Abnormal Psychology

Schizophrenia Spectrum Disorders: Pt II

Psychology 3303

Professor June Gruber
“There’s a tremendous need to implode the myths of mental illness, to put a face on it, to show people that a diagnosis does not have to lead to a painful and oblique life… We who struggle with these disorders can lead full, happy, productive lives, if we have the right resources.”

-Elyn Saks
Roadmap

TUES
- Logistics
- Schizophrenia
- Emotions in Schizophrenia
- Take-Away Questions

THURS
- Logistics
- Theories & Treatments
- Other Psychotic Disorders
- Take-Away Questions
**Roadmap**

**TUES**
- Logistics
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Logistics

Exam 2 - Next Tuesday 3/19, 9:30am
Similar Format as Exam #1
Bring a Pen
Exam 2 - Special Accommodations

MUEN E021, 3/19

Proctored by Graduate TA (Prof in Class for Questions)

RECEIVE EMAIL: If you have not, you must before attending this special accommodations exam.
Exam 2 - Review & Q/A Opportunities

1 - REVIEW SHEET
Handed out in class Tuesday, posted on course website

2 - OFFICE HOURS
Tues & Thurs 11-12 (this week)

3 - EMAIL QUESTIONS
Must Email by 5pm Mon 3/18 - Plan in Advance!
Ask Specific Questions (not “what do I need to know” about this term)

4 - LAST MINUTE QUESTIONS
Exam Review Qs: MONDAY 3/18 5:00-6:00PM (Canvas “Chat”)
QUESTIONS?
A tale of mental illness — from the inside
Roadmap

Logistics

Theories & Treatments

Other Psychotic Disorders

Take-Away Questions
THEORIES OF SCHIZOPHRENIA
1. Neurotransmitter Theories
1. Neurotransmitter Theories

- Imbalances in levels of or receptors for dopamine cause symptoms; serotonin, GABA, and glutamate may also play roles.
1. Neurotransmitter

**Theories**

Dopamine most consistently implicated in Schizophrenia

- May be unusually high activity in mesolimbic pathway (in blue)
- May be unusually low activity in prefrontal area
2. Structural

Brain Abnormalities
2. Structural Brain Abnormalities

- Enlarged ventricles, reduced volume, and neuron density in frontal cortex, and other brain abnormalities linked to cognitive and emotional deficits.
2. Structural

**Brain Abnormalities**

MRI Scans of 28-year old male identical twins showing **enlarged brain ventricles** in the twin with schizophrenia (bottom) compared to his well brother (top).
3. Functional

Brain Abnormalities
3. Functional Brain Abnormalities

Reductions in area and activity of **prefrontal cortex**

Area of brain involved in planning and organizing of speech and behavior, language, emotional expression, social interactions
3. Functional Brain Abnormalities

**Hippocampus**
- Show several abnormalities in volume, shape, and level of activity

**Amygdala**
- Emotion and cognition
- Abnormal activity in response to emotionally evocative stimuli

**Basal Ganglia**
- Implicated in catatonic behaviors
3. Genetic
3. Genetic

- Family, twin, and adoption studies indicate a genetic component to schizophrenia, or at least a vulnerability to schizophrenia.
Family history and twin studies clearly show evidence that genetic factors contribute. Specific genes involved likely to include those that affect dopamine.
Epigenetics: DNA can be chemically modified by different environmental conditions, resulting in genes being turned on or off, and as a result, cells, tissues, and organs being altered in their development.
3. Genetics

**Epigenetics.** MZ twins discordant for schizophrenia showed numerous differences in the molecular structure of their DNA, particularly on genes regulating dopamine systems, compared to MZ twins concordant for schizophrenia.
4. Birth and Prenatal Complications
4. Birth and Prenatal Complications

People with schizophrenia show higher rates of several birth complications, especially hypoxia.

Schizophrenia rates higher among persons whose mothers exposed to influenza virus while pregnant.

