intoxication or withdrawal
- ADHD
- Conduct disorder
- Autism spectrum disorder

Intermittent Explosive Disorder

- Behavioral outbursts
- Aggression out of proportion
- NOT premeditated
- NOT better explained by anything else

DSM-5 changes

- Now with verbal and non-destructive physical aggression!
- With new age limit! (6 years old.)
- Now with 50% more consequences (financial and legal.)

Treatment

- Limited evidence for anticonvulsants, beta blockers, lithium, antipsychotics, antidepressants
- Benzos may worsen due to disinhibition
- CBT

References

- American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders – Fifth* Edition *DSM-5* 2013.
- Kilgus, Mark D., Jerrold S. Maxmen, and Nicholas G. Ward. *Essential Psychopathology & Its Treatment*. New York: W.W. Norton & Company, Inc., 2015.
- Perrin, J. M., R. A. Friedman, and T. K. Knilans. "Cardiovascular Monitoring and Stimulant Drugs for Attention-Deficit/Hyperactivity Disorder." *Pediatrics* 122(2) (2008): 451-53.
- Pringsheim, Tamara, Lauren Hirsch, David Gardner, and Daniel A. Gorman. "The Pharmacological Management of Oppositional Behaviour, Conduct Problems, and Aggression in Children and Adolescents With Attention-Deficit Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder: A Systematic Review and Meta-Analysis. Part 1: Psychostimulants, Alpha-2 Agonists, and Atomoxetine." *Can J Psychiatry* 64(2) (2015): 42-51. Web. 26 Mar. 2016.

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- Pringsheim, Tamara, Lauren Hirsch, David Gardner, and Daniel A. Gorman. "The Pharmacological Management of Oppositional Behaviour, Conduct Problems, and Aggression in Children and Adolescents With Attention-Deficit Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder: A Systematic Review and Meta-Analysis. Part 2: Antipsychotics and Traditional Mood Stabilizers." *Can J Psychiatry* 64(2) (2015): 52-61. Web. 26 Mar. 2016.
- Shatkin, Jess P. *Child & Adolescent Mental Health: A Practical, All-in-one Guide*. New York: W.W. Norton & Company, Inc., 2015.

Substance Abuse in Adolescents

Steven L.Jaffe, M.D.
Professor Emeritus of Psychiatry, Emory University School of Medicine
Clinical Professor of Psychiatry, Morehouse School of Medicine

Disclosures

- Steven L. Jaffe, M.D.
- Adolescent Substance Abuse Intervention Workbook (2000 APPI Press)
- Step Workbook for Adolescent Chemical Dependency Recovery : A Guide to the First Five Steps (1990 APPI Press)
- Speaker's Bureau Arbor Pharmaceuticals Inc.

ATTENTION TEENAGERS!

Tired of being hassled by your stupid parents?

ACT IMMEDIATELY!

*move out
*get a job
*pay your own bills

START NOW WHILE YOU STILL KNOW EVERYTHING!!

Identifying Youth at Risk

- Children of substance – abusing parents
- Abused youth
- School Dropouts
- Pregnant Teenagers
- Economically disadvantaged youth
- Aggressive and antisocial youth
- Physically disabled youth
- Youth with mental health problems (suicide and depression)
- Youth with learning and language disorders

Brain Development in Adolescence-up to age 24

- 1. mylination of frontal and prefrontal areas
- 2. pruning of neurons

Addicted Brain

- 1. ventral striatum –nuc. Accubins-pleasure-saliency
- 2. amygdala/ hippocampus-conditioned memories

3,Prefrontal cortex-disrupted-<metabolism

- DLPC-executive control-moderates amygdala (impulses,desires)
- Anterior Cingulate-attention, impulse control
- OFC orbital frontal cortex-assigns value to reinforcers

Amygdala and memory systems powerful

- Dopamine flows to prefrontal areas
- Disconnect prefrontal cortex yielding compulsive use
- Decrease of D2 receptors- do not obtain pleasure from usual pleasurable activities

SUD Criteria

- DSM 4
- Substance abuse disorder
- Substance dependency disorder
- DSM 5
- 11symptoms: harmful and hazardous use
- Negative consequences with continued and compulsive use, tolerance and withdrawal

Substance-Related and Addictive Disorders

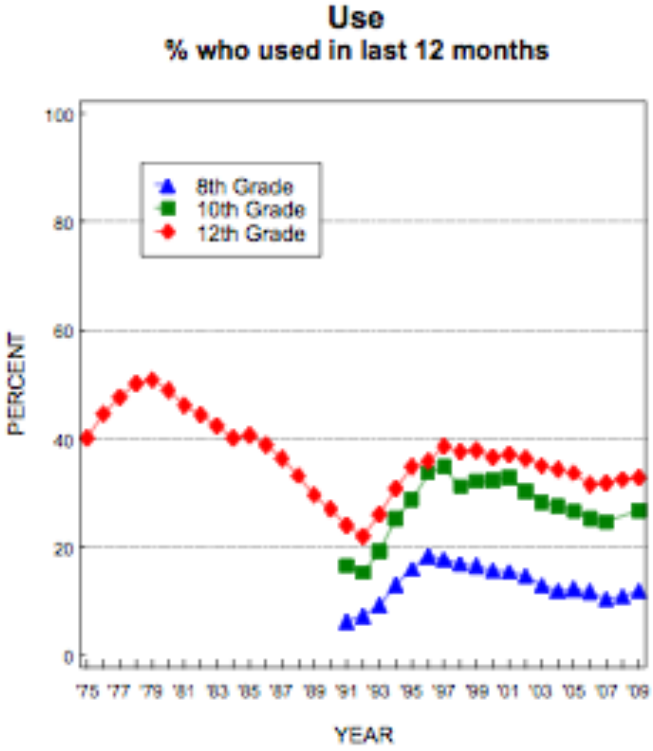
- Substance Use Disorders-11 criteria
- Impaired control 1. larger amounts or time than intended 2.can't cut down or control 3.great am't of time obtaining and using 4. craving-strong urges so can't think of anything else (new)
- Social Impairment 5. failure at work, school, home 6. Continued use despite social problems 7.reduced social, work and recreational activities

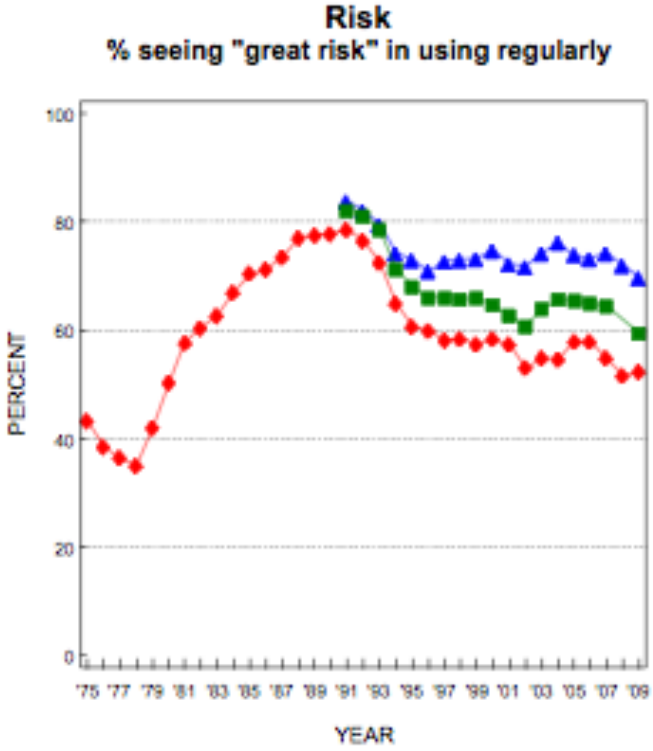
DSM 5

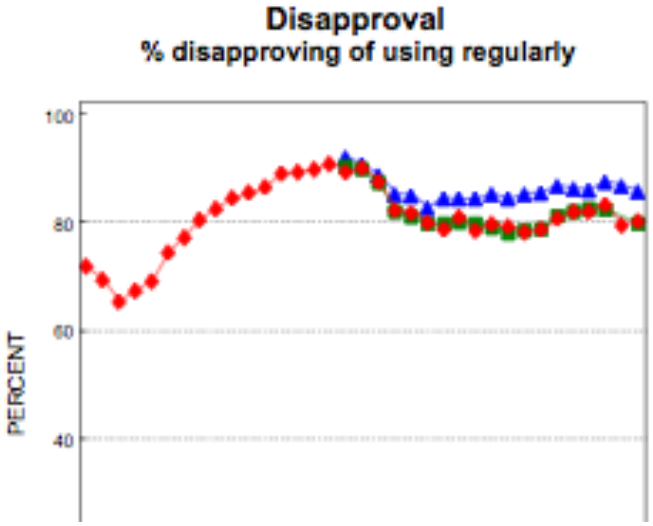
- Risky Use 8. use when physically hazardous 9.coutinued use despite physical/psychological problems
- Pharm.criteria 10.tolerance 11. withdrawal
- Mild-2-3 moderate 4-5 severe >6
- Substance Induced Disorders – intoxication, withdrawal, mental disorder

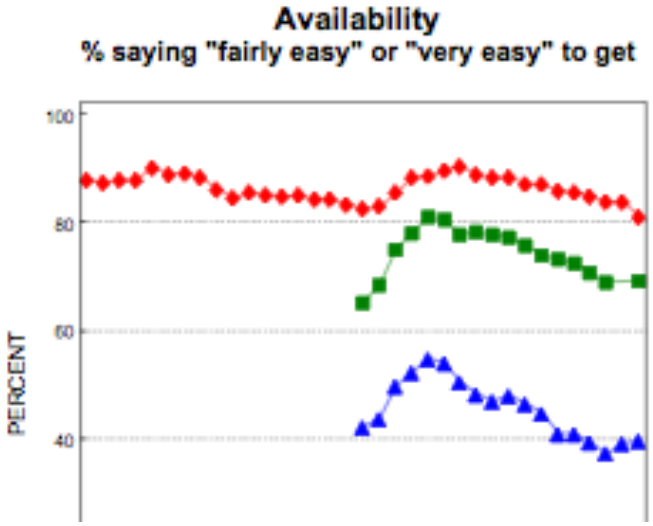
Marijuana: Trends in Annual Use, Risk, Disapproval, and Availability

Grades 8, 10,* 12









2015 Monitoring the Future

- Decrease-cigarettes, alcohol, prescription opoids, synthetic cannabinoids,under-age drinking
- Stable or down-marijuana (high), non-prescription amphetamines (7.5%) .MDMA(XTC) 3-4methylenediox methamphetamine (5%(2014)-3.6%(2015) Molly-pure powder , inhalants, LSD

Monitoring the Future 2005 - 07-08-09-11-13-15 12th grade

- Past month use alcohol(47-44.4-43%) nicotine (23.2-21.6-20%-18.7%,16.3%) marijuana (19.8-18.8-19.4%-20.5%-22.6%-21.3%)
- Daily use nicotine (13.6%-12.3%--6.7% 2014-5.5%, marijuana (5.0%-5.1%-5.2%-6.6%, 6.5%-6.0%), alcohol(1.5-1.3%)
- Binge drinking-past 2 wks. 31.5%(1998), 27.1-25.9%, 22%, 22.1%, 19.4%(2014), 17.2%(2015)
- Doesn't include those out of school-juvenile justice and on the street
- Prevalence of use is directly related to availability and inversely related to perceived risk of harm

Prescription opoids and heroin

- Heroin at all time low 0.5% past yr.
- Vicodin seniors 10.5%(2003) - 5.3%(2013)-4.4%(2015)

Spice and Bath Salts

- K2, Spice –legal marijuana (no longer)-designer drug-natural herbs sprayed with synthetic chemicals, mimics not copies of THC, synthetic cannabinoids act similar to natural
- Lack of cannabidol-anti-psychotic chemical found in natural cannabis
- Anxiety, n and v, increase BP,hallucinations, paranoia violence

vaping

- E-cigarettes produce flavored nicotine aerosol, do not produce tobacco smoke
- Vapor may contain known carcinogens and toxins

Bath Salts

- Flakha-synthetic cathiaone-excited delerium-hyper-stimulation, paranoia, hallucinations, aggression and self-injury

Progession of drugs used

- Cigarettes and Beer/Wine Coolers
- Marijuana
- Problem Drinking
- Pills- stimulants,benzodiazepines and opiates
- Crank, crystal meth. [ice] and cocaine
- Heroin

IMPORTANT ASPECTS OF PROGRESSION OF SUBSTANCE USE

Continue to use and abuse drugs begun in earlier stages

Carry those drugs to next stage of use

Leads to common finding in adolescent substance use; Multiple Drug Use

Characteristics for Teens

- Multiple Drug Use
- Multiple Diagnoses
- Multi-modal Treatment
- Multi-system Interventions in family, peer group and school and community

CO-MORBIDITY

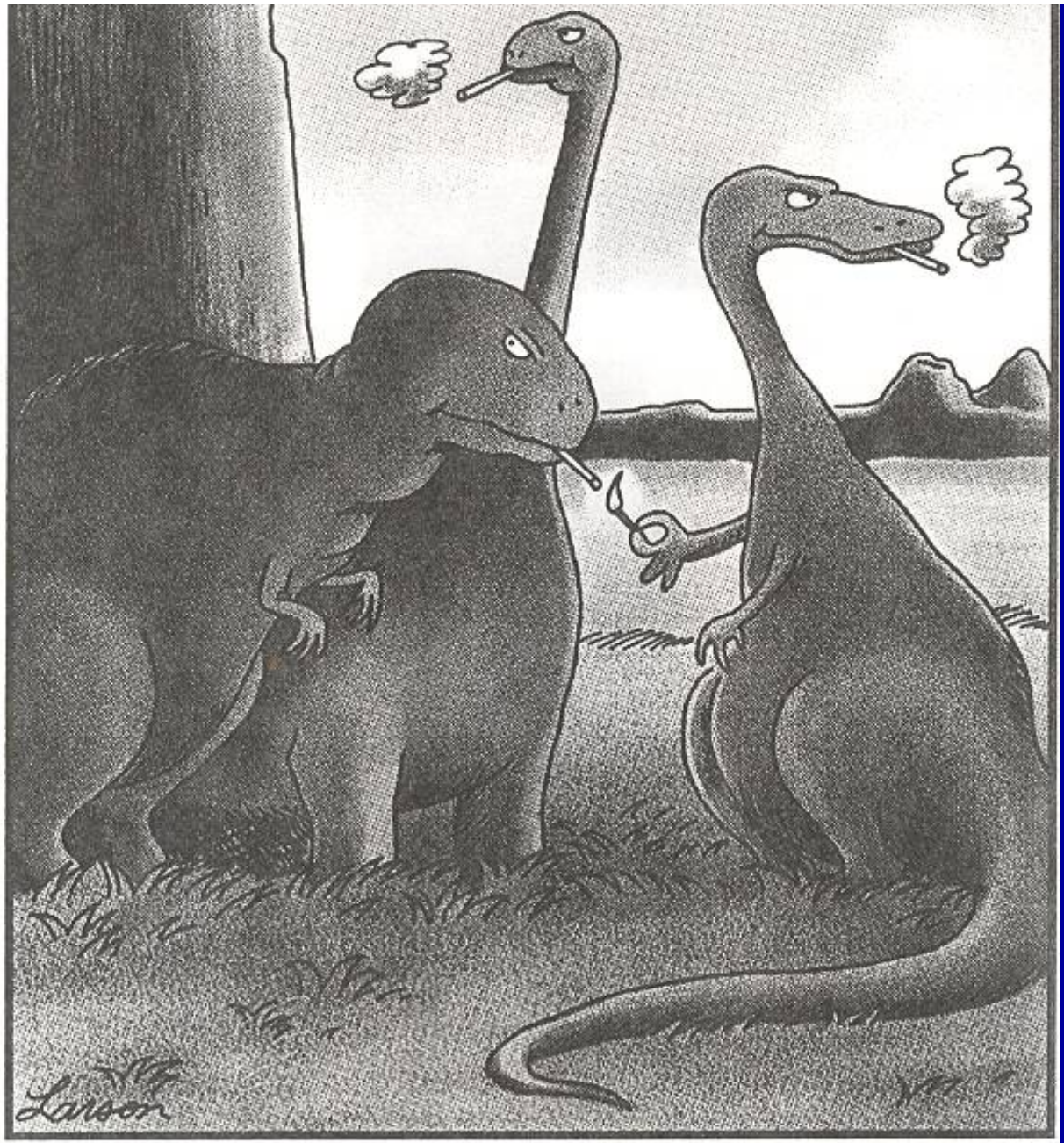
- ADHD-30-40%
- Depression - 30%
- Hx of sexual or physical abuse- 20%

Substances at the Grocery and Convenient Store

- Ephedrine and Pseudo-ephedrine-white crosses,357-Magnums, pink hearts,and mini-thins for " asthma "
- Skittles- Coriciden Cough and Cold (3C)-dextromethorphan
- Inhalants- gasoline, freon, butane, computer duster,glue.shoe polish-highest frequency in early adolescents, sudden sniffing death syn.highest use in 8th grade-7% past yr.('13-annual use 5.2%(8th) 3.5%(9th)2.5%(12th)
- Inhalants- slight decrease but fewer perceive it as dangerous
- Inhalants- nitrous oxide –whippets

“Legal” Substances of Abuse

- Tobacco Products
  - smoking tobacco (cigarettes, cigars, pipes)
  - smokeless tobacco (chewing tobacco, snuff)
  - nicorette gum



The real reason dinosaurs became extinct

ALCOHOL

- High School Seniors – 35% have had 5 or more drinks on at least one occasion in past month, binge drinking risk-injury, suicide, aggression, victmiization, unprotected sex
- Can overdose and be lethal
- Blood alcohol level [BAL] : non-tolerant teens-0.06% impaired judgment; 0.08% impaired muscle coordination; 0.10% impaired reaction time; 0.15% impaired balance and 0.30% confusion / unconscious; 0.40-0.50%-death
- Biphasic response – rising BAL associated with arousal,excitement and increased confidence. Falling BAL associated with fatigue and dysphoria. Tolerance to alcohol decreases initial stimulating effects and increases the secondary depressant effects. [Dimeff 1999]

Assessment

- Risk Factors
- Domains of Functioning
  - Substance Use Behavior
    - Quantity, frequency, consequences, age of onset, perception and motivation (for Tx)
    - Psychiatric problems
    - Family
    - Peer
    - School/Vocational
    - Leisure/recreational
    - Medical

Confidentiality

Needs to be broken if:

- danger to self
- danger to others
- life-threatening high-risk behavior

Possible intervention:

- have parents join interview
- ask teen to share high-risk behaviors and drug use

CRAFFT QUESTIONS

C have you ever ridden in a Car driven by someone (including you) who was “high” or had been using alcohol or drugs?

R Do you ever use alcohol or drugs to Relax, feel better about yourself, or fit in?

A Do you ever use alcohol/drugs while you are by yourself, Alone?

F Do your Family or Friends ever tell you that you should cut down on your drinking or drug use?

F Do you ever Forget things you did while using alcohol or drugs?

T Have you gotten in to Trouble while you were using alcohol or drugs?

Why pediatricians don't screen

6. perceived lack of treatment
5. not familiar with tools
4. need to triage medical problems
3. parents won't leave room
2. no training to deal with CD
1. not enough time – especially to deal with positive screen

CRAFFT – 80% sensitivity – 80% specificity

Yes to #1 – high risk

Yes to 2 questions – need further evaluation

Pediatricians – 2,000 adolescents

24% yes to #1

13% problem use

9% abuse disorder

3% dependency disorder

Assesment Instruments

- Drug Use Screening Inventory (DUSI)
- Problem Oriented Screening Instrument for Teenagers (POSIT)
- Adolescent Diagnostic Intervention (ADI)
- Personal Experience Inventory (PEI)
- Personal Experience Screen Questionnaire (PESQ)
- Adolescent Problem Severity Index (APSI)
- Children of Alcoholics Screening Test (CAST)

Laboratory Evaluation

- Routine tests rarely helpful
- Testing for special purposes

  *pregnancy

  *sexually transmitted diseases

  *hepatitis

  *human immunodeficiency virus (HIV)
- Toxicology screens

Testing Procedures

- Explain rationale/procedures to adolescent & parent(s): issues – consent/patient autonomy
- Determine what happens if test positive or negative

  -always be prepared to give sample

  -refusal = positive

  -random sampling
- Witness collection

  -direct observation

  -prevent substitution, dilution, adulterants

Urine Toxicology

Substance	Half-life (hr)	Detection after last use
Amphetamines	10-15	1-2 days
Barbiturates	20-96	3-14 days
Benzodiazepines	20-90	2-9 days
Cocaine	.8-6	.2-4 days
Methaqualone	20-60	7-14 days
Opiates	2-4	1-2 days
Phencyclidine (PCP)	7-16	2-8 days
Cannabinoids (THC)	10-40	2-8 (acute) 14-42 (chronic)

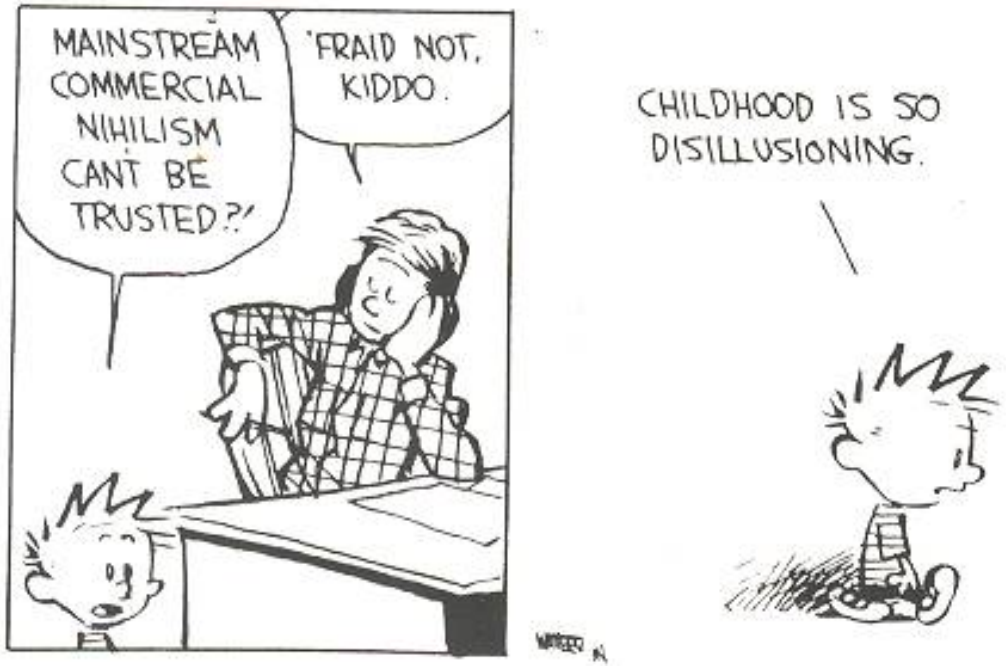
Drugs not usually tested: LSD, psilocybin, MDMA, MDA, and other designer drugs

Sample Types for Toxicology

HAIR

- Months
- Long-term measure of drug use; similar sample can be recollected
- High potential for environmental contamination, new technology
- Detection of drug use in recent past (1-6 months)

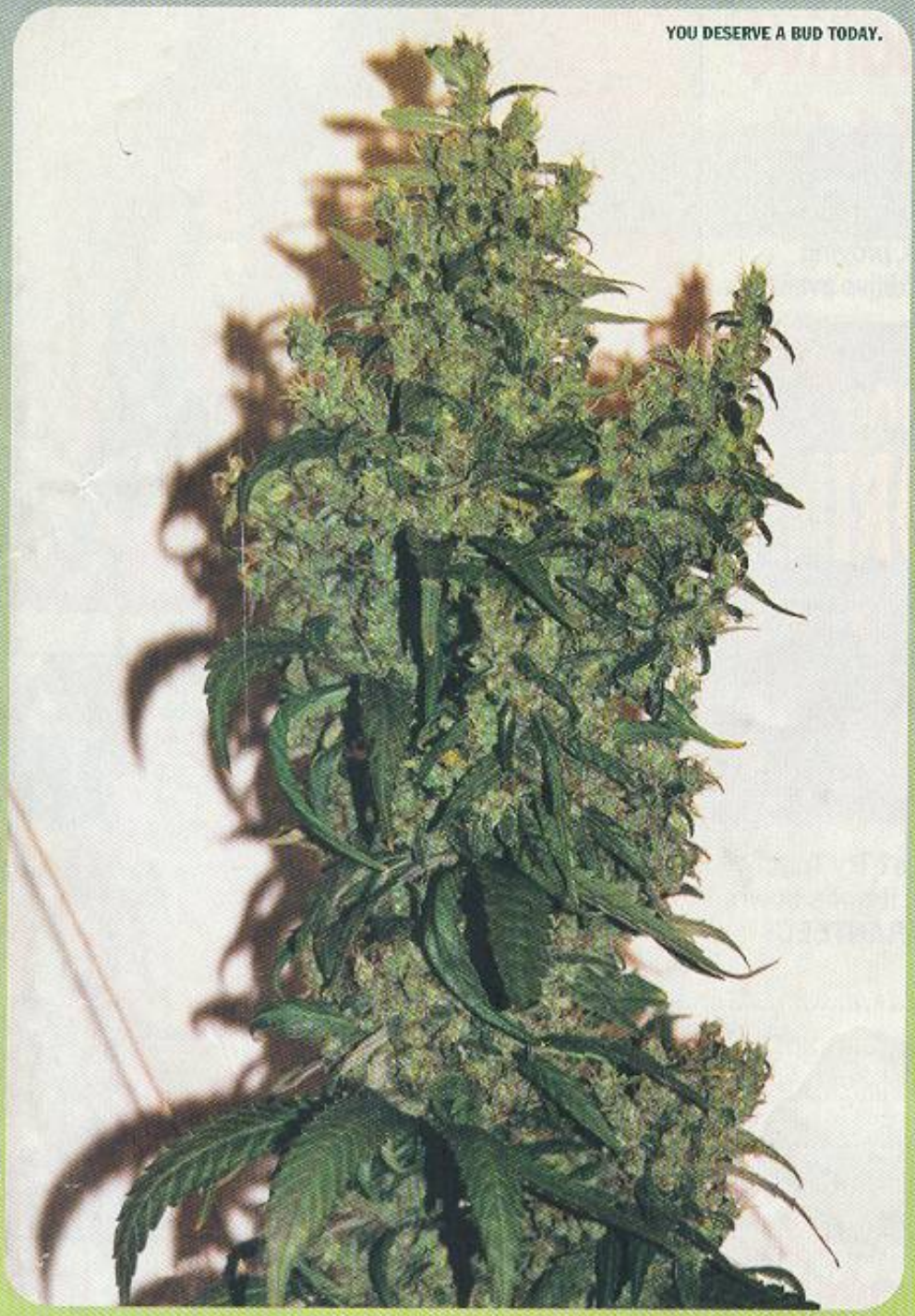

MOM, CAN I HAVE SOME MONEY TO BUY A SATAN-WORSHIPING, SUICIDE-ADVOCATING HEAVY METAL ALBUM?
CALVIN, THE FACT THAT THESE BANDS HAVEN'T KILLED THEMSELVES IN RITUAL SELF-SACRIFICE SHOWS THAT THEY'RE JUST IN IT FOR THE MONEY LIKE EVERYONE ELSE. IT'S ALL FOR EFFECT. IF YOU WANT TO SHOCK AND PROVOKE, BE SINCERE ABOUT IT.


MAINSTREAM COMMERCIAL NIHILISM CAN'T BE TRUSTED?!
'FRAID NOT, KIDDO.
CHILDHOOD IS SO DISILLUSIONING.

