Clinical Assessment and Diagnosis
Assessing Psychological Disorders

• Purpose
  – Understanding the individual
  – Predicting behavior
  – Treatment planning
  – Evaluating outcomes

• Funnel Analogy
  – Broad, multidimensional start
  – Narrows to specific problems
Assessing Psychological Disorders

• Clinical Assessment
  – Systematic evaluation and measurement
    • Psychological
    • Biological
    • Social

• Diagnosis
  – Degree of fit between symptoms and diagnostic criteria
Key Concepts in Assessment

• **Reliability**
  – Measurement consistency
  – “Agreement”
  – Several types:
    • **Test-retest**
    • **Inter-rater**
Key Concepts in Assessment

• **Validity**
  – Does the test measure what it’s supposed to?
  – Several types:
    • *Concurrent and discriminant*
    • *construct*
    • *predictive*
    • *face validity*
Key Concepts in Assessment

- **Standardization**
  - Consistent use of techniques
  - Provides normative population data

- Examples
  - Administration procedures
    - Chunking
  - Scoring
  - Evaluation of data
The Clinical Interview

- Clinical Interview
  - Clinical core
  - Structured/Unstructured
  - Assesses multiple domains
    - Current and past behavior
    - Attitudes
    - Emotions
    - Detailed history
    - Presenting problem
**Mental Status Exam**

<table>
<thead>
<tr>
<th>Mental status exam</th>
<th>Frank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Appearance and behavior</strong></td>
<td></td>
</tr>
<tr>
<td>• Overt behavior</td>
<td>• Persistent twitch</td>
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<tr>
<td>• Attire</td>
<td>• Appearance appropriate</td>
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<tr>
<td>• Appearance, posture, expressions</td>
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<tr>
<td><strong>2. Thought processes</strong></td>
<td></td>
</tr>
<tr>
<td>• Rate of speech</td>
<td>• Flow and content of speech reasonable</td>
</tr>
<tr>
<td>• Continuity of speech</td>
<td></td>
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<tr>
<td>• Content of speech</td>
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<tr>
<td><strong>3. Mood and affect</strong></td>
<td></td>
</tr>
<tr>
<td>• Predominant feeling state of the individual</td>
<td>• Anxious mood</td>
</tr>
<tr>
<td>• Feeling state accompanying what individual says</td>
<td>• Affect appropriate</td>
</tr>
<tr>
<td><strong>4. Intellectual functioning</strong></td>
<td></td>
</tr>
<tr>
<td>• Type of vocabulary</td>
<td>• Intelligence within normal limits</td>
</tr>
<tr>
<td>• Use of abstractions and metaphors</td>
<td></td>
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<tr>
<td><strong>5. Sensorium</strong></td>
<td></td>
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<tr>
<td>• Awareness of surroundings in terms of person (self and clinician), time, and place—“oriented times three”</td>
<td>• Oriented times three</td>
</tr>
</tbody>
</table>

*Subsequent focus*
Possible existence of disorder characterized by intrusive, unwanted thoughts and resistance to them.
The Clinical Interview

• Pineal case!
• Physical Examinations
  – Diagnose or rule out physical etiologies
    • Toxicities
    • Medication side effects
    • Allergic reactions
    • Metabolic conditions
## Psychosis Associated with Medical Diseases