Higher average paternal age in people with schizophrenia.
5. Stress
May contribute to relapse

Family-related stress may be especially important

- **Expressed emotion** - family members over-involved with one another, self-sacrificing while also being critical and hostile

- Associated with greater relapse in schizophrenia
TREATMENTS
1. Psychological Treatments

Behavioral & Cognitive

- Gently challenging cognitive distortions or delusions
- Recognition of demoralizing attitudes toward their illness
- Operant conditioning (reinforce adaptive behaviors)
- Token economies

Social and Family

- Family Therapy (e.g., targeting Expressed Emotion)
- Self-help groups
2. Pharmacological Treatments

<table>
<thead>
<tr>
<th>Antipsychotic drugs (typicals)</th>
<th>Antipsychotic drugs (atypicals)</th>
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<tbody>
<tr>
<td>• <strong>Examples</strong>: Phenothiazines (e.g., Stelazine, Mellaril, Prolixin), Butyrophenones (e.g., Haldol), Thioxanthenes (e.g., Navane)</td>
<td>• <strong>Examples</strong>: clozapine, risperidone, olanzapine.</td>
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<tr>
<td>• More effective on positive than negative symptoms</td>
<td>• <strong>Side effects</strong>: Sexual dysfunction, low blood pressure, weight gain, seizures, problems with concentration, <strong>Agranulocytosis</strong> - deficiency of substances produced by bone marrow to fight infections</td>
</tr>
<tr>
<td>• <strong>Side effects</strong>: grogginess, dry mouth, blurred vision, sexual dysfunction, visual disturbances, weight change, motor disorders</td>
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Roadmap

Logistics

Theories & Treatments

Other Psychotic Disorders

Take-Away Questions
SCHIZOPHRENIA SPECTRUM & OTHER PSYCHOTIC DISORDERS

- Schizophrenia
- Schizoaffective Disorder
- Schizophreniform Disorder
- Brief Psychotic Disorder
- Delusional Disorder
Schizoaffective Disorder

Recurring episodes of mood disorders and psychosis

A. An uninterrupted period of illness during which there is either a major depressive episode, a manic episode, or a mixed episode concurrent with Criterion A schizophrenia symptoms.

B. **Delusions or hallucinations** for at least **2 weeks without prominent mood symptoms**.

C. Symptoms that meet criteria for a mood episode are present for a substantial portion of the total duration of the active and residual periods of the illness.

D. Disturbance not due to direct physiological effects of a substance or general medical condition
SCHIZOPHRENIA SPECTRUM & OTHER PSYCHOTIC DISORDERS

- Schizophrenia
- Schizoaffective Disorder
- Schizophreniform Disorder
- Brief Psychotic Disorder
- Delusional Disorder
Schizophreniform

A. Characteristic symptoms: Two (or more) of the following, each present for a significant portion of time for a 1-month period (or less if successfully treated) but less than 6 months:

1. delusions
2. hallucinations
3. disorganized speech (e.g., frequent derailment or incoherence)
4. grossly disorganized or catatonic behavior
5. negative symptoms, i.e., affective flattening, alogia, or avolition

D. Schizoaffective and Mood Disorder exclusion

E. Substance/general medical condition exclusion
Brief Psychotic Disorder

A. SYMPTOMS: Presence of 1 (or more) of the following symptoms:
   1. delusions
   2. hallucinations
   3. disorganized speech (e.g., frequent derailment or incoherence)
   4. grossly disorganized or catatonic behavior

B. DURATION: of an episode of the disturbance is at least 1 day but less than 1 month, with eventual full return to premorbid level of functioning.

C. RULE OUT: The disturbance is not better accounted for by a Mood Disorder With Psychotic Features, Schizoaffective Disorder, or Schizophrenia and is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or General Medical Condition.
SCHIZOPHRENIA SPECTRUM & OTHER PSYCHOTIC DISORDERS

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Delusional Disorder

A. One or more delusions for at least 1 month.

B. Criterion A for Schizophrenia not met.

Note: Tactile and olfactory hallucinations may be present in Delusional Disorder if they are related to the delusional theme.

C. Functioning is NOT markedly impaired

D. If mood episodes have occurred concurrently with delusions, their total duration has been brief relative to the duration of the delusional periods.

E. Exclusion of substance or GMC.