

Schizophrenia

and Dissociative Identity Disorder



*paintings by artist, Louis Wain, during his
worsening schizophrenia*

Three Minute Review

MENTAL DISORDERS: ANXIETY DISORDERS

- GENERALIZED ANXIETY DISORDER
 - Hypervigilance
- PHOBIAS
 - beyond normal fears
 - fearing things (e.g., arachnophobia) or situations (e.g., social phobia)
 - classical conditioning vs. preparedness theory
- OBSESSIVE-COMPULSIVE DISORDER (OCD)
 - obsessions (thoughts) vs. compulsions (actions)
 - impulse suppression in basal ganglia (caudate nucleus) dysfunctional, impulses swamp prefrontal cortex

- **PANIC DISORDER**

- SNS overactivity ⇒ interpreted as feelings of panic ⇒ fear of attacks ⇒ greater likelihood of SNS overactivity
- often linked with agoraphobia

- **POST-TRAUMATIC STRESS DISORDER**

- immediate dissociation, long term PTSD
- flashbacks

- **MENTAL DISORDERS: MOOD DISORDERS**

- dysthymia -- downs, moderate intensity
- depression -- downs, high intensity
- cyclothymia -- ups & downs, moderate intensity
- bipolar disorder (manic depression) -- ups & downs, high intensity

DEPRESSION

- Symptoms
 - Emotional symptoms
 - e.g., hopelessness, withdrawal
 - Cognitive symptoms
 - e.g., negative thinking, pessimism, suicidal thoughts
 - Behavioral symptoms
 - e.g., tearfulness, anhedonia
 - Physical symptoms
 - e.g., changes in eating, sleeping, sex drive
- Good example of DSM diagnostic criteria, diathesis-stress model and maintaining factors
- Cognitive factors
 - depressive realism
 - learned helplessness
 - negative explanatory styles

Symptoms of Depression

Emotional symptoms

- Feelings of sadness, hopelessness, helplessness, guilt, emptiness, or worthlessness
- Feeling emotionally disconnected from others
- Turning away from other people

Behavioral symptoms

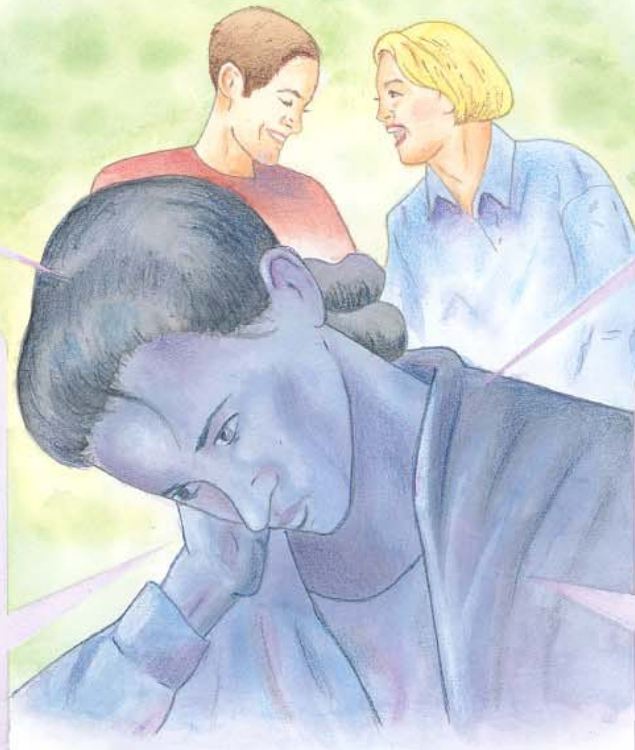
- Dejected facial expression
- Makes less eye contact; eyes downcast
- Smiles less often
- Slowed movements, speech, and gestures
- Tearfulness or spontaneous episodes of crying
- Loss of interest or pleasure in usual activities, including sex
- Withdrawal from social activities

Cognitive symptoms

- Difficulty thinking, concentrating, and remembering
- Global negativity and pessimism
- Suicidal thoughts or preoccupation with death

Physical symptoms

- Changes in appetite resulting in significant weight loss or gain
- Insomnia, early morning awakening, or oversleeping
- Vague but chronic aches and pains
- Diminished sexual interest
- Loss of physical and mental energy
- Global feelings of anxiety
- Restlessness, fidgety activity



SEASONAL AFFECTIVE DISORDER (SAD)

- closely related to photoperiod
 - seasons
 - latitudes

BIPOLAR DISORDER

- hypomania, mania, psychotic mania
- link with creativity?

Test Yourself

What's your diagnosis?

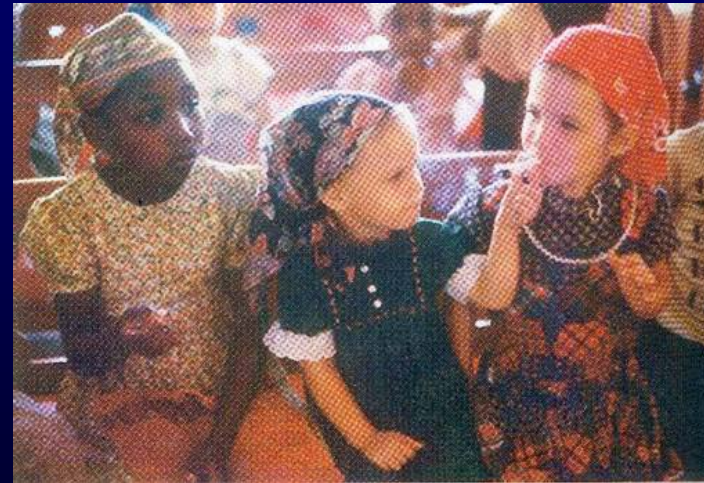
- A young boy worries incessantly that something terrible might happen to his mother. On his way up to bed each night, he climbs the stairs according to a fixed sequence of three steps up, followed by two steps down in order to ward off danger.
- A 40 year old woman frequently has felt “down in the dumps” for several years and frequently feels worthless, although she has never had a full-blown depressive episode or considered suicide.
- A 25 year old woman experiences heart palpitations and shortness of breath. She fears she is having a heart attack. Afterward, she lives with intense apprehension about a recurrence and is afraid to leave her house.