<table>
<thead>
<tr>
<th>Condition</th>
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<tbody>
<tr>
<td>Epilepsy</td>
</tr>
<tr>
<td>Head trauma (history of)</td>
</tr>
<tr>
<td>Dementia</td>
</tr>
<tr>
<td>Alzheimer’s disease</td>
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<tr>
<td>Pick’s disease</td>
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<tr>
<td>Lewy body disease</td>
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<tr>
<td>Stroke only rarely associated with psychosis</td>
</tr>
<tr>
<td>Space-occupying lesions and structural brain abnormalities</td>
</tr>
<tr>
<td>Primary brain tumors</td>
</tr>
<tr>
<td>Secondary brain metastases</td>
</tr>
<tr>
<td>Brain abscesses and cysts</td>
</tr>
<tr>
<td>Tuberculous sclerosis</td>
</tr>
<tr>
<td>Midline abnormalities (e.g., corpus callosum agenesis, cavum septi pellucidi)</td>
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<tr>
<td>Cerebrovascular malformations (e.g., involving the temporal lobe)</td>
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<tr>
<td>Hydrocephalus</td>
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<tr>
<td>Demyelinating diseases</td>
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<tr>
<td>Multiple sclerosis (not typically associated with psychosis)</td>
</tr>
<tr>
<td>Leukodystrophies (metachromatic leukodystrophy, X-linked adrenoleukodystrophy, Marchesano-Bignami disease)</td>
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<tr>
<td>Schilder’s disease</td>
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<tr>
<td>Neuropsychiatric diseases</td>
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<tr>
<td>Huntington’s disease</td>
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<tr>
<td>Wilson’s disease</td>
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<tr>
<td>Parkinson’s disease (not typically associated with psychosis unless treated)</td>
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<tr>
<td>Familial basal ganglia calcification</td>
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<tr>
<td>Friedreich’s ataxia</td>
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<tr>
<td>Autoimmune diseases</td>
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<tr>
<td>Systemic lupus erythematosus</td>
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<tr>
<td>Rheumatic fever (history of)</td>
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<tr>
<td>Paraneoplastic syndrome</td>
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<tr>
<td>Myasthenia gravis</td>
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<tr>
<td>Infections</td>
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<tr>
<td>Viral encephalitis (e.g., herpes simplex, measles [including subacute sclerosing panencephalitis], cytomegalovirus, rubella, Epstein-Barr, varicella)</td>
</tr>
<tr>
<td>Neurosyphilis</td>
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<tr>
<td>Neuroborreliosis (Lyme disease)</td>
</tr>
<tr>
<td>HIV infection or AIDS</td>
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<tr>
<td>CNS-invasive parasitic infections (e.g., cerebral malaria, toxoplasmosis, neurocysticercosis)</td>
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<tr>
<td>Tuberculosis</td>
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<tr>
<td>Sarcoidosis</td>
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<tr>
<td>Cryptococcosis infection</td>
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<tr>
<td>Pott’s disease (e.g., Creutzfeldt-Jakob disease)</td>
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<tr>
<td>Endocrinopathies</td>
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<tr>
<td>Hyperglycemia</td>
</tr>
<tr>
<td>Addison’s disease</td>
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<tr>
<td>Cushing’s syndrome</td>
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<tr>
<td>Hyper- and hypothyroidism</td>
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<tr>
<td>Hyper- and hypoparathyroidism</td>
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<tr>
<td>Hypopituitarism</td>
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<tr>
<td>Nephropathy</td>
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<tr>
<td>Nutritional deficiencies</td>
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<tr>
<td>Magnesium deficiency</td>
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<tr>
<td>Vitamin A deficiency</td>
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<tr>
<td>Vitamin D deficiency</td>
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<tr>
<td>Zinc deficiency</td>
</tr>
<tr>
<td>Niacin deficiency (pellagra)</td>
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<tr>
<td>Vitamin B12 deficiency (pernicious anemia)</td>
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<tr>
<td>Metabolic diseases (partial list)</td>
</tr>
<tr>
<td>Amino acid metabolism (Hartnup disease, homocystinuria, phenylketonuria)</td>
</tr>
<tr>
<td>Porphyrias (acute intermittent, porphyria, porphyria variegata, hereditary coproporphyria)</td>
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<tr>
<td>GM 2 gangliosidosis</td>
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<tr>
<td>Fabry’s disease</td>
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<tr>
<td>Niemann-Pick type C disease</td>
</tr>
<tr>
<td>Gaucher’s disease, adult type</td>
</tr>
<tr>
<td>Chromosomal abnormalities</td>
</tr>
<tr>
<td>Sex chromosomes (Klinefelter’s syndrome, XXX syndrome)</td>
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<tr>
<td>Fragile X syndrome</td>
</tr>
<tr>
<td>Velocardiofacial syndrome</td>
</tr>
</tbody>
</table>

Sources: Coleman & Gillberg (1996), Coleman & Gillberg (1997), Goff et al. (2004), and Hyde & Lewis (2002).
Psychological Disorders

• Psychological Testing
  – Reliability
  – Validity
  – Specific tools for assessment
    • Cognition
    • Emotion
    • Personality
    • Behavior
Psychological Testing

• *Projective Tests*
  – Presentation of ambiguous stimuli
  – Projection of personality and the unconscious
  – Psychoanalytic roots

– Examples
  • **Rorschach Inkblot Test**
  • **Thematic Apperception Test**
    – Show Cards!
Rorschach Test

Bring Cards!
Psychological Testing

- Projective Tests
  - Criticisms and controversies
    - Scoring and interpretation
    - Reliability and validity

- Strengths
  - Qualitative data
  - “Icebreakers”
  - Standardization efforts
Psychological Testing

- Personality Inventories
  - Face vs. construct validity
  - Empirically-based

- Paul Meehl, “If people with certain disorders tend to answer a variety of questions in a certain way (as a group), this pattern may predict who else has this disorder. The content of the questions becomes irrelevant”.

