Bipolar Disorder

Manic Episode
A distinct period of abnormally and persistently elevated, expansive, or irritable mood lasting at least one week and including at least three of the following:
• inflated self-esteem or grandiosity
• decreased need for sleep
• pressure of speech
• flight of ideas (thoughts racing one after another)
• distractibility
• increase in goal-directed activity or psychomotor agitation
• excessive involvement in pleasurable activities with potential for negative consequences

Hypomanic Episode
less severe symptoms
shorter duration (4 days)
no suicidal ideas
Features Associated with Hypomania

- vividness of sensory perceptions
- increased activation of associational networks
- clarity of thought
- facility for rhyming and alliteration
- seemingly unbounded energy and enthusiasm
- feelings of wellbeing and expectation
- increased personal charisma
- sexual attractiveness
- dramatic gestures and vocalizations
- feelings of oneness with the universe
- feelings of invincibility
- may rapidly change from magnanimous to angry

Mixed Episode

Criteria for both mania and depression are met in the same episode (lasting at least one week)

May evolve out of either a manic or a depressive episode or may arise de novo

Usually includes agitation, insomnia, appetite dysregulation, psychotic features, and suicidal thinking

Often requires hospitalization

Bipolar I Disorder

- manic episodes or mixed episodes
- usually includes depression

Bipolar II Disorder

- hypomanic episodes alternating with depressive episodes

(Bipolar sufferers typically have 8-12 mood disturbances over lifetime)

Rapid Cycling

- at least four episodes of mood disturbance within 12 months
- more common in women (70-90% rapid cyclers are women)
Two Possible Subtypes

*Paranoid/Destructive*
Primarily mixed episodes cycling with depression
“Black” mania

*Euphoric/Grandiose*
Primarily manic episodes cycling with depression
“White” mania

Additional Subtypes of Bipolar
*(Not Recognized by DSM IV)*

- **Bipolar III** cyclothymia
- **Bipolar IV** antidepressant-induced hypomania
- **Bipolar V** the individual meets the diagnostic criteria for major depression and there is a family history of Bipolar Disorder
- **Bipolar VI** the individual meets diagnostic criteria for manic episodes, but not any of the depressive conditions

*Leslie E. Packer, PhD, 2006*

Bipolar Disorder

- episodes tend to come closer together over time
- typical age of onset is 18-22 but can occur at any time
- childhood onset may involve hyperactivity, temper tantrums, hypersexuality
- on average it takes people with bipolar disorder 8 years to get proper diagnosis
Genetics and Bipolar Disorder

**Family Studies**

- 1st degree relative of bipolar proband more likely to have either bipolar or unipolar depression

**Twin Studies**

- MZ concordance = 69%, DZ concordance = 19%
- Offspring of twins discordant for bipolar
  (Bertelson & Gottesman, 1986)

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<thead>
<tr>
<th></th>
<th>MZ</th>
<th>DZ</th>
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<tr>
<td>affected</td>
<td>21% BP</td>
<td>14% BP</td>
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<tr>
<td>unaffected</td>
<td>25%BP</td>
<td>2%BP</td>
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**Adoption Studies**

- higher rate of affective disorder (both Bipolar (24%) and unipolar (12)) in bio parents of probands vs adoptive parents

**Conclusion:** There is a very strong genetic component in bipolar disorder

Bipolar Disorder

**Structural and Functional Findings**

- hyperintensities in periventricular areas (in white matter)
- abnormalities in basal ganglia involving dopamine transmission
- higher glucose metabolism in basal ganglia
- abnormalities in left (DLPFC) involving glutamate
- increased number of G-proteins in untreated patients
Etiology of Bipolar Disorder

1) neurotransmitter dysregulation
2) Calcium channel abnormalities
3) G-protein abnormalities

Possible Triggers for Manic Episodes

• seasonal (summer)
• sleep deprivation
• circadian rhythm changes (travel, etc)
• bright light therapy
• antidepressant medication
• stimulant drugs
• thyroid gland dysfunction

Treatments for Bipolar Disorder

*Mood Stabilizers*

• lithium
• valproate (Depakote)
• carbemazepine (Tegretol)

*Neuroleptics* (e.g., haldol) when psychotic symptoms are present

*Antidepressants* (in conjunction with lithium)

*Omega-3 fatty acids*
Treatments for Bipolar Disorder

Cognitive Behavioral Therapy
- compliance with medication protocol
- damage control
- fear of future episodes
- self esteem
- family education

Psychosocial factors may contribute 25-30% of outcome variance in BD

Bipolar Disorder is a lifetime disease. There is no cure. The risk for suicide is great. In order to survive, those with Bipolar must remain on unpleasant medications.