Substance Abuse: Alcoholism

- many negative consequences
 - drunk driving accidents
 - fetal alcohol syndrome
 - health effects (e.g., cirrhosis of the liver)
- affected by expectations
 - those who believe alcohol has positive effects (e.g., “alcohol helps people cope”, “alcohol improves sexual performance”, “alcohol makes me more sociable”) are more likely to become abusers
- drinking to cope provokes abuse
- genetic influences may be related to dopamine
 - strains of rats bred to prefer alcohol have more dopamine release than normal

Cultural Influences

- alcoholism most likely in cultures that forbid children to drink but condone drunkenness in adults (e.g., Ireland) than those that teach children how to drink responsibly and moderately but condemn drunkenness (e.g., Italy, Greece, France)
- US Prohibition actually increased rate of alcoholism
- heavy drinking viewed more negatively among women
- addiction can be context-specific
 - Vietnam vets and heroin
 - majority of people who receive narcotics in hospital don't become addicted



Two Types of Alcoholism

- Steady drinkers
 - start young
 - unable to abstain
 - frequent fighting and arrests, novelty seeking, antisocial tendencies
 - strong heritability
 - sons of steady drinkers 7X more likely than normal to become steady drinkers
 - daughters no more likely to be steady drinkers but tend to develop somatization disorders
- Binge drinkers
 - start in middle age
 - drink to reduce anxiety
 - able to abstain for long periods but are unable to stop drinking once they've started
 - feel guilty
 - interaction of heredity & environment in both males and females

Depressed Women, Alcoholic Men

Why is depression more common in women while alcoholism is more common in men?

- hormones?
- genes?
- more stresses on women (e.g., physical abuse, poverty, single parenthood)?
- women pay more attention to their feelings while men try to escape their feelings?
 - “men are more likely to get high than get therapy”
 - Among the Amish in Pennsylvania, who prohibit alcohol and drugs, rates of depression in men and women are equal

Schizophrenia

≠

schizophrenia = “splitting of the mind”
• refers to break between emotion and thought

Dissociative Identity Disorder

(the disorder formerly known as Multiple Personality Disorder or Split Personality)

≠

Ambivalence

Dissociative Identity Disorder



In the 1980s, Multiple Personality Disorder (MPD) suddenly became the talk of the town. Tens of thousands of Americans were diagnosed with an illness that was previously unheard of. A trigger for this sudden epidemic was the release of a film, "Sybil". Telling the dramatic story of a woman diagnosed with Multiple Personality Disorder, the film was shown across America making Sybil a household name.

Now, Sybil's original diagnosis is being challenged. The psychiatric community is divided and people are asking whether MPD exists at all.

Sybil was born in Minnesota in the early 1920s. At the age of 37, she was treated by a psychiatrist, Dr Cornelia Wilbur, who came to believe that her patient was a multiple with 16 'alter' personalities. Under hypnosis Sybil had recovered lost memories of a traumatic childhood. Dr Wilbur believed that Sybil's mental illness had been caused by these extreme traumas she had experienced in youth. As a way of coping with the distress, Sybil had split-off, creating 'alter' personalities at moments of crisis in her life. These 'alters' would experience the pain instead of Sybil. It was a compelling theory, that used childhood abuse to explain multiple personalities.

Joanne Woodward gives a tour-de-force portrayal of a ~~schizophrenic~~ young woman who seeks psychiatric help in dealing with her three distinct personalities: a housewife a seductress, and an even-keeled, highly intelligent woman. The

Trauma Dissociation Theory

- 97% of DID cases experienced severe abuse and trauma in early and middle childhood
- theorists believe abused children engage in self-hypnosis to dissociate from reality, creating new identities

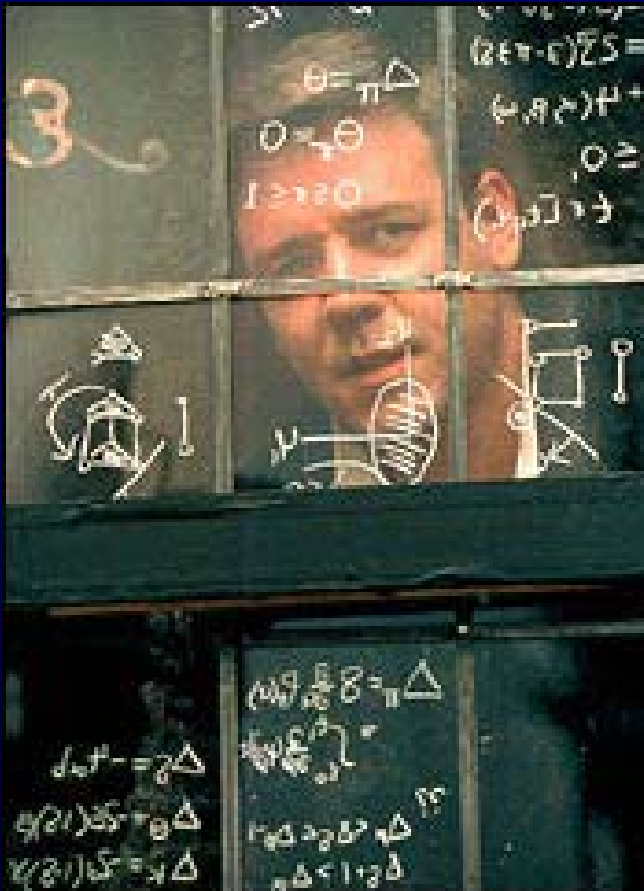
Reasons to be skeptical

- DID is primarily diagnosed in Western cultures but rarely diagnosed elsewhere
- the incidence of DID diagnoses has increased greatly, particularly after media portrayals (Eve, Sybil); the number of different “personalities has also increased (from 2 or 3 to ~15)
- DID patients are highly susceptible to suggestions (e.g., hypnotism)
- some psychotherapists diagnose many DID patients, others none
- some suggest DID is iatrogenic (caused by the treatment)
 - therapist may “guide” patient into expected behaviors
 - some even suggest that therapists can create false memories of abuse and Satanic rituals that have never been verified

