STRESS RELATED DISORDERS IN CHILDHOOD AND ADOLESCENCE

- Childhood Emotional and Behavioral Disorders
  - Childhood Anxiety Disorders
  - Childhood Mood Problems
  - Eating Disorders
  - Understanding Adolescent Development
- Adolescent Substance Use Disorders
- Substance Abuse and the Adolescent Brain
- Trauma-Related Stress Disorders and Substance Abuse in Adolescents
- Understanding and recognizing symptoms
- Cultivating relational safety
- Empowerment, positivity and hope
- Mindfulness training
<table>
<thead>
<tr>
<th>Disorder</th>
<th>Usual Age of Identification</th>
<th>Prevalence Among All Children</th>
<th>Gender with Greater Prevalence</th>
<th>Elevated Family History</th>
<th>Recovery by Adulthood</th>
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<tbody>
<tr>
<td>Separation anxiety disorder</td>
<td>Before 12 years</td>
<td>4–10%</td>
<td>Females</td>
<td>Yes</td>
<td>Usually</td>
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<td>Conduct disorder</td>
<td>7–15 years</td>
<td>1–10%</td>
<td>Males</td>
<td>Yes</td>
<td>Often</td>
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<td>ADHD</td>
<td>Before 12 years</td>
<td>4–9%</td>
<td>Males</td>
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<td>Often</td>
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<td>Enuresis</td>
<td>5–8 years</td>
<td>5%</td>
<td>Males</td>
<td>Yes</td>
<td>Usually</td>
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<td>Encopresis</td>
<td>After 4 years</td>
<td>1.5–3%</td>
<td>Males</td>
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<td>Usually</td>
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<tr>
<td>Specific learning disorders</td>
<td>6–9 years</td>
<td>5%</td>
<td>Males</td>
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<td>Often</td>
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<td>Autism spectrum disorder</td>
<td>0–3 years</td>
<td>0.2–1.1%</td>
<td>Males</td>
<td>Yes</td>
<td>Sometimes</td>
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<tr>
<td>Intellectual developmental disorder</td>
<td>Before 10 years</td>
<td>1–3%</td>
<td>Males</td>
<td>Unclear</td>
<td>Sometimes</td>
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</tbody>
</table>
Non-specific interventions: universal and targeted interventions in early childhood

- Benefits to child mental health have been shown from early childhood interventions including: early stimulation interventions; interventions to improve carer sensitivity and responsiveness, integrated nutrition, health, and stimulation programmes; attendance at a high-quality preschool; and conditional cash transfers to families. These early interventions benefit children exposed to various contextual and biomedical risks including poverty, institutionalization, low birthweight, stunting, and iron-deficiency anemia.

- Nutritional interventions in early childhood have had mixed results. Prevention of iron-deficiency anemia in Chilean infants improved behaviour and temperament at 12 months. However, no benefits were reported for iron supplementation, zinc supplementation, or both, for the behaviour of 6–7-year-old Mexican children, and nutritional supplementation of stunted Jamaican children in early childhood did not improve their behaviour at age 11–12 years or their mental health at age 17–18 years.

Interventions for behavioral disorders: universal

- School-based preventive interventions for children aged 3–8 years involving teacher training, teaching a class-wide social-emotional curriculum, or both, have shown concurrent improvements in child problem behaviors and child competencies. Furthermore, there is evidence that these interventions are well accepted by teachers. Integration of a brief behavioural parent training intervention into health services for 2–6-year-old children in Iran improved parent reported practices and child abuse. A community-based preventive programme targeting drug use in China successfully reduced drug use initiation in young men aged 15–19 years.

Interventions for behavioural disorders: selective

- Benefits from child training interventions for children aged 7–14 years with behaviour problems were reported for externalizing problems and social skills.

Interventions for emotional disorders: universal

- Interventions involving structured activities have shown benefits for children aged 7–14 years in war-affected communities. A school-based physical activity intervention for 15-year-old students in Chile showed benefits to anxiety and self-esteem but not to depression.

- A psychosocial intervention to prevent depression in 12–16-year-old adolescents in Mauritius showed short-term benefits to depression, hopelessness, coping skills, and self-esteem. Benefits to coping skills and self-esteem were sustained at follow-up after 6 months.

Interventions for emotional disorders: selective

- School-based and camp-based psychosocial group interventions have generally, although not consistently, shown benefits to child and adolescent mental health, including internalizing problems, behavioural difficulties, and competencies. Interventions have targeted children aged 7–18 years affected by conflict, 10–15-year-old children orphaned by AIDS, and 8–15-year-old children with substantial depressive symptoms. For 5–6-year-old children displaced by war, a combination of group psychosocial intervention and home visits for mothers improved maternal and child mental health.

Interventions for intellectual disorders: universal

- Effective interventions to prevent cognitive deficits in low-income and middle-income countries include maternal and child nutritional and micronutrient supplementation, immunisation programmes, reduction of exposure to environmental toxins, prenatal and perinatal maternal health interventions, malaria prevention, and early stimulation programmes. Other interventions with potential to prevent intellectual disorders include accident and injury prevention, child abuse prevention, and interventions to prevent prenatal alcohol exposure.

Interventions for intellectual disorders: selective

- Home-visit programmes to train mothers of 3–6-year-old disabled children in early stimulation activities have shown some benefits to child development.
Mental health problems affect 10–20% of children and adolescents worldwide. Despite their relevance as a leading cause of health-related disability in this age group and their long lasting effects throughout life, the mental health needs of children and adolescents are neglected, especially in low-income and middle-income countries.

We review the evidence and the gaps in the published work in terms of prevalence, risk and protective factors, and interventions to prevent and treat childhood and adolescent mental health problems.

We also discuss barriers to, and approaches for, the implementation of such strategies in low-resource settings.

Action is imperative to reduce the burden of mental health problems in future generations and to allow for the full development of vulnerable children and adolescents worldwide.
KEY MESSAGES

• Children and adolescents constitute *almost a third* (2·2 billion individuals) of the world’s population.

• *Almost 90% live in low-income and middle-income countries* (LMIC), where they form up to *50% of the population* (causes include war and early mortality).

• Mental health problems affect *10–20% of children and adolescents worldwide* and account for a large portion of the global burden of disease.

• Although only *10% of trials* come from low-income and middle-income countries (*LMIC; where 90% of children and adolescents live*), sufficient evidence exists to justify the set-up of services.

• The development of services is hampered by *lack of government policy, inadequate funding, and a dearth of trained clinicians* (e.g., Russia).

• Early intervention and prevention *offer the hope to avoid later adult mental health problems* and improve personal wellbeing and productivity.
CONSEQUENCES OF NOT ADDRESSING CHILDHOOD MENTAL HEALTH IN LMIC

• The failure to address mental health problems, including developmental and intellectual disorders, in children and adolescents in low-resource settings is a public health issue with wide-reaching consequences because such failure also impedes the achievement of basic development goals in LMIC.

• Because evidence shows that a substantial proportion of mental health problems in adults originate early in life the situation has long lasting effects beyond childhood and adolescence.

• Since mental illnesses are conceptualized as chronic disorders of young people and because a disproportionate number of young people live in LMIC, to address mental health problems in early developmental stages in these countries is a priority for the global health agenda.

• Action is urgently needed for children in conflicts, disasters, forced labor, and who live on the streets, or who are affected by trafficking—all of which are frequent in LMIC.
The Lifecycle Approach to Risk Factors for Mental Disorders
LIFE LONG RISKS

• Genetic background,
• Problems in the physical health and nutritional status of the child
• Physical and mental health of carers
• Loss of carers or being orphaned
• Being raised in institutions
• Deficiencies in the psychosocial and educational environment
• Exposure to harmful substances and toxins
• Violence, armed conflict and war
• Forced displacement
• Immigrant stratus
• Natural disasters
• Gender disparity
• Severe physical punishment,
• Abuse or neglect
The idea of resilience differs from the general notion of risk and protective factors because it aims to incorporate *innate qualities and differences* in an individual that enable them to overcome adversity.

- Some of these qualities—for example, *behavioral and emotional self-regulation*—have proved to contribute to the mental health and academic achievement of children (e.g., *temperament* – Werner’s study)

- Characteristics of a *child’s carer system*, including *emotionally responsive and competent parenting* as well as *carer resources such as education, mental health, and relational history* (i.e., *attachment and peer network*), are direct proximal predictors of resilience in children.
The United Nations estimates up to 7.6 million Syrians are displaced within their own country, with up to 4 million fleeing their homeland.

The majority of refugees who have fled the war in Syria have settled in camps in Lebanon or Jordan or been granted asylum in Germany or other continental European countries.

But more distant countries, including New Zealand, Canada and Uruguay, have also accepted migrants.

