Prevalence of Mood Disorders

• Children and Adolescents
  – Symptom presentations
    • Not as episodic
    • Less imbalance in gender
      – Slightly more in boys!
    • Bipolar is rare in childhood but increases in adolescence.

  – Misdiagnosis
    • ADHD
      – Because of aggression and destructiveness
    • Conduct disorder
Aspects of Mood Disorder Criteria that differ in Children

- **Major Depressive Disorder**
  - lower prevalence
  - **Irritability or aggression instead of depressed mood**
  - Eating: failure to achieve weight gain
  - Stronger association with aggression

- **Bipolar Disorder**
  - Chronic
  - Explosiveness
  - Most commonly similar to mixed state
  - Is this bipolar disorder?
Prevalence of Mood Disorders

• Among the creative
  – Higher prevalence
    • Melancholia
    • Mania
  – Manic and creativity or... Genes that predispose to bipolar are in some way related to creativity (reciprocal Gene x environment model).

<table>
<thead>
<tr>
<th>Poet</th>
<th>Pulitzer Prize in Poetry</th>
<th>Treated for Major Depressive Illness</th>
<th>Treated for Mania</th>
<th>Committed Suicide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hart Crane (1899–1932)</td>
<td>X</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Theodore Roethke (1908–1963)</td>
<td>X</td>
<td>×</td>
<td>×</td>
<td>X</td>
</tr>
<tr>
<td>Delmore Schwartz (1913–1966)</td>
<td>X</td>
<td>×</td>
<td>×</td>
<td>×</td>
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<tr>
<td>John Berryman (1914–1972)</td>
<td>X</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Randall Jarrell (1914–1965)</td>
<td>X</td>
<td>×</td>
<td>×</td>
<td>X</td>
</tr>
<tr>
<td>Robert Lowell (1917–1977)</td>
<td>X</td>
<td>×</td>
<td>×</td>
<td>X</td>
</tr>
<tr>
<td>Anne Sexton (1928–1974)</td>
<td>X</td>
<td>×</td>
<td>×</td>
<td>X</td>
</tr>
<tr>
<td>Sylvia Plath* (1932–1963)</td>
<td>X</td>
<td>×</td>
<td>×</td>
<td>X</td>
</tr>
</tbody>
</table>

*Plath, although not treated for mania, was probably bipolar II.
# Review

## Table 11.1: Disorders Chart - Mood Disorders

<table>
<thead>
<tr>
<th>Mood Disorder</th>
<th>Symptoms</th>
<th>Lifetime Prevalence (%)</th>
<th>Gender Difference</th>
<th>Age of Onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depressive Disorder</td>
<td>• Single episode: Single, major depressive episode</td>
<td>8.0–19.0</td>
<td>Much higher in females</td>
<td>Any age; average age in 20s</td>
</tr>
<tr>
<td></td>
<td>• Recurrent: Two or more major depressive episodes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>• Depressed mood that is chronic and relatively continual in nature</td>
<td>6.0</td>
<td>Much higher in females</td>
<td>Often starts in childhood or adolescence</td>
</tr>
<tr>
<td>Bipolar I Disorder</td>
<td>• Single manic episode</td>
<td>0.4–1.6</td>
<td>No major difference</td>
<td>Any age; usually in early 20s</td>
</tr>
<tr>
<td></td>
<td>• Most recent episode hypomanic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Most recent episode manic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Most recent episode mixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Most recent episode depressed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• More recent episode unspecified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bipolar II Disorder</td>
<td>• Recurrent major depressive episodes with hypomania</td>
<td>0.5</td>
<td>Higher in females</td>
<td>Any age</td>
</tr>
<tr>
<td>Cyclothymic Disorder</td>
<td>• Manic and depressed moods that are chronic and relatively continual in nature</td>
<td>0.4–1.0</td>
<td>No difference</td>
<td>Often starts in adolescence</td>
</tr>
</tbody>
</table>
Mood Disorders and Suicide

II
Overlap of Anxiety and Depression

• More alike than different
  Almost all depressed persons are anxious not all anxious persons are depressed

• Negative affect

• Core symptoms of depression
  – Anhedonia
  – Slowing
  – Negative cognitions
Depression and Anxiety: The Same Genes?

