

Current Challenges and Hopes in Mental Health


--Focusing on Depressive Disorders, Substance Use Disorders
and Violence

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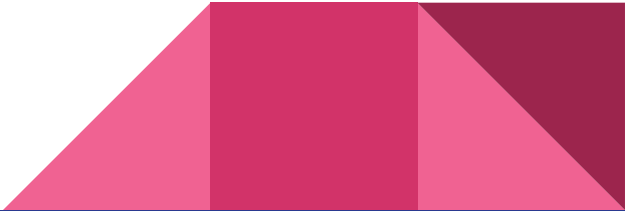
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Mental Health 360

Major Mental Illness

- Mood Disorders (Depressive Disorders, Bipolar Disorders...)
 - Anxiety Disorders (
 - Neurodevelopmental Disorders (Intellectual disability, Communication, Autism, ADHD, Learning, Motor)
 - Somatic Symptoms and Related Disorders
 - Substance Related and Addictive Disorder
 - Schizophrenia Spectrum and Other Psychotic Disorders
 - Neurocognitive Disorders
- 

Outline:

- A Brief Overview of Mental Health
 - Depressive Disorders
 - Violence and Mental Health
 - Alcohol Use Disorder, Cannabis Use Disorder and Others
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Emotional Well-Being

A positive sense of wellbeing which enables an individual to be able to function in society and meet the demands of everyday life; people in good mental health have the ability to recover effectively from illness, change or misfortune.

-Mental Health Foundation (England)



Mental Health

Involves effective functioning in daily activities resulting in

- o Productive activities (work, school, caregiving)
- o Healthy relationships
- o Ability to adapt to change and cope with adversity


Mental Illness

- Mental illnesses are health conditions involving changes in thinking, emotion or behavior (or a combination of these).
- Mental illnesses are associated with distress and/or problems functioning in social, work or family activities.

Mental Illness

- Mental illness is common. In a given year:
 - o nearly one in five (19 percent) U.S. adults experience some form of mental illness
 - o one in 24 (4.1 percent) has a serious mental illness
 - o one in 12 (8.5 percent) has a substance use disorder
- Mental illness is treatable.

Major Mental Illness

- Mood Disorders (Depressive Disorders, Bipolar Disorders,...)
 - Anxiety Disorders (Separation, Phobia, Panic, Generalized...)
 - Neurodevelopmental Disorders (Intellectual Disability, Communication Disorders, ADHD, Motor Disorders, Learning)
 - Somatic Symptoms & Related Disorders (Illness Anxiety disorder...)
 - Substance Related and Addictive Disorder
 - Schizophrenia Spectrum and Other Psychotic Disorders
 - Neurocognitive Disorders (Major and Mild)
 - Personality Disorders (Cluster A, B, C)
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Risks & Development of Mental Illness


Biological Factors vs. Psycho/Social Factors

Nature vs. Nurture

Multifactorial



Risks & Development of Mental Illness

- **Nature**: Family History of Mental Illness and Genetic Loading
 - **Nurture**: **Psycho/Social Factors**:
 - Chronic Physical Disorders
 - **Major Life Changes and Stress**
 - Psychological Stress: being bullied, sexually assaulted...
 - Low Socioeconomic Status.
 - Age
- 

Risk Factors & Development of Mental Illness

- Genetic studies of Schizophrenia: twin studies (MZ -50% vs. DZ -17%), adoption studies (4.9% vs. 1.1%)



Epigenetics in Mental Illness

- Poverty linked to epigenetic changes and mental illness

Impoverished adolescents acquire DNA marks, brain changes and depression over time.


Nature News 24 May 2016

- Many genes associated with autism, schizophrenia, and bipolar disorder have been found to show epigenetic modification.

