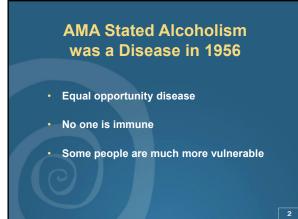
## The Neurobiology of Addiction & Trauma: Intricate Links

Presented by: Carol Ackley, LADC

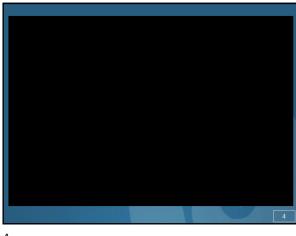
1



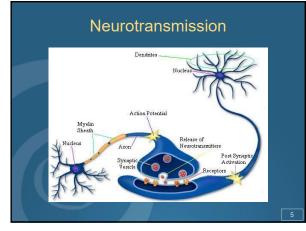


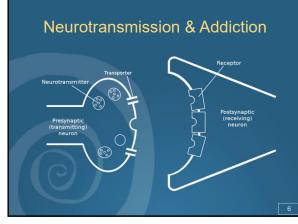
#### Drug and Alcohol Use Interfere with Primary Survival Pathways in the Brain



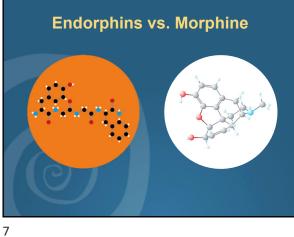




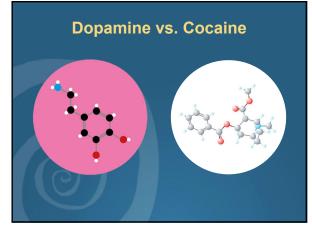




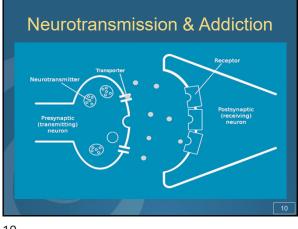




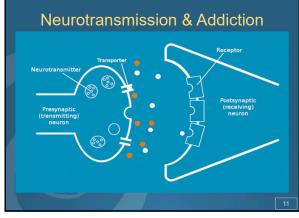




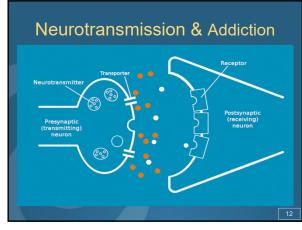




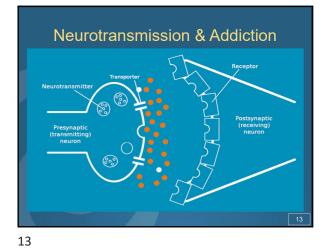














 Neurotransmission & Addiction

 Image: state state

14















20



- Trauma is pervasive
- The impact of trauma is broad and can touch all life domains
- The impact of trauma is often deep and life-shaping
- Violent trauma is often self-perpetuating
- Trauma is insidious and especially affects the most vulnerable among us
- Trauma affects the way people approach potentially healthy and supportive relationships
- Trauma often occurs in the service context itself

S. Covington, Ph.D., 2016







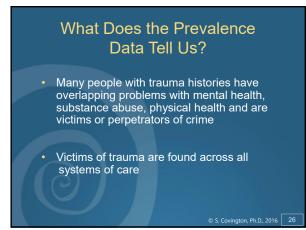
23

## Levels of Violence

- Childhood
- Adolescence
- Adult
- Street (Workplace and Community)
- Consumer Culture and Media
- War
- Planet

© S. Covington, 2016 24





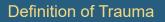






Definition of Trauma
The exposure must result from one or more of the following scenarios in which the individual:
directly experiences the traumatic event
witnesses the traumatic event in person

29



- The exposure must result from one or more of the following scenarios in which the individual:
  - learns that the traumatic event occurred to a close family member or close friend
  - experiences first-hand repeated or extreme exposure to aversive details of the traumatic event (not through media, pictures, television or movies unless work-related)

Covington, Ph.D., 2016 3

## **Definition of Trauma**

The disturbance, regardless of its trigger, causes significant distress or impairment in the individual's social interactions, capacity to work, or other important areas of functioning.

(It is not the physiological result of another medical condition, medication, drugs or alcohol.)

© S. Covington, Ph.D., 2016 31

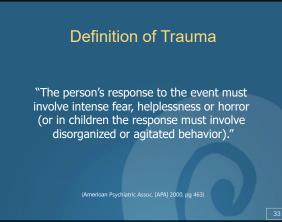
31

#### **Definition of Trauma**

The diagnostic manual used by mental health providers (DSM-IV-TR) defines trauma as, "involving direct personal experience of an event that involves actual or threatened death or serious injury, or threat to one's physical integrity; or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate."