First Stage

Experimental, Recreational or Social Use

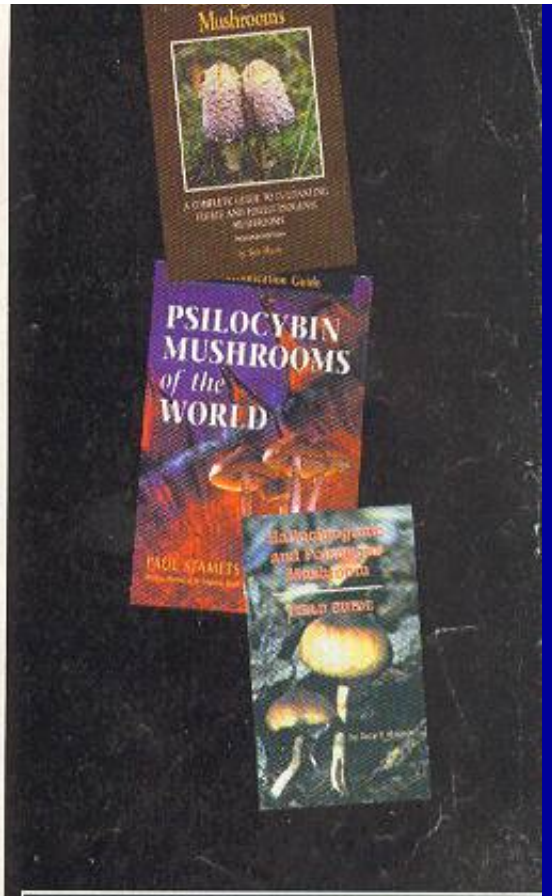
STAGE	TREATMENT STRATEGY
Experimental use	1. Education 2. Counseling



HT ARCHIVES

GARDEN EXPECTATIONS

I am planning on growing for the first time. I have a grow space of 10' x 10' and a bud



SHROOM KIT

It's easy to grow Psilocybe cubensis mushrooms in the privacy of your own home! On the market for

Pharmacodynamics

- 1990 Discovery of CB1 cannabinoid receptors in CNS
- Highest density – cerebellum and basal ganglia –effect on movement
- Intermediate density –hippocampus and cortex – effect on memory and cognition
- Low levels in brain stem – lack of lethality
- CB2 immune cannabinoid receptors in macrophages of spleen and B and T cells

Retrograde Marijuana in the Hippocampus

- As summarized by J. Medina: The postsynaptic neuron is stimulated and depolarizes—allows Ca to enter—endogenous cannaboids are manufactured and released into the synaptic cleft—migrate to receptors on the presynaptic neuron [retrograde messenager]—which are now prohibited from releasing inhibitory neurotransmitter
- This modulating regulation in the hippocampus is termed depolarization-induced suppresion of inhibition [DSI]. Also may have DSE.
- DSI and DSE effect neurons only in immediate vicinity and only for seconds. THC effects whole brain for a longer period of time.

Adolescent Brain –sensitive to negative effects of cannabis

- 1. impaired neural connectivity fewer fibers
- in hippocampus and prefrontal cortex
- 2. increased sensitivity to drugs (more likely to develop cannabis dependency and use other drugs)
- 3. daily pot for 3 yrs in adolescence-tested in 20's after abstinent for 2 yrs-had abnormal shape to hippocampus

Meir et al 2012

- 1000 children tested at age 13 (before cannabis use) and then at 18,21,26,32,and 38. controlled for education, other drugs etc.
- Heavy cannabis use (weekly) before age 18 showed much greater decline of IQ 5-8 pts and impaired cognition of working memory, perceptual reasoning, verbal comprehension and processing speed

THC and Addiction

- Initiate after age 18-9% eventually satisfy DSM criteria of dependence
- Initiate before age 18-17% become addicted within 2 years of use
- With daily use-estimate 35-40% rate of cannabis dependency
- Dependence-tolerance, withdrawal, loss of control, preoccupation with the drug, continued use despite adverse consequences

Increases risk of psychoses later in life

- Estimated to double the risk for later schizophrenia
- Dose effect relationship-increases with frequency and length of use
- May induce psychotic episode
- Use prior to onset may be associated with an earlier age at onset of psychosis and also earlier age of onset of the prodromal symptoms
- Primary Psychiatry. April 16,4, 2009

Marijuana use and comorbidity

- Social anxiety disorder in adolescence - increases by 6.5X subsequent development of cannabis dependence
- Frequent marijuana use in adolescence increases risk of other anxiety and depressive disorders
- Increase of suicide attempts

Treatment of Seizures in Children

- Parent survey 16 of 19 had a positive effect
- Chart review -33% of 75 decrease of seizures by ½, 44% had increase
- Using purified cannabidol (Episdloex) –
- 58pts 40% decrease of seizures by1/2 only one had increase

Driving

- If drunk—you run the RED Lights
- If stoned – you stop at the GREEN Lights
- Impaired attention, increased reaction time, impaired coordination and distorted time sense may impair driving

Driving review-Stewell et al. Am. Jl. On Addictions 2009,18,3,pp 185-193

- THC-dose related impairment more with automatic driving functions - tend to compensate effectively using behavioral strategies.
- Alcohol-impairs more complex tasks requiring conscious control
- Combining thc with alcohol-eliminates compensation strategies and results in impairment even at doses which would be insignificant were they of either drug alone.

THC Cognitive Effects

- Impairs short term memory
- Impairs ability to focus, sustain and shift attention—unable to filter out irrelevant information
- Impaired judgment results in increased risk taking
- Amotivational syndrome –lipid soluble resulting in half life of 4-5 days –one joint a day results in continuous THC in brain
- With abstinence, cognitive effects appear reversible but may take 6 to 12 wks.—need for longer term treatment

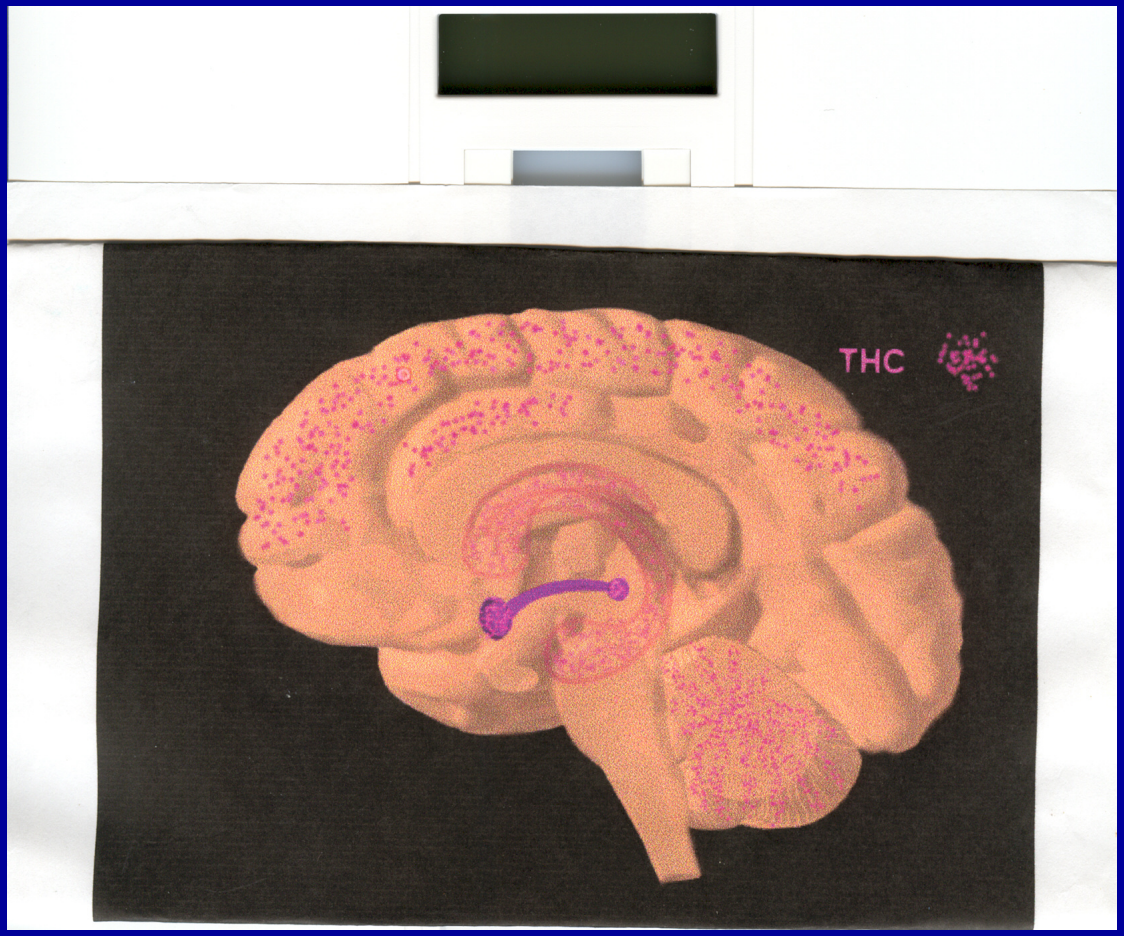
Potheads don’t recognize impairments

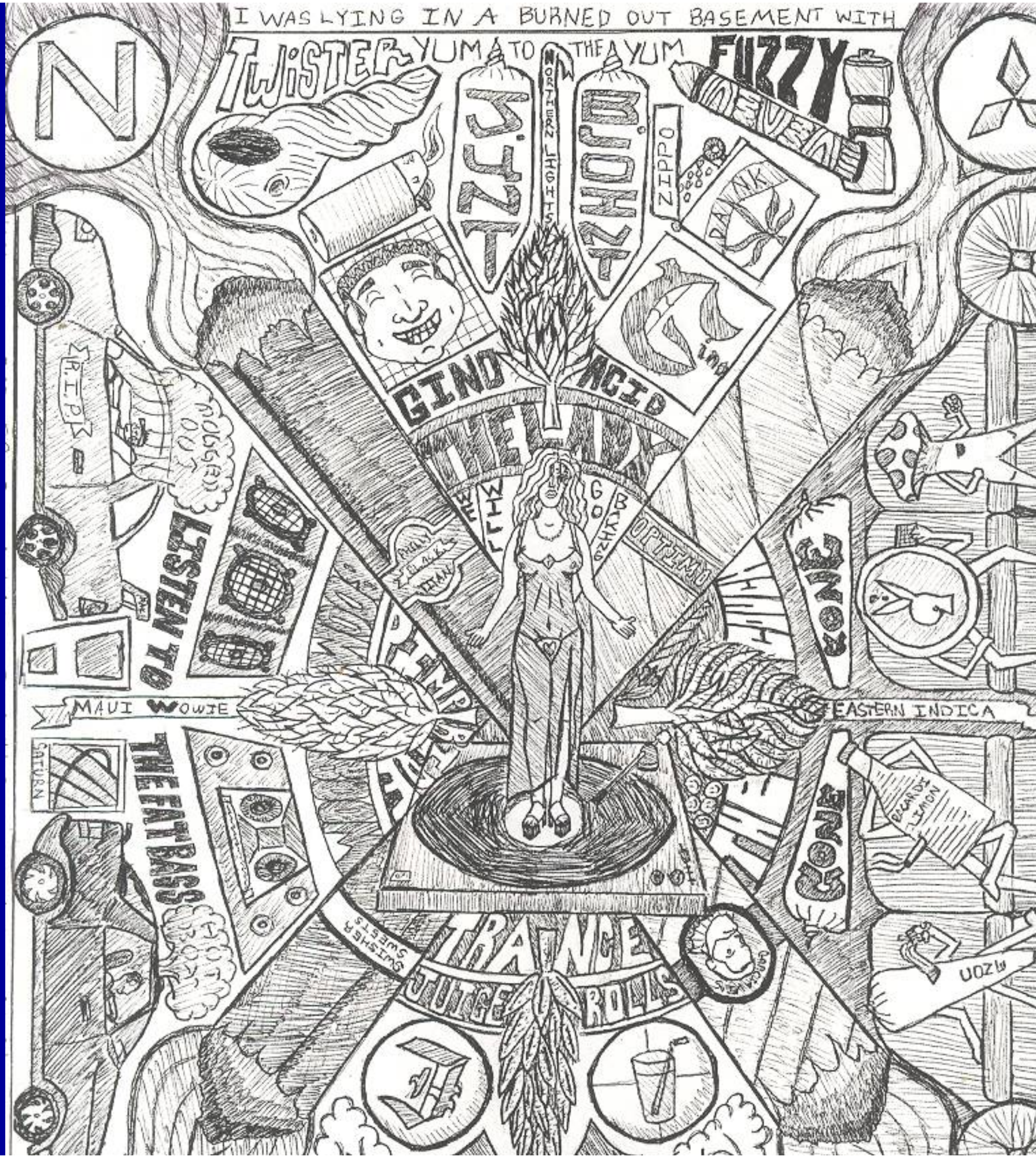
- Airline pilots- smoked joint amount of THC - each own control. Measured flying ability in a simulator. THC impaired their flying ability up to 24 hrs after smoking.
- Six out of the seven did not know they were impaired.
- Atlanta Insight IOP takes 2-3 weeks before can begin making cognitive-behavioral connections

Helpful Points to Cover when talking to teens about marijuana

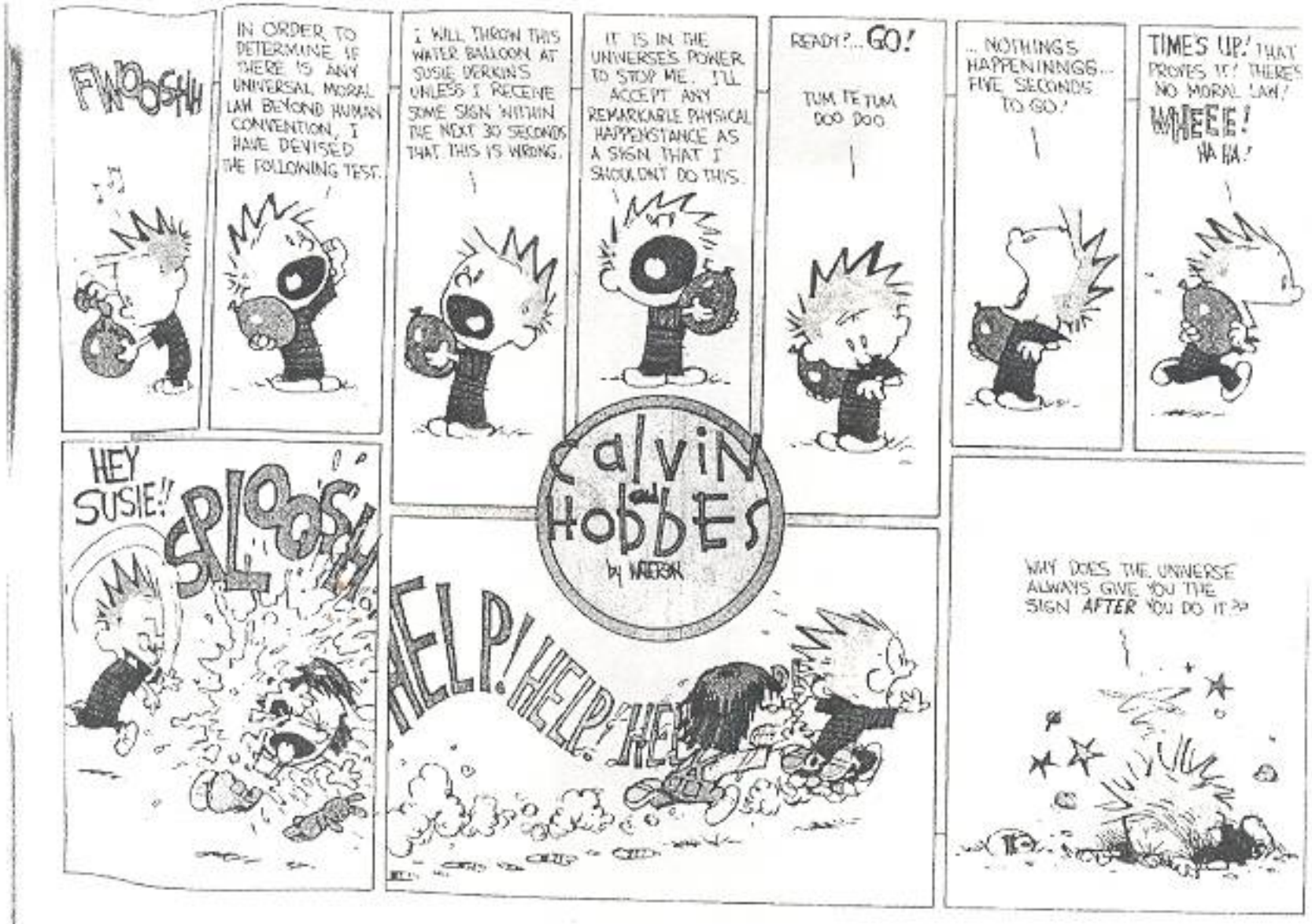
- Marijuana is illegal – in trouble if caught
- Does not make you psychotic or aggressive
- Does make you stupid – decreased short term memory, decreased concentration and decreased motivation to do school work
- Don't argue over whether it is addictive – make point that smoking marijuana can take over your life without you being aware of it happening
- Emphasize these short term effects: lung cancer, heart disease and emphysema have little meaning to adolescents

THC BINDING SITES




I WAS LYING IN A BURNED OUT BASEMENT WITH
TWISTER
YUM TO THE YUM
FUZZY
NORTHERN LIGHTS
ZIPPO
GIND
ACID
WE WILL GO BACK
LISTEN TO
THE FAT BASS
MAUI WOWIE
EASTERN INDICA
SATURN
R.I.P.
TRANCE
ROLLS
SWISHER SWEETS
BACARDI LIMON

CALVIN DOES NOT SMOKE PO



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SPIRITUALITY

- SOLKHAH, R et al Jl of Child and Adolesc. Sub. Abuse 18: 57-71 pot heads had lower level of spirituality
- THC Impairs meaningful connections to others and search for meaning
- If use THC during adolescence to deal with negative affects (loss sadness and anxiety) - become narcissistic young adult
- Study of 29,000 college students-more self centered and less empathic

SBIRT-Screening, Brief Intervention and Referral to Tx

- Two questions 1drinking frequency-in the past month how many days have you had more than a sip of beer,wine or any drink containing alcohol
- 2 friends If your friends drink how many do they usually drink

Low risk-brief advice

- Moderate-brief motivational interviewing and follow-up
- Highest risk-brief MI developing consideration to change and referral to Rx

Second Stage Substance Misuse

STAGE	TREATMENT STRATEGY
Substance misuse	1. Education 2. Counseling – motivational interviewing 3. Individual and group therapy 4. Family treatments 5. Abstinence or “honest look” contract

“HONEST LOOK” CONTRACT - FAMILY

- Teenager has the opportunity to show he is not using drugs/alcohol
- Teen agrees to not use alcohol/drugs
- Teen agrees not to engage in any “druggie” types of behavior (sneaking out, cutting school, being verbally abusive, etc.)
- Teen agrees to room searches or urine drug screens when requested
- Specify time frame for re-evaluation and consequences of breaking the contract

Placement Criteria

- Dimension 1 intoxication and withdrawal
- Dimension 2 biomedical conditions and complications
- Dimension 3 Emotional, Behavioral and Cognitive conditions and complications –co-occurring psychopathology ie depression or impaired executive functioning

- Demension 4 Readiness to Change
- Demension 5 Relapse,continued use or continued problem potential
- Demension 6 Recovery/Living Envirnment –family and peers

Treatment considerations by levels of care

- Level 0.5 early intervention-primary care, schools, social service,DUI
- Level 1 outpatient
- Level 2 IOP 6hrs/wk,partial hospital
- Level 3 residential low or medium
- Level 4 medically managed intensive inpatient

Third Stage: Substance Abuse Disorder
stage of harmful involvement

STAGE	TREATMENT STRATEGIES
Psychoactive Substance Abuse disorder	1. Education 2. Counseling 3. Individual and group therapy 4. Family treatments 5. Abstinence or “honest look” contract 6. 12 Step program AA/NA self help group working the steps sponsorship 7. Cognitive behavioral methods 8. Motivational interviewing 9. Intensive outpatient, after school, or partial hospital programs

Treatment

- better outcome-longer duration,increased readiness, family
- Best-MDFT,group CBT, FFT establihed
- Family-Multdimensional 1-3x wk for 3-6 mo home and clinic
- MST Multi systemic individual,school, peers community

Family Systems Approaches structural – strategic therapy

- Problem focused goal of clear boundaries, supports individualization with sense of belonging and authority of parents
- Use of reframing and paradoxical interventions help parents not to "enable"
- Brief Strategic FT-better than group for conduct and drug use

CONCLUSIONS

- Integrate behavioral and system perspectives in treatment of adolescent substance abuse
- Help parents to maintain boundaries and to set limits
- Encourage family to think about how system ↔ teen behavior

Treatment

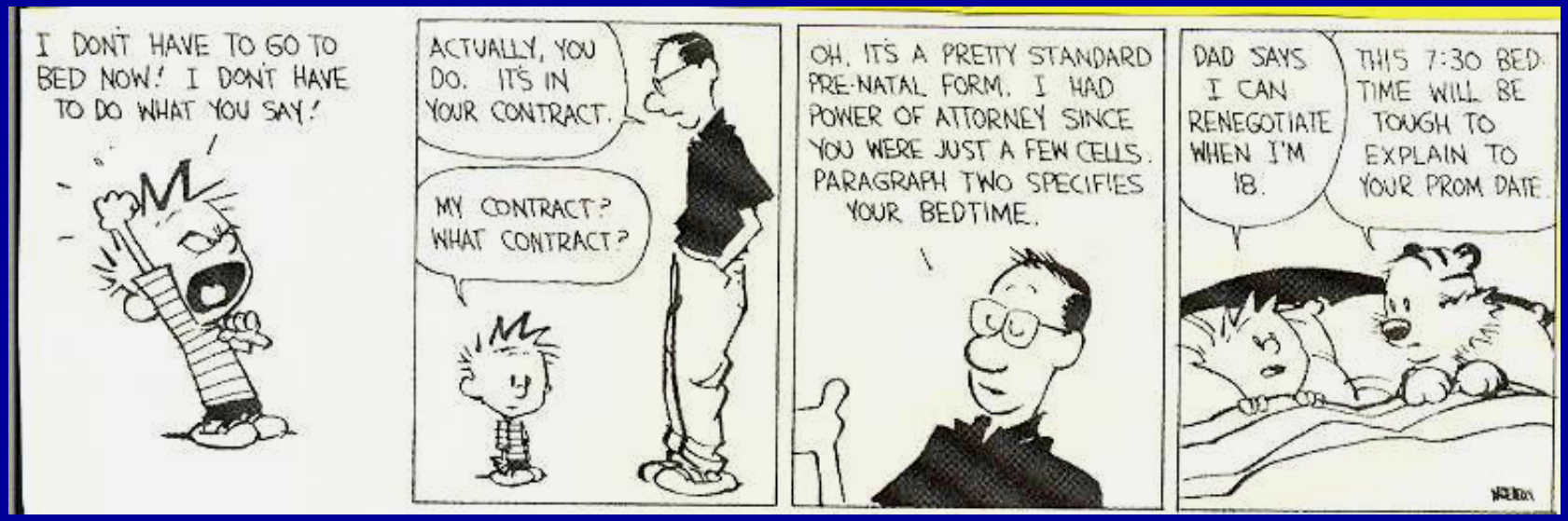
- FFT Functioal Family- integrate behavioral,cognitive with family relationalship stratergies

Family Systems Theory

- Family members: interdependent functioning
- Family interactions: reciprocal, patterned, repetitive
- Structural-strategic family therapy-coherent hierarchy, appropriate rules and authority


CALVIN, WILL YOU GATHER THE TRASH, PLEASE?
WHY SHOULD I? WHAT DO I GET IN RETURN?!
WE WILL FEED, CLOTHE, SHELTER, AND EDUCATE YOU THROUGHOUT YOUR ENTIRE YOUTH.


I REALLY HATE HAVING THINGS PUT IN PERSPECTIVE.


I DON'T HAVE TO GO TO BED NOW! I DON'T HAVE TO DO WHAT YOU SAY!
ACTUALLY, YOU DO. IT'S IN YOUR CONTRACT.
MY CONTRACT? WHAT CONTRACT?
OH, IT'S A PRETTY STANDARD PRE-NATAL FORM. I HAD POWER OF ATTORNEY SINCE YOU WERE JUST A FEW CELLS. PARAGRAPH TWO SPECIFIES YOUR BEDTIME.
DAD SAYS I CAN RENEGOTIATE WHEN I'M 18.
THIS 7:30 BED TIME WILL BE TOUGH TO EXPLAIN TO YOUR PROM DATE.

Azrin, N.H. – 1994 Behavioral Family Therapy

Family Behavioral Treatment

1. Stimulus Control - ↑ safe and ↓ risk situations
2. Urge Control –
   - A. describe using scene-develop urges
   - B. stop sign & list negative consequences
   - C. relax
   - D. initiate safe activity
3. Social Control/Behavioral Contracting

   structured parental reinforcement with safe activities

RESULTS – supportive counseling – 9% abstinent at 6 months vs. behavioral treatment – 73%

Multisystemic Therapy

- Henggler S
- Bourdoin C
- Pickrel S

MST associated with reduction in aggressive criminal behavior at 4 yrs, but no decrese of sub.use Now adding contigency management

Multiple Systems Approaches

Combine Systemic and Behavoiral

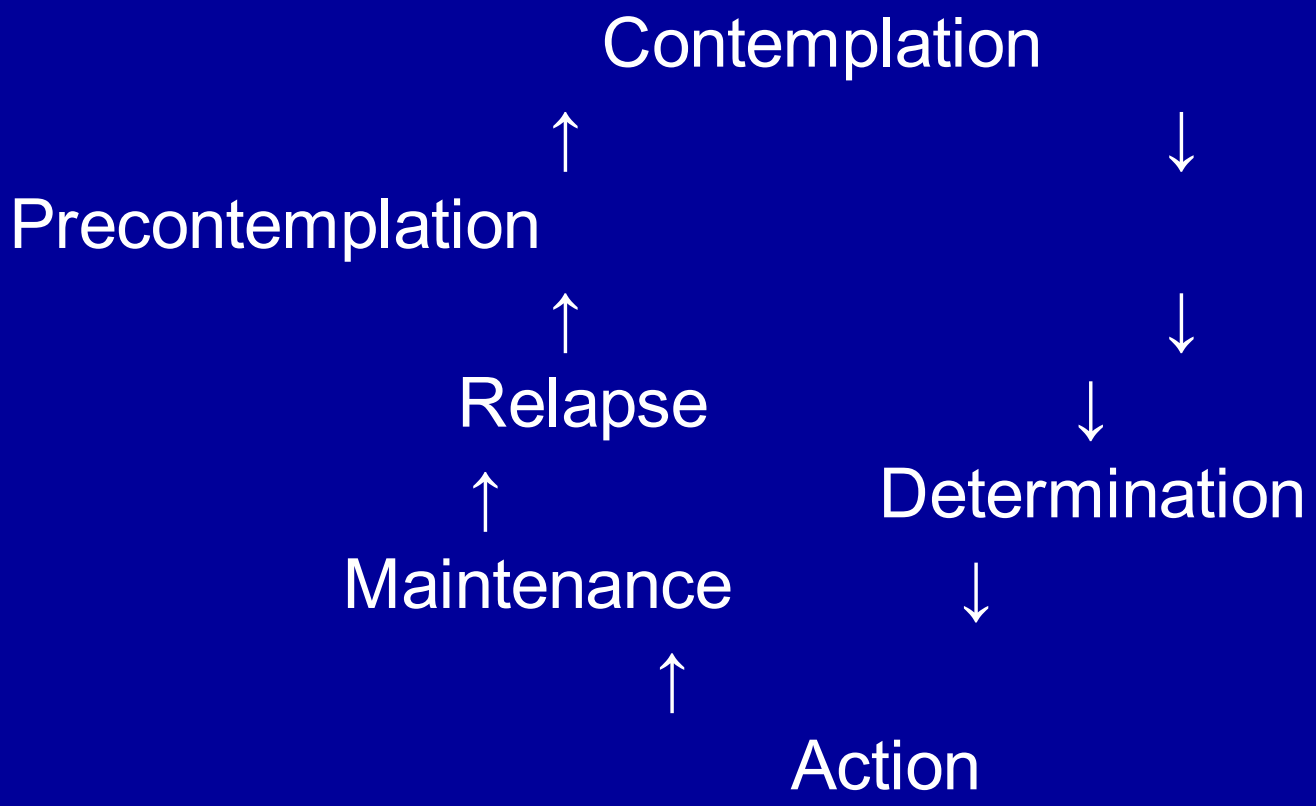
- Functional family therapy: ↓ negative affect,↑ communication and problem solving
  - -↓ negativity, ↑ communication
  - -↓ 6-13 months of recidivism
  - -↓ out of home placements
  - -No drug outcome studies yet
- Multisystemic therapy results
  - -↓ 3-4 years recidivism
  - -↑ family cohesion
  - -↓ aggression
  - -↓ drug use
- Multidimensional family therapy vs individual CBT=MDFT continued improvement up to 1 yr post treatment

Contingency Management

- Immediate positive reinforcement for desired behavior (attendance or usually urine drug screens)
- Fishbowl technique 750pieces of paper-half “good job” 269, 75,30 and 1 jumbo
- Escalate number of draws
- Monitor urines and self and parent reports
- Used by drug courts

Concrete positive rewards to enhance participation and abstinence

Stages of Change - MET



Types of Precontemplation

- Reluctant
- Rebellious
- Resigned
- Rationalizing
- Restricted thinking
- Faking contemplation

Stage Specific Strategies

- Precontemplation – raise doubt, increase awareness of risks and problems
- Contemplation – acknowledge ambivalence, evoke reasons to change, tip the balance
- Determination – help find the best course of action
- Action – provide assistance in moving forward
- Maintenance – relapse prevention strategies, positive reinforcement
- Relapse – avoid demoralization, enhance movement back toward action, assist in learning process

Motivational Treatment

- Brief motivational interventions

  - 1-4 sessions assessment and feedback, i.e., emergency room interview
- Motivational interviewing
- Motivational enhancement therapy (MET)

  - 4 sessions match study

Brief Intervention: Source: Miller & Sanchez

F Feedback on personal risk or impairment

R Emphasis on Responsibility to change

A Clear advice to change

M A Menu of alternatives

E Empathy as a counseling style

S Facilitate self-efficacy (optimism)

Motivational Interviewing Principles

- Empathy
- Avoid arguments
- Roll with resistance
- Support self-efficacy
- Develop discrepancy

Miller WR, Rollnick S

FEEDBACK

- State the FACTS in adolescent's own words ("you've told me that . . .")
- List health risk and problem behaviors, accidents, and injuries
- List impairments in school and work performance, troubled or broken relationships
- Relate concerns about immediate future, not distant possibilities

RESPONSIBILITY

- “You’re practically an adult. You will have to take responsibility for your own life now”
- “I respect your right to make your own decisions. Neither your parents nor I can do things for you or to you. If you will allow us, we would like to work through this problem with you.”