As Weird as it Gets

- “In one bizarre case, a Wisconsin woman and her insurance company successfully sued a psychiatrist who used hypnosis to allegedly unearth 120 different personalities, including Satan and a duck, then billed the insurance company at the higher ‘group therapy rate’ on the grounds that he was treating multiple people!” (Passer et al. text)

Schizophrenia



“How come when we talk to God, we’re praying, but when God talks to us we’re schizophrenic?”
-- Lily Tomlin in Jane Wagner’s *The Search for Signs of Intelligent Life in the Universe?*

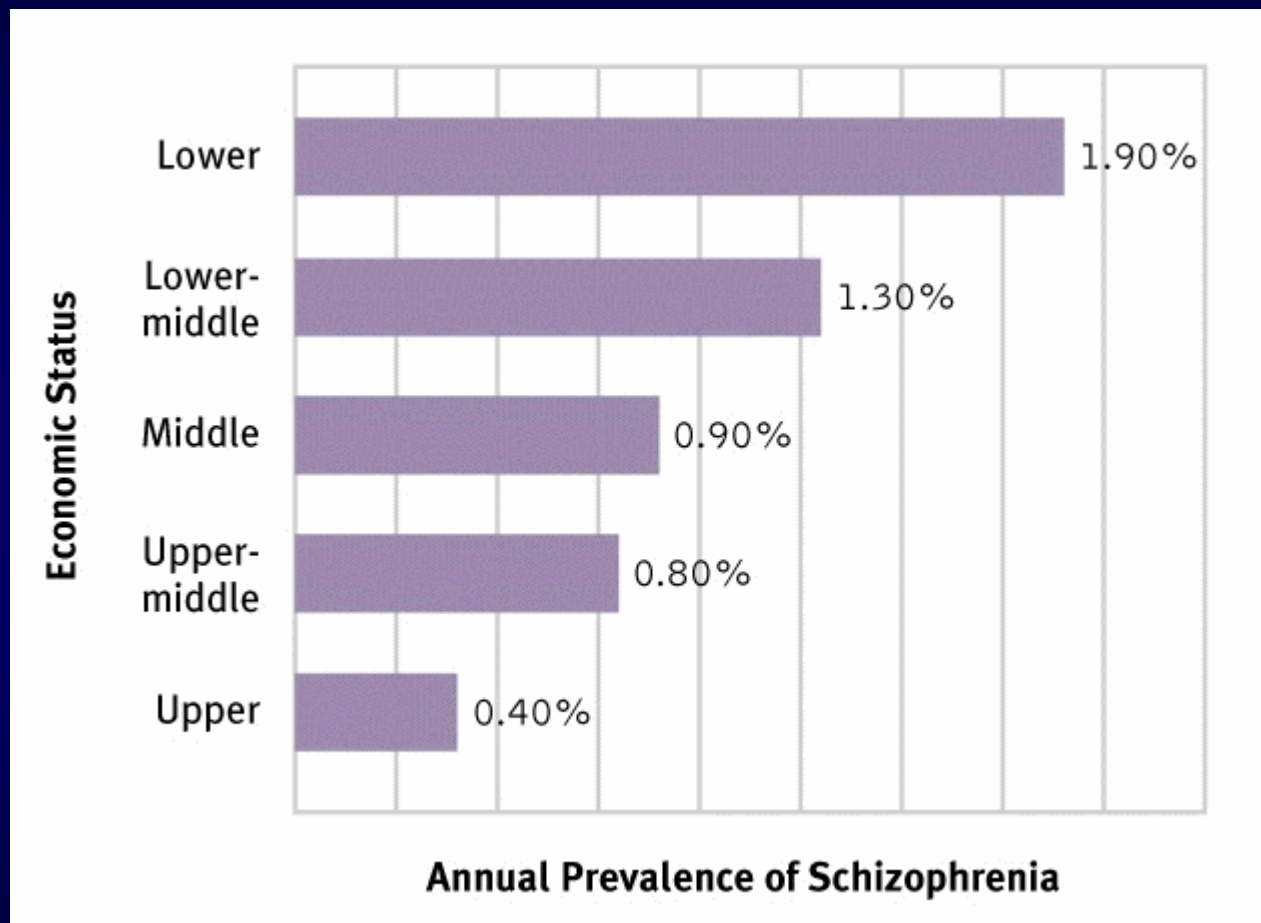


Societal Costs of Schizophrenia



- approximately 1/3 of homeless people suffer from schizophrenia or manic depression
- at any given time, there are more people suffering from schizophrenia on the street than in mental institutions
- in Canada, schizophrenia has \$2.3 billion in direct costs and \$2 billion in indirect costs
- schizophrenia strikes people young and is usually lifelong
- at 1% of the population, it has been called “Youth’s Greatest Disabler”
- death rate among schizophrenics is high