Iceland, which has a population of 323,000, has pledged to accept an initial allocation of 75 refugees.
LIFELONG RISK FACTORS AND INTERVENTIONS

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LIFELONG RISK FACTORS

- Genetic background
- Problems in the physical health and nutritional status of the child
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- Being raised in institutions
- Deficiencies in the psychosocial and educational environment
- Exposure to harmful substances and toxins
- Violence, armed conflict and war
- Forced displacement
- Immigrant status
- Natural disasters
- Gender disparity
- Severe physical punishment
- Abuse or neglect
Question: What kinds of resources and interventions can Iceland utilize to assist the Syrian refugees who have been granted asylum in Iceland?
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Childhood Anxiety Disorders

- Anxiety is a normal and common part of childhood
  - Limited experiences
  - Parental problems or inadequacies
  - Genetic links to anxious temperament
- For some children, anxieties become long-lasting and overwhelming; they may be suffering from an anxiety disorder
  - Between 8% and 29% of all children and adolescents display an anxiety disorder
- Some of these disorders are similar to their adult counterparts
  - More often they differ from that of adult anxiety disorders
- Typically, anxiety disorders of young children are dominated by behavioral and somatic symptoms (rather than cognitive)
  - They tend to center on specific, sometimes imaginary, objects and events
  - They are more often than not triggered by current events and situations
Childhood Anxiety Disorders

- **SEPARATION ANXIETY DISORDER** begins as early as the preschool years and is displayed by 4% of all children.

- May further take the form of a **SCHOOL PHOBIA** or **SCHOOL REFUSAL** – common problem in which children fear going to school and often stay home for a long period.

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**DSM-5 Checklist**

**Separation Anxiety Disorder**

1. Developmentally inappropriate and excessive fear or anxiety concerning separation from those to whom the individual is attached. Symptoms include recurrent separation-related fears, worries, refusal to leave home, nightmares, and/or physical symptoms.

2. The symptoms are persistent, lasting 6 months or more.

3. Significant distress or impairment.

Treatments for Childhood Anxiety Disorders

- Around two-thirds of anxious children go untreated
- Therapies used
  - Psychodynamic, behavioral, cognitive, cognitive-behavioral, family, and group therapies, separately or in combination, have been applied most often – each with some degree of success
  - Drug therapy, often in combination with psychotherapy, i.e., medication assisted therapy (MAT), has begun only recently to receive much research attention
  - Psychodynamic therapists use play therapy as part of treatment
VIDEO: EXPOSURE THERAPY BOY WITH DOG PHOBIA
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Childhood Mood Problems

MAJOR DEPRESSIVE DISORDER

• Typically, very young children lack some of the cognitive skills that produce clinical depression (e.g. Beck’s negative triad – negative thoughts about the self, current experience and the future).

• Yet, depression in the young may be triggered by negative life events (particularly losses), major changes, rejection, or ongoing abuse.

• Major depressive disorder (often becomes manifest in somatic symptoms) – e.g., headaches, stomach pain, irritability, and a disinterest in toys and games.

• Clinical depression is much more common among teenagers than among young children.
  • Suicidal thoughts and attempts are particularly common.
  • Before age 13: No gender difference.
  • By age 16: girls twice as likely to be depressed.

• Treatment
  • Recent research disputes the wisdom of using adult treatment for depression with children.
  • NIMH TADS (Treatment for Adolescents with Depression Study) data suggests that depressed teens respond less well to cognitive-behavioral therapy than adults.
  • Antidepressant drugs may be highly dangerous for some depressed children and teenagers.
Rapid Rise: Children and Bipolar Disorder

BIPOLAR DISORDER

- Since the mid-1990s, clinical theorists have begun to believe that many children display bipolar disorder
- Increase in prevalence or new diagnostic trend

![Graph showing the number of office visits by children with bipolar diagnosis]

**DSM-5 Checklist**

**Disruptive Mood Dysregulation Disorder**

1. Severe and recurrent temper outbursts (verbal or behavioral) that are grossly out of proportion to the situation.
2. Outbursts occur three or more times per week, for at least one year.
3. Persistent irritable or angry mood is displayed between outbursts.
4. Symptoms are present in at least two settings (home, school, with peers).
5. Individual is between 6 and 18 years of age.


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**Number of Office Visits by Children with Bipolar Diagnosis**

- 1994: 100,000
- 1997: 200,000
- 1999: 300,000
- 2003: 800,000

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**Year**
Bipolar Disorder and Disruptive Mood Dysregulation Disorder

- DISRUPTIVE MOOD DYSREGULATION DISORDER

- DSM-5 task force
  - Added a new category: disruptive mood dysregulation disorder, which is targeted for children with severe patterns of rage to rectify situation
    - Especially important because of overdiagnosis and adult medication prescribed for children

DSM-5 Checklist

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EATING DISORDERS NOT OTHERWISE SPECIFIED
https://www.youtube.com/watch?v=1OQbUZeYAik

ANOREXIA
https://www.youtube.com/watch?v=hjm3XTMEUAM
**BODY MASS INDEX AND RISK OF DISEASE.** Relative risk of disease plotted against body mass index (BMI), calculated as (body mass in kg)/(height in meters)\(^2\) or, alternatively, as (body mass in lbs x 703.1)/(height in inches)\(^2\).

BMI values in the 20-25 range are considered desirable, 25-30 are classified as overweight, and over 30 are classified as obese.

The relative risk of disease compares an individual's probability (corrected for age) of having a disease with that of the general population. The curvilinear relationship indicates that obesity markedly increases disease risk.
EATING AND THE BRAIN

• Food, sex and drugs activate the same brain circuitry that evolved to ensure our survival.

• Through classical conditioning, memory forges a link, not only between pleasure and the rewarding stimulus (food), but also surrounding environmental cues.

• Similar to how Pavlov’s conditioned dogs salivated to a sound, compulsive eaters (and drug addicts) develop a reflex to overindulge.

• In terms of evolution, the human hunter did not always have access to a ready food supply, so foods that stored a lot of energy (i.e., high in fat or sugar) boosted survival.

• So today – whether trolling the supermarket or scanning our own fridge - we are magnetized by high-fat, high sugar foods.

• Genetically we are the same; environmentally there is an abundance of rich food. In the case of eating, a genotype by environment mismatch makes for a culture of obesity.
Eating and Dopamine

• In the brains of both drug addicts and the obese, there is typically a reduced number of D2 dopamine receptors.

• This may be the result of either compensation from over stimulation by dopamine (the brain’s compensatory response to repetitive overeating or drug taking) or because these individuals have a lower number of dopamine receptors at birth, leading to an addictive predisposition (i.e., seeking dopamine).

• An inverse relationship between obesity and D2 receptors (i.e., the more obese a person was the fewer D2 receptors).

• Genetic influence ranges from differences in the efficiency of metabolizing certain foods (or drugs) to differences in our likelihood to participate in behaviors high in sensation or risk.

• In the case of obesity some people may be inherently more sensitive to the neurochemical rewards associated with food.
Obesity in America

- Over 30% of the U.S. population is considered to be obese; that is, their body mass index (BMI) is equal to or greater than 30 kg/m².

- Obesity is the major cause of many health-related disorders, especially diabetes and heart disease.

- It is also implicated in certain cancers, cardiovascular disease, osteoarthritis, gall bladder disease, hypertension and even dementia.
Obesity in the US. The percent of the US population classified as obese plotted against year. The curvilinear relationship indicates that obesity rates are on the rise.
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THE STRENGTH AND VULNERABILITY OF ADOLESCENCE

• Adolescence is the healthiest and most resilient period of the lifespan.

• From Childhood to Adolescence:
  *Improvements in strength, speed, reaction time, mental reasoning abilities, immune function...*

• However, overall *morbidity rates* increase *200-300%* from childhood to late adolescence.
The foundational causes of death and serious injury are related to under control of behavior and emotion.

Escalating incidence of accidents, violence, homicide, depression, suicide, AOD abuse, risky sexual behavior leading to health problems, eating disorders...

Higher rate of risk-taking, sensation seeking and emotionally driven erratic behaviors.
• Youth are heated by Nature as drunken men by wine - Aristotle

• ...inclined to contradict parents and tyrannize their teachers – Socrates

• I would that there were not age between ten and twenty three... for there is nothing in between but getting wenches with child, wrongdoing the ancientry, stealing , fighting... - Shakespeare (The Winter’s Tale)

• ....a period of heightened “storm and stress – G.S. Hall (1904)

• Adolescent’s are normal psychotics (Anna Freud)
ADOLESCENT STORM AND STRESS REVISITED (Arnett, 1999)

• Many (perhaps most) adolescents *navigate this interval with minimal difficulties*

• However, empiric evidence for: increased conflict with parents (intensity); mood volatility and increased negative mood; increased risk behavior, recklessness and sensation seeking.