Empathy

- Avoid anger and confrontation
- Unconditional positive regard
- Remember the feelings of your own teen years (not behavior)
- Give voice to compassion

Self-Efficacy

- Adult predictions of failure and future trouble are common
- Be optimistic
- Refute negative attributions
  ("you'll never amount to anything")
- Make empowering statements
  ("I believe you can do it")

Evidence Base-MET

- Monti-ER Intervention for auto accident and alcohol use -single 45 minute interview-6 mo follow-up-age18-19-decrease drinking and driving and alcohol related problems
- Monti younger adolescents-increased benefit if poorly motivated at base line
- Coloby-one session for nicotine- at 3 mo22%vs 10%
- Marlett 1st yr. college 6mo 2yr. Follow-up some decrese of drinking rates but significant decrease of alcohol related problem

Functional Analysis for Substance Use Behavior

- Antecedents (triggers) to use
  - external: who, where, when
  - internal: think just before
  - feel physically before
  - feel emotionally before
- Description of use
  - what is used?
  - how much is usually used?
  - for how long?
- Short Term positive consequences
  - like about whom, where, when
  - while using: pleasant thoughts, physical feelings, emotional feelings
- Long Term negative consequences
  - interpersonal
  - physical
  - emotional
  - legal
  - job
  - financial
  - other

Waldron H

Functional Analysis for Nonusing behavior

- External triggers: who, where, when
- Internal triggers: thinking before, feeling physically before, feeling emotionally before
- Description: what, how often, how long
- Short term negative consequences
  - Dislike about _____ with whom, where, when
  - While doing _____ unpleasant thoughts, physical feelings, emotional feelings
  - Long term positive consequences

    - interpersonal, physical, emotional, legal, job, financial

Cognitive-Behavioral Techniques

- Refusal Skills-role play
- Direct eye contact, firm voice
- Immediate “no”
- Suggest alternative
- “don’t ask again
- Change subject
- Don’t be vague
- Don’t be guilty

Coping with urges

- Recognize triggers –exposure, associated people and places, negative or even positive emotions
- Distracting activities, talk it through, urge surf, challenge and change thoughts
- Azrin- Stop sign, list negative consequences [first step], relax, distract

CBT

- Handle emergencies, lapses
- General-communication skills,problem solving, mood management, relaxation training

Handling a Lapse

- Leave the place
- Get rid of A and D
- Remember lapse is not a relapse- become stronger if just a lapse
- Don’t give in to guilt or shame
- Call for help
- Examine and learn about self from lapse

Evidence Base-CBT

- Kaminer and Burleson-CBT group better than interactional group for decrease use but many relapse and no difference at 1 yr

Adolescent Community Reinforcement Approach

- Manualized for CYT-warm enthusiastic nonjudgmental, life rearranged so abstinence more rewarding –identify teens and parents reinforcers, functional analysis of triggers-short-term positive and long-term negative consequences, also problem solving, communication skills and achieving healthy social and recreational activities- see teens and parents alone and toether

Dialectical Behavioral Therapy

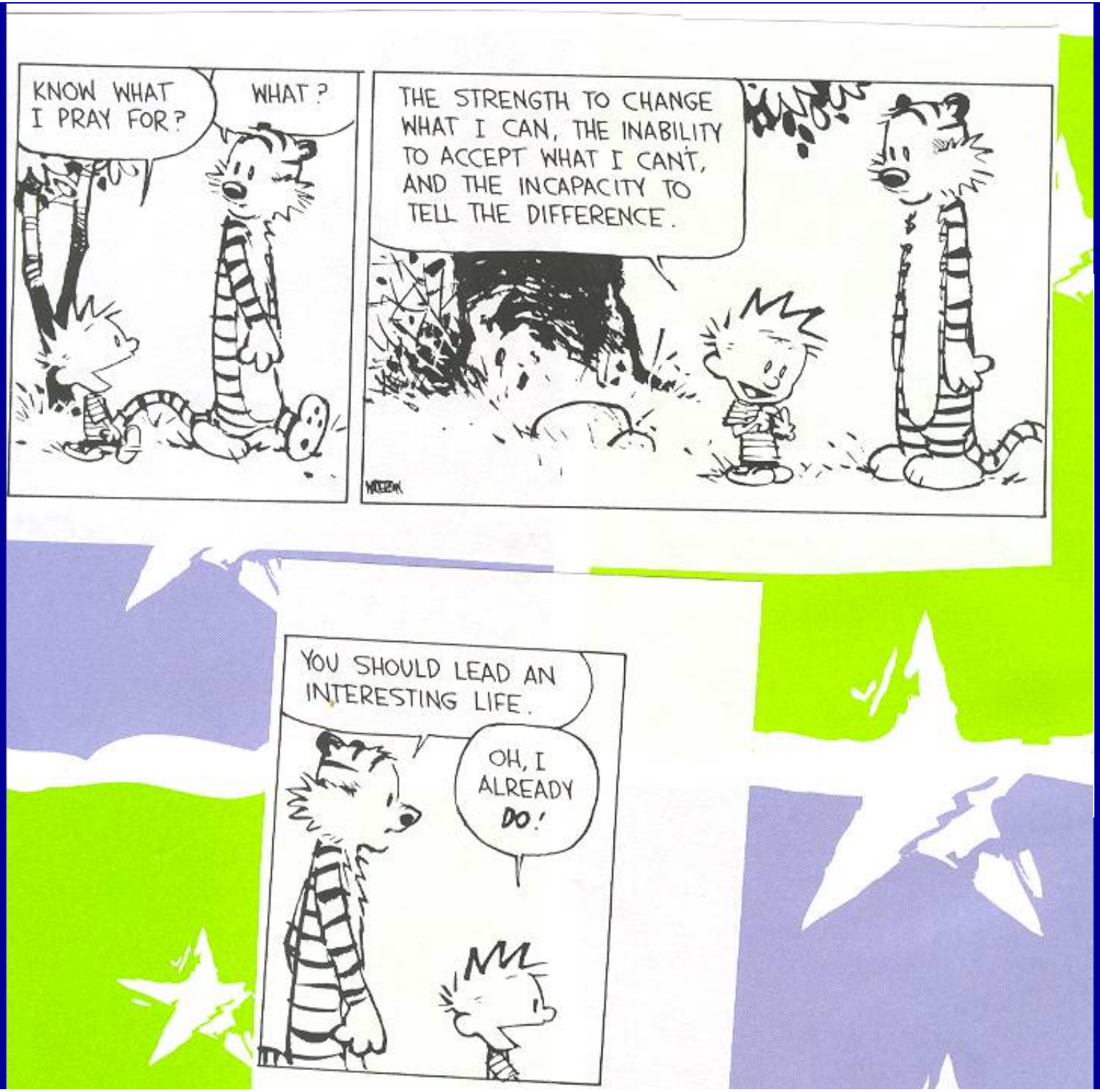
- Combines CBT for emotional regulation with skills of mindfulness, distress tolerance and interpersonal effectiveness
- Include self-reflective diary cards,homework assignments, and phone contact

Cannibis Youth Treatment Study

- 2MET +3CBT or 12 CBT vs Community Reinforcement Approach vs MDFT-3mo
- All yielded positive results but much relapse
- Change from 3% to 24% in recovery but 40% did not respond at all

Assertive Continuing Care

- Telephone follow-up, home visits, early re-interventions
- Shift responsibility to treatment professional
- Work with post-treatment environment- peer group, social networks and family
- Study of post residential continuing care-at 90 days ACC 52% abstinent from THC vs 32% for Usual continuing care


KNOW WHAT I PRAY FOR?
WHAT?
THE STRENGTH TO CHANGE WHAT I CAN, THE INABILITY TO ACCEPT WHAT I CAN'T, AND THE INCAPACITY TO TELL THE DIFFERENCE.
YOU SHOULD LEAD AN INTERESTING LIFE.
OH, I ALREADY DO!


AREN'T YOU SUPPOSED TO BE DOING YOUR HOMEWORK?
I'M PRETTY SURE THE ASSIGNMENT WAS OPTIONAL.


DENIAL SPRINGS ETERNAL.
IT'S NOT DENIAL. I'M JUST VERY SELECTIVE ABOUT THE REALITY I ACCEPT.

Therapy

- Ego split

  - “druggie” part - nucleus accubins to and from frontal lobe - druggie thinking

  - healthy part

- Want to use but need to stop using

12 Step Treatment specific for chemical dependency

- Chemical dependency groups
- Working the steps (1-5)
- Contact and sponsors
  -Peer group
    -Recovering
- AA/NA meetings: hospital, community, home groups
- Special family groups
- Spiritual, higher power (hp), mediation groups
- Relapse prevention groups

Step 1

- “powerless over alcohol . . .”

  - become powerful if you stop using; power to have a life
- Develop honesty
- Undo defense mechanism of disavowal

STEP 2

- Came to believe that a power greater than ourselves could restore us to sanity
- 1st HP =parental figures-mourn neglect or abuse/ or the drugs have become a negative HP, when sober have an emptiness
- Spiritual feeling to trust something positive (love between people,nature etc.) to handle what is beyond one's control

Values of Positive Life

- To be honest
- To be responsible
- To care about yourself
- To care about others

Step Three -decision to commit to work a program

- Step Four-inventory
- Step Five-present to counselor or sponsor

Evidence-base- 12 Step

- Harrison and Hoffman attend 2 mtgs a wk-increase abstinence at 1 yr.
- Winters-1 yr. follow-up-53% vs 27%

Adolescent 12-step attendance and drug use

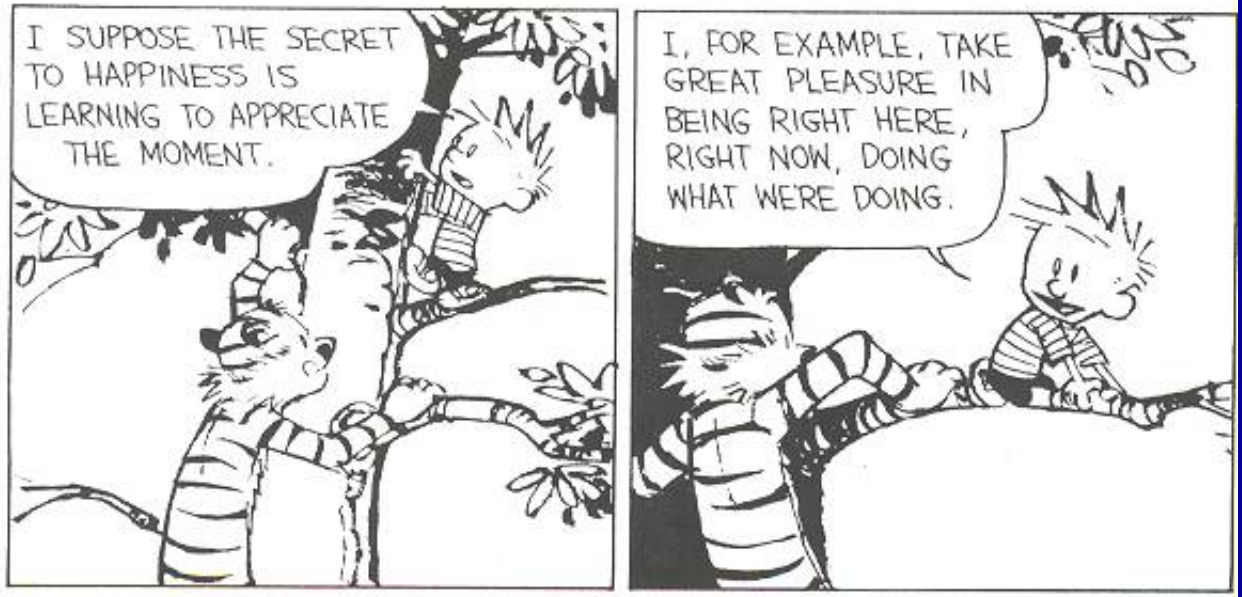
- Kelly,J, Myers,MG and Brown,S
- Pre-using 20.4days/mo
- Inpatient for 12,5 days
- First 3 mo.-31% reported complete abstinence, sample as whole-using 3.9days/mo, averaging 2-3 mtgs/wk but 25.3% not attending any mtgs
- Second 3 mo-30.3%report complete abstience, sample as whole-using 6.9 days/mo, with 41% not attending any meetings
- Abstainers attending 2X as many meetings
- 12-Step mtgs- operated by maintaining and enhancing motivation for abstience

Enthusiastic Recovery Intervention

- Have fun off drugs try 30 datys
- 157 patients (2013-14)
- If parents regularly attend parents group 81% complete IOP vs 50%
- 46.5% relapse but 58.9% of these complete the 8-12wk IOP
- Opiate/heroin group #54-50% relapsed but 56%complete the program

Check on Program

- Remember how bad life had become
  - undo euphoric recall
  - work first step daily
- Explore using thoughts, feelings and dreams
- Attend meetings – where, participate
- Calling and meeting with sponsor
- Recovering peers


I SUPPOSE THE SECRET TO HAPPINESS IS LEARNING TO APPRECIATE THE MOMENT.
I, FOR EXAMPLE, TAKE GREAT PLEASURE IN BEING RIGHT HERE, RIGHT NOW, DOING WHAT WE'RE DOING.


OF COURSE, YOU'RE SUPPOSED TO BE AT SCHOOL.
I COULDN'T APPRECIATE THOSE MOMENTS.

RELAPSE AND CONTINUED CARE

- PROBLEMS-TREATMENT NON-COMPLETERS (30%-50%)and high rate of relapse
- Assertive Continuing Care
- 12step Rxment –sponsor,non-using peer group etc.
- Phone Intervention

Alcohol

Withdrawal – autonomic hyperactivity and anxiety

Severe – seizures, delirium and death

Treatment – benzos or carbamazepine

Disulfiram – aversive – inhibits liver breakdown of alcohol – facial flushing, headache, nausea and vomiting

Niederhofer (2003) – 26 teens DBPC 200mg/day

began as inpatients – drug increased duration of abstinence but poor compliance

Cycle of Alcoholism – Addiction

Acute Withdrawal →→ Protracted Withdrawal

Acomprosate

↓

binge

intoxication

relapse

Naltrexone

↑

Acamprosate

- For alcohol dependent person who is abstinent for at least 2 days – helps only with dependency disorder
- Normalizes the hyperactivity at NMDA receptor of glutamine system when in protracted withdrawal system (may last a year after beginning abstinence)

Acamprosate

Niederhofer (2003) DBPC – mean dose 1332 mg

26 adolescents with alcohol dependence

90 day treatment began on inpatients

7/13 on drug vs. 2/13 on placebo were abstinent for entire study

FDA approved for alcohol dependent seeking to remain abstinent after stopped drinking

Naltrexone

↓ alcohol cravings as alcohol stimulants release of endogenous opiates - ↓ rewarding effects of drinking – helps with abuse and dependency disorder

Deas (2005) – 6 week open trial of 5 treatment seeking outpatient adolescents with alcohol dependence, 50 mg day

→ decrease - average drinks/drinking by 1st week

↓ craving scores

no change in LFT's

side effects – nausea and vomiting

no controlled studies

Concerns – will precipitate opiate withdrawal ↓ pleasure when drink but doesn't achieve abstinence

when stop med – drinking returns to previous level therefore must motivate to abstinence, follow LFTS

N-acetylcysteine

- Nac-double blind RTC in combination with CM for negative urines-decreased cannibis use

Agents of Substitution

Agonists – occupy receptor but longer acting, less reinforcing, fewer drug like effects (intoxication, euphoria)

Heroin – short acting

Methadone – long acting, decrease withdrawal symptoms and cravings – less preoccupied

limitations – diversion and risk of overdose

De Anglis & Lehmann)1973) – 18 mo. abstinence rate with short term methadone detox (10-60 mg/day)

35% ages 15-24

- Buprenorphine (Subutex) partial agonist
- Less risk of overdose or respiratory depression
- Ghandi (2003) 128 young adults – opioid addicts – 3 days sub-lingual or IM buprenorphine
- Decrease heroin and cocaine usage but only 12% had negative urines for the 6 mo. Trial
- Suboxone – buprenorphine and naltrexone

Detox for Opioid-Dependent Adolescents

- Marsch ,L. et al Arch Gen Psy Oct 2005
- 28 day outpatient 3x/wk community reinforcement approach(sti control,urge control and family social contracting) and incentives contingent on opiate abstinence)
- Buprenorphine (6-8mg) vs clonidine
- Retention 72%vs 39%, urine test-64%-32%
- 61%vs 5% initiated naltrexone triatment at end

SUD and Psychiatric Disorders

- More complicated treatment
- Higher rate of relapse

Comorbid ADHD

- ADHD alone

  - increase risk for SUD ages 17-22 years
- ADHD and bipolar/conduct disorder

  - increase risk of early (less than 16 years) SUD
- ADHD

  - accelerates transition from abuse – substance dependency

Medication Treatment of ADHD and Substance Abuse 4 years

- 56 ADHD prescribed with →25% abusing medications
- 19 ADHD – no medications →75% abusing
- 137 non-ADHD → 18% abusing

Biederman J et al, 1999

ADHD

- Hoffman LD
  - Males 22%, school problems 65%
  - Females 8%, school problems 48%
- DeMilio: 14%
- Riggs: 16%
- Milin: 23%

Riggs, P. 2001

Controlled clinical trial of Pemoline
69 Adol. CD & SUD & ADHD
Randomized Double Blind
Pemoline v. Placebo 12 weeks
36 adolesc. Completed

- Stimulant improved ADD symptoms without abstinence
- No change in substance abuse
- No effect on CD symptoms
- Slight improvement in CD symptoms from baseline in both Pemoline and Placebo groups
- No serious adverse effects

Jaffe, S., JAACP Jan. 2002

3 cases – Dual Disorder ADHD & SUD in residential treatment

- Unable to abuse Concerta by intranasal route Also Vyvanse
- College 5%abuse stimulants
- HS 15% gave and sold their own

ADHD AND SUD

- 300 adolescents-ages13-18-11 sites with70% rention
- OROS-methylphenidate (up to 72mg) plus CBT vs placebo plus CBT for 16wks
- Results : both groups decreased ADHD symptoms- no difference by clinician's rating but significant difference favoring Concerta by parent's rating, problem solving and focused-coping skills taught in CBT only improved in Concerta group, substance abuse decreased in both groups (days of drug use in past 28 days-43%vs 33%-not significant)

ADHD

- Group therapy
  - short, allow to leave
- NA
  - often more stimulating
- Individual
  - eye contact, reminder cards

Medications

- Do not give values
- Only remove symptoms
- If are less depressed, less distracted and less impulsive
- Get better grades and be more responsible OR
- May be a better bank robber

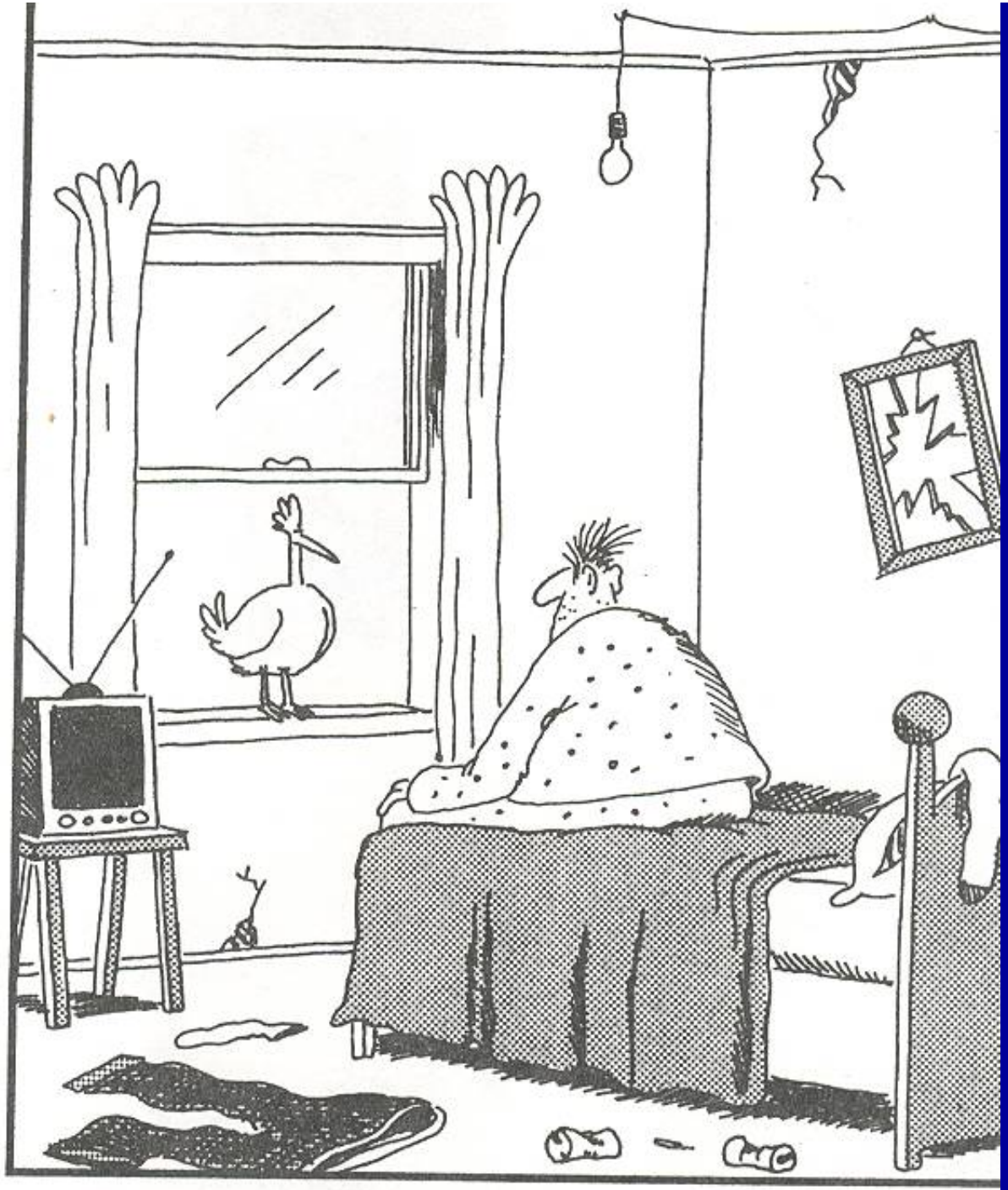
Conduct Disorders Treat Comorbid Condition

- DeMilio: 42%
- Stowell: 54%
- Chatlos: 88%
- Bukstein: 70.5%

"That settles it, Carl! … From now on,
you're getting only decaffeinated coffee!"

Aggression and Violence

- Direct effect – alcohol – often is stimulant and then depresses
- Stimulants
  - Cocaine
  - PCP
  - Methamphetamine



The Bluebird of Happiness long absent from his life,
Ned is visited by the Chicken of Depression.

Dysthymia and Major Depression

- Hospitalized SUD with dysthymia (1)
  - 53% dysthymia prior to SUD
- Hospitalized inpatients with SUD and MDD (2)
  - 60.4% secondary depression
  - 16.7% had primary form

(1) Hovers et al, 1994

(2) Bukstein et al, 1992

Depressive Disorders

	Females	Males
Hoffman	41%	22%
Suicide attempts	28%	10%
DeMilio	53%	35%
	(2 weeks) (major depression)	
Bukstein	30% (3 wks)	20% (MDD)
Dysthemic	21%	
Riggs	21%	21%
all with SA and CD		

Depression

- Therapies
  - individual, group, family
  - cognitive behavioral
- 12 Step
  - loss of drug
  - life story
  - 2nd step – hurt by childhood higher power
- Medications
  - SSRIs
  - Bupropion (Wellbutrin)
  - Venlafaxine (Effexor)
  - Trycyclics

ADHD + SUD + Mood Disorder

Solhkhah et al (2005) – ADHD, mood disorder + SUD

- 14 outpatient adolescents – retrospective chart review baseline, 3 + 6 mo. Assessments – open trial bupropion SR 100-400 mg
- 13 completers – at 6 mo. Decrease DUSI score, decrease ADHD symptoms, decrease depression and decrease substance abuse
- referred for continued outpation evaluation
- substance abuse reported or initial interview
- “12 regular uses of THC”
- “8 regular uses of alcohol”
- “1 – alcohol, THC, hallucinogens and XTC

Riggs 2005 AACAP Presentation CD, SUD + MDD (40% ADHD)

- 143 screened → 126 randomized
  - 63 individual CBT + fluoxetine (20mg)
  - 63 CBT + placebo
- 52 and 54 completed the study
- Results: depression – much improved 76% drug vs. 67% CD – improved both groups
  - substance use – decrease both groups – no difference
    - use 18/30 days – ↓ 5 days (drug), ↓ 7 day(placebo)
    - THC 15 days/mo - ↓ 3 days each group
    - alcohol 4-5 days/mo – no change – weekend binge drinking
- Responders = complete remission
  - placebo responders v. Fluoxetine responders – no difference
  - responders v. non responders – significant decrease of drug use

Concurrent Depression and Alcohol Dependence

- CBT and Sertraline, CBT and placebo

  - both improved . . . No group differences in 12 weeks

Deas-Nesmith et al, 1998

Bipolar Disorders

- Bipolar in adolescents
  - often cycle within a day
  - rapid cycling, mixed features most common
  - most prominent symptoms – irritability, angry outbursts
- Benzodiazepines may cause disinhibitions

Bipolar

- Adolescent onset significantly associated with SUD relative to child onset

Wilens et al, 1999

Adolescent Bipolar Disorder

- Distractibility
- Increased activity
- Grandiosity
- Flight of ideas – racing thoughts
- Acts with painful consequences
- Sleep decreased
- Talkativeness – pressured speech
- Severe persistent irritability – often violent
- Hypersexuality

Bipolar Disorder in Adolescents

- 31% onset by age 14
- 59% onset by age 19

	Mixed Type (#24)	Manic Type (#12)
History of ADHD	75%	75%
Substance abuse	42%	33%

High Incidence of suicide attempts

West S, 1997

Treatment: Bipolar Disorder + SUD

"Explosive Mood Disorder" – Donovan et al (1996, 1997)
Open study – 8 outpatients with THC abuse/dependency
5 wk trial on valproic acid (1,000 mg)
↓ THC usage and improved affective symptoms – measured only by self report

Bipolar + Substance Dependency
Geller et al (1998) DBPC
25 adolescents – 21 completed 6 wk trial – 3 hospitalized
Lithium (average serum level of .98m eq/L)
All had weekly interpersonal therapy
Results: Li groups – decrease of positive urines for drugs
no difference in severity of affective symptoms and global functioning
Most important group for use of medication

Treatment

- Stabilize with meds and contract for abstinence – may need to hospitalize
- Then - - - may use stimulants for comorbid ADHD
- May need antidepressant (Bupropion or non-energizing SSRI) for depression
- Talk therapy: education on both Bipolar Disorder and SUD and psycho – social treatments for both

Treatment

- Lithium – double blind placebo controlled trial of adolescents with Bipolar Disorder and SUD. At 3 weeks had decreased positive drug screens and increase C-Gas scores. Geller et al, 1998
- Trileptal – skin rash
- Depakote – weight gain, liver tests and serum levels (100-130)
- Tegretal – bone marrow suppression, liver tests, double digit serum levels
- Topamax – cognitive effects
- Lamictal – skin rash

Anxiety Disorders

- Hoffman
  - physical abuse: 29% and 38%
  - sexual abuse: 5% and 37%
- Stowell: 43%
- Chatlos: 16%
  - PTSD: 42%
- Riggs: 42%
  - PTSD: 20%

Social Phobia

- Highly comorbid with depression, somatoform disorders, and SUD

Essau et al, 1999

Substance Abuse and Sexual Abuse
Hussey Study

- Increase drug use
- Begin earlier
- Self- medicate

Substance Abuse and PTSD

- Abstinence agreement – safety
- Teach assertiveness and boundaries
- Define abuse and right to own feelings
- ? Drug abuse or wait for more stability
- 1st step

  - increase power

  - don't surrender

EDMR

- Eye movement desensitization and reprocessing

Shapiro F

LD-sub abuse at age 14/15 predicted by academic and social behavior between 7 and9

- Eating disorders-25% have hx or currently using substances
- Higher use in bulimics than anoexics
- Doulble Trouble 12 step groups

Conclusion

Waxomesky and Wilens 2005

"Pharmacological agents appear to reduce co-morbid psychopathology with a milder reduction in SUD symptoms"

Power of heroin

- Sam “ The first time I shot heroin it was like the angels from heaven came down and wrapped me in a warm blanket.”