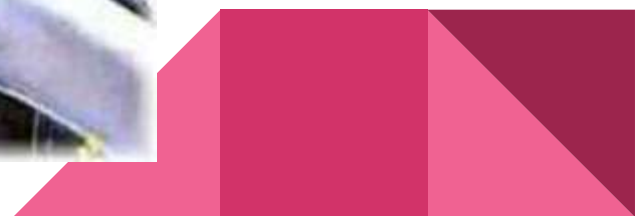
- The dynamic epigenome and its implications for behavioral interventions: a role for epigenetics to inform disorder prevention and health promotion.

[Szyf M](#)1, [Tang YY](#)2, [Hill KG](#)3, [Musci R](#)4. [Transl Behav Med.](#) 2016 Mar;6(1):55-62. doi: 10.1007/s13142-016-0387-7.

Current Challenges

- **Limited Understanding on the Mechanisms of Mental Illness: morphological changes, molecular mechanisms animal behavioral models and more**
 - **Treatment Approaches**
 - **Stigma related to mental illness, sense of shame, loss of face, and humiliation**
- 





Our Hopes

Research on Mental Illness: Image studies, Morphology studies, genetic studies, molecular mechanism studies...



Research

Genetic and Molecular Biology Research of Schizophrenia:


Recent landmark studies:

Biological insights from 108 schizophrenia-associated genetic loci *Nature* 2014 Jul 24;511(7510):421-7. doi: 10.1038/nature13595. Epub 2014 Jul 22;

Schizophrenia: From genetics to physiology at last *Nature* 530,162–163 (11 February 2016)
doi:10.1038/nature16874 Published online 27 January 2016



Research in Epigenetics

- Epigenetics is the study of heritable changes in gene expression that does not involve changes to the underlying DNA sequence — a change in phenotype without a change in genotype.
 - At least systems are currently considered to initiate and sustain epigenetic change: DNA Methylation, Histone Modification and Non-coding RNA-Associated gene silencing.
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Epigenetics in Mental Illness

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Our Hopes

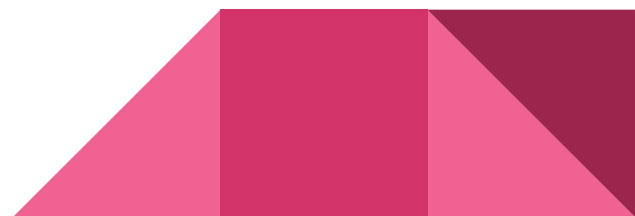
Treatment

- **Biological Treatment:** antipsychotics, antidepressants, anxiolytics, others, Transcranial Magnetic Stimulation, Electroconvulsive Therapy, and Vagal Nerve Stimulation Therapy .
 - **Psychological Treatment:** Psychoanalytic Psychotherapy---> Multiple Types of Psychotherapy (Interpersonal therapy, Cognitive Behavioral Therapy, Desensitization Therapy, Art Therapy and many more...)
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Our Hopes

- **Break down the Stigma** attached to Mental Illness--
Let's Talk about Mental Illness!
- Prevention: Build, Enhance and Strengthen **Resilience**