• Overall *morbidity and mortality rates increase 200-300% between middle childhood and late adolescence/early adulthood.*

• Onset of problems such as *nicotine dependence, AOD abuse, poor health habits, etc. will show up a mortality in adulthood.*

• Many adult problems such as depression can be traced to *early episodes* in adolescence.
Aristotle on Youth  
(384 BC – 322 BC)

The young are in character prone to desire and ready to carry any desire they have formed into action. Of bodily desire it is the sexual to which they are most disposed to give way, and in regard to sexual desire, they exercise no self restraint. They are changeful too, and fickle in their desires, which are transitory as they are vehement; for their wishes are keen without being permanent, like a sick man’s fits of hunger and thirst.

They are passionate, irrational and apt to be carried away by their impulse. They are slave too to their passion, as their ambition prevents their ever brooking a slight and renders them indignant at the mere idea of enduring an injury… They are fonder both of honor and victory than of money, the reason why they care so little for money being that they never yet had experience of want.

They are charitable rather than the reverse, as they have never yet been witness of many villainies; and they are trustful as they have not yet been often deceived…they have high aspirations; for they have never yet been humiliated by the experience of life, but are unacquainted by the limiting force of circumstances...

If the young commit a fault, it is always on the side of excess and exaggeration, for they carry everything too far, whether it be their love or hatred or anything else. They regard themselves as omniscient and are positive in their assertions; this is in fact the reason of their carrying everything too far.
**TASKS OF ADOLESCENT DEVELOPMENT**

**Physical**
- Growth spurt
- Growth of pubic and body hair
- Growth and maturation of reproductive organs
  - Boys: Increased muscle mass, Onset of sperm production
  - Girls: Development of female body shape, including breast development, Menarche

**Emotional and Social**
- Emotional separation from parents
- Greater sense of personal identity
- Identification with a peer group
- Exploration of romantic relationships and a sense of one’s sexuality

**Cognitive**
- Increased capacity for abstraction and advanced reasoning
- Greater impulse control
- More effective assessment of risk versus reward
- Improved use and manipulation of working memory
- Improved language skills
- Increased capacity to self-regulate emotional states

**Moral**
- Usually a shift from preconventional to conventional level of morality in Kohlberg’s theory
- Greater ability to take others’ perspectives
- Morality less concrete and rule-based, more focused on role obligations and how one is perceived by others
- May question values of parents and institutions
PHYSICAL DEVELOPMENT

• Physical changes in puberty are attributed to an increased pituitary sensitivity to gonadotropin-releasing hormone, leading to increased gonadal androgens and estrogens, thus bringing about rapid changes in height, weight, body shape and genital development.

• Girls in the US typically begin the physical changes of puberty between 8 and 13, with the development of breast buds, followed by additional breast development; enlargement of the ovaries, uterus, labia, and clitoris; and thickening of the vaginal mucosa. Menarche typically follows 2 to 2 ½ years after breast buds with a mean age of 13.

• Boys in the US typically lag behind girls in most noticeable physical signs of puberty. Testicular enlargement usually begins around 12 and is followed by the growth of pubic hair and growth of the penis.

• For both sexes rapid growth in weight and height follows the onset of puberty, usually beginning distally in the hands and feet before moving proximally to the arms and legs and finally to the trunk. Height can outpace the growth of muscle mass, thus contributing to period of awkwardness for some teens. On average, girls meet their peak in growth velocity around 12, two years before boys.
Physical Development

The timing of puberty is influenced by:

- Health and nutritional status (e.g., obesity has been shown to correlate with earlier onset of puberty in girls and delayed onset in boys; onset of menarche before the age of nine is rising in the US as is the average age of puberty compared to 30 years ago.
- Ethnicity (e.g., African American girls enter puberty slightly earlier than European American girls).

The psychological impact of variations in the timing of puberty differs by sex:

- Early developing males have greater self-confidence and are likely to have greater academic, athletic and social success than their peers and especially when compared to late developing males.
- Early pubertal development in girls is correlated with lower self-esteem and heightened concern over body-image.

Adequate sleep is essential for health development during adolescence:

- About 9 to 9 ½ hours per night.

Several factors contribute to inadequate sleep during adolescence:

- Hormonal changes, including melatonin secretion, cause a relative sleep phase delay, with a natural tendency toward later onset of sleep and later waking times.
- Such biological changes correspond to increased academic and social demands.
- In addition to fatigue and impaired performance in class inadequate sleep may increase the risk of health problems such as obesity.
Brain Development During Adolescence

- Structural brain imaging studies challenge earlier concepts that most brain development is complete by early childhood.

- **There are significant increases in white matter**
  (which represents fiber growth and myelination) during adolescence that continues into the early 20s.

- Myelination occurs **caudal-to-rostral (back to front)**, thus pathways originating from sensory and motor regions mature earlier than prefrontal areas associated with executive functions (i.e., reasoning and judgment).

- There a decrease in gray matter density in the frontal and parietal lobes; this also occurs in a **caudal-to-rostral** pattern.

- Decrease in gray matter is thought to be due to a process of **pruning** - an experience-driven maturational process in which **active neuronal connections are strengthened and idle ones are lost, with subsequent apoptosis (cell death) of inactive neurons.**
Because the prefrontal cortex is one of the last areas of the brain to mature, adolescents tend to use other areas of the brain – in this case emotional areas – when making decisions.

For example, brain activity, seen here via functional MRI, shows that when judging emotion represented on a face, a teenager’s amygdala (right) is activated. Activity in the amygdala during this task likely reflects more of a gut reaction than a reasoned one.

In contrast, the prefrontal cortex, involved in reasoning and reflection is activated in the adult brain (shown on the left).
What is “Normal” Adolescent Behavior?
Adolescent Brain Development: A Framework for Understanding Unique Vulnerabilities and Opportunities (R. Dahl)

ROMANTIC FEELINGS KINDLE RAPIDLY

Amidst the festivities of a grand party a young guy notices a strikingly beautiful 13-year-old girl and is immediately smitten. He approaches her and begins to flirt boldly. She tries to rebuff him but is flattered by his attention and finds him quite attractive. By the time he departs the scene, with a kiss followed by a second kiss, these two have exchanged less than a hundred words, yet both are swooning with sensations of falling desperately in love. All mental processes — thinking, planning, goals, feelings, and motivations have been suddenly transformed...these brains have been completely gripped by this brief encounter.

LONGING, OBSESSION AND DESIRE

In the hours after this meeting, these two cannot stop thinking about each other. The intensity of desire is so strong that each would happily forego food, sleep, comfort and all competing pleasures, simply to be in each other’s presence again.

A SECOND (CLANDESTINE) RENDEZVOUS ENSUES

Passionate feelings now accelerate at a feverish pitch. Within a few days their deepest wish is to be joined together until the end of time. Each begins to feel as if the entire universe has always meant for them to be together.

ALL PRIORITIES HAVE BEEN REORDERED; NOW EACH VALUE EACH OTHER ABOVE ALL ELSE

Both are willing to spurn friends and family, risk dangers, transcend pain and difficulties just to be together... soon begin to feel if death itself would be preferable to living apart. All this though they just met four days previously and barely know each other.
Limbic vs. Cortical Development

Graph showing the development of Limbic and Prefrontal regions over age, with adolescence as the baseline. The Limbic regions develop earlier, while the Prefrontal regions develop later, with increased risk associated with this developmental gap.
Teens may understand that risky behaviors such as smoking and unprotected sex carry consequences. Yet adolescents tend to give more weight to the pleasures than to the costs.

IMPLICATIONS OF BRAIN IMAGING STUDIES

• Major changes in brain structure are definitively known to occur through early adult years.

• These data may provide a basis for understanding how adolescent thinking differs from adult cognition.

• The ventromedial prefrontal cortex, for example, is associated with the capacity to evaluate risk and reward to guide decision making.

  The executive region of the brain is not always functioning fully in teenagers.

  Teenagers aren’t thinking through the consequences of their behaviors...

• Imaging studies suggesting that this area is one of the last brain regions to mature is consistent with observations from behavioral studies involving activities such as gambling, in which adolescents are substantially more likely to take greater risks than are adults.

• Recklessness may be related to a lesser ability during adolescence to utilize brain regions best equipped to assess risk and benefits.

• Maturation of other regions of the prefrontal cortex are consistent with observed gains in working memory, emotion regulation, and the capacity for long-term planning.
Brain studies shed light on the heightened role of emotions during adolescence.

Because of the social and cultural milieu context of adolescence, many important decisions are made by teenagers in emotionally charged settings.