Drug overdose deaths 2013 43,982

- Ages25-64 >motor vehicle accidents 51.8% related to prescription drugs 71.3% of those- opioids, 30.6% benzos
- Many had both
- 2011-1.4 million emergency dept visits related to prescription drugs 420,000 related to opioids
- 2013 drug poisoning deaths 81% unintentional 12% suicide 6% undetermined

Age 18-25 heroin doubled-past decade

- 45% use heroin are addicted to opioids
- Heroin use increased 109% ages 18-25 non-Hispanic whites betseen 2002 and 2013

Prescription Opioid Drug Overdose Deaths 2013

- Rates per 100,000
- 15-24 2.6
- 25-34 7.5
- 35-44 8.6
- 45-54 10.6
- 55-64 7.5
- >65 1.6
- Majority-non-Hispanic white

Drug poisoning deaths-heroin

- Prescrption opioid deaths-increase at 19%per yr. 2000-2006 but then leveled off at 2% per yr. thru 2013
- Heroin OD deaths slow increase at 6% 2000-2010 (1.0per 100,000) but then sharp increase at 37% per yr to 2.7 in 2013
- 4X higher for males
- Ages 18-44 non-Hispanic white male-highest rate of heroin deaths

Opioid OD epidemic soars in 2014

- Prescription opioids increased by16.3%-18,893
- Heroin deaths increased by 28% 10,574
- Deaths involving fentanyl (25-40X stronger than heroin) increased over 80%-much illegally made
- ¾ heroin addicts began with prescription opioids

Adolescent Substance Abuse Intervention Workbook

- Initial approach for teenager to become aware, both cognitively and emotionally, of negative consequences of their drug use.
- 29 hospitalized adolescents 31%changed to acknowledge a need to stop using
- 56 delinquent adolescents in YDC-significant increase in recognition of harmful drugs and believe that continued use will be harmful (48% moved to low risk)

Adolescent Substance Abuse Intervention Workbook

Taking a First Step

Steven L. Jaffe, M.D.

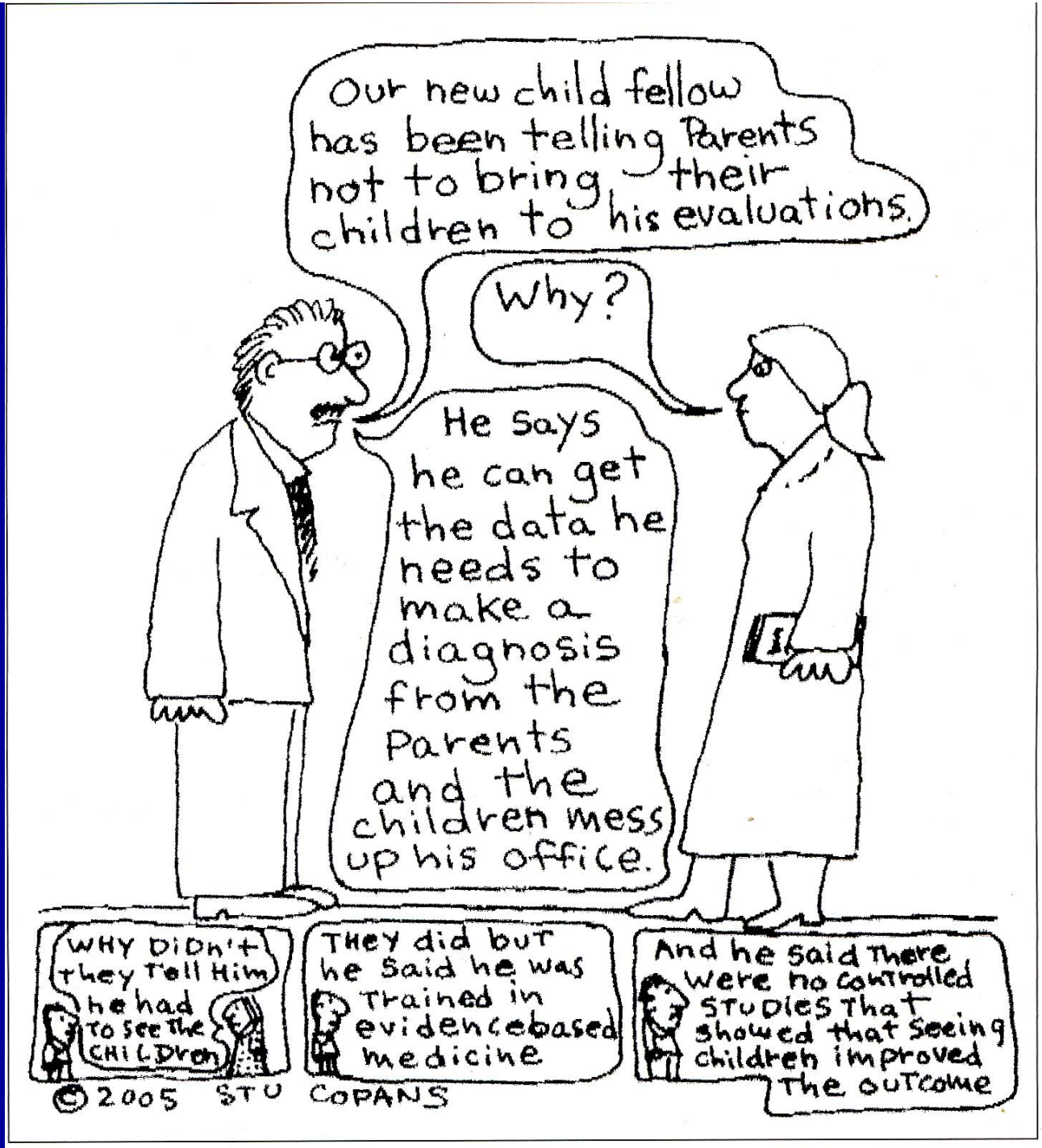
"Drugs are fun."

"But my life is a mess . . ."

Although you may WANT to continue to use alcohol and/or drugs, the question is:

Do you NEED to stop drinking/using drugs to make your life better?

Circle one: **YES** **NO** **MAYBE**


Our new child fellow has been telling Parents not to bring their children to his evaluations.
Why?
He says he can get the data he needs to make a diagnosis from the Parents and the children mess up his office.
$
WHY DIDn't they Tell Him he had To see the CHILDren
THEY did but he Said he was Trained in evidencebased medicine
And he said there were no controlled STUDIES That showed that Seeing children improved The outCome
© 2005 STU COPANS

Standard

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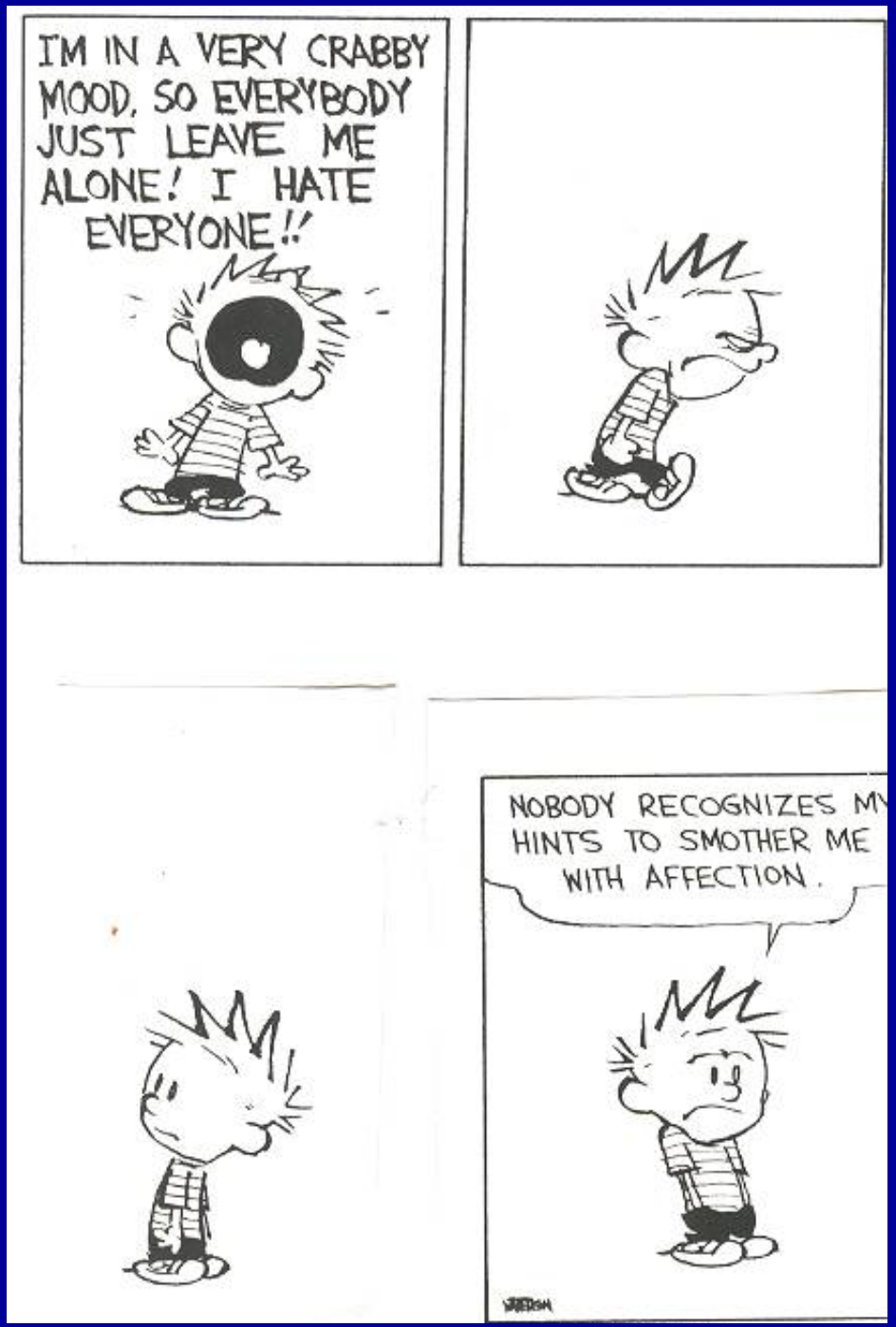

I'M IN A VERY CRABBY MOOD. SO EVERYBODY JUST LEAVE ME ALONE! I HATE EVERYONE!!
NOBODY RECOGNIZES MY HINTS TO SMOTHER ME WITH AFFECTION.

Suicide Risk Assessment and Prevention

Theodore A. Petti, MD, MPH
Rutgers-Robert Wood Johnson Medical School

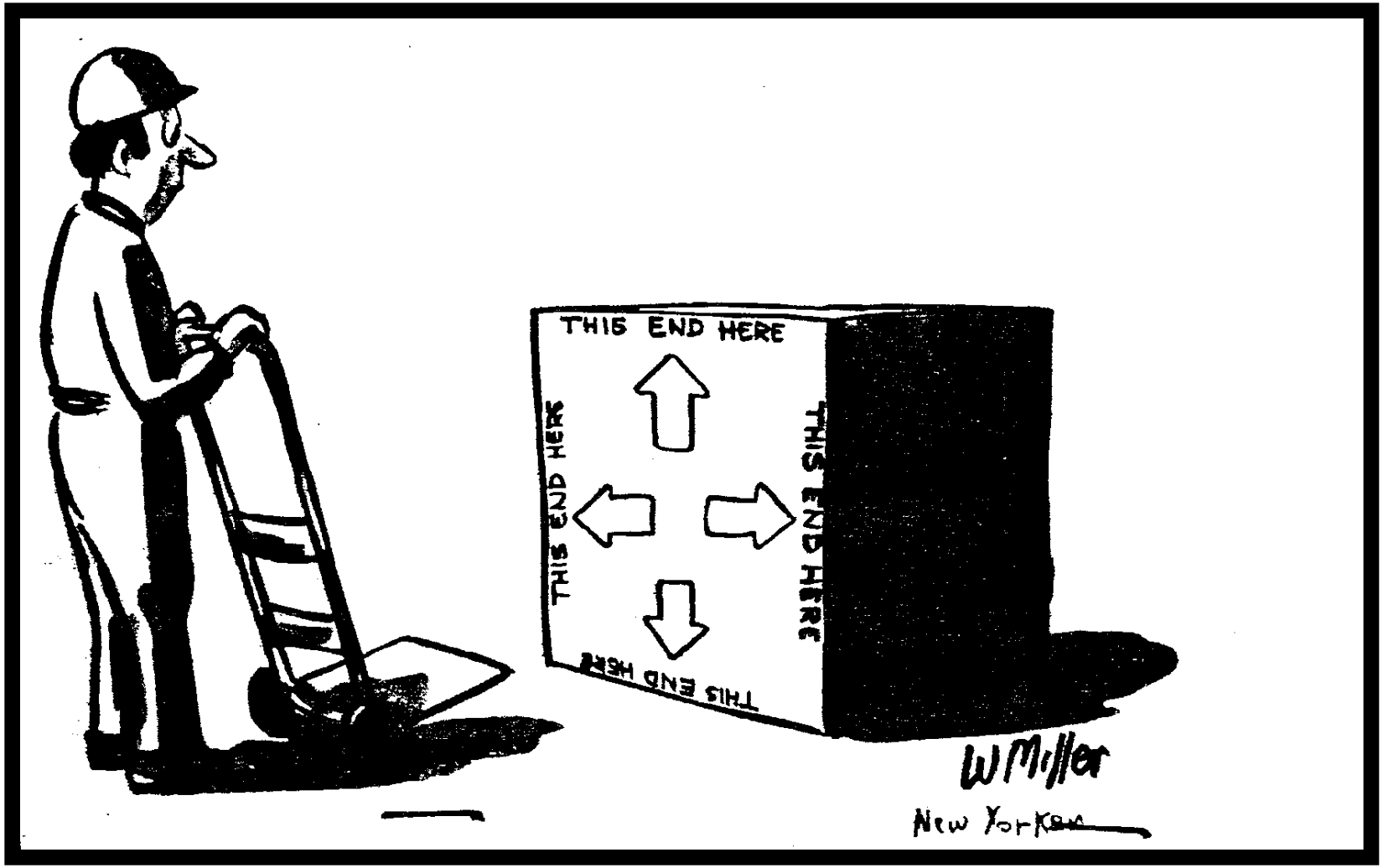
ASAP, New York, New York, March 19, 2016

Disclosures

No Conflict of Interest

Objectives: Participants will have greater awareness of:

- The distinctions between suicide, suicidal risk, and nonsuicidal self-injury (NSSI);
- The risk factors for completed suicide;
- The clinical importance of nonsuicidal self-injury;
- Evidence-based treatment approaches for suicide and non-suicidal self injury;
- Current research and future directions;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W Miller
New Yorker

12/15/16

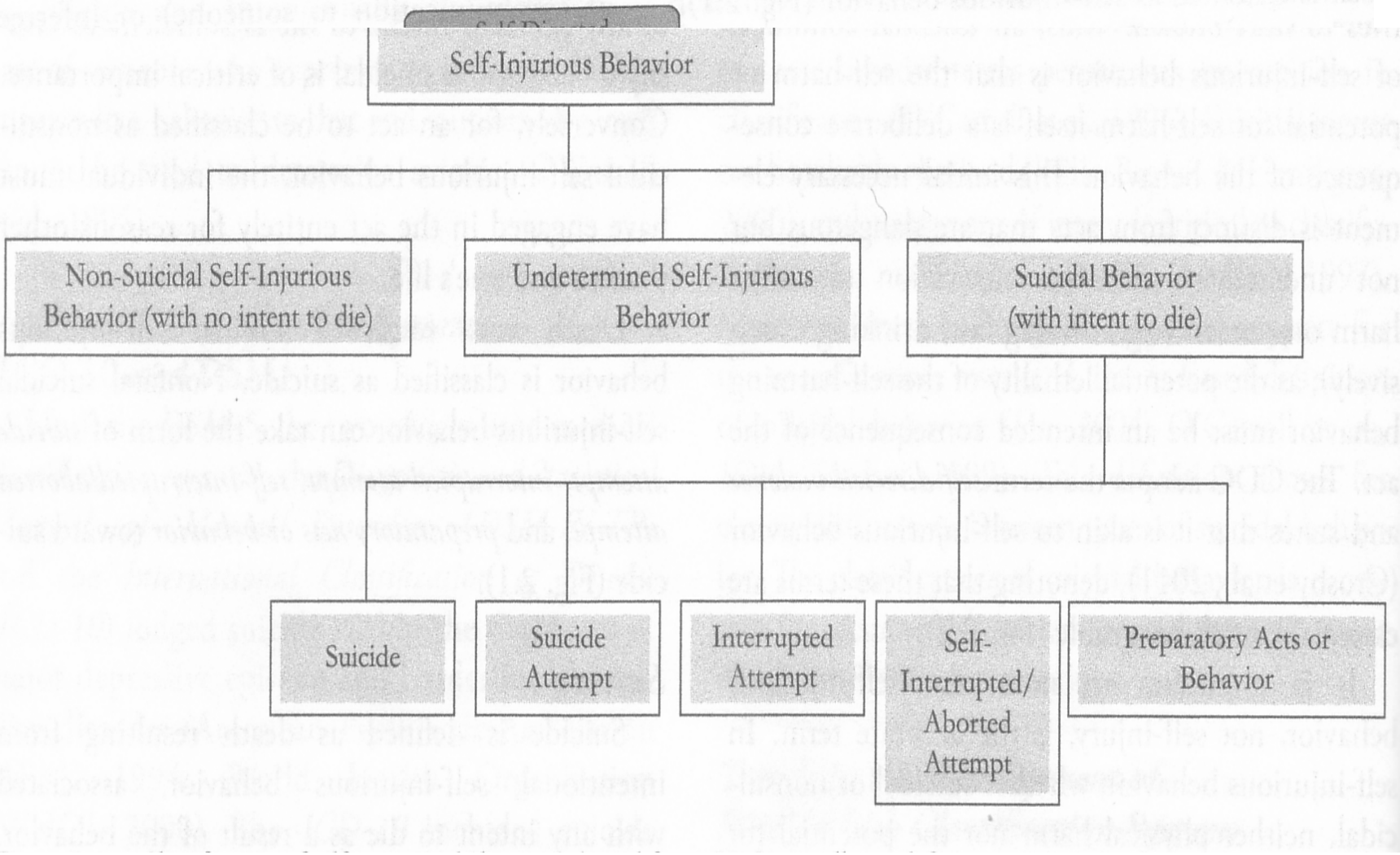
Self-harm: Distinctions between suicidal and non-suicidal self-injury (NSSI)

- Distinctions clearer over the past six years,
- Considerable overlap between the two remains.
  - Methods
  - Precipitants
  - Outcome
- Both forms of self-harm are risk factors for completed suicide.

DSH/NSSI and DIFO

- In Europe and Australia, deliberate self-harm (DSH) is the term commonly employed, while in Canada and the USA, NSSI is becoming the accepted descriptor.
- DSH/NSSI as any self-harm done with neither the intent to die nor for socially sanctioned purposes.
- Heterogeneous types of self-harm,
- SIB over the past 25 years has become endemic in the general population and frequently reported in mental health settings. Walsh (2012)

CDC surveillance flowchart for self-directed violence Posner et al, 2014, p. 12



Classifying suicidal and NSSI

Posner et al, 2014, p. 13

Suicide: Death resulting from intentional self-injurious behavior, associated with any intent to die as a result of the behavior	• The outcome of the behavior is death. • Nonzero intent to die: If there is ***any*** intent/desire to die associated with the act, then the act is a suicide. • Intent can either be stated explicitly by the individual or inferred.	• Person died by hanging himself and left a note stating intent to die. • Person died of shooting self in the head; intent is inferred from the impressive circumstance. • Person died of swallowing pills and family members state he expressed a desire to die.
Suicide Attempt: A nonfatal self-directed potentially injurious behavior with any intent to die as a result of the behavior	• Evidence may be explicit or implicitly inferred. • Nonzero: If there is ***any*** intent/desire to die associated with the act, then the act is a suicide attempt. • There does not have to be any injury or harm, only the potential for injury or harm.	• Person swallows four pills because wanted to die (stated intent). • Person pulls trigger; gun failed to fire (no injury necessary, intent is inferred). • Person shoots self in face; survives and verbalizes no intent to die (inferred by impressive clinical circumstances).

CDC self-directed violence definitions Posner et al, 2014, p. 18

Interrupted Attempt: A person takes steps toward making a suicide attempt but is stopped by another person prior to any injury or potential injury.	• If not for the interruption, actual attempt would have occurred. • No injury occurs. • However, once they ingest any pills, pull the trigger (even if the gun fails to fire), or make the first scratch, it becomes an attempt rather than an interrupted attempt.	• Person has pills in hand but is stopped from ingesting (*once person swallows any pills, this becomes an attempt*) • Person has gun pointed toward self, gun is grabbed away by someone else, or is somehow prevented from pulling trigger (*once person pulls trigger, even if the gun fails to fire, it is an attempt*). • Person is poised to jump but is grabbed and taken down from the ledge. • Person has noose around neck but has not yet started to hang—is stopped from doing so.

CDC self-directed violence definitions Posner et al, 2014, p. 18

Self-Interrupted/Aborted Attempt: A person takes steps to injure self but stops self prior to any injury or potential for injury.	• If not for the interruption, actual attempt would have occurred. • No injury occurs. • However, as soon as the first pill is swallowed or the first scratch is made, it becomes a suicide attempt.	• Person takes out pills to make an attempt; changes mind and does not swallow any. • Person goes to the top of a building to jump; changes mind and turns around. • Person begins to drive at high speed toward a cliff; changes mind and drives home.
Preparatory Acts or Behavior: Acts or preparation toward making a suicide attempt	• Preparatory behavior, beyond a verbalization or thought • Assembling the method to kill oneself • Preparing for one's death by suicide	• Giving away valuable possessions • Writing a suicide note • Buying or collecting pills • Purchasing a gun • Writing a will
Nonsuicidal Self-Injurious Behavior: Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself	• There is no evidence, whether implicit or explicit, of suicidal intent. • The behavior must be outside the realm of socially sanctioned forms of self-injury regarded as expressions of individuality and creativity such as tattooing and piercing.	• Person cuts self in order to distract from emotional pain. • Person carves on self to gain attention from parents. • Person burns self to feel alive. • Person scratches wounds to bleed as self-punishment.

Suicides—CDC, 2015

Sullivan et al, MMWR, 2015

Globally a primary cause of adolescent death

National Vital Statistics System data on annual suicide counts were analyzed for persons aged 10–24 years from 1994 until 2012 (Sullivan et al, MMWR Morb Mortal Wkly Rep, 2015, 64:201-205)

Suicide represents second leading cause of death in 10-24 year-old youth

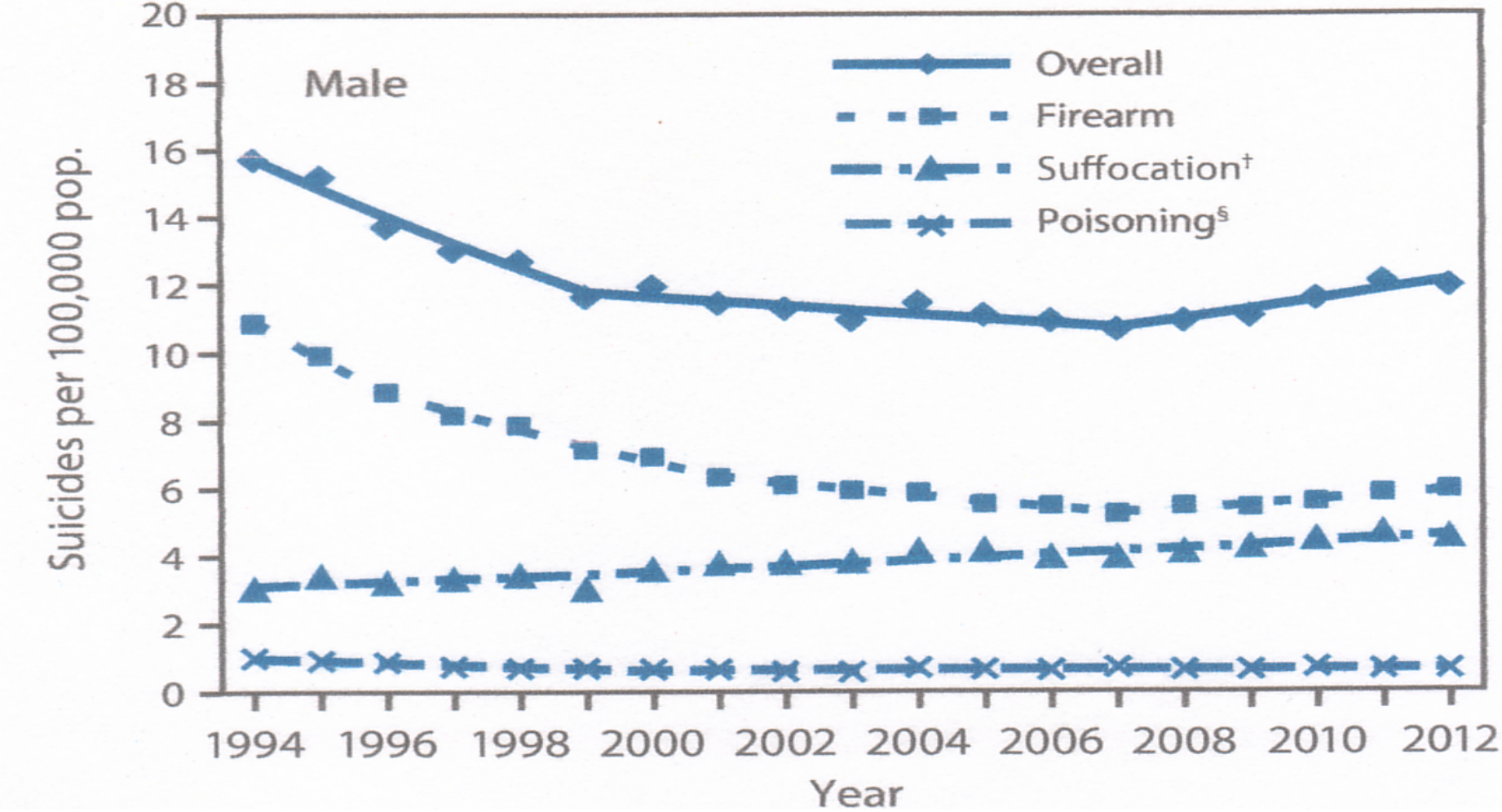
Overall age-adjusted suicide rates fluctuated somewhat during those years but were consistently higher in males than females—i.e., in 2012, the rates were 11.9 and 3.2 per 100,000, respectively.

Suicides—CDC, 2015

- Firearms consistently the leading mechanism of suicide in males;
  - Since 2001 suffocation surpassed firearms as the leading mechanism in females.
  - Rates of firearm suicides decreased over the years spanned by the analysis,
  - Suicide by suffocation increased in all age groups (10–14 years, 15–19 years, and 20–24 years), all ethnic groups, and all regions of the country.
  - Poisoning, the third leading method, much less common than firearms or suffocation.