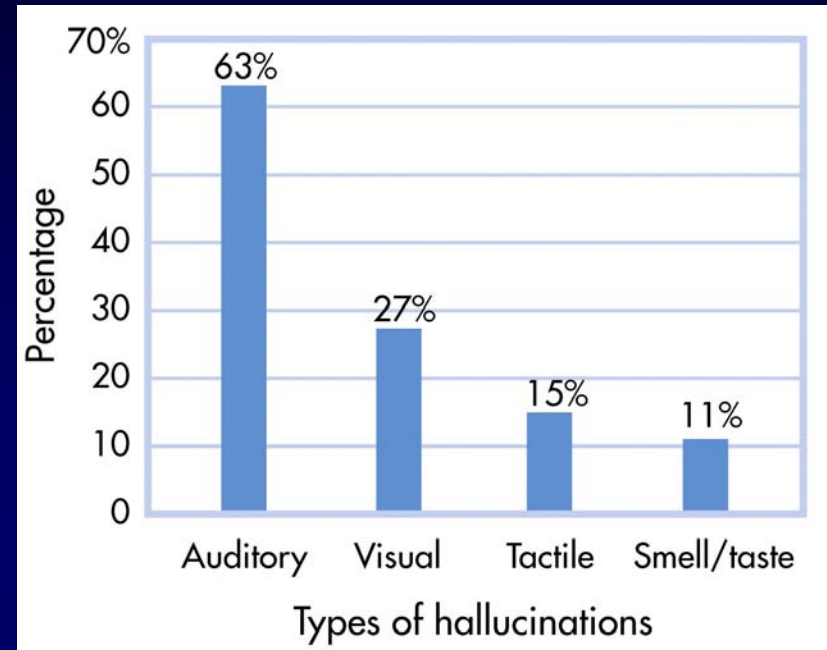
Schizophrenia affects lower classes most



What is Schizophrenia?

POSITIVE SYMPTOMS

- symptoms that are present in schizophrenics but not normals
1. **thought disorder**
 - disorganized, irrational thinking
 2. **delusions**
 - beliefs that are obviously false
 - delusions of persecution
 - false belief that others are plotting against oneself
 - delusions of grandeur
 - false beliefs in one's power and importance (e.g., believing one has godlike powers)
 - delusions of control
 - false belief that others are controlling oneself (e.g., through radio receivers)
 3. **hallucinations**
 - perceptions of stimuli that are not actually present
 - typically auditory hallucinations (often voices)
 - can occur with other senses

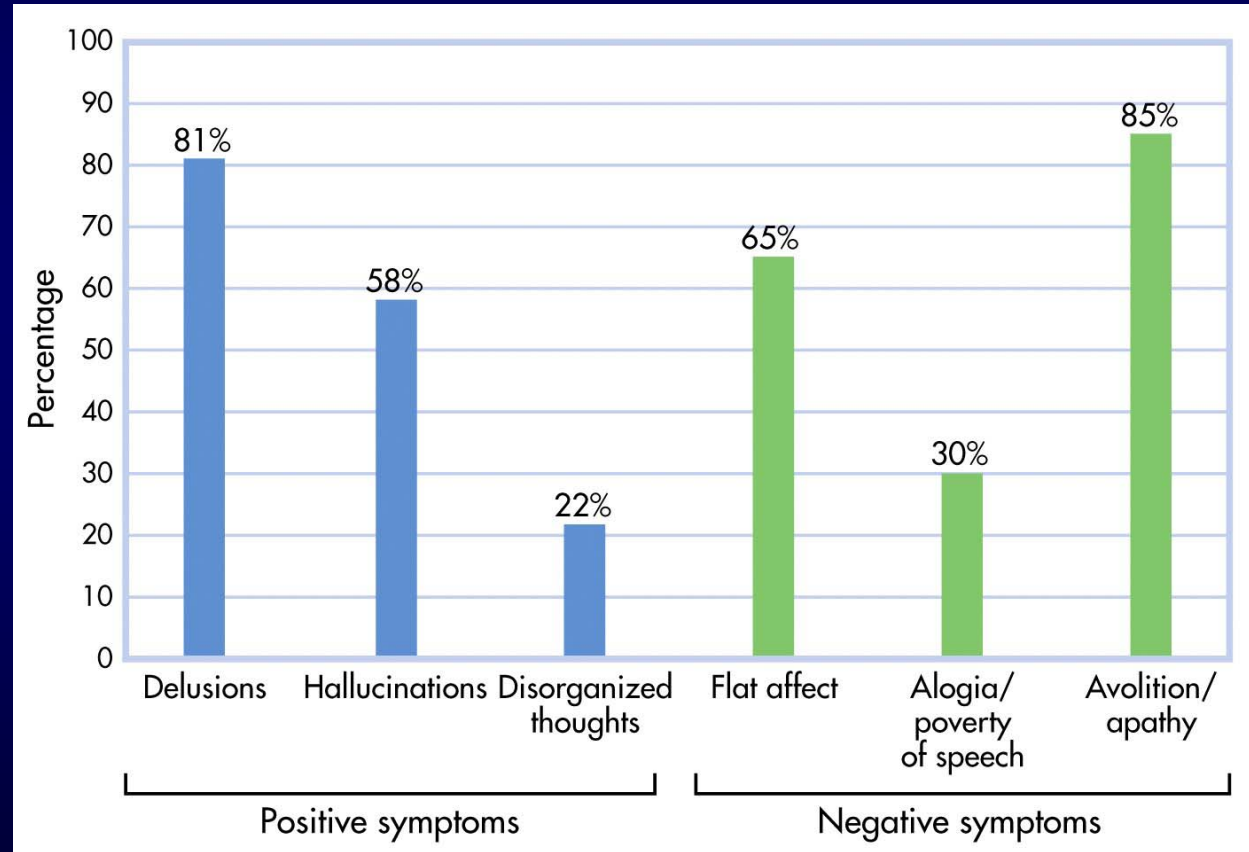


What is Schizophrenia?