The dare, for example, to drink more alcohol or to drive too fast often is presented when the teenager is in a hotly emotional state.

Decisions that stem from these emotionally charged moments may be considered “hot cognitions.”

The intense emotionality of these moments relies on more fully developed limbic brain regions, and as a function of the incomplete myelinations in cortical regions, these decisions do not benefit from proportionately similar consideration from executive brain regions.

Attempts designed to change adolescents’ thinking (in the larger sense cognitive-behavioral treatment), such as antismoking campaigns, may not be sufficiently effective on their own, but need to be bolstered by measures that enforce behavior, such as parental supervision and laws against the sale of cigarettes to minors.

In addressing risky behaviors during teen years (by parents, counselors or health care practitioners), it is important to view these behaviors in a developmental context rather than attributing them to simplistic explanations, such as peer pressure.

Understanding (and modifying) these behaviors requires some understanding of the cognitive (including neuropsychological), social, and emotional development of the individual.
Implications of Brain Imaging Studies

• **When challenges are presented to adolescents in less emotionally hot settings, they make safer decisions and presumably use higher brain structures more effectively.**

• Attempts to help adolescents to maintain their own safety also must focus on removing some of the affective energy that adolescents might feel when contemplating risky behavior.

• **An important aspect of adolescent treatment is to anticipate some of the difficult decisions that adolescents are likely to face, such as getting into a car driven by a friend who is drunk, and helping them think through the process before it occurs, outside of the emotional pressures of the moment.**

• **In general, discussions about an adolescent's risk-taking behaviors, both past and future, might be most productive in moments of relative calm.**
Using the Cognitive-Behavioral Map

- **Events**: Internal or External
- **Automatic Thoughts**: Expectations, Appraisals, Attributions, Decisions
  - **Attitudes**, **Values**, **Beliefs**
- **Emotions and Feelings**
- **Behavioral or Action Choice**

**Adaptive Action**: Turned on positive or turned off negative events

**Positive or Good Outcome**: Thoughts and behaviors strengthened

**Maladaptive Action**: Turned on negative events or experiences

**Negative or Bad Outcome**: Behavior weakened; yet thoughts may be strengthened
Emotional and Social Development

Epigenetic Model – Erik Erikson

- Emotional development is a series of crises where individuals must complete difficult, sometimes conflicting tasks in order to maintain a developmental trajectory.

- Developmental challenges are binary crises that force the individual to choose a more adaptive (desirable) emotional stance (e.g., infancy is described as trust versus mistrust -- if infants do not learn to trust the world to care for them, they will develop a suspicious and paranoid stance when moving along the developmental trajectory).

- Adolescence is a period of identity formation and role diffusion: An incoherent sense of self and values will result in the lack of a sense of identity.

- A second separation from adult caretakers -- first separation occurs when the younger child attains the motor and cognitive ability to move away from the parents’ constant watch.
Adolescence is less concerned with identity formation than group cohesion (e.g., the middle school child places a high priority on popularity is in the midst of a normal developmental stage.

- Successful membership within groups sets the stage for later confidence to move throughout different groups.
- Healthy early adolescence is characterized by identity with specific group values and norms.
- Healthy later adolescence is characterized by increasing comfort with one's capacity to choose among many different groups and to endorse selectively the values that have particular relevance to the individual.

Clinical implications: Any attempt to counsel younger adolescents must take into account increased susceptibility to peer pressure as a means of maintaining group identity; older adolescents generally respond more readily to challenges to resist peer pressure for the sake of forming their own unique sense of identity.
<table>
<thead>
<tr>
<th><strong>Role of Parents</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• As adolescents develop increasing autonomy from parents, they occasionally regress and need more nurturance and caretaking.</td>
</tr>
<tr>
<td>• Although they may appear aloof, they are strongly influenced by values and attitudes of parents and other trusted authorities.</td>
</tr>
<tr>
<td>• It is extremely important for adults to open lines of communication and be mindful of the values and behaviors they are demonstrating to youth.</td>
</tr>
<tr>
<td>• Teens are often likely to accept parental values after having gone through periods of rebellion and rejection.</td>
</tr>
<tr>
<td>• During periods of separation, teens may look to other adults as role models (e.g., teachers, coaches, friend’s parents).</td>
</tr>
<tr>
<td>• During early adolescence teens may romanticize relationships with other adults and develop a “crush” on an idealized authority figure.</td>
</tr>
<tr>
<td>• Healthy parenting facilitates identity formation and separation from parents.</td>
</tr>
</tbody>
</table>
Effective arguing with parents acts as something of an inoculation against negative peer pressure

Parents who really respect their kids' thinking and their kids' input are much more likely to have kids who end up being independent thinkers and who are able to resist peer groups.

The teens who learned to be calm and confident and persuasive with their parents acted the same way when they were with their peers. They were able to confidently disagree, saying 'no' when offered alcohol or drugs. **In fact, they were 40 percent more likely to say 'no' than kids who didn't argue with their parents.**

For other kids, it was an entirely different story. They would back down right away, saying they felt it pointless to argue with their parents. This kind of passivity was taken directly into peer groups, where these teens were more likely to acquiesce when offered drugs or alcohol. "These were the teens we worried about."

– Joseph P. Allen,

*Child Development*. Predictors of Susceptibility to Peer Influence Regarding Substance Use in Adolescence, 21 Dec. 2011
**Development of a Healthy and Stable Self-Image**

One of the major goals of psychological development in adolescence.

- Poor self image correlates with: difficulties in peer and family relationships; depression; unsafe sex; risky or “acting out” behaviors; poor school performance; and substance abuse.

- Parents and other authority figures can promote a health self-image by setting an example in their own lives and by demonstrating acceptance of the teenager.

- Parents should take note of positive qualities that they admire and express praise for these qualities.
The Impact of Physical Illness

- Physical illness can have a tremendous impact on self-esteem during adolescence for both visible manifestations (e.g., deformity) or less visible conditions (e.g., diabetes).

- At the height of importance of group cohesion physical illness can bring on feelings of being flawed or alienated from his peers.

- Illness can lead to a greater reliance on parents during a time of struggle to gain a sense of independence.

- Psychotherapy, adolescent support groups and similar programs, such as diabetes camps, can reduce the sense of isolation often triggered by physical illness.
EMOTIONAL AND SOCIAL DEVELOPMENT

Impulsivity and Risk Taking

• Younger adolescents have a sense of grandiosity and invulnerability, coupled with limited capacity to foresee ramifications of risky behaviors and to take long-term consequences into account.

• Advances in physical maturity, sex drive, intellectual ability, earning potential, and mobility may heighten risk potential.

• Risk experimentation may include: sexual behavior; use of alcohol or other drugs; and going to dangerous places.

• Much adolescent risk-taking has a neurologic basis as the brain is a “work in progress.”

• Clear expectations and firm limits are required from parents, teachers, counselors, and other adult role models.

• Teenagers may not like what they hear but can perceive such limits as signs of love and protection.

• Although limits need to be set on unsafe behavior, experimentation (in everything from hair style to political world view) is seen as essential to the assemblage of healthy self-image.
Common Childhood Risk Factors

Predisposing Adolescents to Delinquent Behavior

- Parental psychiatric illness
- Learning disabilities
- History of serious head trauma
- Severe behavioral problems (e.g., fire setting or cruelty to animals)
- School problems
- Family dysfunction
- Alcohol or Drug Abuse
- Delinquent peers
- Emotional distress
- Criminal activity
Horizontal Conformity
The Deviant Career
Kohlberg’s Theory of Moral Development

Based on interviews with large numbers of people across a broad age-span about moral dilemmas, Kohlberg described six stages of moral development, grouped into three basic levels.

- **Preconventional**: Person is grounded in and individualistic perspective, guided by self-interest in following rules to avoid punishment. This is the level of most children prior to the age of 9, many adolescents, and adult criminals.

- **Conventional**: During adolescence most people move to the level where moral thinking is guided by interpersonal relationship and social roles. Other’s perspectives are considered and moral actions are guided by social role expectations and the need to be seen as “a good person.” Cognitive development (i.e., abstract thinking, taking other’s perspective, concern of how one is viewed by peers) is necessary but not sufficient for progression to the conventional level. Most adolescents and adults remain in the conventional level of moral maturity.

- **Post-conventional**: The minority of people who progress to the more principle-based post-conventional level do so after the age of 20 years.

Gilligan views Kohlberg’s theory as too focused on a male perspective of morality based on justice. She proposes an alternative view based on caring for others.
THE MORAL INSTINCT

The authors contend that, in order to understand the moral compass by which animals live, we must first expand our definition of morality to include moral behavior unique to each species. Studies done by the authors, as well as experts in the fields of psychology, human social intelligence, zoology, and other branches of relevant science excellently bolster their claim.” — Publishers Weekly
Summary of Adolescent Development

• Adolescence is a complex developmental process with great variation across individuals and cultures.

