

Psychopathology

Intro Psychology
Georgia Tech
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Today

- Definitions
- Classifications
- Diagnosis
- Some examples: schizophrenia, mood disorders
- Treatment
- Issues

Mental Disorder

- “Non-normal” behavior existed long before “psychology”, “psychiatry”, etc.
 - e.g. Ajax, King Saul, Nebuchadnezzar
- Conceptions of “disorder”
 - Depends on the cultural context
 - Possession
 - Hysteria (related to uterus, related to trauma, etc.)
 - Illness of Mind
 - Illness of Body
 - Illness of Brain

Issues

- What is “normal”?
- Medical definition of *healthy*
- Cultural-statistical model of *normal* or statistically *typical* ?

Causes of Illness

- Single-pathology models
 - Biomedical cause, psychodynamic source, learning, etc.
- Multi-causal models (currently favored)
 - **Diathesis-Stress Model** – basic genetic predisposition exists, but disorder is brought on or activated by situational forces

Categories of Illness

- Emil Kraepelin - classification of “schizophrenia” and “manic-depressive psychosis”
 - Showed there are clusters of non-normal behavior (not all mental illness is the same)
- Lots of other categories (especially now!)
- Need for standardization (?)
- *Use of standardized tests like MMPI became both necessary and popular*

Diagnostic and Statistical Manual for Mental Disorders, 4th edition (DSM-IV)

- How to categorize essentially every person, every cluster of behavior
- Benefits? Issues? Problems?

The Diagnostic and Statistical Manual of Mental Disorders (DSM) is the standard classification of mental disorders used by mental health professionals in the United States. It is intended to be applicable in a wide array of contexts and used by clinicians and researchers of many different orientations (e.g., biological, psychodynamic, cognitive, behavioral, interpersonal, family/systems). DSM-IV has been designed for use across settings, inpatient, outpatient, partial hospital, consultation-liaison, clinic, private practice, and primary care, and with community populations and by psychiatrists, psychologists, social workers, nurses, occupational and rehabilitation therapists, counselors, and other health and mental health professionals. It is also a necessary tool for collecting and communicating accurate public health statistics. For each disorder included in the DSM, a set of diagnostic criteria that indicate what symptoms must be present (and for how long) in order to qualify for a diagnosis (called inclusion criteria) as well as those symptoms that must not be present (called exclusion criteria) in order for an individual to qualify for a particular diagnosis. Many users of the DSM find these diagnostic criteria particularly useful because they provide a compact encapsulated description of each disorder. Furthermore, use of diagnostic criteria has been shown to increase diagnostic reliability (i.e., likelihood that different users will assign the same diagnosis). However, it is important to remember that these criteria are meant to be used as guidelines to be informed by clinical judgment and are not meant to be used in a cookbook fashion.



Schizophrenia

- “Fragmentation of the mind”
 - (Not “split personality”)
- Term coined by Eugene Bleuler (1911)
 - Wished to emphasize it was a cognitive disorder in which the fabric of thought and emotion was torn or fragmented, and normal connections or associations were no longer present.

Symptoms

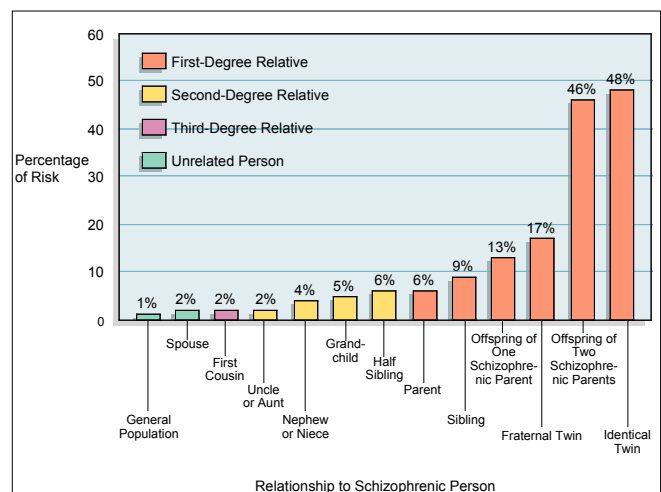
- Positive symptoms
 - Hallucinations: Hearing (!), seeing, tasting, touching, smelling things that others do not.
 - Delusions: False beliefs or misinterpretations of events (often overly self directed)
 - Thought disorder: thought content not abnormal but lacking coherence, idiosyncratic linkages, etc