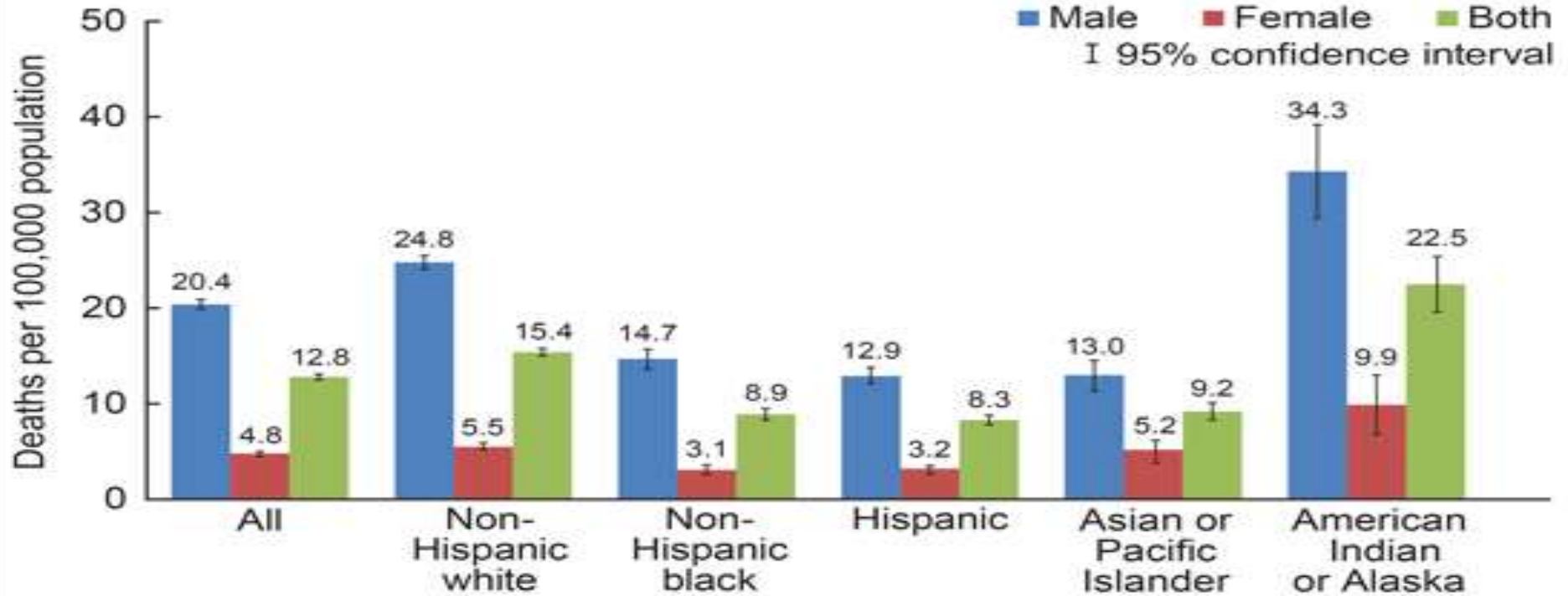
Depressive Disorders

- Globally, more than 300 million people of all ages suffer from depression.
- Depression is the leading cause of disability worldwide, and is a major contributor to the overall global burden of disease.
- At its worst, depression can lead to suicide.



Depressive Disorders

Figure 1. Suicide rates among young adults aged 18–24, by race and Hispanic origin and sex: United States, 2012–2013