Age-adjusted suicide rates among persons aged 10-24 years by sex and mechanism—USA, 1994-2012

MMWR / March 6, 2015 / Vol 64 / No. 8



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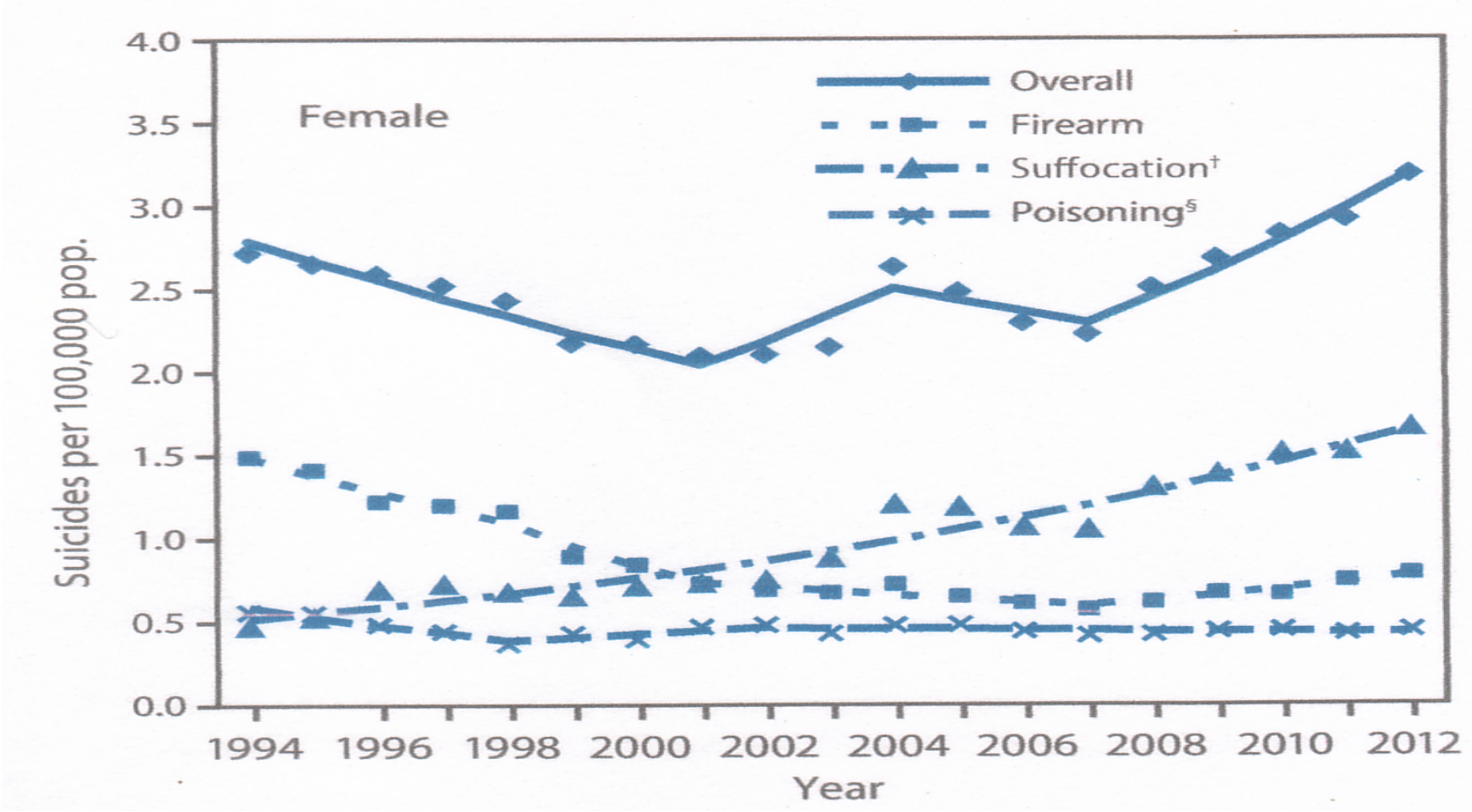

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Theories/functional models of suicide: Summary Selby et al, 2014

- Deep emotional pain is common theoretical reason
- Multiple views of causality
  - Lead to multiple foci for intervention
  - No common key target

American College Health – 2014 Morrris, 2015

- 8.3% had seriously considered suicide
- 1.3% had attempted suicide
- Similar but lower that 2000
  - 9.4% seriously considered
  - 1.6% had attempted
- Concern that rate for completed suicide rose form 10.4/100,000 in 2000 to 12.6/100,000 in 2013

Theories/functional models of suicide

Selby et al, 2014, P287

- Biological theories: inherent, physiologic risk that is aggravated through environmental stress factors
  - Neurotransmitter dysfunction
- Sociological theory: social forces cause disturbed regulation of the person
  - Social integration—bonds with others & society lacking
  - Moral integration—regulation of beliefs by social norms cause altruistic suicide

Theories/functional models of suicide

Selby et al, 2014, p287

- Psychodynamic theories—
  - Self-blame predicts suicide (suicide and violence, revenge motive
  - Conscious & unconscious attachment to death
- Escape theory—three steps as away to solve a problem, i.e., a means to an end.
- Hopelessness theory (Beck)
  - Hopeless cognitions, catastrophizing the situation, ie, it will never change.
  - Involves 5 *modal processes* in suicidal behavior

Theories/functional models of suicide

Selby et al, 2014

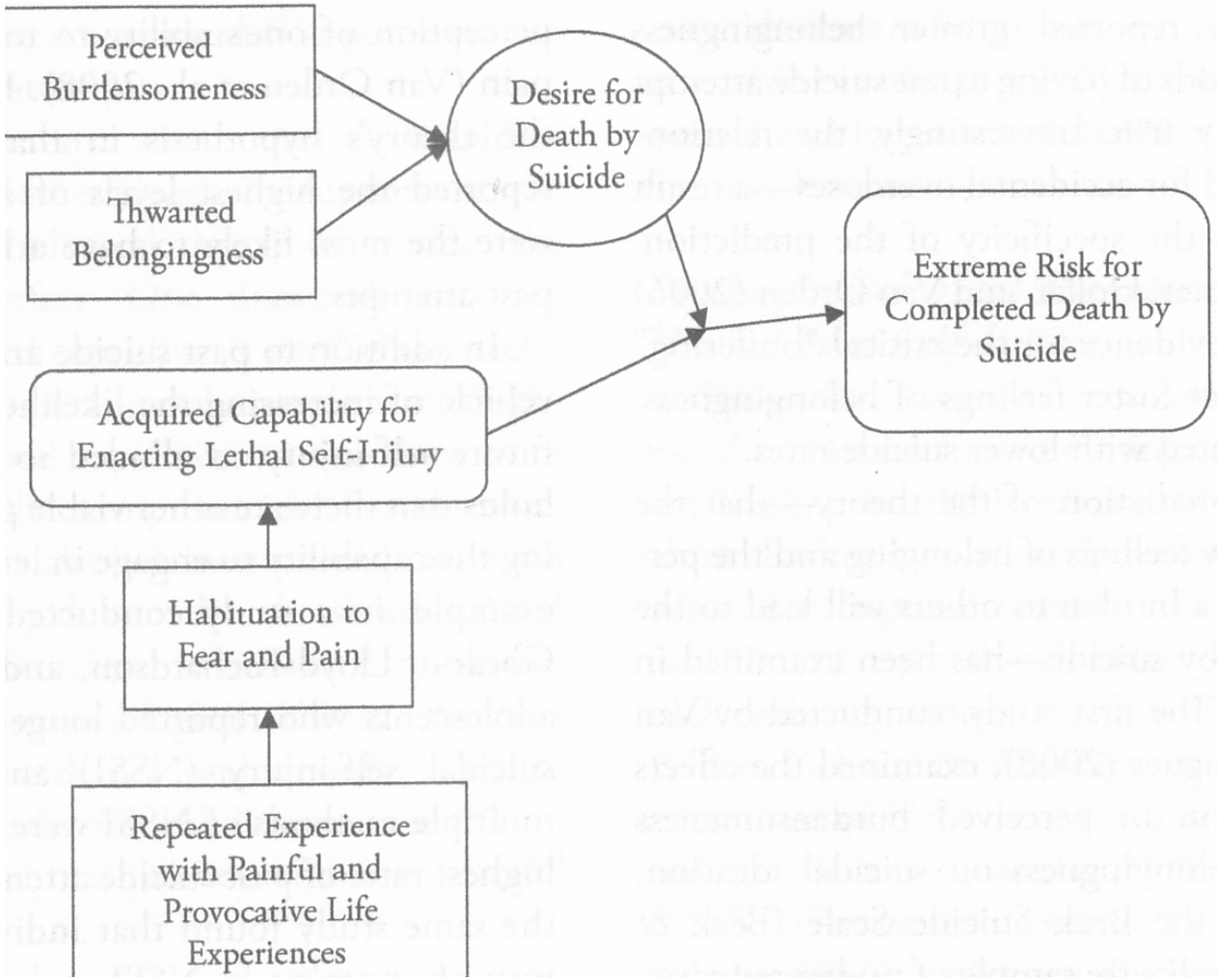
- Hopelessness theory (Beck)
  - *Modal processes* in suicidal behavior
    - Cognitive system—suicidal beliefs and thoughts
    - Affective system—negative affect (depressed and sad)
    - Motivation and behavioral system—behaviors promoting suicidality (Plan/prepare)
    - Physiological system—suicide-related physiological response
  - Once a system is activated, effects spread and activate other systems – increased suicidal behavior
  - -- But does not explain all aspects of suicidal behavior

Theories/functional models of suicide

Selby et al, 2014

- Interpersonal-Psychological—both desire to die and capability to act on that (want to and can)
  - Feeling alientated (*"thwarted belongingness"*)
  - Working up to engaging in lethal behavior
    - Ability to engage in self-destruction – "*acquired capability*"
      - Repeated exposure to increasingly painful experiences inducing habituation and increased tolerance for and fearless about death

Suicide: Interpersonal-psychological theory Selby et al, 2014, p 295



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  - Lead to multiple foci for intervention
  - No common key target

Theories of Suicide
Selby et al, 2014, p. 287

Suicide Theories	Basic Postulates
Biological theories:	Suicide may result from an interaction between genetic biological predispositions (neurotransmitter dysfunction) and life stressors, the combination of which may increase suicide risk.
Sociological theory: Durkheim (1987)	Suicide is the result of either high or low *social regulation* of individuals, or either high or low *moral integration.* This results in four primary types of motivations for suicide; egoistic-low social regulation (loneliness); altruistic-high social regulation (suicide to benefit society); anomic-low moral regulation (societal disengagement); fatalistic-high moral regulation (societal oppression).
Hopelessness theory: Beck and colleagues (1985, 1990)	Suicide is the result of overwhelming feelings of *hopelessness*- that no matter what one does, his or her life will not improve. These feelings of hopelessness are the primary driving force of suicidal behavior.
Psychache theory: Shneidman (1996)	Suicide is the result of intense psychological pain, referred to as *psychache*. Psychache is the result of a deficit in a variety of basic human needs; it is so painful that death by suicide is seemingly the only way to end the pain. This theory also has a lethality component- as options for reducing psychache decrease, the likelihood that an individual will engage in suicidal behavior increases, with a low probablliity of survival.

Theories of Suicide
Selby et al, 2014, p. 287

Suicide Theories	Basic Postulates
Escape theory: Baumeister (1990)	Escape theory suggests that suicide is a form of *escape from aversive self-awareness* and describes the process involved in leading up to suicide. The process involves six steps: (1) falling short of standards, (2) attributions to the self, (3) high self-awareness, (4) negative affect, (5) cognitive deconstruction, and (6) consequences of deconstruction (suicide).
Emotion dysregulation theory: (1993) Linehan	Suicide is the result of *emotion dysregulation*. Suicidal individuals experience intense, hypersensitive and prolonged negative emotional experience due to criticizing and invalidating environments. Dysregulated behaviors are used as a way of distracting from negative emotion, such as self-injury, and suicide is the ultimate way to extinguish negative affect.
Interpersonal-psychological theory: Joiner (2005)	Suicide is the result of an interaction between three components: (1) feelings that one does not have connection with others (*thwarted belongingness*), (2) thoughts and feelings that one is a burden on those around them (*perceived burdensomeness*), and (3) a greatly diminished fear of pain and death due to repetitive experience with, and habituation to, painful and fear-invoking life events (*the acquired capability to enact lethal self-injury*).

ER Trauma Visits

- Emergency department (ED) visits for self-inflicted injuries in adolescents increased between 2009 and 2012.
  - National Trauma Data bank, which collects data from >700 U.S. hospitals, including nearly all Level I and Level II trauma centers.
- Analyzed records from 2009–12
  - patients aged 10–18 years. Change over time in rates and methods of self-injury as well as potential risk factors were evaluated. Cutler et al: *Pediatrics* 2015;136 (July):28–34

ER Trauma Visits

- Nearly 287,000 ED visits for trauma in adolescents, 3664 (1.3%) were for self-inflicted injury.
  - Self-inflicted trauma more severely injured with higher rates of multiple comorbid conditions than others.
    - <5% of patients with self-inflicted injury had a psychiatric diagnosis.
    - Proportion of visits for self-inflicted injury increased from 1.1% in 2009 to 1.6% in 2012 ($p<0.001$).
    - Cutting/piercing the most common mechanism Cutler et al: *Pediatrics* 2015

ER Trauma Visits

- Significant decrease in firearm injuries as a fraction of the total, from 27% to 22% (p=0.02).
- Risk of self- injury, relative to other causes, was increased in girls; older adolescents (≥15 years); those with comorbid conditions; those with public insurance or no insurance; and those with alcoholism or obesity.
- Adolescents most likely to die of their injuries were male, older, white, and lacking insurance coverage. Cutler et al: *Pediatrics* 2015;136 (July):28–34

Suicidal Behavior in ADHD

Daviss & Diler, 2014

- ADHD and comorbid problems common in clinical practice
- Predictors of suicidality in adolescents with ADHD, suicidal behavior was linked with
  - Depression,
  - Parent-child conflict,
  - Victimization trauma, and
  - Social impairment
- These modifiable factors found in cross-sectional study may be useful in identifying youth aged 11 – 18 years at risk for suicide
  - Represent targets for psychosocial or pharmacological treatment

Suicidality and Aggression in Antidepressant Trials (Sharma et al, 2016)

- Meta-analysis of clinical study reports
  - Detailed summaries of trial results submitted for regulatory approval of new drugs.
  - Individual patient-level adverse event listings for 32 trials, and the full protocol for 44, consistent with regulatory guidance that does not require full submission of all protocols
- “Confirms association” of suicidality and aggression with antidepressant treatment in children and adults

Suicidality and Aggression in Antidepressant Trials Sharma et al, 2016

- 12 patient deaths during the post-randomization phases of the trials, all in adults—8 during SSRI/SNRI treatment and 4 with placebo
- 93 suicidality events occurred post-randomization,
- Odds ratio* for any suicidality event in children taking an SSRI/SNRI versus placebo was 2.39.
- Risk of aggressive behavior was also elevated during SSRI/SNRI treatment in children, with an odds ratio of 2.79.

Antidepressant medication

THE

BLACK

BOX

WARNING!!!

No deaths in clinical trials!

Suicide effects rare!

When is a person at increased risk for suicide? When they are getting better!

Facets of Antidepressant Medication Effects Miller et al, JAMA Internal Med 2014

- Risk of deliberate self-harm was twofold higher in patients aged 10–24 year with depression diagnosis starting antidepressants at higher-than-average doses compared to those on standard doses.
- Modal dosage was 20 mg/day for citalopram and fluoxetine and 50 mg/day for sertraline.
- Suicide attempts baseline rate were similar in both treatment groups at about 1.5%
- Groups: >32,500 patients taking the modal dose and >7000 taking higher doses.
  - Analysis excluded >14,500 patients on subtherapeutic dosage or above maximum approved dose.

Facets of Antidepressant Medication Effects Miller et al, JAMA Internal Med 2014

- During follow-up,142 patients engaged in deliberate self-harm.
  - 68 had initiated antidepressant at the modal dose, while 74 initiated at higher doses (15 vs. 32 events per 1000 person-years, respectively).
  - Calculated frequency of deliberate self-harm in the first year of treatment was 1.5% with modal-dose therapy and 3.2% with high-dose therapy (adjusted hazard ratio,* 2.2). Although the rates remained proportional throughout the year, the majority of events occurred within the first 3 months of treatment.
  - not all deliberate self-harm results in medical treatment, the reported frequency is likely an underestimate; but the relative hazard with high-dose therapy is probably not biased.
- Accompanying editorial asks why 18% of patients were started at high doses, counter to clinical guidelines, and whether such patients had unmeasured factors that put them at higher risk of a suicide attempt. The effect of dose escalation following the initial dose was not studied.
-

Routine Screening for Suicide Risk in Primary Care LeFevre *Annals Intern Medicine* 2014,160:719–726.

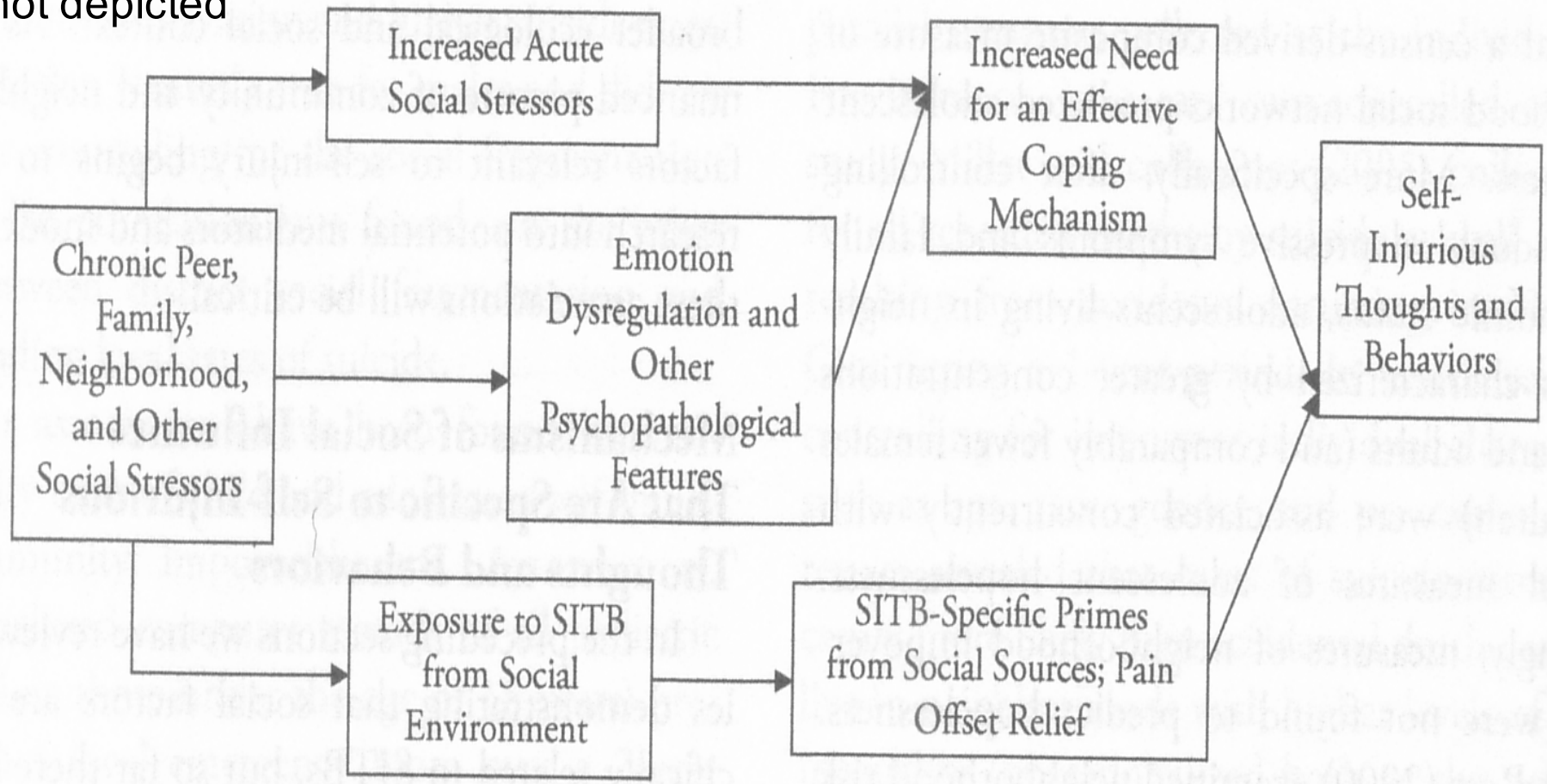
- Recommendation statement from U.S. Preventive Services Task Force
  - Insufficient evidence to support routine screening of adolescents for suicide risk in primary care.
  - Insufficient data on the berates of suicide attempts in the year prior to starting an SSRI were similar in both treatment groups at about 1.5%nefit of interventions in patients identified by screening and on the potential harms of screening.
- Recommend clinicians be aware of psychiatric problems in patients and ask those with problems about suicidal ideation and referred for psychotherapy, pharmacotherapy, or case management.
- Adolescents should be screened for depression when appropriate systems are in place for its diagnosis, treatment, and follow-up

College students risk factors for suicidal ideation Morris, 2015

- Independent risk factors
  - Depressive symptoms
  - Low social support
  - Affective dysregulation
- Vulnerability factors
  - Transition to greater independence
  - Access to drugs/alcohol
  - Changing peer relationships
- Protective factors
  - Increasing social support

Model of 3 mechanisms linking social factors to suicidal & NSSI thoughts & behaviors

*Reciprocal interactions hypothesized but not depicted



SITB=self-injurious thoughts and behavior

Heilbron et al, 2014 p220

Deliberate self-harm (DSH)/Non-suicidal self injury (NSSI)

- More common than suicide in adolescent population
- Reported lifetime prevalence for adolescents from 12% to 23%.
- Prevalence of NSSI in adolescent clinical populations is much higher.
- Varying age of onset from 25% ages 10-14years, 27% between 15-16 years , 39% between 17-24 years Whitlock & Slekman, 2014)

DSH/NSSI Overview

- Prevalence of DSH/NSSI has greatly increased in adolescents nationally and internationally,
  - Presenting across clinical settings and in the general pediatric population.
  - Prevalence across studies from different countries employing the differing criteria labels was not statistically significant in 52 studies reviewed (Muehlenkamp et al, 2012).
- DSH/NSSI no longer is confined to the borderline personality diagnosis, psychosis, intellectual disability, or prison populations,

NSSI evolving criteria in DSM-5

1) SIB is done to obtain relief from a negative cognitive state of feeling, resolve interpersonal difficulty, or induce a positive feeling state;
2) Not socially sanctioned;
3) Associated with either a period of preoccupation before the SIB, interpersonal difficulties, or negative feeling or thoughts, or frequently thinking about SIB;
4) Generally does not occur exclusively during an episode of delirium, psychosis, substance related issues, as a pattern of repetitive stereotypies, or is better explained by another medical or mental disorder.

Considerable Similarities between DSH/NSSI and Suicidality

- Correlation of DSH/NSSI with suicide attempts and completed suicides (Walsh 2012; Muehlenkamp, 2014).
- Factors at any given point precipitating self-injury behavior (SIB) versus engaging in suicidal thoughts and behaviors similar.
- DSH/NSSI in some adolescents alternates between with and without suicidal intent, with the latter a transient experience (Muelenkamp et al. 2012),

Differences between DSH/NSSI and Suicidality: Hopelessness

- Hopelessness at the moment of choice firmly established as a major risk factor for suicidal behavior
- Hopelessness found at lower levels of intensity in NSSI groups (Muehlekamp, 2014).
- Differences between those who are suicidal and those who engage in DSH/NSSI can be viewed as relating to posited dichotomous thinking of individuals who are suicidal
  - Suicidal individuals may believe that their pain can only be alleviated by death.
  - This distorted or dysfunctional thinking is assumed to be related to their deficits in positive future thinking (Muehlekamp, 2014).
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-

Distinguishing suicidal from nonsuicidal self-injury Muehlenkamp, 2014

- General intent
  - Purpose of or reason for a behavior
  - Both are
    - Motivated by multiple reasons per episode
      - NSSI mean of 4.1, range up to 13 reasons
      - Suicide mean of 3 but up to 8 reasons
    - Motivated by similar reasons
      - Regulation of interpersonal environments and intrapersonal states
      - Dealing with painful emotional states Selby et al,2014
      - In suicide, state > stable, pervsive, constant

Distinguishing suicidal from nonsuicidal self-injury Muehlenkamp, 2014

- Pattern of primary motivations and associations differ significantly but function may be similar
  - Suicide to obtain relief from intense, strong desire to
    - die/escape or
    - unburden others
  - NSSI commonly to
    - reduce intolerable negative cognitive or emotional states,
    - generate a kind of feeling, or
    - self-punish

Distinguishing suicidal from nonsuicidal self-injury Muehlenkamp, 2014

- Both tend for prevalence to peak during adolescence and early adulthood
- Age of onset –
  - Suicide later than NSSI
- Prevalence
  - Suicide and suicide attempts much lower
- Methods
  - Suicide attempters use more lethal means*

NSSI theories/functional models

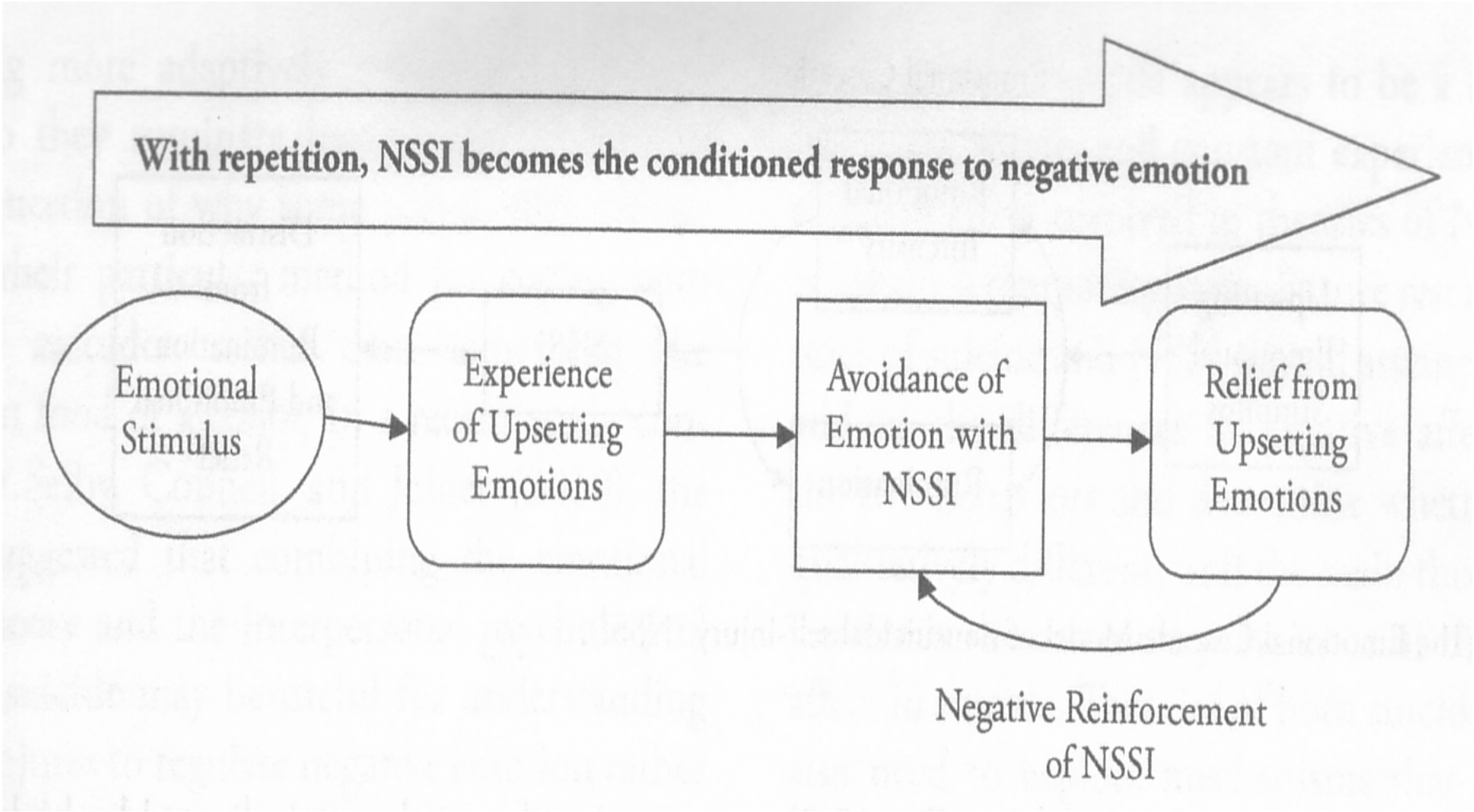
Selby et al, 2014, p. 288

NSSI Model	Description
Biological theories	NSSI causes endorphins to be released, which then results in pleasant feelings that are rewarding.
Social functions	NSSI is viewed as a way of manipulating others, communicating emotional experience, and/or avoiding unpleasant activities.
Psychodynamic theories	NSSI is viewed as a method of confirming boundaries between the self and others by generating scars.
Antisuicide Model (see Suyemoto, 1998)	NSSI is used as a compromise with suicidal desire; by destroying bodily tissue one satisfies a desire to destroy his/her self without actually doing so.
Affect regulation theories: Nock & Prinstein (2004)	NSSI is used as a way of decreasing negative affect and/or increasing positive affect.
Self-punishment hypothesis (see Klonsky, 2007)	NSSI is used as a way of expressing anger at and punishing oneself.