• Genes for negative affectivity?
• Shared genetic vulnerability
  – High familial heritability
  – Same genetic factors
  – General predisposition
  • Except mania?

So... If it is the same genes, then maybe what causes a different outcome is environment?
Environmental risk factors for mood and anxiety disorders

• **Anxiety** (anticipation of a threat)
  - Risk of loss of attachment figure
  - Physical jeopardy
  - Impending school transition
  - Taking an exam
  - Parental perfectionism

• **Depression** (Stressor already occurred, not future oriented): loss events
  - Loss of attachment figure
  - Serious illness to relative
  - Family discord: more for females?
  - Divorce: more for males?
  - Onset of parental depression
  - After a move
Environmental factors and cognitions distinguish anxiety and depression.
A theoretical pathway to comorbid anxiety and depression

- Common Genes
  - Negative Affect
    - Threat / Danger
      - Anticipatory Anxiety / Avoidance
        - No control
          - Hopeless / Helpless
            - Anxiety Disorder
            - MDD
          - MDD
        - MDD
      - MDD
    - MDD
  - MDD
- MDD
- MDD
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- MDD
- MDD
Causes of Mood Disorders

- Familial and Genetic Influences
  - Family Studies
    - Rate of family members having a mood disorder is 2-3x higher if they have a depressed relative than if they do not.
      » But is this because of environment?
  
  - Twin Studies in part control for environmental confound.
    - Because the disorder is present in identical twins to a much greater extent than in fraternal twins (sharing less genetic material or concordance), this suggest a strong heritability.
    - Bipolar (higher genetic influence)
    - Unipolar (40% women, 20% men): still leaves room for environment (up to 80%)

- Higher concordance with higher severity

- Higher heritability for females
Causes of Mood Disorders: Biological

- **Neurotransmitter Systems**
  - **Serotonin** – depression

  - We are more impulsive and have mood swings when serotonin is low, as this regulates DA and norepinephrine.

  - The “**permissive**” hypothesis (when serotonin levels are low other neurotransmitters are permitted to range more widely, becoming deregulated, and this contributes to mood irregularities including depression).

  - **Dopamine** - mania
Causes of Mood Disorders: Biological

- Endocrine System
  - “Stress hypothesis”
    - Overactive HPA axis
    - Neurohormones
    - Elevated cortisol
    - Suppressed hippocampal neurogenesis

- Dexamethasone suppression test (DST)
  - Suppresses cortisol secretion in healthy subjects
  - But, not in 50% of patients with DP
    - Adrenal cortex secreted enough cortisol to overwhelm suppressive effects of dexamethasone.
    - But, this is not specific to DP—it also is in anxiety disorder.
Causes of Mood Disorders: Biological

• Sleep and Circadian Rhythms
  – REM sleep
    • Reduced latency
    • Increased intensity
  – Decreased slow wave sleep
  – Sleep deprivation effects
    • Improves condition!
Causes of Mood Disorders: Psychological

- Stressful life events
  - Context
  - Meaning
  - Timing

- Recall bias

- Effects of stress
  - Poorer treatment response
  - Delayed remission
  - Trigger for episode or relapse
Causes of Mood Disorders: Psychological

- **Learned Helplessness (Seligman/Maier)**
  - Lack of perceived control

- **Depressive Attributional Style**
  - Internal
  - Stable
  - Global

- Also characterizes anxiety
Causes of Mood Disorders: Psychological

- **Sense of hopelessness**
  - Lack of perceived control
  - Will not regain control

- Pessimism
  - Causality?
  - Before or after?
Causes of Mood Disorders: Psychological

- **Negative Cognitive Styles**
  - Cognitive Theory of Depression (Beck)
  - Cognitive errors in depression
    - Negative interpretations
  
- Types of Cognitive Errors
  - Arbitrary inference
    - DP individual emphasizes negative rather than positive aspects
  - Overgeneralization
    - Teacher makes one comment critical and you assume you are a failure.
Causes of Mood Disorders: Psychological

- **Cognitive Theory of Depression (Beck)**
  - Negative schemas
  - Automatic thoughts

- Treatment implications
  - Correcting the errors
Causes of Mood Disorders: Psychological