NEGATIVE SYMPTOMS

the absence of normal behaviors

1. flattened affect
 - blunted emotions
2. poverty of speech
3. apathy
4. anhedonia
5. social withdrawal



Types of Schizophrenia

Paranoid Type

- Well-organized delusional beliefs reflecting persecutory or grandiose ideas
- Frequent auditory hallucinations, usually voices
- Little or no disorganized behavior, speech, or flat affect

Catatonic Type

- Highly disturbed movements or actions, such as extreme excitement, bizarre postures or grimaces, or being completely immobile
- Echoing of words spoken by others, or imitation of movements of others

Disorganized Type

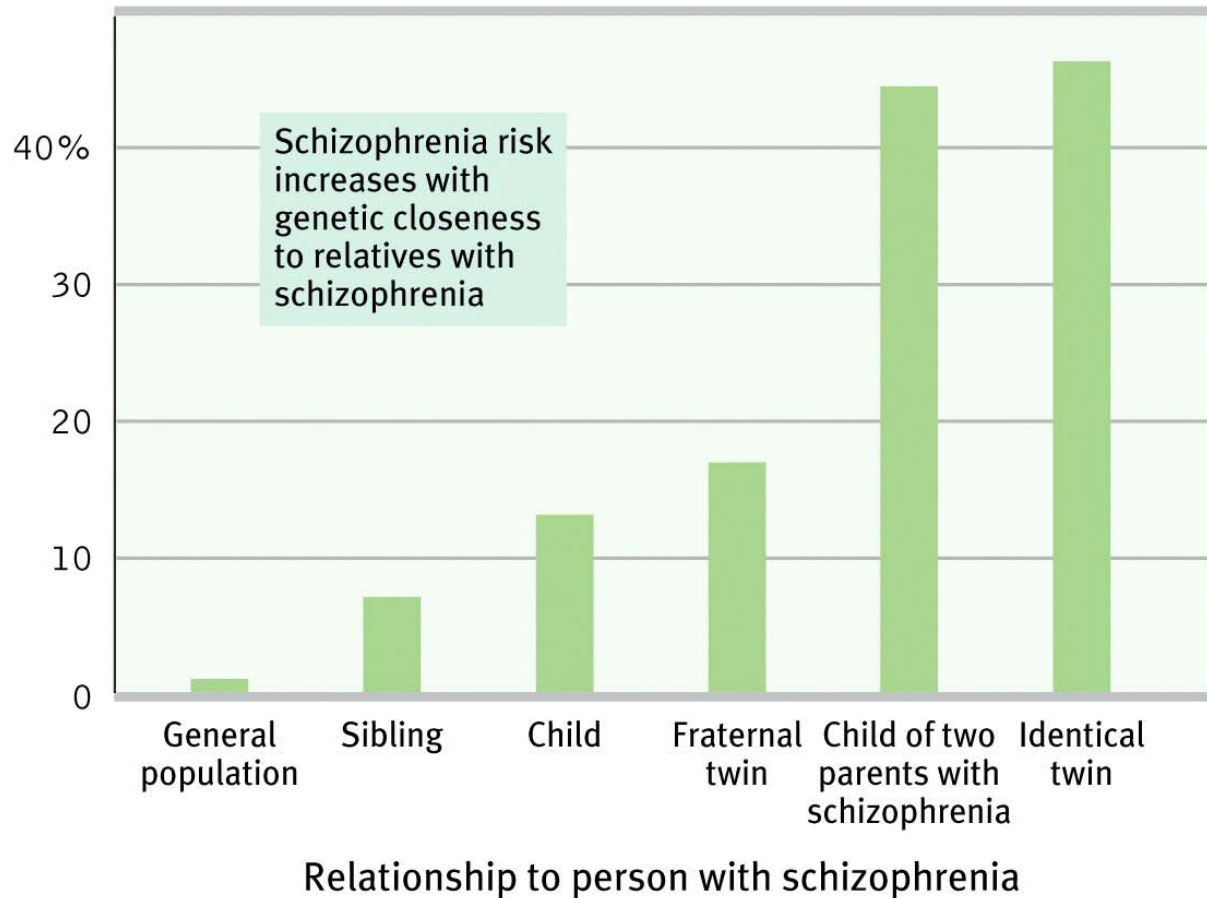
- Flat or inappropriate emotional expressions
- Severely disorganized speech and behavior
- Fragmented delusional ideas and hallucinations

Undifferentiated Type

- Display of characteristic symptoms of schizophrenia but not in a way that fits the pattern for paranoid, catatonic, or disorganized type

What causes schizophrenia?