Creativity and Psychopathology
<table>
<thead>
<tr>
<th>Michelangelo</th>
<th>Dostoevsky</th>
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<tbody>
<tr>
<td>Vincent van Gogh</td>
<td>Tolstoy</td>
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<td>Cezanne</td>
<td>Faulkner</td>
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<td>Shelley</td>
<td>Nietzsche</td>
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<td>Keats</td>
<td>William James</td>
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<td>Lord Byron</td>
<td>Isaac Newton</td>
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<td>Samuel Taylor Coleridge</td>
<td>Nikola Tesla</td>
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<td>Hemingway</td>
<td>Virginia Woolf</td>
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<td>Herman Hesse</td>
<td>Sylvia Plath</td>
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<td>Tchaikovsky</td>
<td>Anne Sexton</td>
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<td>Wagner</td>
<td>John Forbes Nash</td>
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<td>Schumann</td>
<td>Charles Parker</td>
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<tr>
<td>Edgar Allan Poe</td>
<td>Jackson Pollock</td>
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<tr>
<td></td>
<td>Kurt Cobain</td>
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</tbody>
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Creative genius has been associated with three types of psychopathology:

- mood disorders
- psychosis and psychosis-proneness
- alcohol/drug abuse
  (and sometimes OCD)

**Historical Perspective**
Plato
creativity is a
“divine madness…
a gift from the gods”

Aristotle
“No great genius was without
a mixture of insanity”
“…all men who have become
outstanding in poetry and the
arts are melancholic..”

The Renaissance
“Pazzia” (as a descriptor of
great artists) includes:
• eccentricity
• sensitivity
• moodiness
• solitariness

The “artistic temperament”

Michelangelo

Romantic Period
• music, literature, art focused on emotional
rather than intellectual content
• importance of mysticism, dreams, supernatural
• creativity associated with nonrational process
• best work at the border of sanity/insanity
• *The Proud Badge of Affliction*
  Romantic poets embodied the concept of the
  “troubled spirit” and creativity
Genius and Degeneracy

Nisbet (1912)
related genius to:
vanity
sexual passion
gout
hallucinations
“ne’er-do-wellism”
odd skull shape
opium eating

Modern Research on the Link Between Creativity and Psychopathology

“Creativity and Mental Illness: Prevalence Rates in Writers and Their First-Degree Relatives”
Nancy C. Andreasen (1987)

Sample: - 30 writers from University of Iowa Writers Workshop
- 30 controls matched for socio-demographics
- first-degree relatives

Method: - diagnosis of writers and controls based on current criteria for mental disorders
Review of Findings

• writers were 3 times more likely to have mood disorder
  4 times more likely to have bipolar disorder
  4.5 times more likely to be alcoholic

• both creativity and mood disorders seem to run in families

“Affective disorder may be both a ‘hereditary taint’ and a hereditary gift”
- Andreasen

“Mood Disorders and Patterns of Creativity in British Writers and Artists”
Kay Redfield Jamison (1989)

Purpose: - to ascertain rates of treatment for affective illness in a sample of eminent British writers and artists
- to examine seasonal patterns of moods and productivity
- to inquire into the role of very intense moods in writers’ and artists’ work

Sample: 47 British Commonwealth artists and writers who had won high medals or awards

Findings

• 16% poets treated for bipolar illness
• 55% poets treated for a mood disorder
• 62% playwrights treated for a mood disorder
• periods of high creative productivity roughly corresponded with hypomanic mood
• 60% of subjects felt that moods were integral and necessary or very important to their creativity
“Creativity in Manic-Depressives, Cyclothymes, Their Normal Relatives, and Control Subjects”  
*Ruth Richards and Dennis Kinney et al (1988)*

Sample: 17 manic depressive  
16 cyclothymic  
11 normal first-degree relatives of manic depressives  
33 controls

Method: All subjects were tested for creativity using the Lifetime Creativity Scale (LCS)

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**Findings**

![Creativity Scores Graph](image)

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“Creative Achievement and Psychopathology: Comparison Among Professions”  
*N. Ludwig (1992)*

Sample: All individuals whose biographies were reviewed in the *New York Times* Book Review section between 1960 and 1990  

\[ n = 1,006 \]

Subjects were divided into 19 professions

Method:  
- Creativity ratings were based on Creative Achievement Scale (CAS)  
- Psychopathology ratings were based on symptom clusters described in the *ICD-9*
Findings

- significantly higher rates for psychopathology and treatment among persons in the creative arts
- patterns of psychopathology in creative arts were different than in other professions with creative arts showing earlier pathology
- Total lifetime Depression scores were found to significantly predict the level of creative achievement across all professions

How Do Mood Characteristics and Creativity Interact?