• During the past 20 years neuroscience has shown dramatic biologic changes in the brain which underlie major cognitive, emotional and behavioral shifts during this period of life.

• Successful adolescent development results in biological maturity, a sense of an independent self, the capacity to form close peer and group relationships, and the cognitive and psychological resources to face the challenges of adult life.

• Historically, many discussions of maturation end with the completion of adolescence, however modern developmental theorists view development as process that occurs throughout the lifespan.

• Young adulthood presents a series of new challenges including: the capacity to form stable relationships based on the principles of mutuality and respect; search for a fulfilling career.

• Healthy adolescence sets the stage for additional growth in the decades to come.
What is Normal?

- During times of stress adolescents frequently regress to earlier stages of development (e.g., reading books from an earlier period of childhood; organizing or assessing a doll collection).

- When this type of regression is short lived (i.e., less than a few weeks) it does not warrant particular clinical attention.

- Becoming increasingly engrossed in regressed activities does not necessarily represent significant problems but is a marker for additional attention.

- Adolescents often experiment with edgy topics and behaviors so clinicians are called to have an understanding of teen pop culture to assess the degree of pathology associated with a particular form of interest or behavioral manifestation.

- Sexual behavior is a huge part of adolescence, ergo experimentation is normal and expected.

- Clinicians are encouraged to assist teens to understand the risks of their behavior and to serve as a non-judgmental source of information and guidance.
### Adolescent Problem Behavior vs. Normal Adjustment

**Principles to help distinguish severe problems of adjustment in adolescence from common transitory difficulties of growth:**

- Be aware of the distinction between intermittent experimentation vs. enduring patterns of problem behavior.
- Investigate whether problem behavior began in adolescence.
- Keep in mind that most of the problems experienced in adolescence will be resolved by early adulthood.
- Understand that problem behavior does not result from adolescence itself.
- Distinguish adolescents that display only one type of problem behavior from adolescents who display co-morbidity.
- Determine if an adolescent’s behaviors are defined as problems by parents but not peers, or by both parents and peers.
STRESS RELATED DISORDERS IN CHILDHOOD AND ADOLESCENCE

- Childhood Emotional and Behavioral Disorders
- Childhood Anxiety Disorders
- Childhood Mood Problems
- Eating Disorders
- Understanding Adolescent Development
- Adolescent Substance Use Disorders
  - Substance Abuse and the Adolescent Brain
  - Trauma-Related Stress Disorders and Substance Abuse in Adolescents
- Understanding and recognizing symptoms
- Cultivating relational safety
- Empowerment, positivity and hope
- Mindfulness training
## Monitoring the Future Study
Prevalence of Various Drugs for 12th Graders

<table>
<thead>
<tr>
<th>Category of Drug(s)</th>
<th>Percent Lifetime</th>
<th>Percent 30-Day Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hallucinogens</td>
<td>8.6</td>
<td>1.9</td>
</tr>
<tr>
<td>Cocaine</td>
<td>5.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Crack cocaine</td>
<td>2.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Heroin</td>
<td>1.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Steroids</td>
<td>2.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Tranquilizers</td>
<td>8.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>11.1</td>
<td>3.3</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>2.3</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Any illicit drug</strong></td>
<td><strong>48.2</strong></td>
<td><strong>23.8</strong></td>
</tr>
<tr>
<td><strong>Cigarettes</strong></td>
<td><strong>42.2</strong></td>
<td><strong>19.2</strong></td>
</tr>
<tr>
<td>Smokeless tobacco</td>
<td>17.6</td>
<td>8.5</td>
</tr>
<tr>
<td>Alcohol*</td>
<td>71.0</td>
<td>41.2</td>
</tr>
<tr>
<td>Marijuana**</td>
<td>43.8</td>
<td>21.4</td>
</tr>
<tr>
<td>Inhalants</td>
<td>9.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Ecstasy (MDMA)</td>
<td>7.3</td>
<td>1.4</td>
</tr>
</tbody>
</table>

* Daily use of alcohol was 2.7%.
** Daily use of marijuana was 6.1%.

At least **45 states and Puerto Rico** have banned one or both: **K2** (synthetic marijuana, a.k.a. “spice”); or substituted cathinones, commonly known as, **“bath salts,”** which are derivatives of cathinone, a psychoactive substance with stimulant properties occurring naturally in the *khat* plant one or both of these substances.

**Synthetic Cannabinoids (a.k.a. "Spice" or "K2")**
Synthetic cannabinoids are chemically engineered substances similar to tetrahydrocannabinol (“THC”), the active ingredient in marijuana. When smoked or ingested, synthetic cannabinoids can produce a high similar to marijuana. Initially developed for pain management research and the effects of cannabis on the brain, these substances have recently become a popular alternative to marijuana. The substances are sprayed on dried herbs and marketed and sold in local convenience stores or on the Internet under names like “Spice,” “K2” or “Genie.”

**Substituted Cathinones (a.k.a. "Bath Salts")**
Substituted cathinones, commonly known by their street name, “bath salts,” are derivatives of cathinone, a psychoactive substance with stimulant properties occurring naturally in the *khat* plant. The effects of substituted cathinones are similar to amphetamines like ecstasy and cocaine.

"Have you heard of molly?" the girl next to me asked. She was swaying from side to side, bobbing her head to the bass vibrating throughout the sold-out venue. The room around us was buzzing with anticipation. Music was blasting. People were dancing and laughing and taking pictures. There was less than an hour until show time, and I was about to see one of my favorite artists, so I was feeling pretty good. The girl next to me, Jessica, was obviously feeling better. I turned to my fellow concertgoers, watching as they met Jessica’s eyes, nodding their heads knowingly. Of course they had heard of molly.

According to the Drug Enforcement Administration, molly is the powder or crystal form of MDMA -- or 3, 4-Methylenedioxymethamphetamine, a chemical drug most commonly known for its use in the pressed pill Ecstasy.

Unlike Ecstasy, which has a reputation for being laced with everything from caffeine to methamphetamine, molly -- a name shortened from "molecule" -- is thought of as "pure" MDMA. MDMA acts as a stimulant and a psychedelic. After being inhaled, eaten or parachuted -- folded into a tissue and swallowed -- molly ushers in euphoria. It floods users' brains with neurotransmitters serotonin, norepinephrine and dopamine, making them feel elated, empathic and full of energy.
Past-Year Use of Illicit Drugs and Pharmaceuticals among 12th Graders

<table>
<thead>
<tr>
<th>Substance</th>
<th>Illicit Drugs</th>
<th>Pharmaceutical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana/Hashish</td>
<td>36.4%</td>
<td></td>
</tr>
<tr>
<td>Synthetic Marijuana</td>
<td>11.3%</td>
<td></td>
</tr>
<tr>
<td>Adderall</td>
<td>7.6%</td>
<td></td>
</tr>
<tr>
<td>Vicodin</td>
<td>7.5%</td>
<td></td>
</tr>
<tr>
<td>Cough Medicine</td>
<td>5.6%</td>
<td></td>
</tr>
<tr>
<td>Tranquilizers</td>
<td>5.3%</td>
<td></td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>4.8%</td>
<td></td>
</tr>
<tr>
<td>Sedatives*</td>
<td>4.5%</td>
<td></td>
</tr>
<tr>
<td>Salvia</td>
<td>4.4%</td>
<td></td>
</tr>
<tr>
<td>OxyContin</td>
<td>4.3%</td>
<td></td>
</tr>
<tr>
<td>MDMA (Ecstasy)</td>
<td>3.8%</td>
<td></td>
</tr>
<tr>
<td>Inhalants</td>
<td>2.9%</td>
<td></td>
</tr>
<tr>
<td>Cocaine (any form)</td>
<td>2.7%</td>
<td></td>
</tr>
<tr>
<td>Ritalin</td>
<td>2.6%</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: University of Michigan, 2012 Monitoring the Future Study
Fewer teens smoke cigarettes than smoke marijuana

Cigarette smoking by high-school students peaked in 1996–1997 and has declined continuously since then. In contrast, marijuana use has been rising in recent years. Now, while 17.1 percent of 12th graders were current (past-month) cigarette smokers—the lowest it has been in the history of the survey—22.9 percent were current marijuana smokers.
FACTORS ASSOCIATED WITH THE ONSET OF ADOLESCENT SUBSTANCE ABUSE

• **Psychosocial**: Difficulties in forming peer relationships during childhood is associated with psychosocial problems and deviant peer affiliation, factors that increase vulnerability to substance abuse and criminal conduct.