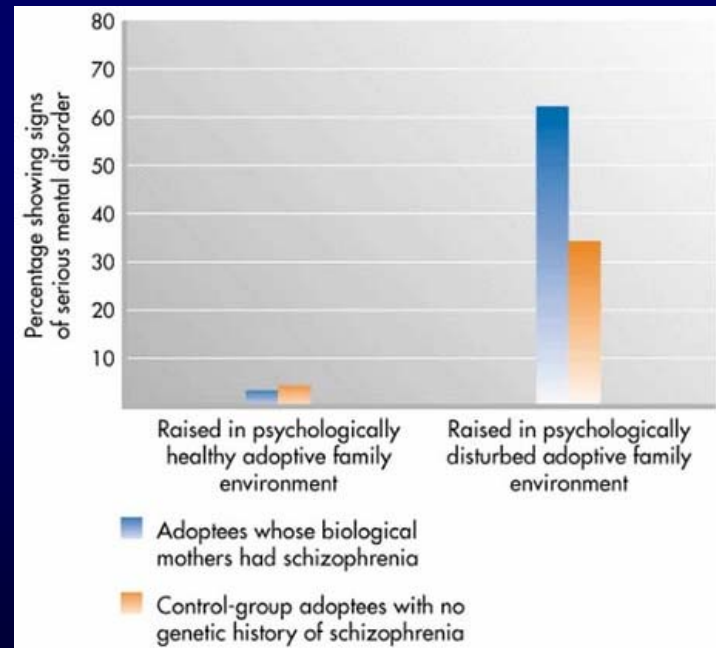
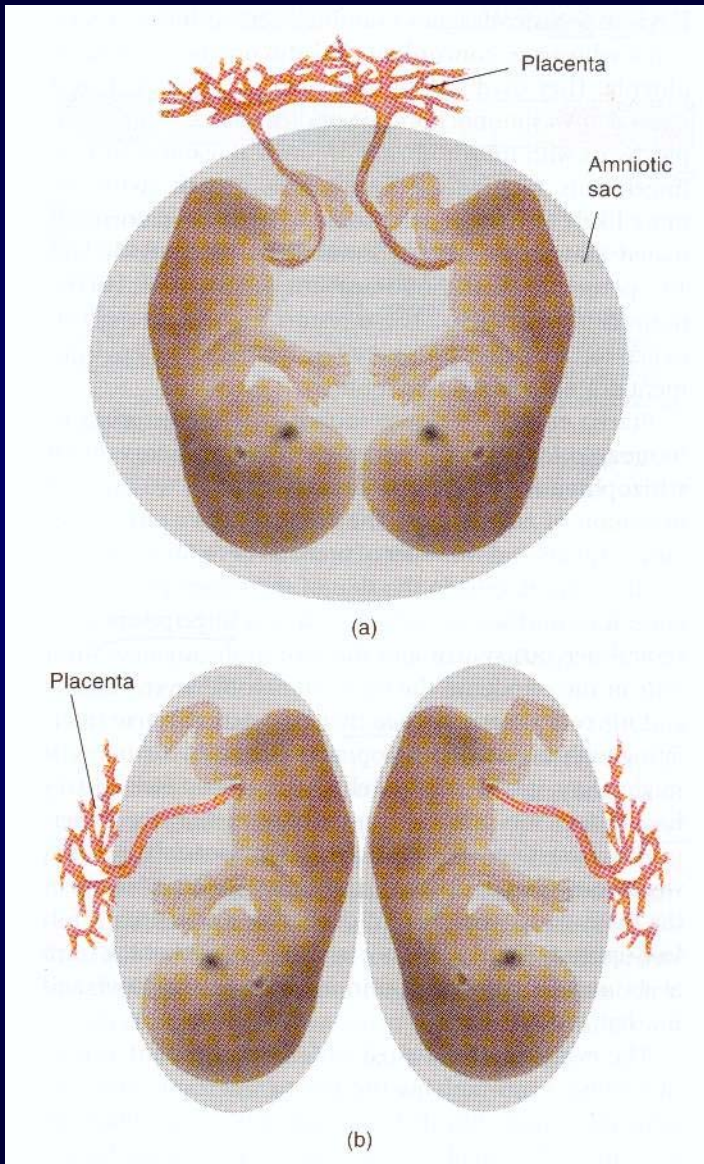
Lifetime risk, per 100 people, of developing schizophrenia for relatives of a person with schizophrenia



- genes account for much of it but can't explain it entirely
- diathesis + stress

Environmental Influences

- monozygotic twins who share a placenta (monozygotic) have a higher concordance rate for schizophrenia -- 60% -- than those with separate placental environments (dichorionic) -- 11%
- obstetric complications increase likelihood of schizophrenia
- schizophrenic atmosphere is not mentally healthy

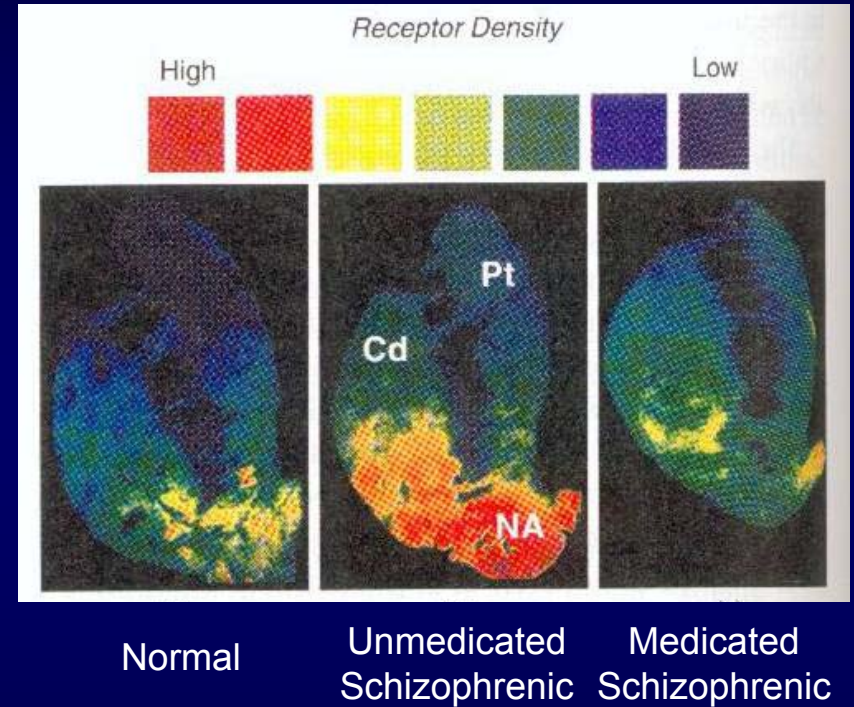


Causes of Schizophrenia

POSITIVE SYMPTOMS

- thought to be due to overactivity of several type of dopamine receptors
- tradeoffs between schizophrenia (too much dopamine) and Parkinson's disease (too little dopamine)
- schizophrenic-like symptoms can be induced by cocaine and amphetamines (dopamine agonists)
- antipsychotic drugs block dopamine receptors and reduce positive symptoms