(American Psychiatric Assoc. [APA] 2000, pg. 463)

32



## **Definition of Trauma**

Trauma occurs when an external event overwhelms a person's physical and psychological coping mechanisms or strategies.

© S. Covington, Ph.D., 2016 34

34

(Van der Kolk, 1989)

#### **Traumatic Events**

#### Trauma can take many forms:

- Emotional abuse
- Sexual or physical abuse including
- Domestic violence, assault, and rape
- Catastrophic injuries and illnesses
- Extremely painful and frightening medical procedures
- Witnessing violence, such as a parent harming another parent

Covington, Ph.D., 2016

35

#### Traumatic Events

- Automobile accidents
- Mugging and burglary
- Witnessing murder
- Abandonment (especially for small children)
- Loss of a loved one (even of a pet)
- Personal betrayals

vington, Ph.D., 2016 36

#### **Traumatic Events**

Immigration

- Natural disasters
- Human trafficking
- Kidnapping
- Combat & other experiences of war
- Terrorism
- Torture
- Intergenerational (cultural) trauma

© S. Covington, Ph.D., 2016 37

37

# Historical Trauma Across generations Massive group trauma Examples include: Native Hawaiians, Native Americans, African Americans, Holocaust Survivors, Japanese Internment Survivors

© S. Covington, Ph.D., 2016 38

38

## **Definition of Toxic Stress**

Toxic stress is a strong, unrelieved experience that can adversely affect healthy development, particularly in a child. Without caring adults to buffer children, the unrelenting stress caused by extreme neglect, poverty, or abuse can weaken the developing brain and have long-term consequences on both physical and mental health.

(National Scientific Council on the Developing Child 2007)

© S. Covington, 2016 39

#### **Relentless Stress**

- Poverty or Near Poverty
- Severe Injury
- Illness in Close Family
- Incarceration
- Parenting Alone
- Multi-challenged Children
- Multigenerational Caregiving Bullying

 Racism Sexism

• Hunger

- Domestic Violence
- Chronic Illness
- Mental Illness

40

## Toxic Stress, Trauma and Children

- Stress of adversity is toxic to the development of the brain
- Important consideration with children
  - > Emotions dysregulation
  - > Behavior unmanageable
  - Relationships lack of connection, trust

41

#### ACE Study

(Adverse Childhood Experiences)

#### Before age 18:

- Recurrent and severe emotional abuse
- Recurrent and severe physical abuse
- Contact sexual abuse
- Emotional neglect
- Physical neglect

#### ACE Study

(Adverse Childhood Experiences)

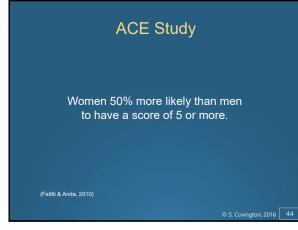
#### Growing up in a household with:

- Both biological parents *not* being present
- Your mother being treated violently
- An alcoholic or drug-user
- A mentally ill, chronically depressed, or family member attempting suicide
- A family member being imprisoned

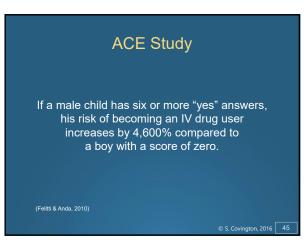
N = 17,000)

#### © S. Covington, Ph.D., 2016 43

43



44



## Link Between Childhood Trauma and Adult Outcomes Those with ACE score of 6 are 30 times more likely to have attempted suicide.

Childhood Traumatic Events: Effects on Mental Health

- 980% increase in odds of a mental health diagnosis with exposure to 7 CTEs
- 500% increase in Alcoholism with 4 or more CTEs

Messina & Grella, 2005

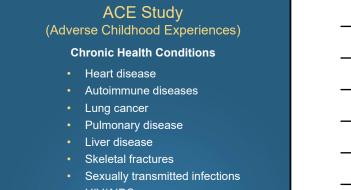
47

## Adverse Childhood Experiences are Underlying Factors For:

- Chronic depression
- Suicide attempts
- Serious and persistent mental health challenges
- Addictions
- Victimization of rape and domestic violence

```
(Ann Jennings, Ph.
```