Symptoms

- Negative
 - Social withdrawal: loss of contact with others
 - Loss of motivation
 - Emotional flattening
 - Poverty of speech
 - Attentional impairment
 - Anhedonia: nothing gives pleasure

Schizophrenia

- Subtypes
 - **Paranoid Schizophrenia** – delusional
 - **Catatonic Schizophrenia** – catatonia – flat affect



Schizophrenia

– Psychogenic Causes

- Environment Stress – Social Class – more likely at bottom of SES (why?...)
- Pathology in the family – pattern of family relationships is Inconsistent – once thought to be cold, rejecting, dominating Mother and weak, detached father – that may not be the case
- Tends to be more conflict – may be result not cause

Course: Age of onset

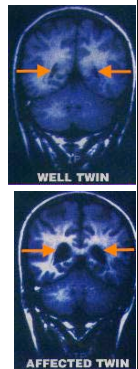
- 75% of all cases begin in 16-25 age group, Uncommon after age 30, rare after 40
- Age of onset for men about 5 years younger than women

Course: Outcomes

- Rule of thirds
 - 1/3 of patients recover either entirely or mostly
 - 1/3 of patients will be impaired but respond to treatment and can live in community
 - 1/3 of patients will be severely impaired more or less continuously from disease onset.

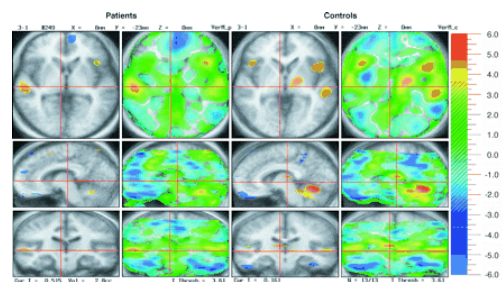
Neuroanatomical Deficits

- Increased ventricle volume (decreased brain volume)
- Limbic System - potential site for pathology for majority of patients.
- Hippocampus is smaller in the affected twin. Disorganization of neurons in this region was reported. Temporal activation during cognitive activity is also different
- Frontal Lobes and basal ganglia
 - Cells missing, abnormal "wiring"
 - Leads to awkward gait, facial grimacing, and stereotypes.



“Distributed Cause” Perspective

Circuit disturbance rather than specific cerebral localized dysfunction is involved in schizophrenia. Symptoms of schizophrenia arise from impaired connectivity between different brain regions as a consequence of some neurodevelopmental defects (fig. on next slide)



The functional circuits used by healthy volunteers (two columns at right) and by schizophrenic patients (two columns at left) during practiced recall of complex narrative material are shown as visualized with PET. The images show the components engaged in coordinating cognitive processes through prefrontal-thalamic-cerebellar circuitry.

Treatment: Antipsychotic Meds.

- Treat “positive” symptoms
 - Also known as *neuroleptic drugs*
 - Produce side effects similar to neurological disorders
 - *Extrapyramidal effects*: movement symptoms such as Parkinson’s-like shaking, *tardive dyskinesia*
- Thorazine (chlorpromazine)
 - Originally used to calm patients prior to surgery
- Haldol (haloperidol)

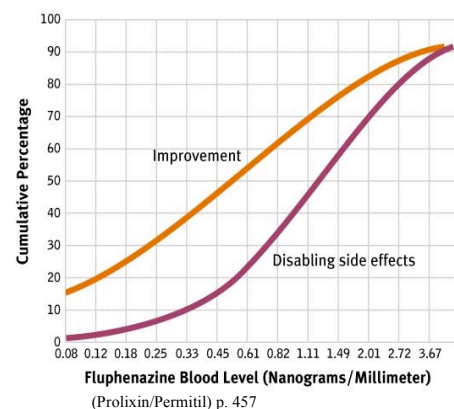
Atypical (Modern) Antipsychotics

- Treat both “positive” and negative symptoms
- Fewer side effects:
 - Abilify (aripiprazole), Risperdal (risperidol), Clozaril (clozapine), Zyprexa (olanzapine)

http://www.healthyplace.com/Communities/Thought_Disorders/schizo/medications/index.asp

Biological Finding

- The Dopamine Hypothesis: Disturbed functioning in dopamine system (i.e., excess dopamine activity at certain synaptic sites)
- Supportive evidence: phenothiazines reduce dopamine activity and psychotic symptoms are reduced; L-dopa and amphetamines increase dopamine activity and can produce psychotic symptoms



Problems With Understanding Causes and Treatments

- A large minority of people with schizophrenia are not responsive to antipsychotic medications affecting dopamine.
- Other effective medications (Clozapine) work primarily on serotonin, rather than dopamine, system.
- Antipsychotic drugs block dopamine receptors quickly, but relief from symptoms is not seen for weeks.