NSSI theories/functional models
Selby et al, 2014, p. 288

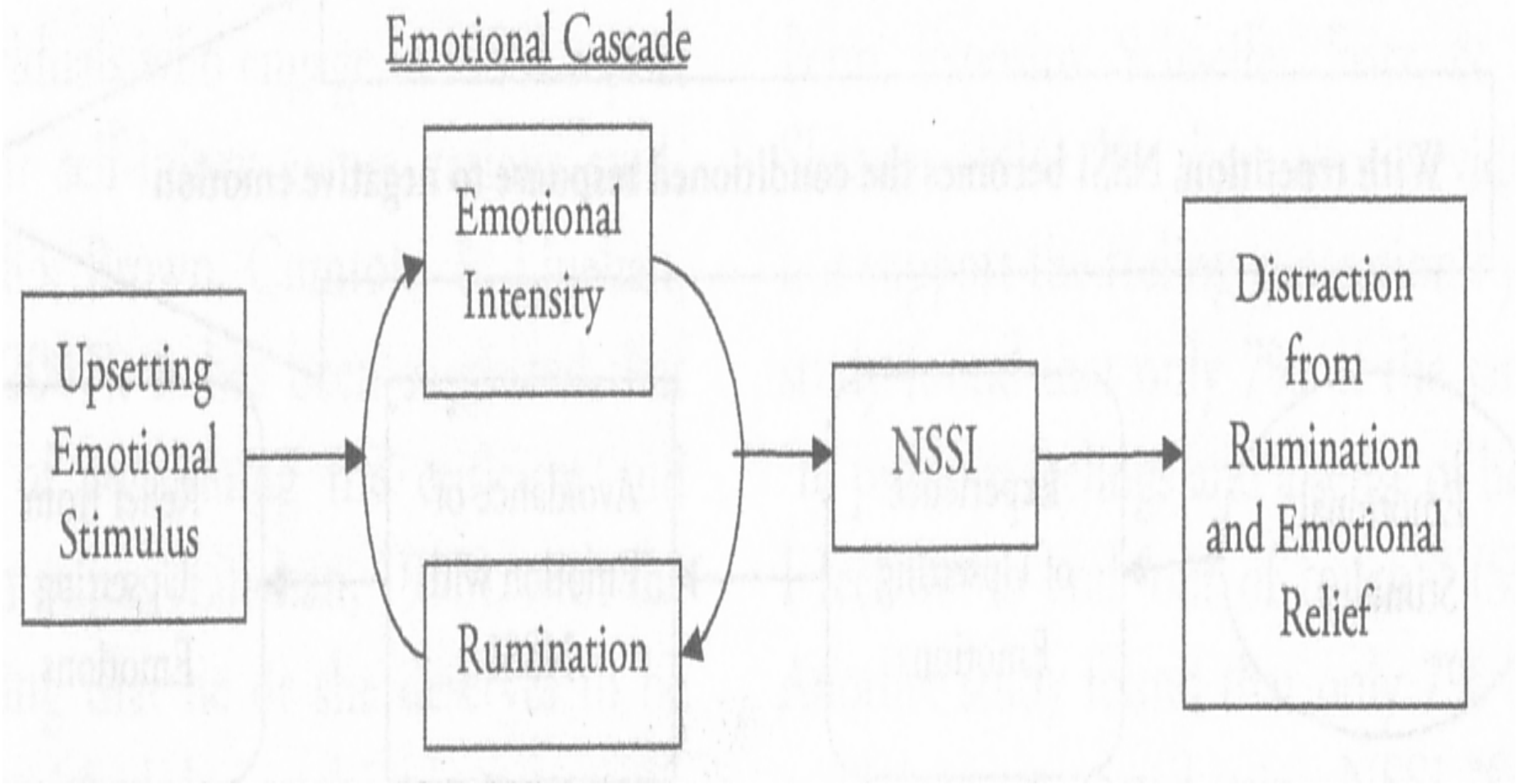
NSSI Model	Description
Antidissociation theory	NSSI is used as a method of "shocking" oneself out of dissociative state.
Feeling generation theory	NSSI is used as a way of generating positive feelings due to overall deficit of positive emotion.
Experimental Avoidance Model: Chapman et al. (2006)	NSSI serves as a method of avoiding negative emotion. By engaging in NSSI negative emotion is avoided and is thus negatively reinforcing. Over time, this reinforcement results in NSSI becoming a conditional response to negative emotion.
Emotional Cascade Model: Selby et al. (2008)	Emotional cascades arising from intense rumination and negative emotion about an upsetting problem, cause NSSI because self-injury provides a potent form of distraction that inhibits rumination. Interfering with rumination results in subsequent emotional relief.

NSSI Experiential Avoidance Model Selby et al, 2014, p301



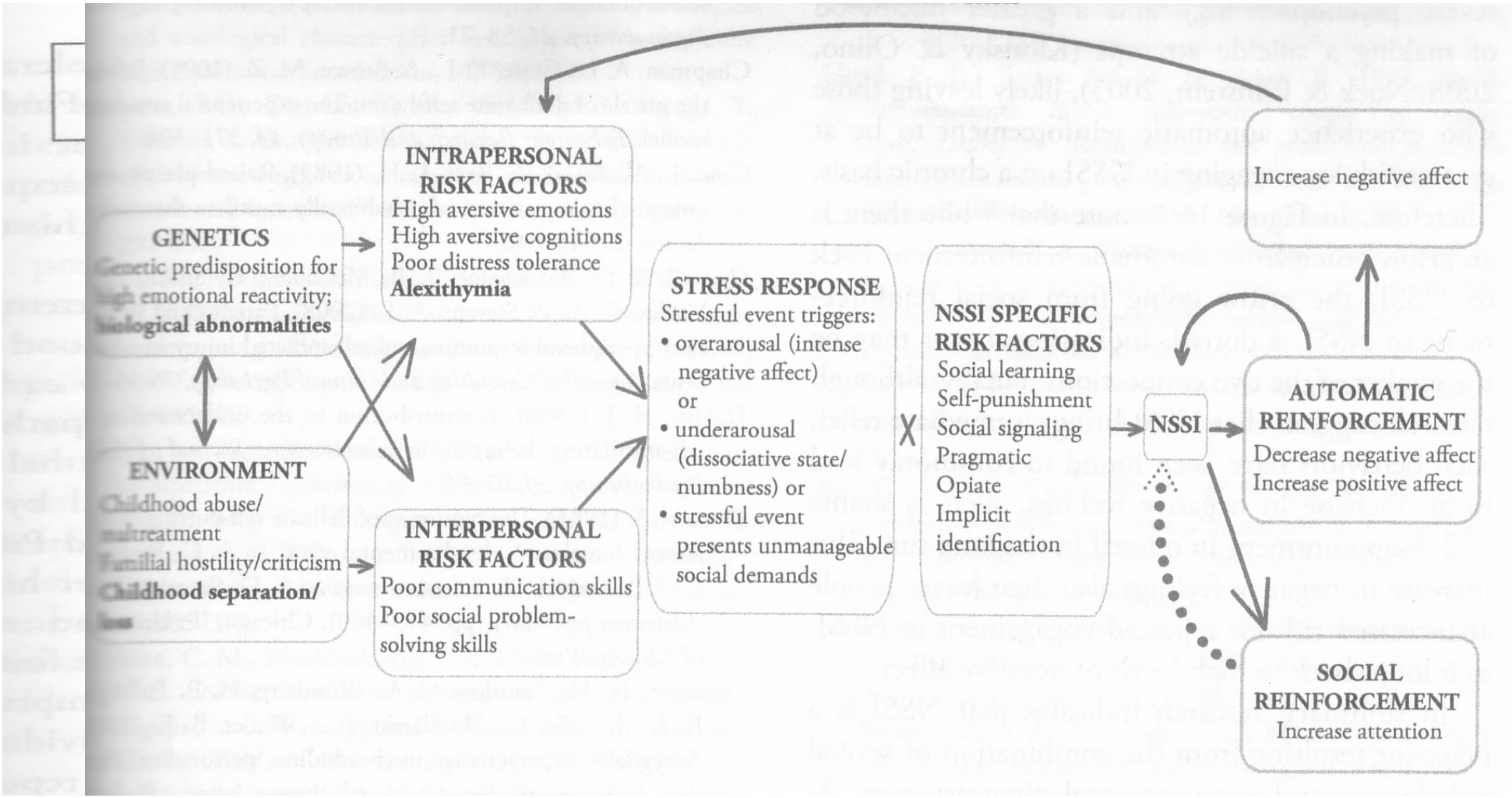
NSSI Emotional Cascade Model

Selby et al, 2014, p302



Nock's integrated model of NSSI

(after Jacobson & Batejan, 2014, p317)



Hypotheses of NSSI Persistence Yen et al, 2015

- Proposed functions or motivations for NSSI:
  - Automatic positive reinforcement
  - Automatic negative reinforcement (most often reported)
    - Removal of an aversive stimulus
  - Social negative reinforcement (avoidance)
  - Social positive reinforcement (to gain attention).
- Automatic positive reinforcement is believed to be a more common motivator of NSSI in patients with depression or PTSD, possibly to compensate for feelings of emptiness, anhedonia, or a restricted range of affect.

NSSI Persistence following hospitalization for suicide intent/ideation Yen et al, 2015

- Longitudinal study of adolescents (mean age, 15 years; 64% girls) hospitalized for suicide attempts, ideation, or self-injury with suicidal ideation.
- Patients and parents interviewed at baseline and 6 months after discharge.
- NSSI assessed with the Functional Assessment of Self-Mutilation (FASM) questionnaire
  - FASM captures NSSI frequency and
  - the 4 function subscales of perceived reasons for the behavior.

NSSI Persistence following hospitalization for suicide attempt intent/ideation Yen et al, 2015

- Those with NSSI motivated by automatic positive reinforcement—the desire to feel something, even if it is pain—were the most likely to continue engaging in NSSI 6 months later.
- Of 92 patients with both baseline and follow-up data, 71 (77%) reported NSSI at baseline.
  - At 6-month follow-up, 40 (56%) continued to report NSSI.
  - Those without NSSI were more likely than those who continued to have major depressive disorder and/or a substance use disorder at baseline.
  - High baseline scores on automatic positive reinforcement were predictive of continued NSSI (odds ratio,* 1.90; p=0.03).

NSSI Persistence following hospitalization for suicide intent/ideation: Yen et al, 2015

- Continued NSSI was not predicted by any demographic factors, past history of abuse, other concomitant psychiatric disorders, or the other 3 NSSI subscales.
- The prevalence of moderate-to severe depression was assessed weekly during the 26-week follow-up.
  - Patients experiencing moderate-to-severe depression >50% of the time had a significantly increased risk of continued NSSI (odds ratio, 3.32; p=0.02), while the association with automatic positive reinforcement was undiminished.
- Results suggest importance to assess patients' reasons for NSSI and provide targeted treatment for the different motivations.

Suggestions for NSSI persistence following hospitalization for suicide intent/ideation

Yen et al, 2015

- Targeting treatment for the different motivations.
  - Automatic positive reinforcement
    - Mindfulness-based therapies that target emptiness and dissociative-like states can be helpful
  - Automatic positive and negative reinforcement
    - Focus on emotion monitoring and positive alternatives to self-injury.
    - Conflicting results with depression suggest that acute and chronic depression may have differential effects on the persistence of NSSI.

Hopefulness, NSSI and DIFO

- DSH/NSSI forms can indicate a sense of hopefulness, by relieving tension. and decreasing pressure for suicidality

- Compared to suicidal persons, those with NSSI are less pessimistic as they perceive options for modifying their distress and pain and changing their circumstances.
  - They perceive a sense of control over the situation, with greater attraction for life, less hopelessness, and more future-oriented thinking (Muehlenkamp, 2014) .

Hopefulness and DSH/NSSI: Clinical Implications

- Assuming that DSH/NSSI are coping strategies to alleviate distress,
  - An at risk teen engaged in DSH/NSSI with a sense of hopefulness indicates that the youth may benefit from interventions that reinforce the sense of hope
  - Calls for providing/teaching alternative, more adaptive coping strategies before teen develops a sense of hopelessness.

Why should mental health professions be concerned about DSH/NSSI?

- All types of DSH/NSSI have been associated with suicidal behavior, and other lethal disorders
  - Substance abuse and use of ;
  - Eating disorders.
- Environmental stresses likely in play
- Result in unintended severe injury
- Lasting disfiguration can result
- Contagious in some environments
- Stressful for those living with or caring for the person

.

Why should mental health professions be concerned about DSH/NSSI?

- Opportunity for preventive intervention
  - Suicide prevention
  - Awareness of dynamics of situation
- Important for mental health professions to be aware of and inquire about the full range of DSH/NSSI.

Interventions for Self-Harm: Cochrane Review and Meta-analysis Hawton et al, 2015

- Little evidence supporting interventions for children and adolescents at risk of self-harm.
- Randomized controlled trials of psychosocial interventions, pharmacological treatments, or natural products for self-harm.
- Subjects were patients, aged ≤18 years with intentional self-poisoning or self-injury in the past 6 months resulting in presentation for mental health services.
- Comparison groups: treatment-as-usual, enhanced clinical care not including study treatment, or no specific treatment.
- Primary outcome was repetition of self-harm for up to 2 years post-treatment.

Interventions for Self-Harm: Cochrane Review and Meta-analysis Hawton et al, 2015

- No studies of pharmacotherapy or alternative treatments were identified.
- Review based on 11 studies of psychosocial interventions
  - Total of 1126 patients.
  - Average age 15 years; 80% were girls*
  - Only DBT-A and group-based therapy were evaluated in more than one study.
  - Many of the trials had a high risk of bias
- Published data offers few implications for clinical practice.

Interventions for Self-Harm: Cochrane Review and Meta-analysis Hawton et al, 2015

- Surprising that so few trials of treatments for self-harm, especially given the size of the problem and the known association of self-harm with suicide.
- The evidence that has been published offers few implications for clinical practice.
- Review misses several recent papers/studies

Implications for clinician of DSH/NSSI diagnoses

- Possibly effective evidence-based therapies are becoming more accessible and practical for DSH/NSSI/DIFO (Glenn et al, 2014)
  - Dialectical Behavior Therapy
    - Individual, Group, and Milieu
  - Mindfulness
- COCHRANE REVIEW dampens our enthusiasm

Dialectical Behavior Therapy for Self-Harm Mehlum et al, 2014

- Randomized trial, dialectical behavior therapy (DBT) superior to enhanced active control therapies
  - Reducing self-harming behavior in adolescents with borderline personality disorder traits.
- DBT known effective to prevent adult SIB
  - Therapy adapted by reducing the duration from 12 months to 3–5 months,
  - Included parents in weekly skills training groups,
  - added skills module specifically for teens with emotion dysregulation.

Dialectical Behavior Therapy for Self-Harm Mehlum et al, 2014

- 77 adolescents, aged 12–18 years
- Referred from pediatric psychiatric clinics.
- History of ≥2 episodes of deliberate self-harm, including a recent one,
- Met 2 DSM-IV criteria for borderline personality disorder, or 1 criterion plus 2 subthreshold criteria.
- Randomly assigned to 19 weeks of either
  - Adapted DBT program for adolescents (DBT-A) or
  - Enhanced usual care, which could be either no less than weekly psychodynamic therapy or cognitive behavioral therapy with medication as needed.

Dialectical Behavior Therapy for Self-Harm Mehlum et al, 2014

- Primary study outcomes assessed by blind raters
  - number of patient-reported self-harm episodes,
  - suicidal ideation severity (measured with the Suicidal Ideation Questionnaire), suicidal thoughts on a Likert scale,
  - Level of depressive symptoms (measured with the Montgomery-Asberg Depression Rating Scale and the Short Mood and Feelings Questionnaire).
- Episodes decreased with treatment in both groups. In weeks 10–15,
- DBT-A group reported significantly fewer self-harm episodes: 1.2 per week, compared with 3.3 for the usual care group (p=0.021 for the between-group difference).

Dialectical Behavior Therapy for Self-Harm Mehlum et al, 2014

- Both groups had decreases in suicidal ideation, which were larger with DBT-A (p=0.01).
- Both measures of depressive symptoms also showed greater improvement with DBT-A than with the control treatments, as did borderline symptoms and a measurement of hopelessness.
- Effect sizes for all of these outcomes were large in the DBT-A group (ranging from 0.86 to 0.97) and low to medium in the usual-treatment group (0.16 to 0.41).

Dialectical Behavior Therapy for Self-Harm: One-year follow-up Mehlum et al, 2016

- Prospective follow-up of 75/77
- Measured self harm, suicidal ideation, depression, hopelessness, borderline symptoms, global functioning
- DBT-A remained superior to enhance usual care (EUC)
  - Reduced DSH frequency
  - No significant differences with other measures
- DBT-A gains sustained but EUC group significantly improved over the year

Ottawa Self-Injury Inventory (OSI) Nixon et al, 2015

- Self-report measure validated in sample of adolescent inpatients.
- Previously validated in community sample of self-injuring university students
- 4-factor model of the functions of NNSI—Internal Emotion Regulation, Social Influence, External Emotion Regulation, and Sensation Seeking
- 4-factor function model was confirmed
- Validity of Addictive Features scale was confirmed.

Ottawa Self-Injury Inventory (OSI)

Nixon et al, 2015

- Assesses potential addictive features of NSSI;
- provides data on NSSI functions to help with selection among evidence-based treatments.
  - high scores on the Internal Emotional Regulation function suggest benefit from assessment of mood and anxiety disorders and from dialectical behavior therapy or cognitive behavioral therapy.

Ottawa Self-Injury Inventory (OSI) Nixon et al, 2015

- Addictive Features scale
  - Higher scores correlated with more frequent NSSI (correlation coefficient,* 0.48; $p<0.001$).
  - This factor significantly correlated with each of the 4 function factors ($r=0.30–0.44$,; $p<0.01$).
  - Higher scores on each of the function factors except External Emotion Regulation were associated with greater frequency of NSSI.
  - Higher addictive features scores were also associated with increased frequency of NSSI.

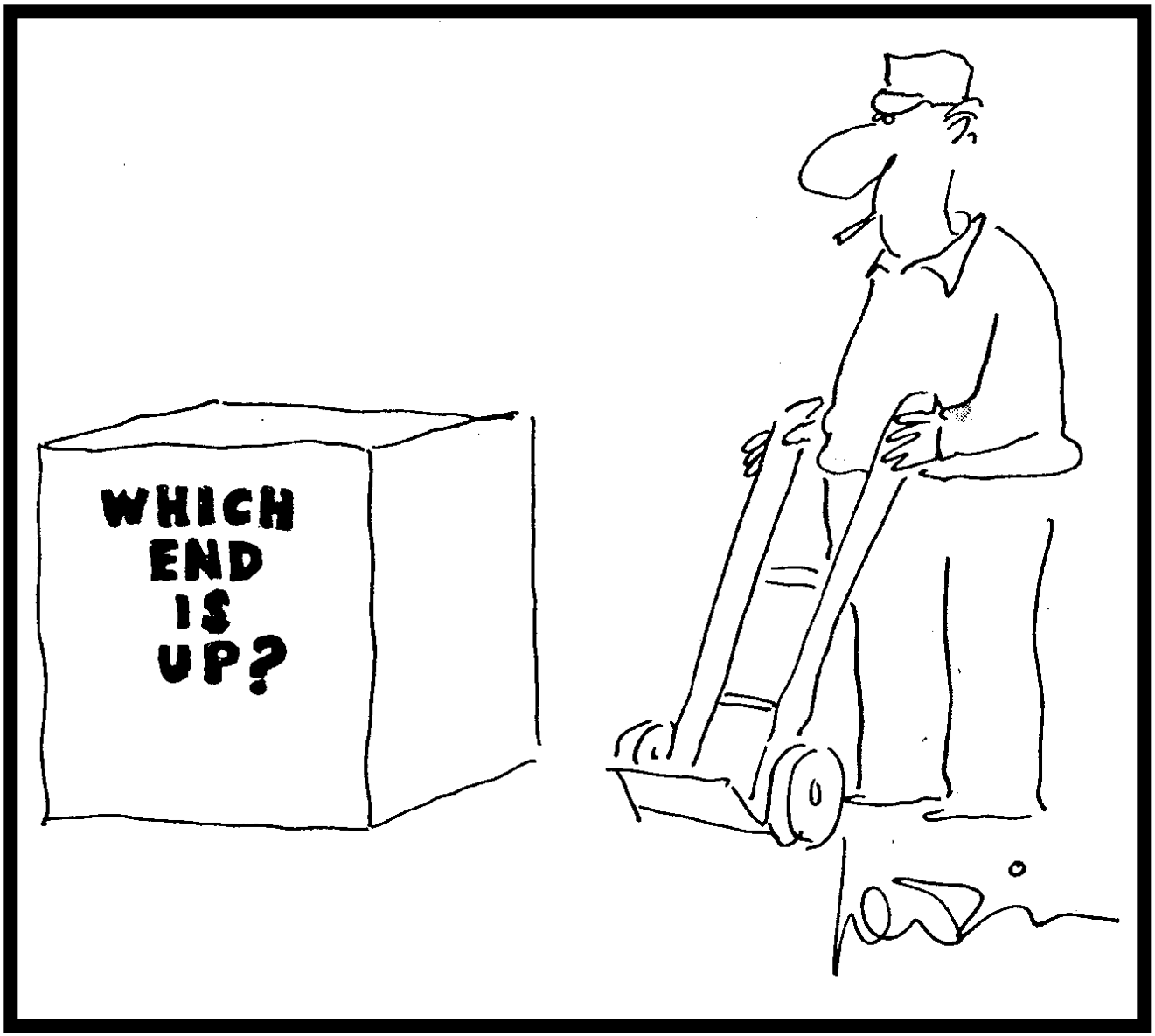
Ottawa Self-Injury Inventory (OSI)

Nixon et al, 2015

- High Social Influence functions may indicate a good fit with Mentalization-based therapy.
- Significant addictive features may suggest a harm reduction approach with motivational interviewing.
- The OSI can be downloaded free of charge for public institutions and for research purposes at http:// www.insync-group.ca/publications/OSI_clinical_October_20051.pdf

Future directions to address knowledge deficits

- Determine how known risk factors detailed in the various theoretical models interact to result in self-harming behavior for individual youth.
- Build upon the more precise DSH definitions developed to date
- Increase intervention studies for prevention and targeting DSH that combine medication and psychosocial interventions



12/15/16

"No two flakes are alike. It almost makes you want to believe in something.

"No two flakes are alike. It almost makes you want to believe in something."

•Dialectical Behavior Therapy for Self-Harm Mehlum et al, 2014

Mehlum L, Ramberg M, Tormoen A, Haga E, et al: Dialectical behavior therapy compared with usual care for adolescents with repeated suicidal and self-harming behavior: Outcomes over a one-year follow-up. *Journal American Academy of Child Adolescent Psychiatry* 2016 in press

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Treatment of Adolescent Traumatic Stress

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March 19, 2016

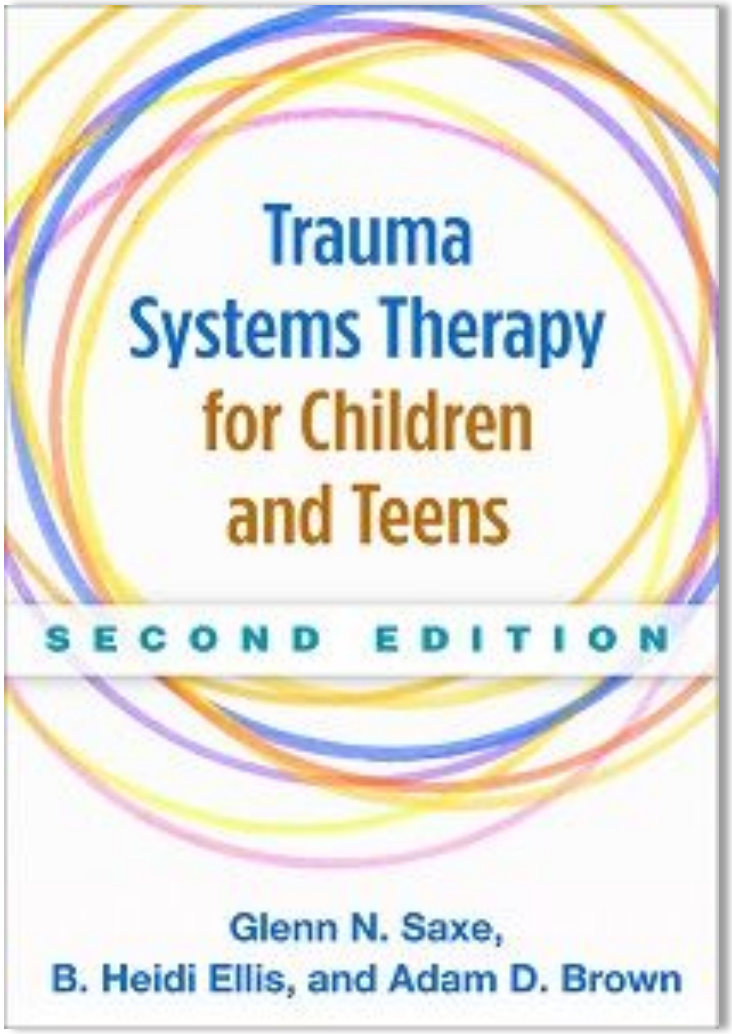
Disclosure/ Conflict of Interest

Institution Name	Grant Support	Book Royalties
National Institute of Mental Health	X	
The Substance Abuse and Mental Health Services Administration	X	
Administration for Children and Families	X	
Guilford Press		X

Presentation Overview

- Basic concepts of traumatic stress, especially related to adolescents
- A systems approach to treatment
- Trauma Systems Therapy

The TST Manual

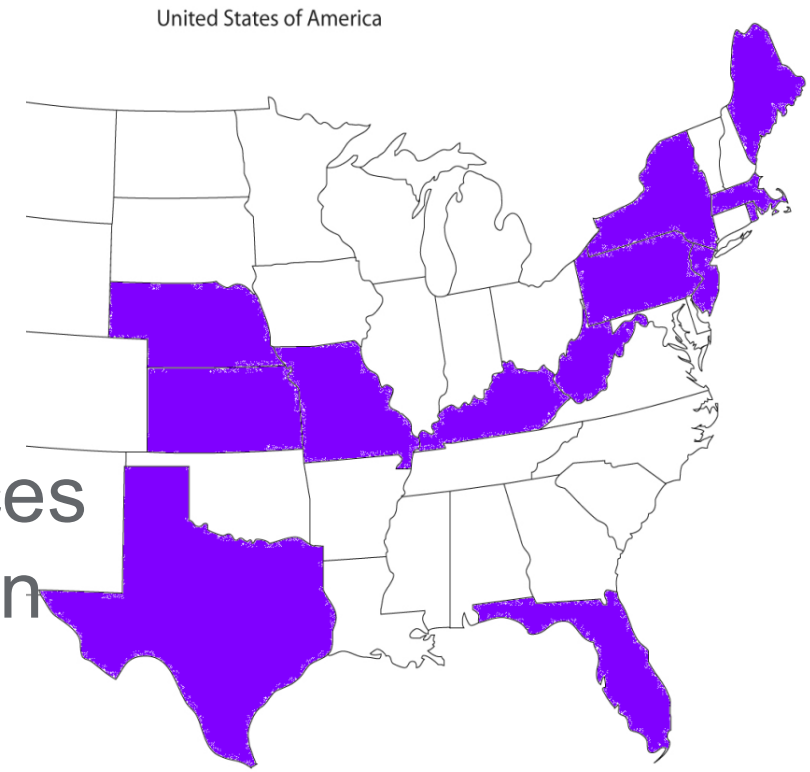


http://www.amazon.com/Trauma-Systems-Therapy-Children

TST Innovation Community

TST is currently being implemented in agencies in 14 States, including programs that provide:

- Outpatient therapy
- Residential treatment
- Foster Care
- Refugee services
- Substance-abuse/MH services
- Community based prevention
- School-based mental health



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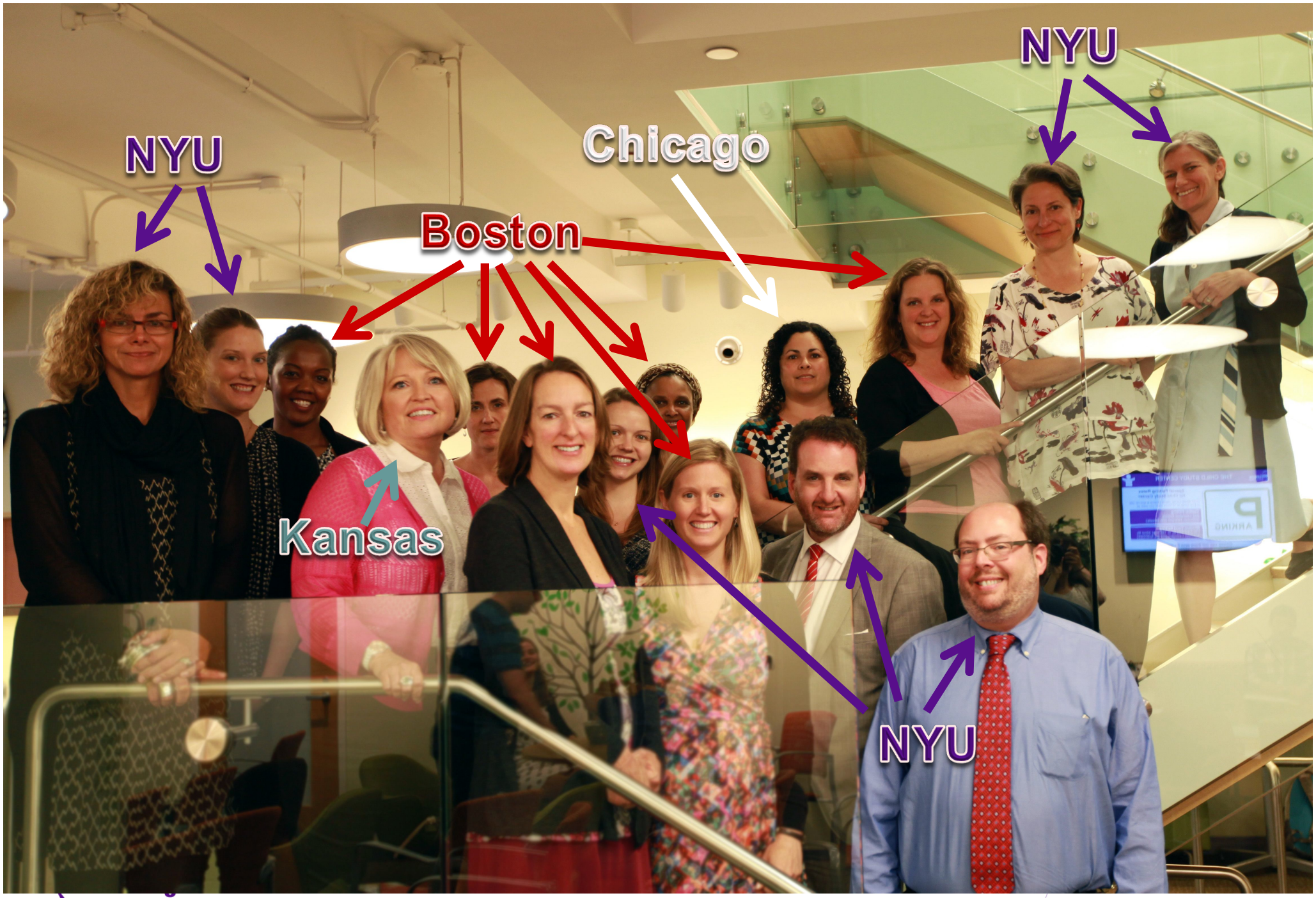

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Basic Concepts

The Tragedy of Trauma

- 50% to 70% of the general population has been exposed to major trauma.