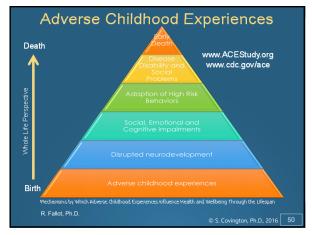
© S. Covington, Ph.D., 2016 4



HIV/AIDS

© S. Covington, Ph.D., 2016 49

49



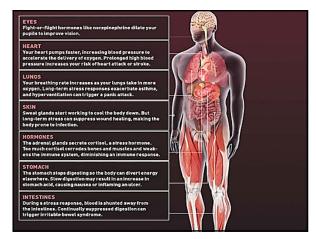
50

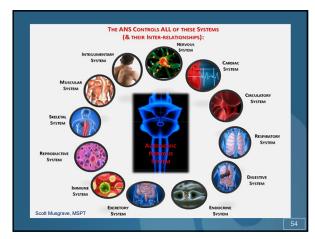














## Trauma and the Brain

- Trauma disrupts the chemistry of the brain and can predispose people to alcohol and drug use, eating disorders, self-injurious behavior and mental health problems
- When trauma occurs in childhood, it can have lasting effects on brain development

55

#### Trauma and the Brain: The Limbic System

- Stores highly charged emotional events, positive and negative
- Processes the sense of smell directly
- Is the center of bonding and social connectedness
- Sets emotional tone, attitude, shading
- Tags events as internally important
- Controls appetite and sleep cycle
- Modulates libido (sexual desire)
- When the limbic system is less active, you experience calm and a more positive attitude

56

#### Trauma and the Brain: The Limbic System

- When the limbic system is inflamed (i.e., as a result of trauma or stress), you experience more negativity, hyperarousal and/or depression
- The limbic system in women is proportionately larger than in men, providing them with increased ability to bond and experience and express emotions
- This also makes women more susceptible to depression and other emotional imbalances
- When the fear response is triggered, it is powerful and immediate

## Trauma and the Brain:

Neurotransmitter Disruption During the Stress Response

Serotonin (responsible for emotional stability and homeostasis)
 When this system is disrupted, people experience depression and have a tendency to repeat maladaptive behaviors. This can also cause sleep and appetite irregularities

Dopamine (responsible for drive and pleasure rewards) Disruption of this neurotransmitter can create low motivation, avoidance, or hyper-arousal

Opioid Peptides (endogenous pain relievers)

Disruption of this neurotransmitter can create a pain sensitivity, low pain tolerance, or numbing

Disruption of these systems can become chronic

58

Trauma and the Brain:<br/>Neurotransmitter Disruption During<br/>the Stress ResponseThe disruption of these messaging systems<br/>in the brain creates some of the symptoms<br/>of PTSD and are also involved in the<br/>addictive response.

59

#### Post-Traumatic Stress Disorder

- Re-experiencing the event through nightmares and flashbacks
- Avoidance of stimuli associated with the event (for example, if a woman was raped in a park, she may avoid parks, or if she was assaulted by a blonde man, she may avoid men with blonde hair)
- Estrangement (the inability to be emotionally close to anyone)

#### Post-Traumatic Stress Disorder

- Numbing of general responsiveness (feeling nothing most of the time)
- Hyper-vigilance (constantly scanning one's environment for danger, whether physical or emotional)
- Exaggerated startle response (a tendency to jump at loud noises or unexpected touch) (DSM – IV)

61

## Symptoms of Trauma

#### Hyper-Arousal

- This is the most common reaction
   It includes difficulty breathing (panting, shallow, rapid), increased heart rate, cold sweats, muscular tension, tingling, racing thoughts, worry
- Constriction
  - This alters breathing, muscle tone and posture
     It constricts blood vessels in the skin, arms, legs, and internal organs, and tenses muscles

Hyper-arousal and constriction describe a physical response

© S. Covington, Ph.D., 2016 62

62

#### Symptoms of Trauma

- Dissociation
  - Your mind disconnects from the event or physical reality of what is happening
  - > This is a mind-body split
  - This feels like "losing time" and can include loss of memory
- Denial
  - This is like dissociation only not as severe
  - A woman ignores or fails to acknowledge a feeling or situation or acts as though it is unimportant

Dissociation and denial are part of the psychological response

#### Gender and Abuse

Childhood:

Girls and boys at equal risk from family members and people they know

#### Adolescence:

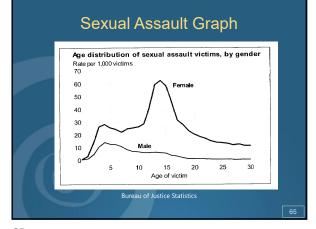
- Young men at risk from people who dislike or hate them. Boys at greater risk if they are gay, young men of color, or gang members. Young women at risk from lovers or partners –
- people to whom they are saying, "I love you."