Density of dopamine D3 receptors in human basal ganglia

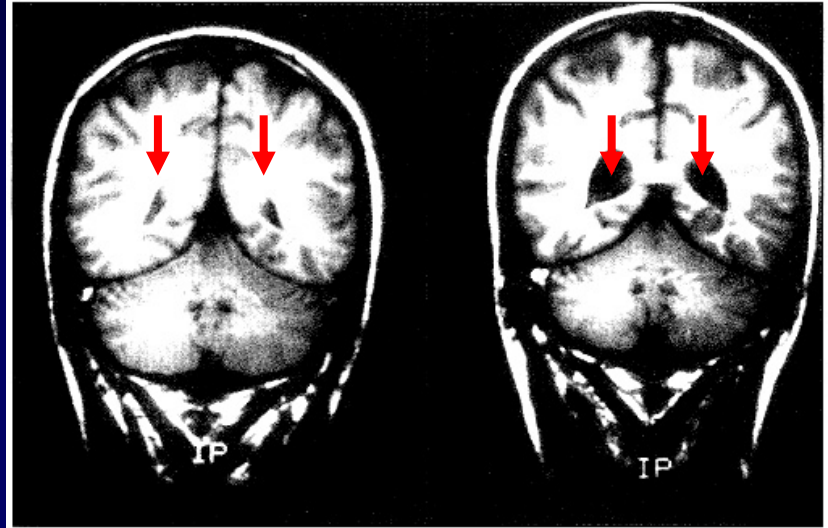


Causes of Schizophrenia

NEGATIVE SYMPTOMS

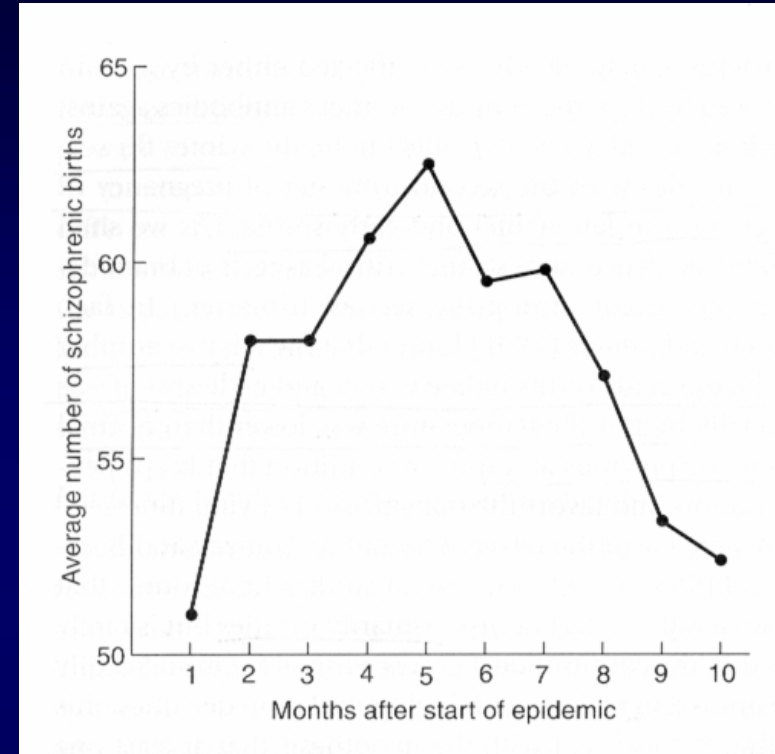
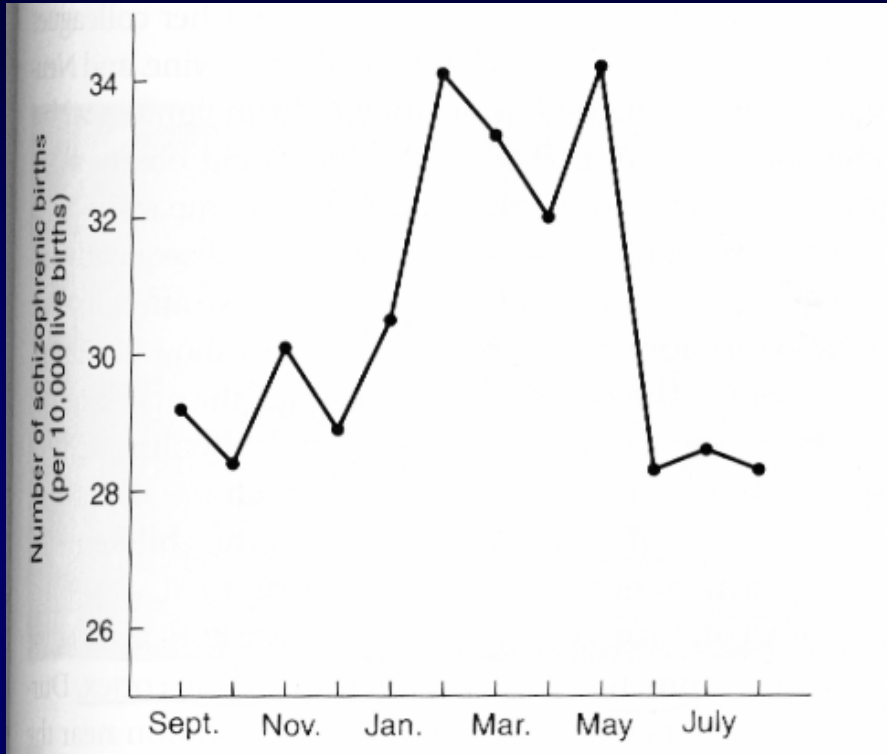
- thought to be due to brain damage
 - enlarged ventricles (fluid-filled cavities) suggest brain atrophy
- degree of brain damage (temporal and frontal lobes) correlated with severity of negative symptoms
- frontal lobes seem particularly affected

SCHIZOPHRENIA IN IDENTICAL TWINS



MRI scans of 28-year-old male identical twins showing the enlarged brain ventricles in the twin with schizophrenia (right) compared to his well brother (left).