- 15% to 40% of traumatized children develop significant adverse psychiatric and psychological reactions to trauma, broadly called child traumatic stress.

- Child traumatic stress is associated with substance abuse, violence, suicide, heart disease, homelessness, chronic mental illness, school failure, and unemployment.

- Traumatic stress is a disorder related to how individuals process signals of threat.

- Traumatic stress influences brain development and has a cascading impact on people over the course of their lives.

Trauma in vulnerable populations

- 75% of children from a study of 30,000 children in the New York City foster care system in 2000 had exposure to traumatic experiences.

- Research shows that between 75% and 93% of youth entering the juvenile justice system annually in this country are estimated to have experienced some degree of trauma (compared to 34% of the general population of children in the U.S.).

Child Maltreatment as a Risk Factor for Poor Physical Health*

- Ischemic heart disease **x2.2**
- Any cancer **x 1.9**
- Stroke **x 2.4**
- Chronic bronchitis/emphysema **x3.9**

  Diabetes **x1.6**
- Hepatitis **x2.4**

*** adjusted for age, gender, race and education**

Felitti, Anda et al., Am J Prev Med., 1998 14(4), pp 245-258

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A Systems Approach to Treatment

Is it a disorder?

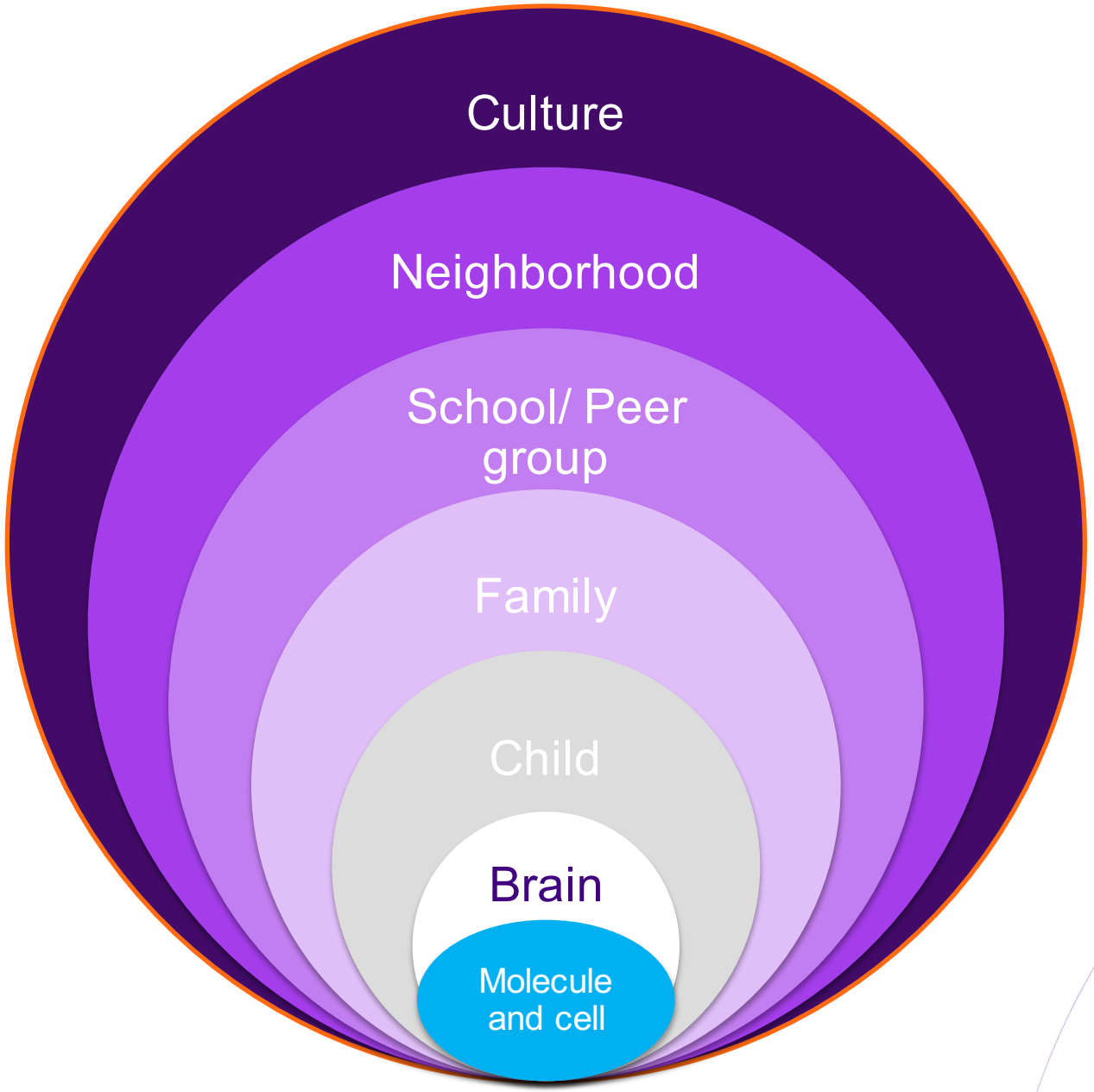
The child who does not want to go to sleep because he or she is afraid of being abused in the night hours,

The child who lives in a neighborhood where there is a gang war and who spends a lot of time scanning the environment for sources of threat,

The child who avoids going to school because someone has threatened to kill her,

The adolescent who is aggressive with his mother's boyfriend to protect her from getting beaten up,

Social Ecological Model



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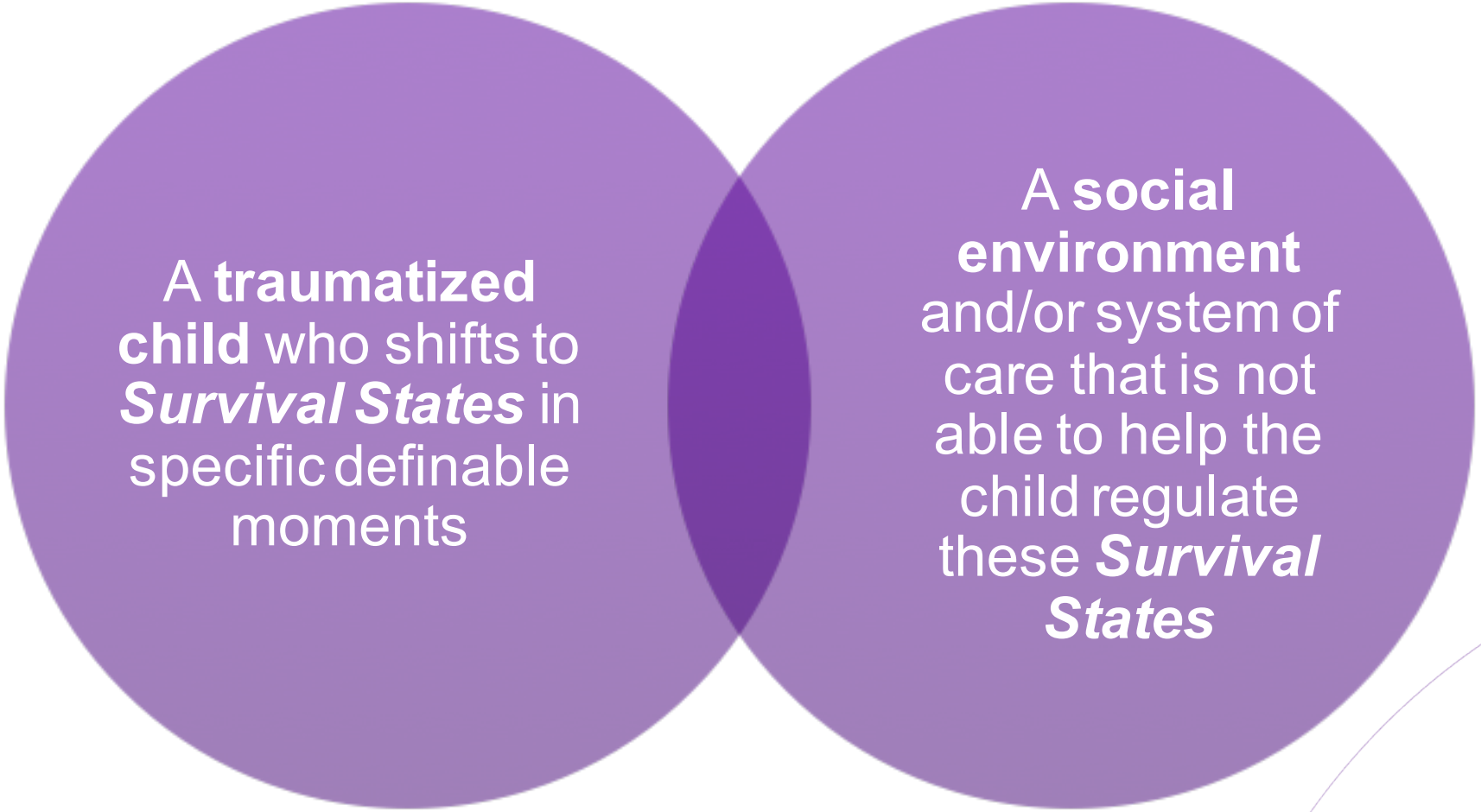
The Trauma System



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Survival-in-the-Moment

An individual's experience of the present environment as threatening to his or her survival, with corresponding thoughts, emotions, behaviors, and neurochemical and neurophysiological responses.

Primary Aim of Treatment

The traumatized child's tendency to have dramatic shifts to survival state when confronted by a stressor or traumatic reminder.

- **Social interventions** enhance the capacity of members of the child's social environment to protect child from reminder**s** and support child's regulation

- **Psychotherapy** enhances a child's capacity to stay regulated when confronted by a stressor/reminder

- **Psychopharmacology** supports this capacity

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What is unique about TST?

TST offers the specific, and actionable, information you need, to help a traumatized child: no matter how complex and severe her/his problems.

The Specific, and Actionable, Information You Need… To Help Three Individuals

Jeffery

A 17 year old boy with a trauma history who is in residential treatment related to his history of aggressive behavior. He is currently in seclusion for assaulting a direct care staff member. He has assaulted two other staff members in the two weeks since his arrival to the program. He has been admitted to psychiatric hospital twice in the last 12 months for assaulting others.

Where do we start?
What more do we need to know to help Jeffrey?

Sarah

A 16 year old girl with a trauma history who lives in foster care, her forth placement in 5 years. She has also been hospitalized three times over these five years for suicidal behavior which usually involve overdosing on medications and sometimes cutting her arms and wrists. In the last two years she has used increasing amounts of alcohol and her last two suicide attempts occurred while she was intoxicated. You are asked to assess Sarah after she is admitted to a psychiatric hospital following an overdose of medications when she was intoxicated.

Where do we start?
What more do we need to know to help Sarah?

Samantha

A 14 year old girl with a trauma history and who also has a history of assaultive behavior. She is in a regular school and has been restrained numerous times by security in the school for out of control behavior. In one instance she has broken the arm of the school nurse. You are a consultant to the school and are asked to see her because she knocked a teacher to the ground today, in math class.

Where do we start?
What more do we need to know to help Samantha?

What do we need to know how to help them?

How much will knowing their diagnoses help?

How much will knowing their trauma histories help?

How much will knowing their family and social histories help?

How much will knowing their psychiatric and medical history help?

We need to go from speculating about what it might be…
To knowing what it is.

4 ideas for knowing what it is (so that we may know how to help)

Idea #1:

It's all about moments.

Count the Moments

$$\frac{\text{Problematic Moments}}{\text{All Moments}} = \text{Very Small}$$

Jeffery's Moment

When the lunch period was ending, Jeffery asked for more food. He said he was still hungry. He reached for the food tray to get more spaghetti. One of the direct care staff grabbed the food tray and pulled it out of Jeffrey's hands saying – in a harsh voice – lunch period is over, you have to follow our rules. In an instant, Jeffrey stood up and punched the staff member in the face, as hard as he could.

Sarah's Moment

Sarah came home from school and headed right to her room to listen to music and to text friends. Before she reached her room she saw her foster mother who said "we need to talk". Her foster mother said that she was disturbed about Sarah's disregard for rules, especially curfew, use of alcohol, and time spent with boys. She expressed concern that the foster placement will work out and said she intends to talk with Sarah's case worker about this. Sarah only remembers bits-and-pieces of that conversation but remembers running out of the house, and getting a bottle of vodka that she had hidden in her yard. She then went to a park and drank so "I couldn't feel or remember". She remembers swallowing a handful of Tylenol pills and texting her friend.

Samantha's Moment

Samantha was in the classroom learning math. She remembers feeling agitated and nauseous. She remembers her foot shaking. She asked her teacher if she could leave the class as she was not feeling well. The teacher declined her request saying 'you always want to get out of the tough work'. The teacher stood between Samantha and the door. Samantha ran to the door and knocked the teacher to the ground on her way out.

What do we know, now?

4 ideas for knowing what it is (so that we may know how to help)

Idea #2:

It's all about survival-in-the-moments.

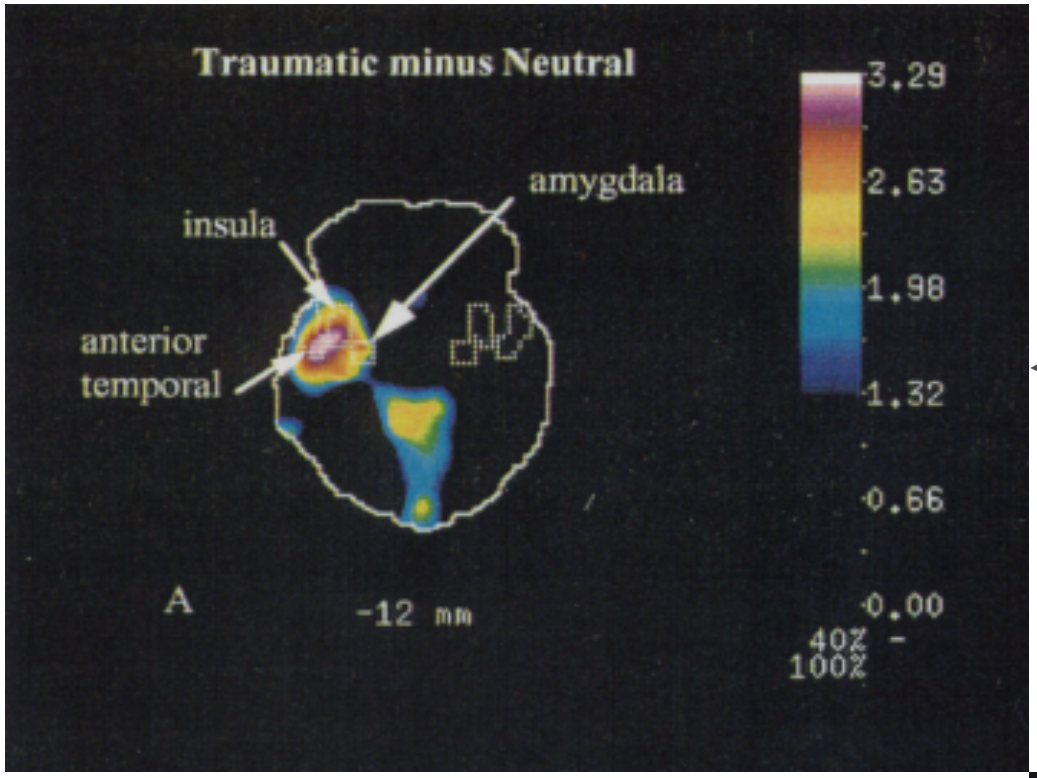
Survival-in-the-Moment

An individual's experience of the present environment as threatening to his or her survival, with corresponding thoughts, emotions, behaviors, and neurochemical and neurophysiological responses.

Survival-in-the-Moment

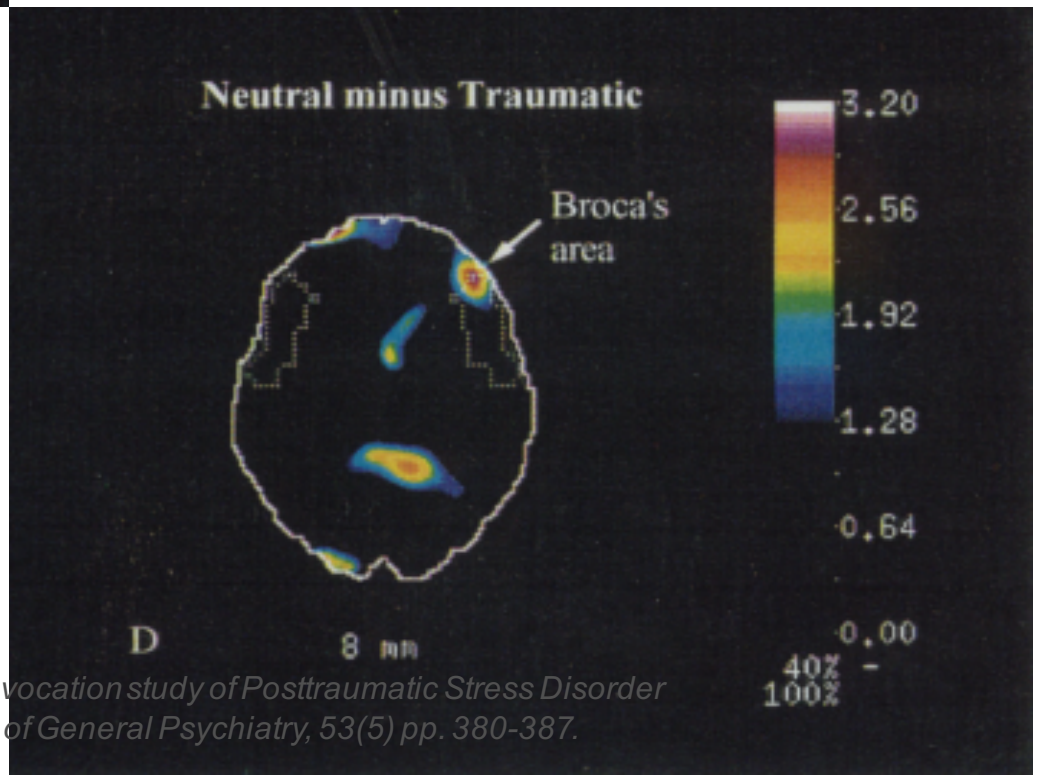
"The amygdala leads a hostile takeover of consciousness by emotion (Joseph LeDoux, The Emotional Brain)"

Survival Circuits



Amygdala

Broca's area



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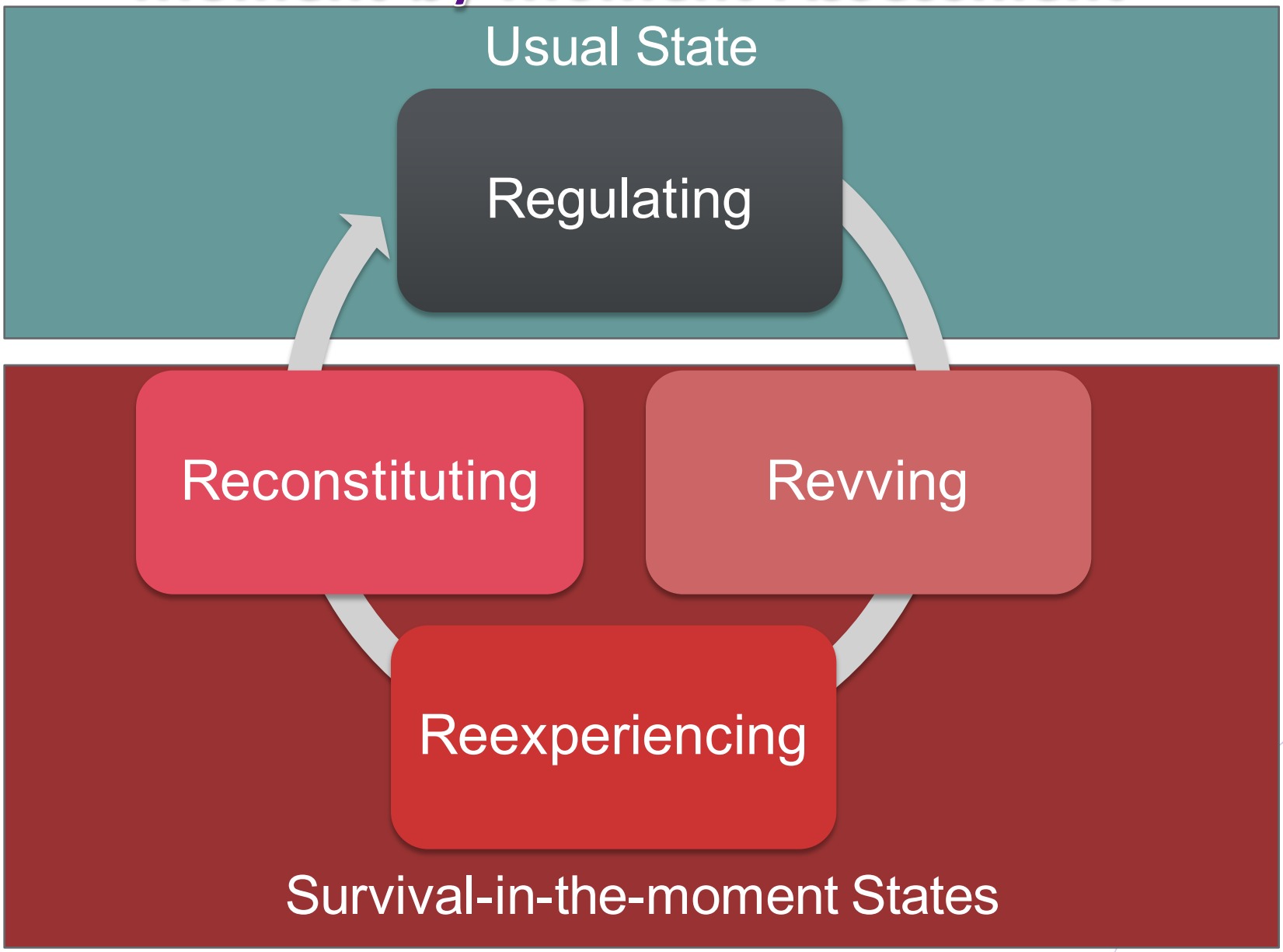
Survival-in-the-Moment & Moment-by-Moment Assessment



Playing Rats

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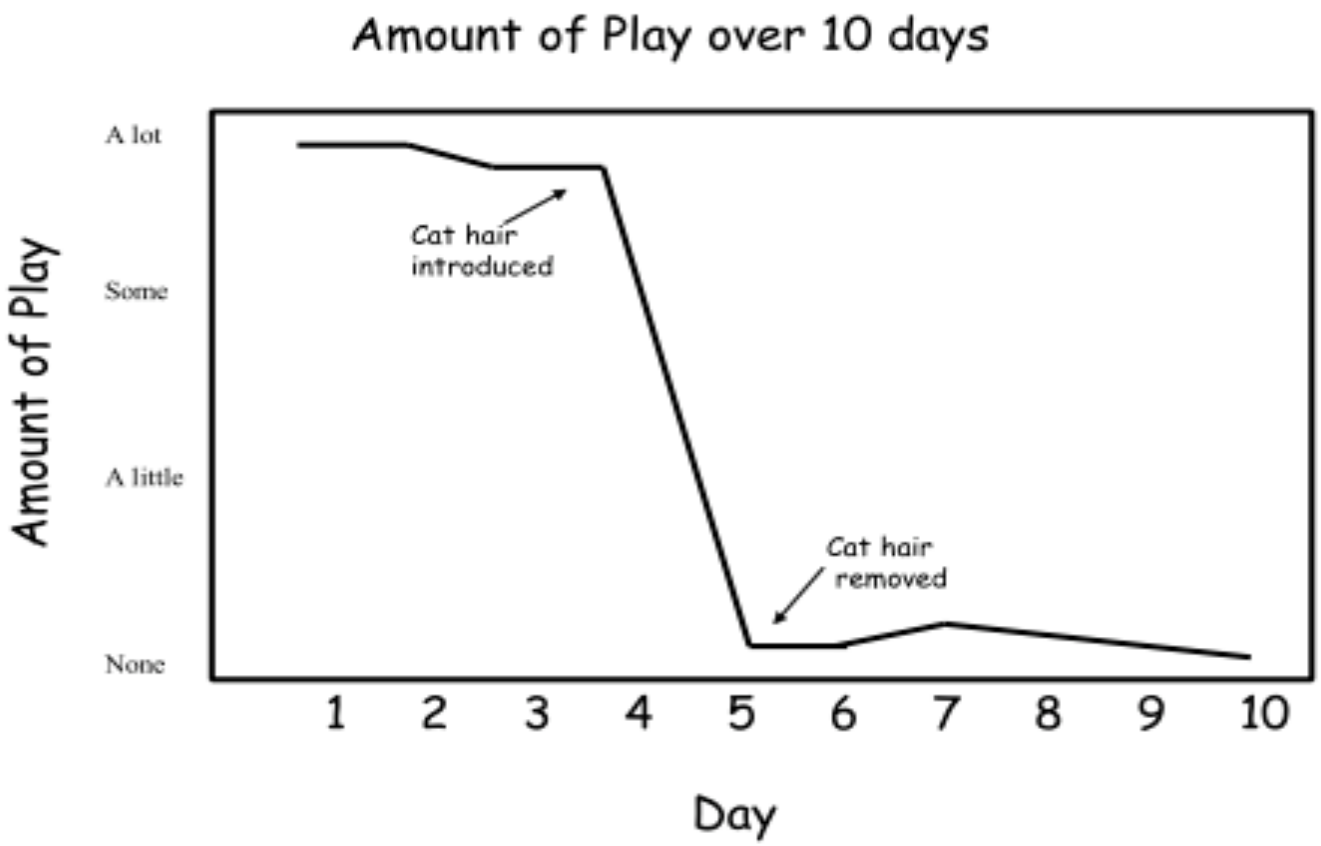
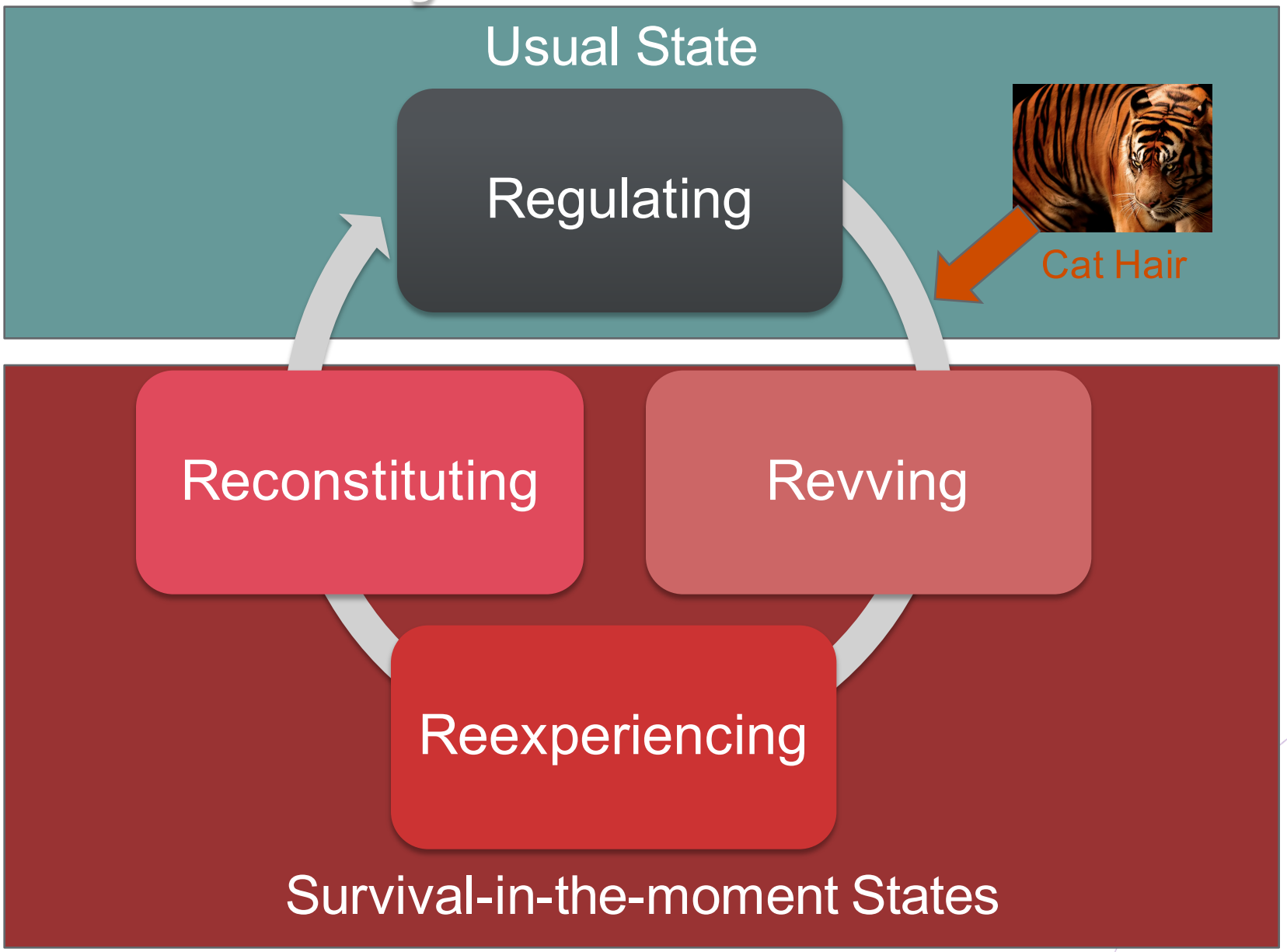
Where is the cat hair?