Mood Disorders

Broad Types of Mood Disorders

- 1) Depression (or major depressive episode)
 - Depression is reflected in a depressed or sad mood state coupled with feelings of worthlessness, pessimism, altered sleep and appetite, and the inability to experience pleasure.
- 2) Mania
 - Mania-euphoric state in which there is elation, strong sense of pleasure, grandiosity, and hyperactivity.

Major Depressive Disorder (MDD) DSM-IV Criteria

- Five or more of the following present during the same 2 week period, reflecting a change from previous functioning, AND, 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, feeling sad or empty.
 2. diminished interest or pleasure in almost all activities most of the day
 3. weight loss or weight gain (5% in a month) or appetite change.
 4. insomnia or hypersomnia
 5. psychomotor agitation or retardation.
 6. fatigue or loss of energy
 7. feelings of worthlessness or guilt
 8. diminished ability to think or concentrate, and
 9. recurrent thoughts of death, suicidal ideation without a plan, or a suicide plan or attempt.Symptoms are not the result of bereavement, substance abuse, or medical condition.

Depressive Disorders

- MDD may occur in a single episode, or it may be characterized as recurrent.
- 80% of single episodes eventually result in a second episode. Thus, unipolar depression is best characterized as a chronic condition. Median lifetime number of episodes is four; average duration is five months.

Course of Depression

- Mean age of onset is 25 for MDD.
- Incidence of depression appears to be increasing (but may be an awareness issue).
- Length of episodes is typically two weeks to 9 months if untreated.

Prevalence of Mood Disorders

- Somewhere between 7.9 % and 19 % of the population have had a mood disorder of some sort.
- Women are twice as likely to have a mood disorder such as major depression.
 - (Sources, causes?)

Causal Factors

- Biological dimensions clearly play a role:
 - 1) Family studies indicate that rates in relatives of patients is 2-3 times greater than in relatives of controls without mood disorders.
 - 2) Twin studies: if one twin presents with a mood disorder, an identical twin is 2-3 times more likely than a fraternal twin to have a mood disorder. This is especially true for Bipolar disorder.

Biological Causal Factors

- Serotonin is implicated, but may be in relation to other neurotransmitters.
- Balance of neurotransmitters is the key, not any one neurotransmitter in isolation.
- Cortisol, a stress hormone, has been implicated.
 - With higher levels of stress, cortisol goes up; it is clear in depressed patients that cortisol levels are elevated (causation?).

Treatment - Depression

- Pharmacological
 - selective serotonin reuptake inhibitors (SSRI) - extremely effective, wide range with slight variation in nature of effect (and side effects)
 - Prozac, Zoloft, Paxil, Luvox, Celexa
 - Tricyclics and MAO Inhibitors - older, more side effects, occasionally used if SSRIs don't work

See: <http://www.healthyplace.com/communities/depression>

Treatment - Depression

- Therapy
 - Interpersonal therapy is also generally effective
- Combined therapy and medication
 - slightly more effective than either alone
 - significantly more effective for prevention of relapse

(Many) Other Categories...

- Anxiety disorders
 - Including phobias
 - Obsessive-compulsive disorder
 - Note: Howard Hughes--see *The Aviator* DVD extras
 - Generalized Anxiety
- Post-Traumatic Stress Disorders
- Dissociative Disorders
- Somatoform Disorders

Social Deviance

- Pathology vs. crimes (?)
- Antisocial personality disorder (psychopathy)

Some Final Thoughts

- Diagnosis = medical, legal, moral, cultural expediency
 - A rush to diagnose everyone, everything
- Led to overdiagnosis, overtreatment, overmedication, and **also** undertreatment at the same time
 - Why?
- Diagnosis Boomerang
 - Emptied the mental hospitals into the streets, now those people are criminals (i.e., the problem of the police, not the medical community)
 - See the *Inside Bellevue* video

Upcoming

- Final Exam
- Extra Credit - can still participate in experiments (today!)