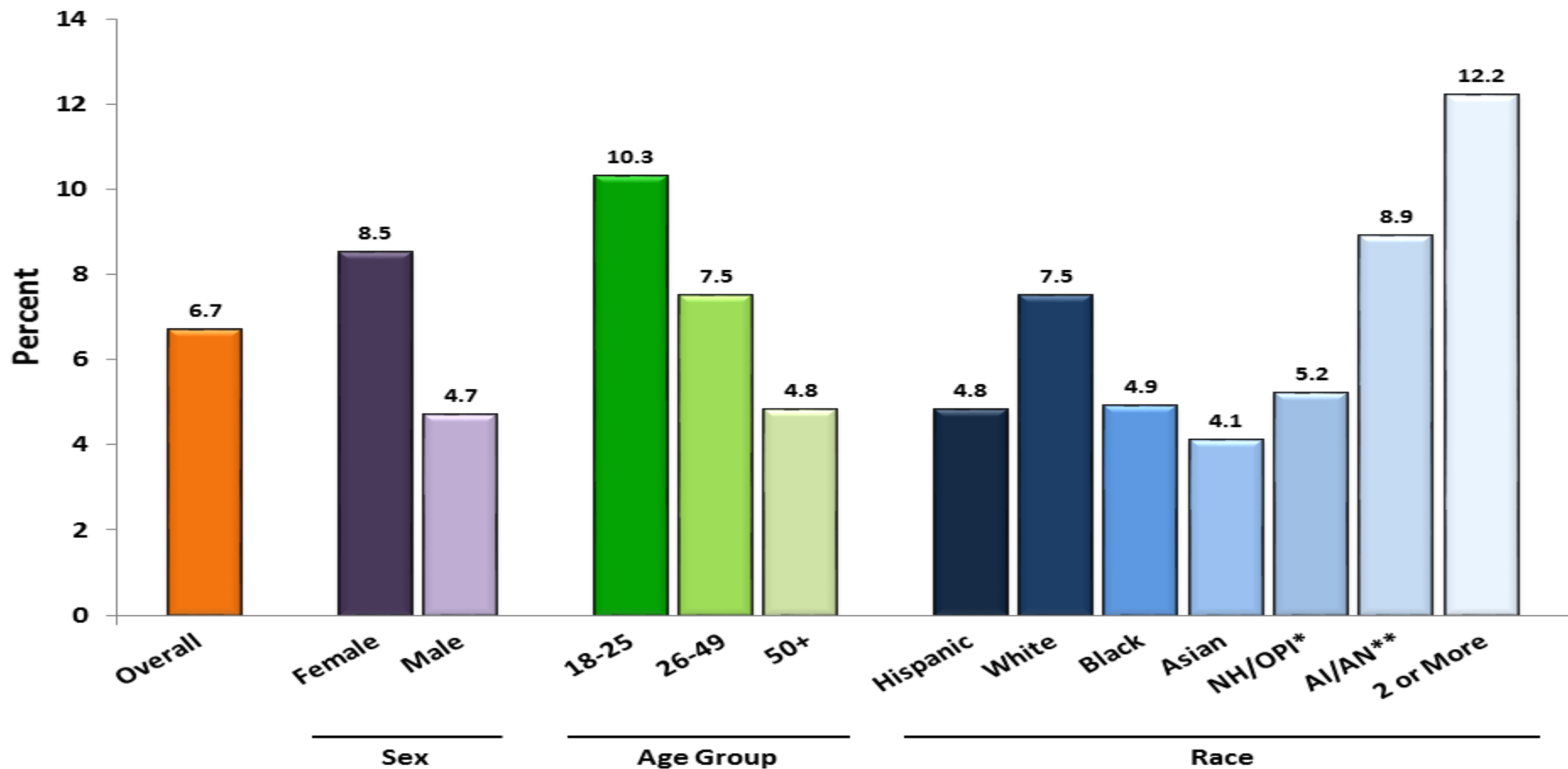


Depressive Disorders

Epidemiology:

- Major depression is **one of the most common mental disorders** in the United States.
- According to the World Health Organization (WHO; 2010), major depression also carries the heaviest burden of disability among mental and behavioral disorders. Specifically, major depression accounts for:
 - 3.7% of all U.S. disability-adjusted life years (DALYs); and,
 - 8.3% of all U.S. years lived with disability (YLDs).

12-month Prevalence of Major Depressive Episode Among U.S. Adults (2015)