• Cognitive Vulnerability for Depression
  – Pessimistic explanatory style
  – Negative cognitions
  – Hopelessness attributions

  – Interactions with:
    • Biological vulnerabilities
    • Stressful life events
Mood Disorders: Social and Cultural Dimensions

• Marriage and Interpersonal Relationships
  – Relationship disruption precedes depression
    • Females (21%)
    • Strongest effects for males 17% is 9x higher than those who stayed married.
    However...
    When ruling out history of DP, it stayed At 14% from men, and dropped to only 5% for women
  – Martial conflict vs. marital support
    • Can coexist
      – High conflict + low support is among the worst conditions
  – Gender differences in causal direction
    • Men get depressed and this causes withdraw and problems whereas women react to the declining relationship and feel depressed.
Mood Disorders: Social and Cultural Dimensions

• Mood Disorders in Women
  – Prevalence: Females > males
  – True for all mood disorders (similar to anxiety rates)
  • Except bipolar- evenly divided
**Mood Disorders in Women**

- Gender roles: 70% of depressed individuals are females
  - Perceptions of uncontrollability
  - Socialization
- Access to resources
- Emphasis on relationships
Mood Disorders: Social and Cultural Dimensions

• Social Support
  – Related to depression
    • 10% women with a close friend became DP whereas 37% without a friend did.
    • Based on interpersonal therapy philosophy, can anybody give me an alternative explanation?
  – Lack of support
    • predicts late onset depression
  – Substantial support
    • predicts recovery for depression (not mania)
Review

• **Generate an example of arbitrary inference?**
  
  *Bob got ten out of eleven right on the quiz. He is very upset about the missed item, and feels like a failure.*

• **Overgeneralization?**
  
  *Jen is afraid to talk to her professor because he commented three weeks ago that an answer she made was incorrect. She now feels like everything she says to him is idiotic and he thinks she is stupid.*

• What are the casual patterns in men and women for marriage problems and DP?
Treatment: Antidepressant Medications

- **Tricyclics (Tofranil, Elavil)**
  - Frequently used for severe depression
  - Work great for 50-70% of cases
  - Block reuptake/down regulate
    - Norepinephrine
    - Serotonin
  - 2 to 8 weeks to work
  - Many negative side effects
    - So many that people stop taking it
  - Lethality
Treatment: Antidepressant Medications

- **Monoamine Oxidase (MAO) Inhibitors**
  - Block MAO - the enzyme that breaks down norepinephrine and serotonin (5HTP)
  - Higher efficacy than TCAs
  - Specifically in atypical DP
  - Fewer side effects
  - Interactions
    - Foods
    - Medicines
  - Selective MAO-Is
- **Alcoholic beverages** - avoid Chianti wine and vermouth. Consumption of red, white, and port wine in quantities less than 120 mL present little risk (Anon, 1989; Da Prada et al, 1988; McCabe, 1986). Beer and ale should also be avoided (McCabe, 1986), however other investigators feel major domestic (US) brands of beer is safe in small quantities (½ cup or less than 120 mL) (Anon, 1989; Da Prada, 1988), but imported beer should not be consumed unless a specific brand is known to be safe. Whiskey and liqueurs such as Drambuie and Chartreuse have caused reactions. **Nonalcoholic beverages** (alcohol-free beer and wines) may contain tyramine and should be avoided (Anon, 1989; Stockley, 1993).

- **Banana peels** - a single case report implicates a banana as the causative agent, which involved the consumption of whole stewed green banana, including the peel. Ripe banana pulp contains 7 µg/gram of tyramine compared to a peel which contains 65 µg/gram and 700 µg of tyramine and dopamine, respectively (McCabe, 1986).

- **Bean curd** - fermented bean curd, fermented soya bean, soya bean pastes contain a significant amount of tyramine (Anon, 1989).

- **Broad (fava) bean pods** - these beans contain dopa, not tyramine, which is metabolized to dopamine and may cause a pressor reaction and therefore should not be eaten particularly if overripe (McCabe, 1986; Anon, 1989; Brown & Bryant, 1988).

- **Cheese** - tyramine content cannot be predicted based on appearance, flavor, or variety and therefore should be avoided. Cream cheese and cottage cheese have no detectable level of tyramine (McCabe, 1986; Anon, 1989, Brown & Bryant, 1988).