• **Gateway Experiences**: Only 1% of students begin their substance use with marijuana or another illicit drug. They seem instead to go through the gateway of using alcohol and in many cases, cigarettes. Cigarette smokers were about twice as likely as the nonsmokers to move on to smoking marijuana.

• **Age of Onset**: Age of first use of any substance, including nicotine, and age of delinquency onset have also been implicated in an adolescent’s increased risk for substance abuse.

• **Parent and Peer Influence**: Adolescents are generally more influenced by their parents when it comes to long-term goals and plans, but their peers have more influence over their immediate lifestyle and day-to-day activities. As adolescence progresses, peer influences become stronger. The best predictors of drug use are peer variables. Having peers with antisocial attitudes is the strongest predictor of drug use.
Genetic factors including the effects of environment and gene expression, account for between 40 and 60 percent of a person’s vulnerability to addiction.
<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Domain</th>
<th>Protective Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early aggressive behavior</td>
<td>Individual</td>
<td>Self-control</td>
</tr>
<tr>
<td>Poor social skills</td>
<td>Individual</td>
<td>Positive relationships</td>
</tr>
<tr>
<td>Lack of parental supervision</td>
<td>Family</td>
<td>Parental monitoring &amp; support</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>Peer</td>
<td>Academic competence</td>
</tr>
<tr>
<td>Drug availability</td>
<td>School</td>
<td>Anti-drug use policies</td>
</tr>
<tr>
<td>Poverty</td>
<td>Community</td>
<td>Strong neighborhood attachment</td>
</tr>
</tbody>
</table>
STRESS RELATED DISORDERS IN CHILDHOOD AND ADOLESCENCE

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Teenage Brain Development

Age 12
During adolescence, the brain is undergoing a lot of changes. Gray matter diminishes as neural connections are pruned.

Age 16
Because the brain is still developing, it is more sensitive to drugs.

Age 20
The changes drugs cause are more likely to 'stick' and become hardwired as addiction by adulthood.
THC acts on numerous areas (in yellow) in the brain
Ecstasy in the Brain
COCaine IN THE BRAIN
SEPARATING SUBSTANCE ABUSE AND MENTAL DISORDER
When clients are actively abusing drugs, their symptom picture is apt to be that of intoxication or toxicity. Alcohol intoxication can occur, and severe intoxication can lead to stupor and even coma. With cocaine intoxication, a range of mental states can occur, from euphoria and hyperactivity to paranoia.

As blood levels of the abused drug drop, withdrawal symptoms begin to dominate the clinical presentation. With alcohol, these are minor or major (for instance, delirium tremens) withdrawal syndromes. There are similar problems with benzodiazepines and barbiturates. With cocaine, a crash and craving ensue. Acute withdrawal from chemicals of abuse can extend from days to weeks, depending on the agent(s) used. Severe and chronic abuse of potent psychoactive agents such as alcohol and cocaine may produce more subtle withdrawal problems that last for several months.

As recovery proceeds, and as toxic and withdrawal states abate, underlying Axis I and II disorders become more evident. Examples of this process include a manic illness that emerges as drug abuse symptoms wane and a panic disorder that expresses itself after all depressant drug abuse has ceased.
NICOTINE: THE WORLD’S ANTIDEPRESSANT

- Tobacco is the *crème de la crème* of addictive drugs.

- Smoking causes from 450,000 to 500,000 deaths per year in the United States and over three million worldwide.

- By 2025 it is estimated that if the present trend continues, tobacco will account for over 10 million deaths per year.

- This is more than all other legal and illegal drugs combined.

- Smoking tops the list of deaths from preventable diseases closely followed by diseases that accompany poor diet, inactivity, and resulting obesity.

- The Center for Disease Control has estimated that the combined medical cost ($3.45) and loss of productivity ($3.73) is $7.18 per pack of cigarettes smoked.

- Smoking also causes the average male smoker to lose 13 years of life and the average woman to lose 14.5 years.
Nicotine = Dopamine + Alertness

- Smoking is a *triple-sided sword*:
  1. directly enhances DA
  2. inhibits the DA inhibitor (GABA)
  3. blocks the DA destroyer, Monoamine Oxidase (MAO).

- Nicotine activates acetylcholine receptor sites involved in memory.

- However, smoking retards mental functioning in the elderly five times faster than in elderly non-smokers.

- Continued activation of either the DA enhancing neurons or the cholinergic receptors changes the sensitivity of these neurons to nicotine, which results in tolerance, dependence and addiction.

- More than one third of 46 million adult smokers in the U.S. attempt to quit each year, but less than 10 percent succeed.

*It would not be possible for the best pharmaceutical company in the world to design a better combination of drugs (nicotine and the unknown MAO inhibitor) to produce addiction.*
Neurochemical effects of nicotine. Nicotine inhibits inhibitory GABA neurons, stimulates dopamine releasing neurons, and stimulates excitatory glutamate neurons (left panel). Each of these effects increases the amount of dopamine released in the nucleus accumbens (right panel).
Limited exposure to nicotine—as little as one cigarette—can change the brain, causing neuronal modifications that stimulate the craving to smoke.

The defining feature of addiction as loss of autonomy, i.e., when quitting requires an effort or discomfort.

The Hooked on Nicotine Checklist (HONC), now in 13 languages, defines symptoms of nicotine addiction.

HONC, which could easily be modified to fit most other hedonic dependencies, is currently the most thoroughly validated measure of nicotine addiction (DiFranza, 2008).
THE HOOKED ON NICOTINE CHECKLIST

An answer of “yes” to any one of the questions indicates that addiction has begun:

• Have you ever tried to quit smoking but couldn’t?

• Do you smoke now because it is really hard to quit?

• Have you ever felt like you were addicted to tobacco?

• Do you ever have strong cravings to smoke?

• Have you ever felt like you really needed a cigarette?

• Is it hard to keep from smoking in places where you are not supposed to, like school?

• When you tried to stop smoking (or when you haven’t used tobacco for a while):
  ✓ Did you find it hard to concentrate because you couldn’t smoke?
  ✓ Did you feel a strong need or urge to smoke?
  ✓ Do you feel nervous, restless or anxious because you couldn’t smoke?
**Smoking related deaths.** Of the 430,000 annual deaths in the United States attributable to cigarette smoking, 35% are due to lung (125,000) and other (30,000) cancers, 28% are due to cardiovascular disease [coronary heart disease (100,000) and stroke (25,000)], and 17% are due to pulmonary disease (75,000).
AFFLICTION BOWL

CHEWERS
- MOUTH CANCER
- PHARYNX CANCER
- LARYNX CANCER
- ESOPHAGUS CANCER
- LOSS OF TEETH

SMOKERS
- HEART ATTACK
- STROKE
- EMPHYSEMA
- CANCER

THE CHEWERS WIN BY A FEW LOST TEETH...
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- Understanding and recognizing symptoms
- Cultivating relational safety
- Empowerment, positivity and hope
- Mindfulness training
Treating Substance Use Issues in Traumatized Adolescents and Young Adults:
Key Principles and Components
John Briere, Ph.D.
Cheryl Lanktree, Ph.D.

USC Adolescent Trauma Training Center (USC-ATTC)
National Child Traumatic Stress Network
Department of Psychiatry and Behavioral Sciences
Keck School of Medicine
University of Southern California
Los Angeles, California
CENTRAL PRINCIPLES OF RELEVANT TRAUMA TREATMENT

Do Not Screen Substance Users Out of Therapy or Terminate Treatment Because of Relapse Back into Substance Use and Abuse

• Sobriety problematic for many clients, including traumatized adolescents, who may be quite reluctant to discontinue the use of agents that successfully numb distress, and thus would not be able to access trauma treatment with a sobriety requirement.

• Clinicians should encourage clients to avoid significant substance use and abuse (SUA), but not require it—the youth is taken as he or she is, and assisted within the constraints of what he or she will accept or tolerate.

• In many cases, trauma survivors’ involvement in drugs or alcohol is, in part, a response to past or recent trauma exposure, and trauma therapy may eventually reduce or eliminate their reliance on psychoactive substances.
• Many traumatized youth, especially those involved in SUA, are at serious risk of victimization, injury, or even death at the time of seeking therapeutic services.

• This danger may reflect the risks associated not only with SUA, but also community violence, gang activity, criminal behavior, or prostitution, as well as specific life threats from previous perpetrators, sexual partners, stalkers, parents, or drug dealers/abusers.

• Young women are at significant risk of being raped or otherwise sexually abused by relatives, partners, and strangers—risk that may increase if they habitually use drugs or alcohol.

• SUA-involved adolescent may be self-endangering; either passively through unsafe sexual practices, driving under the influence of substances, or involvement in other risky behaviors or through more actively suicidal behaviors.
SAFETY FIRST

• Ensuring safety should be the first requirement of trauma therapy.