Data courtesy of SAMHSA

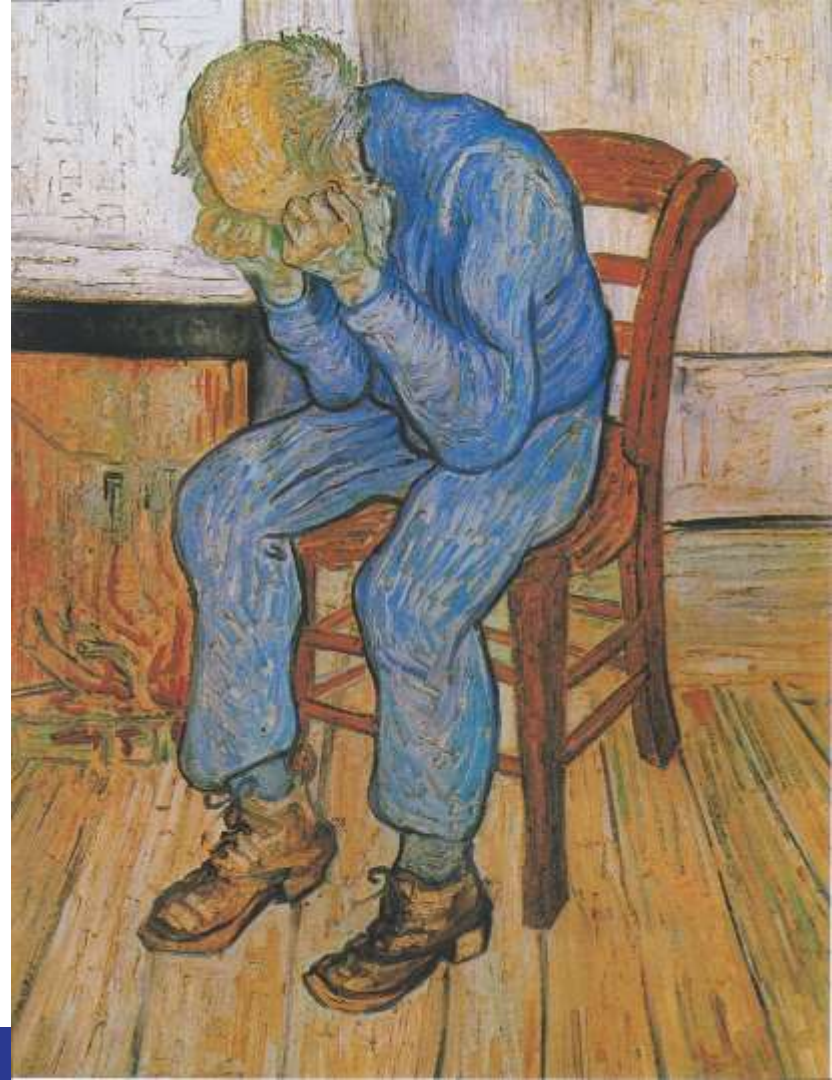
*NH/OPI = Native Hawaiian/Other Pacific Islander

**AI/AN = American Indian/Alaska Native

Depressive Disorder

Vincent van Gogh's 1890 painting

Sorrowing old man ('At Eternity's Gate')




Depressive Disorders

DSM-5™ Diagnostic Criteria Major Depressive Disorder


A. **Five (or more) of the following symptoms** have been present **during the same 2-week period** and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful). (Note: In children and adolescents, can be irritable mood.)




Depressive Disorders

2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation.) **3.** Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. (Note: In children, consider failure to make expected weight gain.) **4.** Insomnia or hypersomnia nearly every day. **5.** Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).



Depressive Disorders

6. Fatigue or loss of energy nearly every day. **7.** Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick). **8.** Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others). **9.** Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.



Depressive Disorders

B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The episode is not attributable to the physiological effects of a substance or to another medical condition.



Depressive Disorders

D. The occurrence of the major depressive episode is not better explained by schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified schizophrenia spectrum and other psychotic disorders.



Depressive Disorders

Screening for Depressive Disorders:

PHQ-9 and Others

Treatment for Depressive Disorders:

Medications, Psychotherapy, TMS, ECT and Others



Violence and Mental Health




Violence and Mental Health

Violence in the Media:

Recent Las Vegas Massive Shooting on Oct. 3, 2017, Orlando Night Club Shooting in 2016, Sandy Hook Elementary School Shooting in 2012 and Virginia Tech massacre in 2007.




Violence and Mental Health

- When horrific acts of violence erupt, the public often reacts by saying the offender must have been "crazy."
 - Links between violence and mental health are made often, particularly in the media.
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Violence and Mental Health

Public opinion surveys suggest that many people think mental illness and violence go hand in hand. A 2006 national survey found, for example, that 60% of Americans thought that people with schizophrenia were likely to act violently toward someone else, while 32% thought that people with major depression were likely to do so.