- **Fish** - fresh fish (Anon, 1989; McCabe, 1986) and vacuum-packed pickled fish or caviar contain only small amounts of tyramine and are safe if consumed promptly or refrigerated for short periods; longer storage may be dangerous (Anon, 1989). Smoked, fermented, pickled (Herring) and otherwise aged fish, meat, or any spoiled food may contain high levels of tyramine and should be avoided (Anon, 1989; Brown & Bryant, 1988).

- **Ginseng** - some preparations have resulted in a headache, tremulousness, and manic-like symptoms (Anon, 1989).

- **Protein extracts** - three brands of meat extract contained 95, 206, and 304 µg/gram of tyramine and therefore meat extracts should be avoided (McCabe, 1986). Avoid liquid and powdered protein dietary supplements (Anon, 1989).

- **Meat**, nonfresh or liver - no detectable levels identified in fresh chicken livers; high tyramine content found in spoiled or unfresh livers (McCabe, 1986). Fresh meat is safe, caution suggested in restaurants (Anon, 1989; Da Prada et al, 1988).

- **Sausage, bologna, pepperoni and salami** contain large amounts of tyramine (Anon, 1989; Da Prada et al, 1988; McCabe, 1986). No detectable tyramine levels were identified in country cured ham (McCabe, 1986).

- **Sauerkraut** - tyramine content has varied from 20 to 95 µg/gram and should be avoided (McCabe, 1986).

- **Shrimp paste** - contain a large amount of tyramine (Anon, 1989).

- **Soups** - should be avoided as protein extracts may be present; miso soup is prepared from fermented bean curd and contain tyramine in large amounts and should not be consumed (Anon, 1989).

- **Yeast**, Brewer's or extracts - yeast extracts (Marmite) which are spread on bread or mixed with water, Brewer's yeast, or yeast vitamin supplements should not be consumed. Yeast used in baking is safe (Anon, 1989; Da Prada et al, 1988; McCabe, 1986).
Treatment: Antidepressant Medications

- **Selective Serotonin Reuptake Inhibitors**
  - Fluoxetine (Prozac)
  - First treatment choice
  - Block presynaptic reuptake
  - No unique risks
    - Suicide or violence
  - Delay
  - Many negative side effects
    - Sexual dysfunction in 50-75%
  - Suicidality debate
Treatment: Antidepressant Medications

- Other medications
  - Venlafaxine
    - Similar to tricyclics
    - Reduces risk of cardiovascular damage
  - Nefazodone
    - Similar to SSRIs
    - Improves sleep efficiency
  - St. John’s Wort
    - Questionable efficacy
• Multiple antidepressant prescription:
  – Some drugs may work for some and not others
  – SSRIs help **alleviate symptoms in 50% (favorable response)** but only “cure” 25% (complete remission)

• Other issues
  – Efficacy in special populations
    • Children
    • Elderly
    • Expecting mothers
  – Preventing relapse
  – Maintaining benefits

Antidepressants can also trigger mania
Treatment of Mood Disorders: Lithium

• Most Common Problem: They don’t want to take it because they miss or enjoy the mania.
• Common salt
• Primary treatment for bipolar disorders
  – 50% respond (a significant reduction 50% in mania)
  – May help in prevention of future episodes in over 60% of patients
• Unsure of mechanism of action
• Narrow therapeutic window
  – Too little – ineffective
  – Too much – toxic, lethal
Electroconvulsive Therapy

- Brief electrical current – less than 1 second.
- Temporary seizures
- 6 to 10 treatments

- High efficacy
  - Severe depression in patients who medications don’t work well for

- Few side effects

- Relapse is common (60%) so treatment with psychotherapy and SSRIs is also necessary
Links

- [http://www.youtube.com/watch?v=FkBqOKZiKRA](http://www.youtube.com/watch?v=FkBqOKZiKRA)
- [http://www.5min.com/Video/The-Relationship-Between-Creativity-and-Depression-303383930](http://www.5min.com/Video/The-Relationship-Between-Creativity-and-Depression-303383930)
- [http://www.msnbc.msn.com/id/21134540/vp/37024358#37024358](http://www.msnbc.msn.com/id/21134540/vp/37024358#37024358)