• We recommend initial and ongoing determination of acute safety when working with SUA-involved youth. These include assessment of any acute dangers in the client’s immediate environment, such as abusive family members, extra familial perpetrators, pimps, gang-related activity, or unsafe living conditions, such as homelessness or high levels of community violence.

• Suicidality and other forms of self-endangerment should be evaluated, including those associated with obtaining or using drugs or alcohol.

• Physical health is another concern for some SUA-involved youth, including acute illnesses and chronic untreated medical conditions such as AIDS, hepatitis C, or tuberculosis.

• Comorbid psychological conditions also may be present, including depression, posttraumatic or acute stress disorder, mania, psychosis, or substance-related brain syndromes.
SAFETY FIRST

If there are acute safety issues, intervention in these areas must precede or at least accompany treatment for less immediate psychological symptoms or problems. This may involve:

• notifying child welfare or protection services

• advocating for the client with police or the criminal justice system;

• working with the youth to separate himself or herself from gangs, prostitution, or domestic violence

• arranging medical evaluations and treatment, including, in some cases, medical or psychiatric hospitalization

• early therapeutic and psychoeducational focus on self-harming or especially risky behaviors such as suicidality, deliberate self-injury, unsafe sex, and use of especially dangerous drugs (e.g., heroin, methamphetamine, OxyContin) and delivery systems (e.g., intravenous injections in general and needle sharing in particular
ESTABLISH A POSITIVE THERAPEUTIC RELATIONSHIP

• Traumatized youth with SUA issues may experience significant ambivalence—if not outright distrust—regarding any sort of sustained attachment to an older, more powerful figure.

• Others may appear to attach very quickly, but their connection may remain insecure, based primarily on relational hunger or neediness associated with early attachment deprivation rather than a true belief in safety.

• In either instance, therapy may be slowed or compromised by insufficient trust and, as a result, reduced openness to the healing aspects of therapy.

• The clinician can encourage, if not accelerate, a positive therapeutic relationship through: 1) relational safety; 2) a visible willingness to understand and accept; 3) active relatedness and emotional connection; 4) patience.
RELATIONAL SAFETY

• Because danger is such a part of many trauma survivors’ lives, the therapist’s ability to communicate and demonstrate safety is a central component to relationship building.

• The adolescent is more likely to “let down his/her guard” and open himself or herself to a relationship if, repeatedly over time, there is little evidence of danger in the therapy process.

• Therapist behaviors and responses that increase the client’s sense of safety are likely to include: nonintrusiveness, visible positive regard, reliability, transparency, and clear demarcations of the limits of confidentiality.

• The therapist should be as honest and open as possible, and not appear to have a hidden agenda—including a covert alliance with parents or social institutions over what the youth believes to be his or her own needs.

• When the clinician must report to systems beyond the adolescent, he or she should disclose this to the client and, whenever possible, gain his or her consent to do so.

• At the initiation of treatment, the therapist also should be clear with the adolescent regarding his or her responsibility to report child abuse, client danger to self or others, or otherwise to intervene without the client’s permission when harm is likely to occur.
A major effect of traumatization is often the sense that one is alone, isolated from others, and, in some sense, unknowable; a phenomenon that may be increased by the illicit nature and effects of some forms of SUA.

Having the opportunity to interact regularly with someone who listens, and who seems to understand, can be an unusual experience for many maltreated youths—one that tends to strengthen the bond between client and therapist.

This process is typically facilitated when the clinician displays attunement, empathy, and acceptance.

This balance, between (a) being clear with the client about the inadvisability of illegal or dangerous behavior, while also (b) communicating acceptance and appreciation of the client’s inherent validity and entitlements to well-being, is often difficult to achieve and yet important to treatment success.
It is important that the therapist be an active (as opposed to a passive or neutral) agent in therapy.

When possible, he or she should make direct statements about the wrongness of the adolescent’s victimization, and show some level of emotional responsivity to the extent that it is helpful.

The clinician should not give extensive, unsolicited advice, but, instead, actively assist the client in problem identification and problem-solving, generally supporting and encouraging him or her, emphasizing his or her strengths, and being consistently psychologically available.
PATIENCE

• Psychotherapy for youth with complex trauma effects rarely proceeds rapidly especially when chronic SUA is present.

• Yet, the adolescent and sometimes the therapist understandably wants rapid improvement.

• The client may become frustrated that, for example, cognitive insights do not always result in immediate behavior changes (including substance abstinence), or that an instance of talking about a trauma does not immediately desensitize emotional distress to it.

• Such experiences may lead to helplessness or self-criticism, as the youth interprets a lack of immediate distress reduction, or continued involvement in unhelpful behaviors like SUA, as evidence of personal failings.

• As the therapist counsels patience and a longer-term perspective, and remains invested in the therapeutic process, he or she communicates acceptance of the client and appreciation of the time it sometimes takes for enduring changes to emerge.
**TREAT TRAUMA SYMPTOMS AND SUA CONCURRENTLY**

- It is important to treat trauma symptoms and drug related symptoms **at roughly the same time**.

- Focusing on SUA alone may delay needed trauma interventions, whereas attempting trauma treatment without attending to SUA may easily overwhelm the client and motivate avoidance.

- The exposure component of most trauma treatments may sometimes reinforce or even encourage drug or alcohol use as the client attempts to avoid activated trauma memories.

- **Several adolescent trauma treatment components** (e.g., trigger identification/intervention and affect regulation training, presented below) are helpful in both SUA and trauma domains, and thus can be tailored to either set of problems.

- How trauma treatment and intervention in SUA are applied in the same session varies from client to client.

- **Therapist and client should directly connect the two problems**: exploring ways that SUA has been used as a defense against overwhelming trauma-related distress, as well as the fact that SUA, itself, may increase the likelihood of further trauma and psychological distress, creating a vicious cycle.

- When discussing ways not to act on urges that result in problematic substance use, **it may be helpful for the client to consider trauma-related triggers** in his or her environment that make drinking or taking drugs more likely.

- Overall, the focus and messages should be **that the youth’s trauma symptoms and SUA are interconnected**, such that therapeutic attention to one almost inevitably will include some attention to the other.
FOCUS INITIALLY ON STABILIZATION AND COPING

• The substance abusing trauma survivor is often in crisis, psychologically and/or physically unsafe, and prone to “acting out” or self-harming behaviors when stressed—which may be much of the time.

• For this reason, effective therapy for such clients emphasizes relationship-building, a focus on safety, and affect regulation training.

• Although treatment ideally includes attention to both trauma and SUA issues, in many cases emotional (and sometimes life-style) stabilization is often indicated before extensive therapeutic exploration of—and exposure to—trauma memories can begin.

• Some adolescent clients will attempt to discuss trauma memories in great detail before they have developed sufficient capacity to tolerate the associated negative emotional states.

• The result may be overwhelming emotional states, and even greater involvement in avoidance activities.

• When this occurs, especially if the client is still involved in major SUA, we recommend that the client’s trauma disclosures be acknowledged and received as important parts of treatment, but with communication that such processing will likely occur to a greater extent later in therapy, when the client is more able to accommodate it.
It is important to consider a general philosophy of intervention—one that avoids blame and punishment, that communicates a positive view of the client and a hopeful perspective on his or her future.

Such an approach reduces the likelihood that the client will feel pathologized, morally “bad,” powerless, or destined to a life of minimal satisfaction or happiness.

The goals of SUA-relevant trauma therapy are not to cure a disease or punish an offender, but rather to empower the client to:

- recover from painful life experiences
- reduce or stop serious SUA
- have the opportunity to pursue life stability and happiness
• Confrontation typically involves directly and sometimes forcefully confronting the individual with his or her denial or misrepresentation of SUA and/or its impacts on the person or those around him or her.

• There is no real place for this modality in modern trauma therapy.

• Confrontation presents several problems:
  (1) may easily increase, not decrease the youth’s defenses and avoidance, since it can be seen as aggressive;
  (2) implies that the client is voluntarily engaging in a bad behavior that can easily be terminated;
  (3) is opposite of the support, caring, and compassion that is a core relational aspect of most trauma treatment;
  (4) may adversely affect the therapeutic relationship by implying critical judgment and devaluation.

• Rather than using confrontation, the clinician should help the client to understand the causes of SUA, especially as it involves posttraumatic coping, and communicate appreciation of what the client is “up against” in terms of trying to self-medicate overwhelmingly negative internal states and battling the physically addictive effects of some drugs.

• The role of the therapist is to work with, not against, the adolescent, and to help him or her to decrease or terminate SUA while, at the same time, being able to survive trauma-related distress.