Interaction Between Mood Symptoms and Creativity

I. Mania
   A. Cognitive/Perceptual effects
      Increased ability to concentrate
      Grandiosity
      Increased vividness of perception
      Flight of ideas (unusual associations)
      phonological and semantic
   B. Practical (productive)
      decreased need for sleep
      increased energy
      increased goal-directed activity
II. Depression

“What mania creates depression edits”
(reality-based mentation)

Depression as inspiration and subject matter

Creativity as therapy to ward off depression and overcome it

Conclusions

• creative individuals are at greater risk for certain types of psychopathology than the general public, especially mood disorders

• in small amounts, psychopathology may be beneficial to creative endeavors

Schizospectrum Phenomena and Creativity
Eccentricity is: “essential for the health of the social organism, for it provides the variety of ideas and behavior that permits the group to adapt successfully to changing conditions. All intellectual evolution depends on new ideas; they are the essence of science, of exciting new art, indeed of all intellectual progress.”

- David Weeks

Eccentrics: A Study of Sanity and Strangeness

Anecdotal Evidence for Schizotypal/Psychotic Behavior in Luminaries of the Past

Schumann
William Blake
Nikola Tesla
Charles Dickens
Beethoven

Is it possible for schizophrenic individuals to produce meaningful creative work?

Schizophrenics (according to Prentky, 1989)
Issac Newton
Guy De Maupassant
Robert Schumann
Copernicus
Descarte
John Forbes Nash

Psychotics (according to case studies)
Andy Warhol
Anne Sexton
Rodin
Charlie Parker
Basquiat
John Forbes Nash
Rene Magritte
Salvador Dali
Van Gogh
Virginia Woolf
Mozart
### Psychosis-Proneness

- member of the normal population
- may be very high-functioning
- score high on psychometric measure of schizotypy
  - magical ideation
  - unusual perceptual experiences
  - paranoid ideation
  - disorganized thinking

We will alternately refer to psychosis-proneness as “schizotypy”

### Some Common Examples of Psychosis-Proneness

- **unusual perceptual experiences**
  - déjà vu
  - feelings of presence
  - hearing things “in the wind”
  - shapes that take on significance

- **unusual beliefs** (magical ideation)
  - telepathy
  - meaning of dreams
  - meanings in the arrangement of things

### High Creative Achievers Endorsed the Following Schizotypal Traits

- Feelings of derealization
- Flight of ideas
- Sees shapes and forms in the dark even though nothing is there
- Sense of smell unusually strong
- Feelings of premonition*
- Vivid dreams disturb sleep
- Vague feelings of danger or sudden dread
- Mistakes nondescript noises for people talking
- Experiences déjà vu
- Experiences thoughts so strong they can almost be heard
- Experiences telepathic communication with another person
Comparison of Psychosis-Proneness Scores of Artists and Controls

A Model For the Interface of Creativity and Psychopathology?

Interface Between Creativity and Psychopathology

Shared Genetic Predisposition
Creativity and Reduced Latent Inhibition

LATENT INHIBITION

- Latent Inhibition (LI): the varying capacity of the brain to screen from current attentional focus stimuli previously experienced as irrelevant.
- Acts as a filter to screen stimuli that is currently irrelevant to goal activity from awareness
- Attenuated LI associated with schizophrenia and schizotypal personality disorder
- Attenuated LI may also be associated with Originality by overinclusive activation of associational networks

[This concept was originally suggested by Hans Eysenck in 1995]
Analysis of Eminent Achievers

Subjects:
- 21 Eminent Achievers
  - score of 12+ in a single CAQ domain
  - IQ >120
- 21 Controls
  - CAQ score < 5
  - IQ >120

All subjects took IQ tests, LI tests, and the CAQ.

Eminent achievers were 6 times more likely to have low rather than high LI scores.

CAQ Scores of High/Low LI and High-Moderate IQ Groups in Pooled Eminent and Control Subjects

\( (F(2,45) = 9.55, \ p = .0003, \ R^2 = .30) \), with LI scores alone accounting for 19% of the total CAQ variance.
Conclusions about Latent Inhibition

• Reduced latent inhibition (LI) appears to act as a predisposing factor for both psychosis and creativity

• IQ acts as a creativity-enhancing factor when combined with reduced LI

Conclusions

• latent inhibition may be disrupted in individuals with high psychosis-proneness

• in the presence of protective factors, such as high IQ, psychosis-proneness may confer an advantage in increased ability to make novel and original associations that may lead to creative achievements that benefit all of humankind