In Panksepp JP (1998): *Affective Neuroscience: The Foundation of Human and Animal Emotions*, Oxford, New York

Survival-in-the-Moment & Moment-by-Moment Assessment



Where is the cat hair?

- Where is Jeffery's cat hair?
- Where is Sarah's cat hair?
- Where is Samantha's cat hair?

What do we know, now?

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4 ideas for knowing what it is (so that we may know how to help)

Idea #3:

It's all about patterns of survival-in-the-moment.

What problems does TST seek to address?

All clinical problems addressed in TST are defined in ***only*** one way:

TST Priority Problems

Patterns of links between a traumatized child's experience of threat in the present environment, and the child's transition to a Survival-in-the-Moment state.

Jeffery's Moments

- **Event #1**: When the lunch period was ending, Jeffery asked for more food … In an instant, Jeffrey stood up and punched the staff member in the face, as hard as he could.

- **Event #2**: When a staff member declined to give Jeffery a snack, Jeffery assaulted him.

- **Event: #3**: When another teen in the residential program abruptly changed the TV channel when Jeffery was watching his favorite cooking show, Jeffery assaulted him.

Sarah's Moments

- **Event #1**: When her foster mother raised the possibility of Sarah needing to go to another foster home, Sarah drank alcohol and took an overdose of Tylenol.

- **Event #2**: When her boyfriend told Sarah that he wanted to see other girls, Sarah started drinking and then cut her arms in the bathroom.

- **Event #3**: When Sarah learned that her biological mother was pregnant, Sarah took an overdose of pills.

Samantha's Moments

- **Event #1**: When the history teacher didn't believe Samantha about feeling ill and needing to leave the class, Samantha knocked her down while leaving the class.

- **Event #2**: When the school nurse said Samantha was 'faking' her stomach ache, Samantha assaulted her and broke her arm.

- **Event #3**: When Samantha asked to sit out the second half of a soccer game because her leg hurt, her coach dismissively said 'walk it off' and told her to 'get on the field'. Samantha threw an equipment bag at her and left the game: resulting in her expulsion from the team.

Examples of TST Priority Problems: Jeffery

When Jeffery (Child's name) is exposed to Withholding behavior concerning food (Description of threat signals (cat hair)),

She/he responds by Feeling panicked, and then enraged and assaults others. (Description of Survival-in-the-Moment state (3A's in Re-experiencing)).

This pattern can be understood through her past experience(s) of:

Sexual abuse from uncle that was associated with the withholding of food.

Information about Environment-Past that informs understanding of Survival-in-the-Moment response in present

Examples of TST Priority Problems: Sarah

When Sarah (Child's name) is exposed to Comments suggesting abandonment (Description of threat signals (cat hair)),

She/he responds by Feeling totally alone, panicked, and needs to 'drink and die' to not 'feel or remember' (Description of Survival-in-the-Moment state (3A's in Re-experiencing)).

This pattern can be understood through her past experience(s) of:

Severe neglect from mother. Threats of abandonment from mother.

Information about Environment-Past that informs understanding of Survival-in-the-Moment response in present

Examples of TST Priority Problems: Samantha

When Samantha (Child's name) is exposed to Statements from adult women indicating disbelief about feelings of illness (Description of threat signals (cat hair)),

She/he responds by Feeling need to escape (leg shaking), then rage, then assault. (Description of Survival-in-the-Moment state (3A's in Re-experiencing)).

This pattern can be understood through her past experience(s) of:

Sexual abuse from stepfather and mothers disbelief (including somatic symptoms)

Information about Environment-Past that informs understanding of Survival-in-the-Moment response in present

What do we know, now?

Without this knowledge,
How can we help?

4 ideas for knowing what it is (so that we may know how to help)

Idea #4:

It's all about using the information about patterns of survival-in-the-moment, to help.

It's about a trauma system…

- A traumatized child who is unable to regulate survival states
- A social-environment/ system-of-care that cannot help contain this dysregulation.

Primary Aim of Treatment

The traumatized child's tendency to have dramatic shifts to survival state when confronted by a stressor or traumatic reminder.

- **Social interventions** enhance the capacity of members of the child's social environment to protect child from reminder**s** and support child's regulation

- **Psychotherapy** enhances a child's capacity to stay regulated when confronted by a stressor/reminder

- **Psychopharmacology** supports this capacity

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What did we do??

Examples of TST Priority Problems: Jeffery

When Jeffery (Child's name) is exposed to Withholding behavior concerning food (Description of threat signals (cat hair)),

She/he responds by Feeling panicked, and then enraged and assaults others. (Description of Survival-in-the-Moment state (3A's in Re-experiencing)).

This pattern can be understood through her past experience(s) of:
Sexual abuse from uncle that was associated with the withholding of food.
(Information about Environment-Past that informs understanding of Survival-in-the-Moment response in present)

Interventions

- More flexible rules re food on unit and empathic attitude towards Jeffery.
- Work with foster family re flexibility re food and communicate knowledge to Child Welfare agency.
- Build emotional regulation skills re food.
- Psychopharmacology to help while skills are built.
- Communications with next providers re Jeffrey's vulnerabilities and the interventions that will address them.

Examples of TST Priority Problems: Sarah

When Sarah (Child's name) is exposed to Comments suggesting abandonment (Description of threat signals (cat hair)),

She/he responds by Feeling totally alone, panicked, and needs to 'drink and die' to not 'feel or remember' (Description of Survival-in-the-Moment state (3A's in Re-experiencing)).

This pattern can be understood through her past experience(s) of:
Severe neglect from mother. Threats of abandonment from mother.
(Information about Environment-Past that informs understanding of Survival-in-the-Moment response in present)

Interventions

- Work with foster mother and Child Welfare case worker re signals of abandonment.
- Closely monitor communications with bio mother and carefully consider the tradeoffs of ongoing contact.
- Build emotional regulation skills re signals of abandonment.
- Consider Psychopharmacology to help while skills are built.
- Consider whether Sarah sometimes behaves in ways to precipitate abandonment to feel in control.

Examples of TST Priority Problems: Samantha

When Samantha (Child's name) is exposed to Statements from adult women indicating disbelief about feelings of illness (Description of threat signals (cat hair)),

She/he responds by Feeling need to escape (leg shaking), then rage, then assault. (Description of Survival-in-the-Moment state (3A's in Re-experiencing)).

This pattern can be understood through her past experience(s) of:
Sexual abuse from stepfather and mothers disbelief (including somatic symptoms)
(Information about Environment-Past that informs understanding of Survival-in-the-Moment response in present)

Interventions

- Classroom plan: Leg shaking, teacher, guidance counsellor
- More flexible classroom rules to address Samantha's needs and build more empathic attitude towards Samantha.
- More proactive about Samantha's physical symptoms and communication about them. Scheduled meetings with (new) school nurse.
- Integrate foster family and case worker in plans.
- Guidance for security officers.
- Build emotional regulation skills re signals of abandonment
- Psychopharmacology to help while skills are built.

Trauma Systems Therapy

How does TST address those problems?

- By offering an array of interventions/services, all designed to address the tightly defined problems in specific and integrated ways:
  - Skill based Psychotherapy
  - Home/Community/Milieu based intervention
  - Psychopharmacology
  - Legal Advocacy
- By offering this array of interventions/services in a phase based manner, depending on the needs of the child within their social environment:
  - Safety-focused Treatment
  - Regulation-focused Treatment
  - Beyond Trauma Treatment

TST is both …

A Clinical model for the efficient and effective treatment of traumatized children

AND

An organizational model for how services must be assembled, integrated, and supported

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The 4 Service Elements

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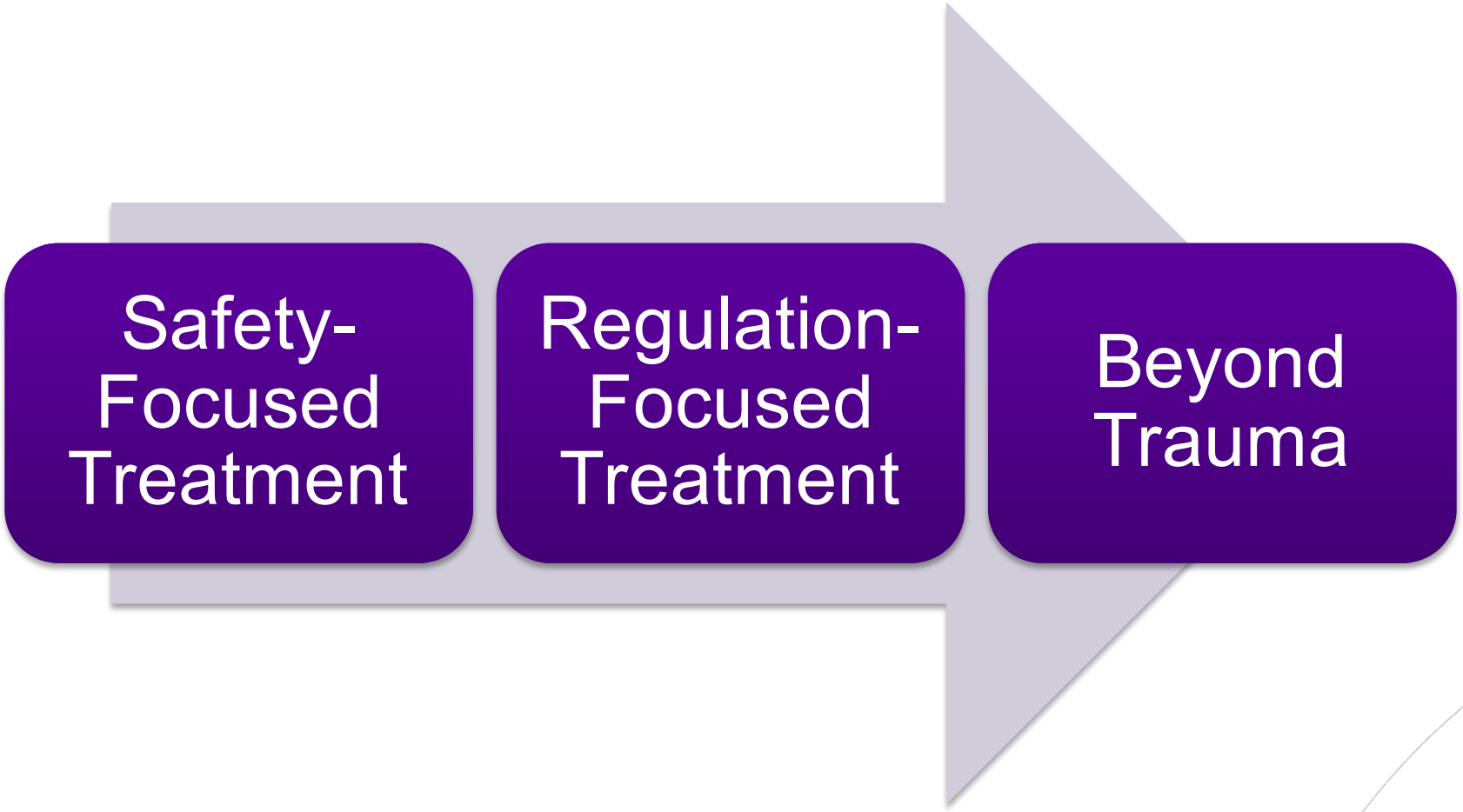
The 3 phases of TST treatment



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All TST interventions/services dedicated to three main goals:

1. Protect the child from environmental signals experienced as threat ('cat hair'), until child is able is able to manage them. Protect child from actual threats ('cat'): Safety-focused Treatment.

2. Build the child's ability to manage environmental signals experienced as threat ('cat hair'), when the environment is safe and stable enough: Regulation-focused Treatment.

3. Prepare the child to grow into the future in a way that is not consumed by the past: Beyond Trauma Treatment.

Who gets what when?

TST Treatment Planning Grid		The Environment's Help and Protection		
		Helpful and Protective	Insufficiently Helpful and Protective	Harmful
The Child's Survival States	No Survival States	Beyond trauma	Beyond trauma	Safety- focused
	Survival States	Regulation-focused	Regulation-focused	Safety-focused
	Dangerous Survival States	Regulation-focused	Safety-focused	Safety-focused

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Anne E, Casey Foundation

Bridging the Way Home Study

Anne E Casey Foundation, Bridging the Way Home Study

Composition of analytic sample

Demographic Characteristic		Sample Composition		
		M(SD)	%	N
Intake age		12(3.5)	--	1449
Gender	Female	--	53.9%	780
Ethnicity	White	--	58.70%	849
	Black	--	22.9%	331
	Hispanic	--	7.6%	110
	Other	--	10.8%	156
UCLA PTSD	Severity Score	17.1(17.5)	--	873
	Partial or full diagnosis	--	49.50%	432
Maltreatment Experienced[a]	Parent incapacity	--	69.2%	1,003
	Child behavior	--	32.8%	475
	Neglect	--	27.8%	403
	Physical abuse	--	23.4%	339
	Emotional abuse	--	17.5%	253
	Sexual abuse	--	8.6%	124
	Medical neglect	--	4.4%	64

Note: [a]maltreatment types are not mutually exclusive.

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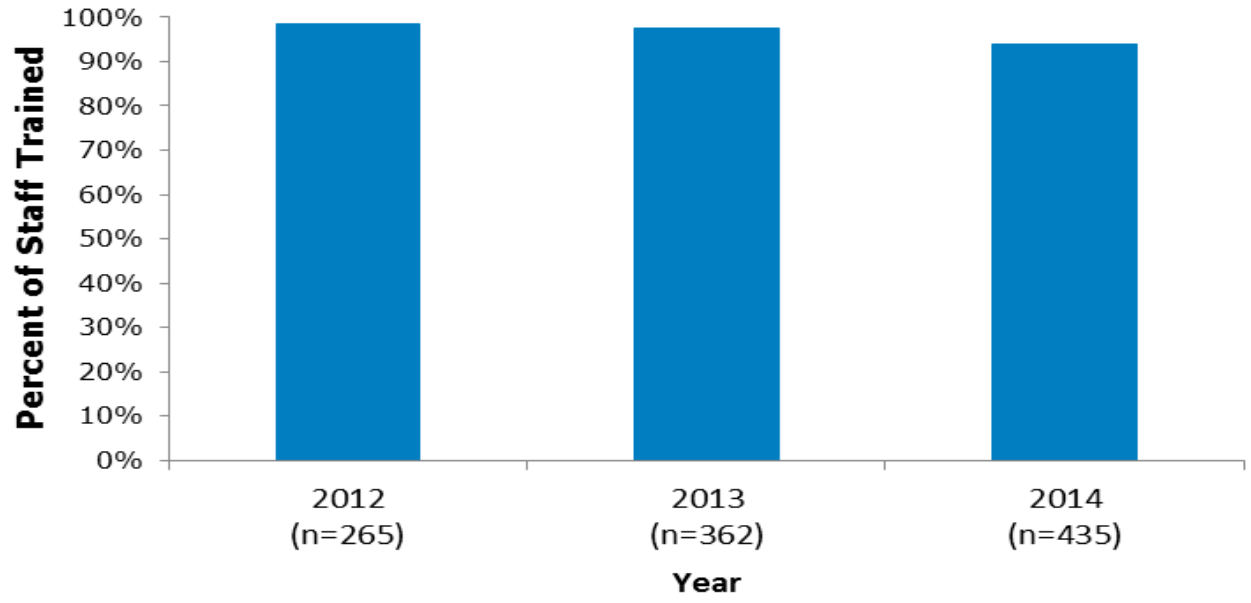
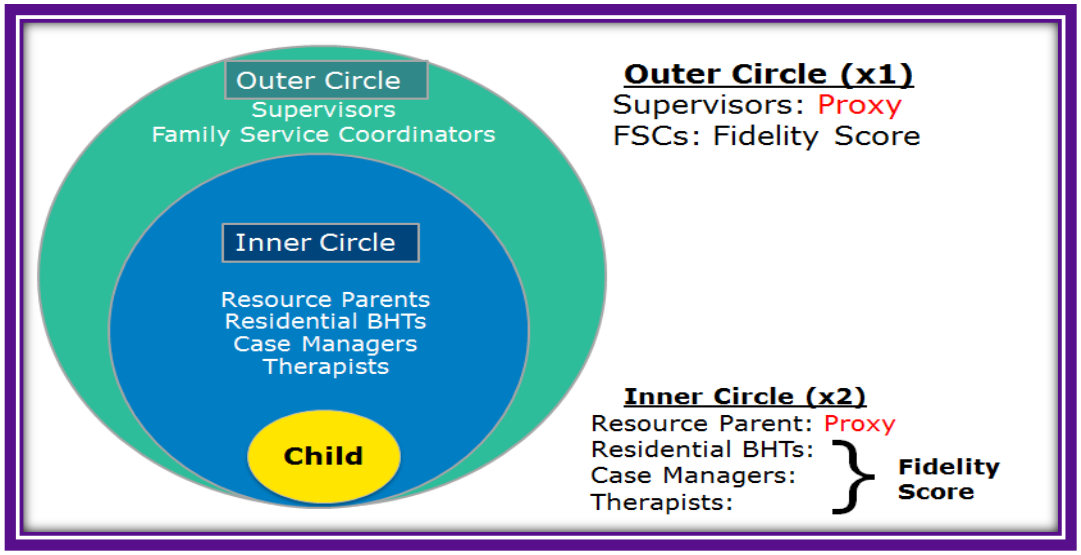
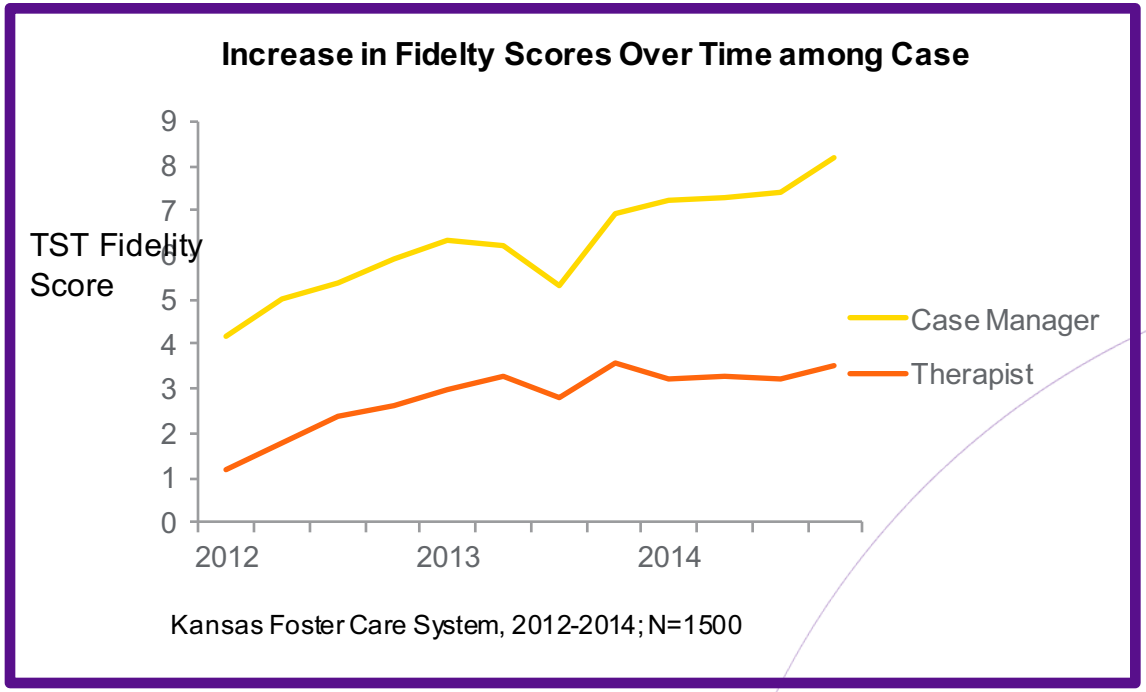
Anne E Casey Foundation, Bridging the Way Home Study

Percent of KVC staff trained in TST, by year TST was implemented



Anne E Casey Foundation, Bridging the Way Home Study





Anne E Casey Foundation, Bridging the Way Home Study

Increase in fidelity score over time by members of the child's inner and outer circle and improvements in child well-being among children receiving Trauma Systems Therapy in a Foster Care Setting, 2011-2014

Fidelity	Functioning	Emotional Regulation	Behavioral Regulation	Placement Stability*
Inner Circle ↑	↑			
Case Manager ↑	↑			↑
Therapist ↑				
Outer Circle ↑	↑	↑		↑
Supervisor ↑	↑	↑	↑	↑
Family Service Coordinators ↑	↑			↑

*Reduction in number of placements

All results displayed are statistically significant (alpha=0.05)

Kansas Foster Care System, 2012-2014; N=1500

Child Trends, Implementation Evaluation of KVC's "Bridging the Way Home" Initiative

Introduction

Psychoses secondary to drug ingestion, manic-depressive illness, and schizophrenia are not uncommon.

various forms of psychoses during adolescence with special emphasis on the diagnosis and treatment of adolescent schizophrenia, the most common psychosis in this developmental period.

Definition

Psychoses

- Schizophrenia
- Drug-induced
- Bipolar
- NOS

Schizophrenia

- **Affects 1% of population worldwide**
- **“positive” symptoms (representing behavioral excesses) such as**
  - **hallucinations**
  - **delusions,**
- **“negative” symptoms - deficits**
- **disorganization**

Late Adolescence is peak age of onset

Childhood vs. Early Onset

- **Childhood-onset schizophrenia (COS) AKA Very Early Onset**

onset of psychotic symptoms before age 13 years)

rare

- **Early-onset schizophrenia (EOS)**

before age 18

approximately 5% of adults with schizophrenia

Compared to later onset schizophrenia EOS is more severe

- increased severity of clinical symptoms
- greater cognitive impairment
  - memory, attention, language skills, motor skills, social skills, creative thought, and planning
- more treatment refractory
- Teens with schizophrenia have approximately a 50% risk of attempted suicide

A neurodevelopmental disorder

- Excessive synaptic pruning
- Ventricular enlargement
- Risk factors – obstetrical complications, prenatal illness, genetics
- Deficits in neuromotor functioning, coordination, minor physical anomalies, soft neurological signs
- Stress plays a role

Prodromal phase – Attenuated Psychosis Syndrome

- perceptual disturbances,
- unusual beliefs
- disorganized thinking
- changes in mood, interests, and functioning.
- Attenuated symptoms (sometimes referred to as attenuated psychosis syndrome, or
  - Antedates overt psychosis by weeks to years
  - Opportunity for early intervention

Interventions for APS

- **Patient and Family Psychoeducation**
- **Environmental manipulation**
- **CBT**
- **Low dose antipsychotics**

Goals of intervention

- **Have awareness of unreality of symptoms**
- **Be able to see illness as separate from self**
- **Have realistic educational and vocational goals**
- **Have hope for a meaningful life**

Diagnosis

- **Involves careful assessment of prior psychiatric history, family history, and treatment response**
- **Structured assessment tools can be helpful**
  - **Interviews**
    - ***Suggest ways of asking questions in a non-threatening manner***
  - **Rating scales**
    - ***Help anchor severity***
- **Ongoing observation may be necessary**

Clinical manifestations

- Differences between adolescent and later onset
- More likely to have affective symptoms
- Hallucinations more common than delusions

Thought disorder

- **Can be present in bipolar illness as well as schizophrenia**
- **Loosening of associations - Example**
- Autism, A gradual but marked withdrawal from peers, school, and family resulting in almost total isolation occurs in most adolescent schizophrenics.

Preoccupation with fantasy

Distrust of others → paranoia

Keep in mind

- **clinical observation over a period of time is often necessary in order to effectively establish a diagnosis**
- **Brain imaging not currently recommended unless space-occupying lesion suspected**

Other Psychotic Disorders

Bipolar disorder – 2.5 % of adults, +/- psychotic symptoms

- Peak age of onset is later than schizophrenia
- >50% lifetime occurence of psychotic symptoms
- can mask affective symptoms and confound diagnosis, esp in minorities
- Psychotic symptoms suggest poor prognosis when they occur in the absence of affective symptoms

Psychotic Symptoms in Bipolar Disorder

- **Grandiose delusions and ideas – most common**
- **gross impairment of reality testing with delusions or hallucinations**
- **grossly bizarre behavior**
- **loud, pressured, rapid speech – flight of ideas**

Drug induced psychosis

- **Drugs implicated**

Drug induced psychosis - Key points (**Goerke & Kumra, 2013)**

At initial presentation, substance-induced psychosis is almost indistinguishable from a primary psychotic disorder.

All adolescents presenting with psychotic symptoms and co-occurring substance use should be considered at significant risk of developing a primary psychotic disorder.

There is a paucity of data on the optimal treatment of patients with a psychotic disorder and co-occurring substance use, because most of these adolescents have been excluded from controlled treatment trials of antipsychotic medications.

risk factor to the development of a primary psychotic illness in at-risk adolescents, and these data suggest that reduction or cessation of cannabis use should be recommended for all adolescents with psychotic symptoms to prevent further deterioration.

Once psychotic symptoms have been stabilized with antipsychotic medications, developing a therapeutic alliance and ongoing psychoeducation are critical to keep these young people engaged in treatment and abstinent from substance use.

Autism

- **Some symptoms overlap**
- **Can have both disorders**

Psychosis NOS

Treatment

Evidence is accumulating that early treatment produces better outcome

Family Treatment

Goals -- Help family

First Episode

antipsychotic polytherapy

Recent questioning of conventional wisdom

- Superiority of 2nd generation drugs
- Validity of differentiation of 1st and 2nd generation
- "Two Decades of Misguided Beliefs" (Busko, 2009)

Lancet Meta-analysis

Small to medium effects are possible following treatment with amisulpride, clozapine, olanzapine and risperidone in terms of overall efficacy and positive and negative symptoms. Second generation drugs can also result in fewer extrapyramidal side effects, but can induce weight gain.

(Leucht et al., 2009)

Factors in Unfavorable Prognosis

- **premorbid social and cognitive impairments**
- **prolonged first psychotic episode**
- **extended duration of untreated psychosis (DUP)**
- **presence of negative symptoms.**
  - (Kogstad et al., 2011). *NCCMH (2013) Psychosis and Schizophrenia in Children and Young People: Recognition and Management.*

A Final Thought

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