#### Adulthood:

- Men at risk from combat or being victims of crime Women at risk from those they love

© S. Covington, Ph.D., 2016 64

64



65



- 1 in 4 women and 1 in 8 men experience psychological abuse from a partner
- 38% of female homicides are committed by male partner; 6% of male homicides by female partner
- 1 in 5 women will be raped in their lifetime compared to 1 in 71 men

(Brieding, Chen & Black, 2014; World Heath Organization, United Nations Development Program Drugs and Crime, 2014;Black, Basile, Breiding, Smith, Walters, Merrick, Chen & Stevens, 2011)

© S. Covington, Ph.D., 2016 66

Interpersonal Violence (Intimate Partner Violence – IPV) Of all these forms of trauma, women are at greater risk of interpersonal abuse than men.

© S. Covington, Ph.D., 2016 67

67

#### How Men Respond to Trauma

- Men are expected to handle their pain 'stoically' and alone.
- If men feel pain, they aren't supposed to acknowledge it, and certainly not ask for help, for this would reinforce the feeling of a 'lack of masculinity'
- There can be a feeling based on the notion that 'men' aren't supposed to be victims in the first place. ... there is no way to see men as "victims" and still as men.

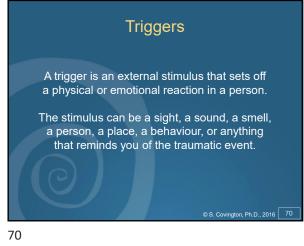
(Ruiters, K and Shefer, T: The Masculine Construct in Heterosex – Agenda Vol. 37)

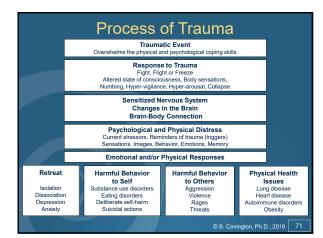
6

68

#### How Men Respond to Trauma

- The path to manhood is paved by emotional trauma
- For most men, ignoring/denying pain is to be a man
- Men suffer abuse suffer alone with the abuse which leads many to becoming abusers
- Male abuse victims tend to identify with the abuser as a means of reclaiming personal power and attempting to secure safety





7	1
/	Ŧ

#### Healing from Trauma

- The physical symptoms of PTSD are within manageable limits
- The person is able to bear feelings associated with traumatic memories
- The person has authority over their memories (that is, their memories don't limit what they do; they choose what to do, instead of being immobilized in some areas)
- The memory of trauma is linked with feelings
   Harvey 1996, 2007

## Healing from Trauma (cont.)

- Damaged self-esteem is restored (for example, a rape survivor realizes that the rape did not occur because she was a "bad" woman)
- Important relationships have been reestablished
- The person has reconstructed a system of meaning and belief that encompasses the story of the trauma (for instance, she understands that the rape was not caused by her and that some men use power and control to get what they want)

73

#### Resilience (cont.)

Although some people are more naturally resilient, a way to develop resilience is in working through the emotions and effects of stress and painful events.

Resilience develops as people develop better coping skills.

It also comes from supportive, caring relationships with others.

74



- Take into account the impact of trauma on a person's thinking, feelings, and behaviors
- Avoid triggering trauma reactions and/or re-traumatizing an individual

Covington, Ph.D., 2016 7

(Harris & Fallot, 2001)

## **Trauma-Informed Services**

- Adjust the behavior of counselors, other staff, and the organization to support each person's coping capacity
- Allow survivors to manage their trauma symptoms successfully so that they are able to access, retain, and benefit from services

(Harris & Fallot, 2001)

© S. Covington, Ph.D., 2016 76

76



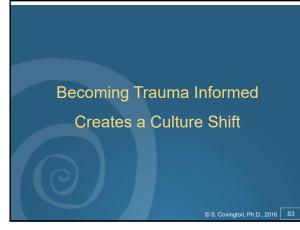












#### A Culture Shift:

Scope of Change in a Distressed System

- Involves <u>all</u> aspects of program activities, setting, relationships, and atmosphere (more than implementing new services)
- Involves <u>all</u> groups: administrators, supervisors, direct service staff, support staff, and clients (*more than service providers*)
- Involves making trauma-informed change into a new <u>routine</u>, a new way of thinking and acting (more than new information)
   (Roger Fallot, Ph.D.)