• The goal is to collaboratively problem-solve, not to create an adversarial relationship.
Focus on empowerment

- SUA can sometimes reduce the adolescent’s sense of autonomy, because what he or she is facing (trauma) does not seem to get better, and some of his or her “solutions” (e.g., SUA) create problems of their own that seem unresolvable—for example addiction, exposure to violence or exploitation by others, illness, declining interpersonal and social functioning, possible arrest and incarceration, and increasingly lower self-esteem.

- Trigger identification, affect regulation skills development, and mindfulness training, on the other hand, focus on skills the youth can develop to increase self-control and his or her capacity to affect life outcomes.

- This perspective often helps the client to feel like an active participant in therapy, as opposed to a passive recipient of treatment.

- An overarching philosophy of treatment should be that the client is an equal partner in treatment, and that one of the goals of therapy is greater self-efficacy.

- This perspective is often appreciated by youth who do not trust authority and expect that letting one’s guard down means revictimization.
REINFORCE IDEALISM AND HOPE

• Treatment for the joint effects of trauma and SUA may be more effective to the extent that they are “idealistic,” encouraging the young survivor to aspire to a more positive future and regain a sense of hope.

• Many trauma-exposed youth, have been demoralized and they may view themselves as unworthy and their future as essentially hopeless.

• To the extent that therapy reinforces the notion that the client is intrinsically good, not bad, and helps the youth to identify self-attributes like courage, concern for others, and morality, it can confer self esteem and self-compassion that otherwise might be illusive.

• Clients involved in prostitution or gang-related activity, or the adversarial dynamics sometimes found among those addicted to drugs or alcohol, may have a difficult time noticing things he or she nevertheless did that were idealistic, such as helping a friend, worrying about someone’s well-being, protecting or standing up for someone, or sharing food, shelter, or advice. As the notion of being a “good person” and caring for others—regardless of one’s “bad history” more deeply permeate the adolescent’s perspective and becomes an explicit goal for the future, self-esteem and hopefulness can accrue.

• Post-Traumatic Growth: To the extent that the therapist helps the client identify ways in which he or she triumphed over victimization by, for example, gaining useful survival skills or being more able to empathize with others who have been hurt, there may be an opportunity for shame or self-invalidation to be contradicted.
Specific Clinical Activities

• Provide Psychoeducation

• many adolescent survivors of interpersonal violence were victimized in the context of overwhelming emotion, narrowed or dissociated attention, and, in many cases, a relatively early stage of cognitive development; all of which potentially reduced the accuracy and coherence of their understanding of these traumatic events.

• interpersonal violence frequently involves a more powerful figure who justifies his or her aggression by distorting objective reality, for example by blaming victimization on the victim.

• these fragmented, incomplete, or inaccurate explanations of traumatic events are often carried by the survivor into adolescence and beyond.

• many youthful trauma survivors with SUA issues misperceive, misunderstand, or avoid awareness of the characteristics and actions of the drugs they use, and may not be completely aware of the toll that SUA is taking on their lives.
Therapists may be helpful in these areas:

• By providing **accurate information** on the nature of interpersonal trauma and its effects, including the need to engage in SUA.

• By working with the youth to **integrate this new information** into his or her overall perspective.

• **Accurate information** on the prevalence of abuse, the typical motives of perpetrators, and socially transmitted myths regarding victim complicity may lessen the client’s self-blaming.

• **Nonjudgmental** information on SUA may assist the youth in identifying potential downsides to chronic intoxication and the extent to which SUA may have begun to control his or her life.
• Includes the use of printed handouts, books, DVDs, and client-oriented websites.

• These materials typically present easily understood information on topics such as:
  ➢ prevalence and impacts of interpersonal violence
  ➢ common myths about victimization
  ➢ the effects of SUA
  ➢ social resources available to the survivor (e.g. the National Child Traumatic Stress Network [NCTSN] factsheets at: www.nctsnet.org/products)

• Most importantly, handouts should be considered tools in the psychoeducation process, not stand-alone sources of information.

• It is often more useful for the therapist to provide such information verbally during the therapy process, where it can be discussed and personalized to the youth’s specific situation.
GENERAL FOCUS OF PSYCHOEDUCATION

- The prevalence of the trauma
- Common myths associated with interpersonal victimization
- The usual reasons why perpetrators engage in interpersonal violence (e.g., to address their own needs or as a reflection of their own inadequacies)
- Typical immediate and longer-term responses to trauma (e.g., posttraumatic stress, anxiety, depression, dissociation, intimacy issues, or significant substance use)
- Gender issues, such as sex role stereotypes and social messages about how (or whether) males and females should react to trauma, express distress, and seek assistance
- Reframing SUA and other problematic behaviors as adaptive strategies that, nevertheless, may have serious negative consequences
- Negative effects of SUA, presented in manner that is not judgmental or fear based;
- If relevant, the effects of racism, sexism, poverty, and social marginalization as they relate to both trauma exposure and SUA
- Resources that might assist the trauma survivor, such as self-help groups (including, if appropriate, Narcotics Anonymous or Alcoholics Anonymous), shelters, advocacy groups, relevant religious or spiritual organizations, and supportive legal or law enforcement personnel.
TEACH HOW TO OBSERVE AND MANAGE ONE’S OWN THOUGHTS

• Teach trauma victims how to observe their own internal processes objectively, without becoming trapped by them—learning to identify how some traumatic event in the past is now causing thoughts about the present based on what happened earlier.

• For example, a traumatized youth might be triggered by minor relational conflict or unavailability in a love relationship, and subsequently experience rage or intense feelings of abandonment associated with prior childhood abuse or neglect.

• In such circumstances, the survivor may become quite reactive, and engage in behaviors that deaden the activated emotional states (e.g., SUA) or respond with self-injury, aggression, or other “impulsive” behavior.

• From the client’s perspective, he or she is responding to the current environment with problem-solving activities; in reality, he or she is confusing the past with the present, and engaging in inappropriate (not present-centered) behavior.
• Awareness of one’s own thinking would reflect the youth’s growing ability to detect such triggered states as **triggered states**, rather than real-time responses to the present.

• Even compelling thoughts and feelings can be seen as **events of the mind**, which may or may not be relevant to what is actually true in the here-and-now.

• This **reduced identification with internal processes** as necessarily “real” can help the adolescent manage the intensity of strong emotions by:

  1) identifying thoughts and feelings for what they are—transient, internal experiences
  2) learning that he or she doesn’t need to believe (or react to) everything he or she thinks or feels.

• For example, an adolescent might recognize that the boy- or girlfriend probably was not abandoning him, or viewing him as worthless, but rather only mildly annoyed—or perhaps even responding to something not related to the client at all.

• In this way, the youth may transition from “I am perceiving criticism and rejection” to “I am being triggered” or even “I am remembering the past, which is not actually relevant here.”
TEACH HOW TO OBSERVE AND MANAGE ONE’S OWN THOUGHTS

• The relevance of this process to SUA is important. Extensive SUA is often engaged in to defend the survivor from triggered emotional states, typically those associated with painful memories.

• In many cases, however, it is not just the memory that motivates substance use.

• The emergence of self-hating, fearful, or angry thoughts can seem so “real” that they drive the survivor to any source of refuge—including the numbing or distracting effects of drugs or alcohol.

• To the extent that learning thought awareness allows the survivor to understand that he or she is not currently being abused or abandoned, the need for SUA may decrease.
• Over time, the youth typically comes to realize that thoughts and feelings are not always reflective of immediate reality.

• This insight tends to reduce intense emotionality, and thereby decreases the need of the survivor to engage in SUA or other avoidance activities.

• Marsha Linehan’s (1993) *Dialectical Behavior Therapy* is a treatment model in which mindfulness training and related activities have been shown to decrease involvement in a range of maladaptive behaviors, including substance abuse.

• Trigger identification and intervention is a specific technique, in which the youth learns to recognize when he or she has been triggered by a relational stimulus, and then practices how to interpret and manage the attendant thoughts and feelings so that they do not overwhelm and motivate SUA, “acting out,” or other seemingly impulsive behaviors.

• This process can be facilitated through use of the *Trigger Grid* which is available on the internet at attc.usc.edu.
ADDITIONAL CLINICAL ACTIVITIES

• TEACH AFFECT REGULATION SKILLS
  Relaxation
    Progressive relaxation
    Breath training
  Identify and discriminate emotions
  Identify and counter thoughts that underlie negative emotional states
  Encourage resistance to avoidance behaviors

• CULTIVATE MINDFULNESS
  Meditation
  Urge Surfing

• TITRATE EXPOSURE TO TRAUMA MEMORIES

• CONSIDER GROUP INTERVENTIONS

• INCLUDE CARETAKERS OF FAMILIES IN TREATMENT

• EXPECT AND MANAGE COUNTERTRANSFERENCE