Violence and Mental Health

In fact, research suggests that this public perception does not reflect reality. Most individuals with psychiatric disorders are not violent.



Violence and Mental Health

- This can lead to anyone who experiences a mental health problem being seen as dangerous, whether or not there is any risk of them being violent.



Violence and Mental Health

Although a subset of people with psychiatric disorders commit assaults and violent crimes, findings have been inconsistent about how much mental illness contributes to this behavior and how much substance abuse and other factors do.




Violence and Mental Health

THE MacARTHUR VIOLENCE RISK ASSESSMENT STUDY

Goals: 1. to do the best “science” on violence risk assessment possible, 2. to produce an actuarial violence risk assessment “tool”

Study was conducted in 2001. Considered as one of the best designed studies.



Violence and Mental Health

Admissions (n=1,136) were sampled from acute civil inpatient facilities in Pittsburgh, PA, Kansas City, MO, and Worcester, MA.

English-speaking patients between the ages of 18 and 40, who were of White, African American, or Hispanic ethnicity

had a chart diagnosis of thought or affective disorder, substance abuse, or personality disorder.



Violence and Mental Health

RESULTS OF THE MacARTHUR VIOLENCE RISK ASSESSMENT STUDY:

Gender: Men > Women

Prior Violence: strong predictor

Childhood Experience: seriousness and frequency of being abused as a child

Neighborhoods and Race: Disadvantaged neighborhoods, regardless of race




Violence and Mental Health

RESULTS OF THE MacARTHUR VIOLENCE RISK ASSESSMENT STUDY:

Diagnoses: Co-occurring substance use disorders > Personality Disorder and Adjustment Disorder > Schizophrenia

Psychopathy: by the Hare Psychopathy Checklist, more strongly associated with violence than any other studied factors.



Violence and Mental Health

Several studies that have compared large numbers of people with psychiatric disorders with peers in the general population have added to the literature by carefully controlling for multiple factors that contribute to violence.



Violence and Mental Health


Taken together with the MacArthur study, these papers have painted a more complex picture about mental illness and violence. They suggest that violence by people with mental illness — like aggression in the general population — stems from multiple overlapping factors interacting in complex ways.



Violence and Mental Health

These factors are:

1. Family history; 2. Personal stressors (such as divorce or bereavement); 3. socioeconomic factors (such as poverty and homelessness). 4. Substance abuse is often tightly woven into this fabric, making it hard to tease apart the influence of other less obvious factors.



Violence and Mental Health

Percentage of people convicted of at least one violent crime, 1973–2006 (Source: Fazel S, et al. *Journal of the American Medical Association*. May 20, 2009).

5.1%

Matched controls (to provide estimate in general population)

8.5%

Schizophrenia without substance abuse disorder

27.6%

Schizophrenia with
substance abuse disorder

Violence and Mental Health

Percentage of people convicted of at least one violent crime, 1973–2006 (Source: Fazel S, et al. *Journal of the American Medical Association*. May 20, 2009).

3.4% Matched controls (to provide estimate in general population)

4.9% Bipolar disorder without substance abuse disorder

21.3% Bipolar disorder with substance abuse disorder

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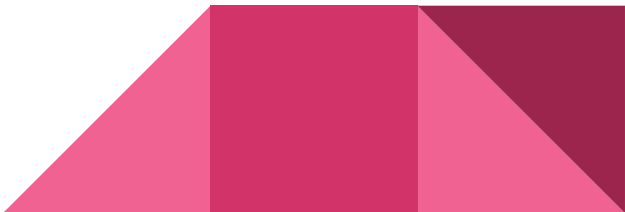
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Bipolar disorder with
substance abuse disorder

Violence and Mental Health

“Research has shown that the vast majority of people who are violent do not suffer from mental illnesses (American Psychiatric Association, 1994).” • “. . . [T]he absolute risk of violence among the mentally ill as a group is still very small and . . . only a small proportion of the violence in our society can be attributed to persons who are mentally ill (Mulvey, 1994).”