© S. Covington, Ph.D., 2016 84

### A Trauma-Informed Environment

- Educate staff members about the pervasive effects of trauma on the brain and body
- Incorporates an understanding of the impact of violence and abuse on people into all offender-management and program services
- Establishes both physical and emotional safety in order to prevent re-traumatization, an increase in eating disorders, self-harm, management problems, failure to engage in program services, relapse, recidivism, and poor program outcomes

© S. Covington, Ph.D., 2016 85

85

#### A Trauma-Informed Environment

- Eliminates unnecessary triggers and identifies triggers for each individual
- Creates an atmosphere that is respectful of the person and their need for safety, respect, and acceptance
- Strives to maximize a person's ability to make safe choices and exercise control over their life

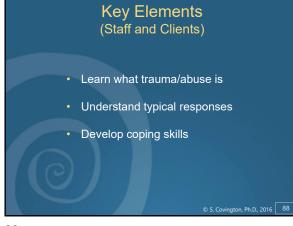
Covington, Ph.D., 2016 8

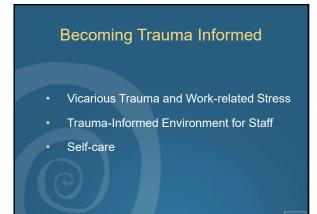
86

#### A Trauma-Informed Environment

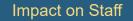
- Strives to be culturally competent to understand a person's culture and how that affects their life experiences, their view of the world, and their behavior
- Uses "universal precautions" and assumes that every person may be a trauma survivor

ovington, Ph.D., 2016





89



You can be affected indirectly by trauma

- This process has several names:
- Vicarious trauma
- Compassion fatigue
- Secondary post-traumatic stress
- Burnout

© S. Covington, 2015 90

Vicarious Trauma

Can occur when you hear about and see the effects of trauma on the lives of others.

© S. Covington, 2015 91

© S. Covington, 2015 92

## **Compassion Fatigue**

Can cause:

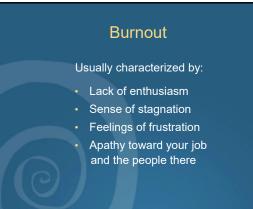
- Errors in judgment
- Detachment from work
- Signs of secondary post-traumatic stress disorder, such as;
  - > Intrusive thoughts
  - Hyper-vigilance

Avoidance

92

(Figley, 2002)

91



© S. Covington, 2015 93

#### Burnout

Burnout also happens to people who continually struggle with moral or ethical dilemmas at work, such as when there are workplace policies and/or practices that are in opposition to the person's values and what the person knows is the right thing to do.

© S. Covington, 2015 94

© S. Covington, 2015 95

94

#### Trauma-Informed Environment for Staff Members

#### Physical and emotional safety

 Ensuring the staff's physical safety and looking out for the staff's emotional safety. This includes attending to work-life balance

#### Trustworthiness

(Fallot & Harris, 2006)

(Bloom & Farragher, 2011)

Maximizing the trustworthiness of the system, including making the staff's tasks, obligations, and benefits clear and making policies and procedures clear and consistent

95

#### Trauma-Informed Environment for Staff Members

#### Choice

• Enhancing staff members' choices and control

#### Collaboration

 Emphasizing employee involvement and maximizing collaboration and the sharing of power with staff members

#### Empowerment

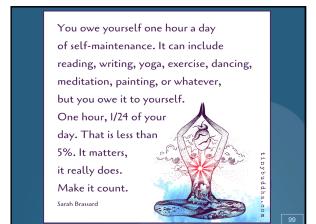
 Prioritizing staff empowerment and employee growth and development programs

(Fallot & Harris, 2006)

© S. Covington, 2015 96







## Core Values of Trauma-Informed Services

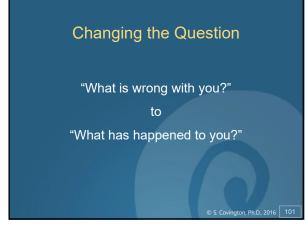
• Physical and Emotional Safety

© S. Covington, 2015 100

- Trustworthiness
- Choice
- Collaboration
- Empowerment

(Fallot & Harris, 2006

100



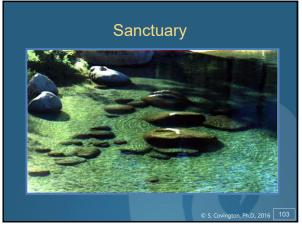
101



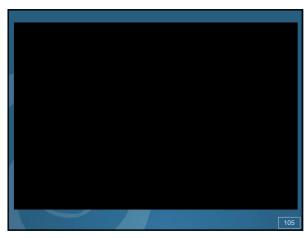
• Creating a safe environment

© S. Covington, Ph.D., 2016 102

- Listening to her/his story
- Empathy









Carol Ackley, LADC

Ackley Consulting and Training, LLC rca0622@aol.com 612.961.3344

06