- Minimally ambiguous stimuli
- Minimal inference
  - Scoring
  - Interpretation
Psychological Testing

- Minnesota Multiphasic Personality Inventory
  - 567 items (MMPI-2)
  - True/false responses
  - Adolescent version
  - Extensive normative data
    - Reliability and validity

- Interpretation
  - Individual scales
  - Profiles
  - Lie (L)
  - Infrequency (F)
  - Defensiveness (K)
1. I like mechanics magazines
2. I have a good appetite
3. I wake up fresh & rested most mornings
4. I think I would like the work of a librarian
5. I am easily awakened by noise
6. I like to read newspaper articles on crime
7. My hands and feet are usually warm enough
8. My daily life is full of things that keep me interested
9. I am about as able to work as I ever was
10. There seems to be a lump in my throat much of the time
11. A person should try to understand his dreams and be guided by or take warning from them
12. I enjoy detective or mystery stories
13. I work under a great deal of tension
14. I have diarrhea once a month or more
15. Once in a while I think of things too bad to talk about
16. I am sure I get a raw deal from life
17. My father was a good man
18. I am very seldom troubled by constipation
19. When I take a new, I like to be tipped off on whom should be gotten next to
20. My sex life is satisfactory
21. At times I have very much wanted to leave home
22. At times I have fits of laughing & crying that I cannot control
23. I am troubled by attacks of nausea and vomiting
24. No one seems to understand me
25. I would like to be a singer
26. I feel that it is certainly best to keep my mouth shut when I’m in trouble
27. Evil spirits possess me at times
28. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.
29. I am bothered by acid stomach several times a week
30. At times I feel like swearing
31. I have nightmares every few nights
32. I find it hard to keep my mind on a task or job
33. I have had very peculiar and strange experiences
34. I have a cough most of the time
35. If people had not had it in for me I would have been much more successful
36. I seldom worry about my health
37. I have never been in trouble because of my sex behavior
38. During one period when I was a youngster I engaged in petty thievery
39. At times I feel like smashing things
A 3-1 “V” Pattern
• Misuse of MMPI
  – Jobs
  – Graduate school admissions
Assessment: Intelligence Testing

- Initial purpose: academic prediction

- Intelligence quotient ("IQ")
  - Mental vs. chronological age
  - Deviation IQ

- Domains
  - Verbal
  - Performance

- IQ versus intelligence

- Definition of learning disability
Neuropsychological tests assess
- Broad base of skills and abilities
- Brain-behavior relations
- Assets and deficits

Methods
- Fixed versus flexible

Concerns
- False Positives
- False Negatives
Neuroimaging: Pictures of the Brain

- Images of Brain Structure
  - Computerized axial tomography (CAT/CT)
    - X-rays of brain
    - Pictures in slices
  - Magnetic resonance imaging (MRI)
    - Strong magnetic field
    - Improved resolution

- Utility: locating tumors, injuries, structural or anatomical abnormalities
Neuroimaging: Images of Brain Function

• PET and SPECT
  – Injection of radioactive isotopes
  – React with brain oxygen, blood, and glucose
  – Reveal metabolic deficiencies
  – Limitations (e.g., pediatrics), $$
Neuroimaging: Images of Brain Function

• Diffusion Tensor Imaging (DTI)
• Functional MRI (fMRI)
  – Brief changes in brain activity
Neuroimaging

• Differences between actually being able to diagnose vs. using imaging in a research context

• Advantages and Limitations
  – Yield detailed information
  – Expense
  – Lack adequate norms
  – Limited clinical utility
  – Taking advantage of desperate people
• What are the differences between MRI, DTI, CAT, and PET?
• What are the strengths and limitations of these tools?
Assessing Psychological Disorders

• Psychophysiological Assessment
  – Emotional or psychological events reflected by changes in the nervous system

• Eye tracking

• Electroencephologram: EEG
  – Brain wave activity
  – Alpha and delta waves
    • Ex. Nocturnal panic attacks
    • Event Related Potential
      – Short eeg focusing on a Pts reaction to a stimulus
Psychophysiological Assessment

- Other bodily responses
  - Cardiorespiratory
    - Heart rate and respiration
  - Electrodermal
    - Galvanic skin response
  - Electromyography
    - Muscle tension
Psychophysiological Assessment

- Schizophrenia
- Assessing response to stimuli is useful in disorders with a strong emotional component
  - PTSD
  - Sexual dysfunctions
  - Sleep disorders
  - Headache
  - Hypertension
Ethics

- Sterilization
- Abortion
- Scanning anomalies

- Heredity forces us to be worried about disorders even if we do not want to know- even if we don’t get tested, if our relatives have a disorder, we have to confront the possibility it may be present in us

- 23 and me (monetization and mainstreaming of genetic testing).
  - New baby
  - FDA says its not tested

- Angelina

- How safe is your genetic information?
  - Facebook study (Elrich et al., 2013)
  - Art Study