Violence and Mental Health

People with psychiatric disabilities are far more likely to be victims than perpetrators of violent crime (Appleby, et al., 2001).



Substance Use Disorder

Alcohol Use Disorder

Anyone meeting any two of the 11 criteria during the same 12-month period receives a diagnosis of AUD. The severity of AUD—mild, moderate, or severe—is based on the number of criteria met.



Substance Use Disorder

What Is a Standard Drink?

12 fl oz of
regular beer

=

8–9 fl oz of
malt liquor
(shown in a
12 oz glass)

=

5 fl oz of
table wine

=

1.5 fl oz shot of
distilled spirits
(gin, rum, tequila,
vodka, whiskey, etc.)



about 5%
alcohol



about 7%
alcohol



about 12%
alcohol



about 40%
alcohol


Each beverage portrayed above represents one standard drink of "pure" alcohol, defined in the United States as 0.6 fl oz or 14 grams. The percent of pure alcohol, expressed here as alcohol by volume (alc/vol), varies within and across beverage types. Although the standard drink amounts are helpful for following health guidelines, they may not reflect customary serving sizes.

Substance Use Disorder

To assess whether you or loved one may have AUD, here are some questions to ask. In the past year, have you:

- Had times when you ended up drinking more, or longer than you intended?
- More than once wanted to cut down or stop drinking, or tried to, but couldn't?
- Spent a lot of time drinking? Or being sick or getting over the aftereffects?

Substance Use Disorder

- Experienced craving — a strong need, or urge, to drink?
 - Found that drinking — or being sick from drinking — often interfered with taking care of your home or family? Or caused job troubles? Or school problems?
 - Continued to drink even though it was causing trouble with your family or friends?
- 

Substance Use Disorder

- Given up or cut back on activities that were important or interesting to you, or gave you pleasure, in order to drink?
- More than once gotten into situations while or after drinking that increased your chances of getting hurt (such as driving, swimming, using machinery, walking in a dangerous area, or having unsafe sex)?
- Continued to drink even though it was making you feel depressed or anxious or adding to another health problem? Or after having had a memory blackout?


Substance Use Disorder

- Had to drink much more than you once did to get the effect you want? Or found that your usual number of drinks had much less effect than before?
- Found that when the effects of alcohol were wearing off, you had withdrawal symptoms, such as trouble sleeping, shakiness, irritability, anxiety, depression, restlessness, nausea, or sweating? Or sensed things that were not there?



Substance Use Disorder

Alcohol Use Disorder Treatment:

1. Detoxification
 2. Medication treatment for craving: Naltrexone, Acamprosate, Topiramate
 3. AA Meetings
- 

Substance Use Disorder

- **Cannabis Use Disorder:** Diagnostic Criteria-- See DSM-V diagnostic criteria.
- The impact of cannabis use to Adolescents



Substance Use Disorder

- Marijuana is the most commonly used illicit drug in the United States for the population overall and for youths in particular.¹
- Although the laws regarding marijuana use have changed in a number of states over the past decade, marijuana use remains illegal under federal laws in all states




Substance Use Disorder

Research has indicated that there are health risks associated with youth marijuana use,²

1. poorer education/employment outcomes³
2. poorer cognitive outcomes^{4,5}
3. increased likelihood of vehicle crashes,⁶
4. increased addiction risk.⁷



Substance Use Disorder

- Even though research indicates that youth marijuana use is a health risk, nationally only 1 in 5 adolescents perceived great risk from monthly marijuana use in 2014, which is lower than in any other year from 2002 to 2013.
 - It is important to improve the awareness of the relationship between youth marijuana use and health risk.
- 

Summary

- **Mental illness is nothing to be ashamed of. It is a medical problem, just like heart disease or diabetes.**
- **Mental Illness is treatable.**



Summary

- **Together, we can promote the emotional well-being and raise the awareness of mental illness in our community!**
 - **Let's communicate better, feel better, love better and live better!**
- 