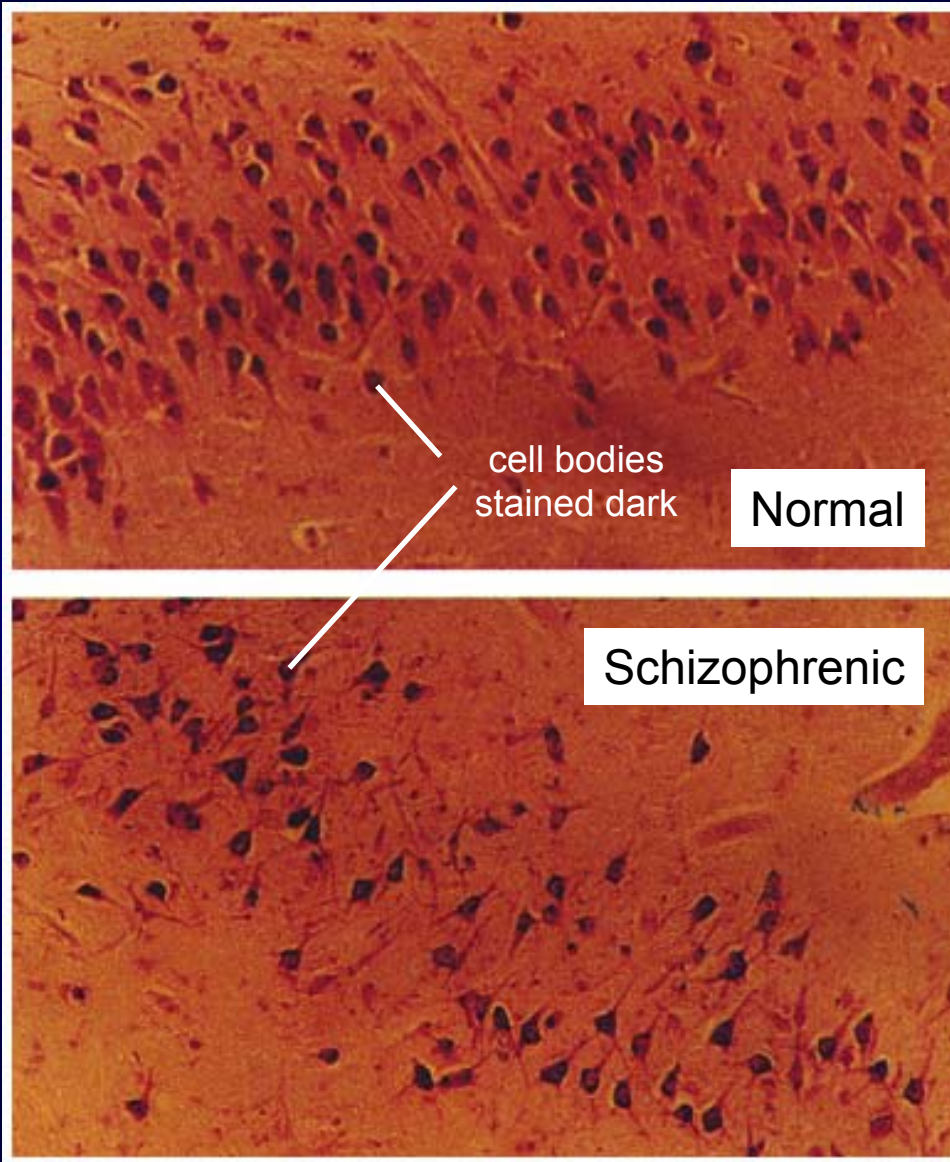
Seasonality Effect



- viral infection hypothesis
 - exposure to viruses during second trimester disrupts neuronal migration
- schizophrenia does not become expressed until late adolescence or early adulthood
 - effect of neural pruning?

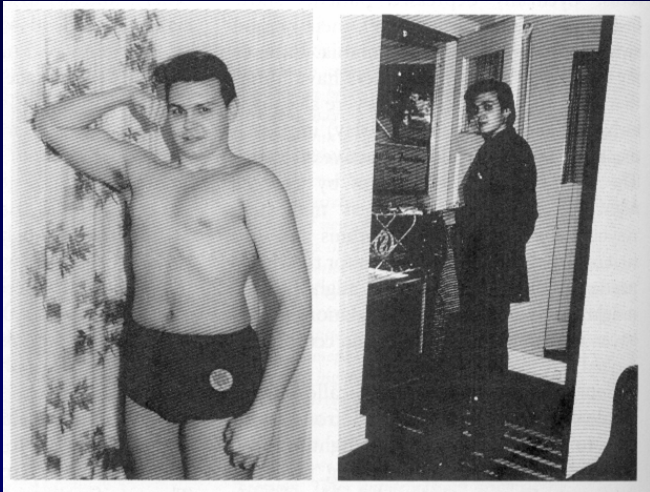
Disrupted Neural Organization

- See movie



Hippocampal neurons

Video: To think about...



- What signs of schizophrenia can you observe in Gerry and the other schizophrenics portrayed in the video? Does Gerry clearly fit one of the categories of schizophrenia (paranoid, catatonic, disorganized) or does it seem like the undifferentiated type? Why is Gerry called “a textbook case”?
- What is the “Rule of Thirds”?
- Schizophrenia is the most bizarre mental disorder. At times, it can even seem funny. But what would it be like to have a schizophrenic in your family? What would it be like to be schizophrenic?
- How have the notions of nature vs. nurture in schizophrenia changed over the years?
- How successful has psychotherapy been at treating the disease? How successful have antipsychotic drugs been?
- Did Gerry and the others always show signs of schizophrenia?
- How is the hippocampus thought to be affected in schizophrenia?

