

## Purposes of Assessment

- ✦ Screening
  - To identify and provide services
  - Determine need for further evaluation
- ✦ Diagnosis
  - Needed for most eligibility decisions
  - Two categories
    - DSM-IV
    - IDEA

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## Purposes continued

- ✦ Eligibility
  - Generally for services through special education
    - Follow taxonomy
  - Eligibility for what?
  - Three tiered model
- ✦ Intervention planning and program monitoring
  - How is intellectual information useful
  - Functional approach

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## Test vs. Assessment vs. Evaluation

- ✦ Tests are instruments used in the assessment process
- ✦ Medical model vs. ecological approach vs. problem solving
- ✦ Psycho-educational evaluation is planning, collection and evaluation of information pertinent to concern

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## Four Pillars of Assessment

- # Norm referenced tests
- # Interviews
- # Observations
- # Other assessment procedures (informal)

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## TRADITIONAL AND PROBLEM SOLVING APPROACHES TO ASSESSMENT

<b>I. Assumptions</b>	<b>Traditional</b>	<b>Problem-Solving</b>
<b>Cause of problem experienced by individual</b>	Problems viewed as reflection of underlying traits or state within the individual	Problems viewed as discrepancy between individual's performance and the expectations of the environment.  Conditions maintaining the problem are sought in environment.

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## TRADITIONAL AND PROBLEM SOLVING APPROACHES TO ASSESSMENT

<b>Assessment</b>	<b>Traditional</b>	<b>Problem-Solving</b>
<b>1. Methods</b>	Emphasis on norm-referenced psycho-educational and projective measures	Emphasis on direct methods such as observation of behaviors and academic skills in comparison to peers.
<b>2. Purpose</b>	To diagnose problem	To understand how the problem can be resolved and then to measure progress in order to adjust.
<b>3. Scope</b>	Global measures used to diagnose, show improvement	Specific measures of target behaviors in appropriate contexts.

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**PROBLEM SOLVING MODEL**

	SATTLER
Referral	Review referral information
	Decide whether to accept
Investigate Problem	Obtain relevant background info.
	Consider the influence of others
	Observe child in several settings
	Select and administer an appropriate test battery
Setting Expectations/Goals	Interpret the assessment results
	Write a report
Monitor Progress	Develop intervention strategies and recommendations
	Meet with parents, exam other,
Decision Point	Follow up on recommendations and reevaluation

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**Theoretical Perspectives for Understanding Data**

- # Developmental
- # Normative Developmental
- # Cognitive-Behavioral

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**NAMES TO KNOW**

- # Binet
- # Goddard
- # Terman
- # Spearman
- # Thorndike
- # Thurstone
- # Guilford
- # Cattell
- # Horn
- # Jensen
- # Kaufman
- # Wechsler
- # Gardner
- # Sternberg
- # Das and Naglieri
- # Campione-Brown-Borkowski

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## Early Influences

- ✦ The mind can be measured
- ✦ Universal education
- ✦ Galton
  - Intelligence is inherited
- ✦ Cattell
  - Experimental paradigm

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## Influence of Binet

- ✦ Moved from measuring sensory tasks to measuring cognitive tasks
- ✦ All children
- ✦ What was poor achievement due to?
- ✦ Provide objective data
- ✦ Goddard brought Binet's work to U.S.
- ✦ Terman published Stanford-Binet: ratio IQ

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## Early Historical Events

- ✦ Yerkes developed point scale format
- ✦ World War 1
  - Army Alpha was first group IQ test
- ✦ Wechsler Scale developed in 1939 at Bellevue Hospital
  - Intelligence one factor of personality

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## Intelligence Tests Differ in Approach

- ‡ Single or multiple factor
  - ▣ Single can be essence, unity or mixed
  - ▣ Multiple differ in number of factors
- ‡ Empirical or theoretical basis
  - ▣ Most tests have empirical basis

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## Single Factor Theories/Tests

- ‡ Spearman
  - ▣ Higher order *g* and specific factors
- ‡ Wechsler
  - ▣ Measuring different ways to express intelligence
- ‡ Stanford-Binet LM (early)
- ‡ Jensen
  - ▣ *g* is closely tied to speed of processing

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## Early Multiple Factor Theories/Tests

- ‡ Thorndike
  - ▣ Several aspects of intelligence
  - ▣ IQ measures abstract only
- ‡ Thurston
  - ▣ Primary Mental Abilities
- ‡ Guilford
  - ▣ Structure of Intellect

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## Later Multiple Factor Theories/Tests

- ✦ Kaufman
  - Dichotomous theory
  - Successive-Simultaneous
  - Kaufman Assessment Battery for Children
- ✦ Elliot
  - Differential Ability Scales
- ✦ Horn gf-gc

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## Later "Mixed" Factor Theories

- ✦ Wechsler III
  - Two ways in which g is expressed
- ✦ Stanford Binet IV
  - Multiple ways in which intelligence is expressed

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## Current Multi-Factor Theories of Intelligence

- ✦ Gardner's Theory of Multiple Intelligences
- ✦ Neuropsychological Model (Luria, Das, Naglieri)
  - PASS
- ✦ Sternberg
  - Triarchic Theory
  - Practical Intelligence
- ✦ CHC: Cattell, Horn and Carrol

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## Other Theories of Intelligence

- ✦ Information processing theories
  - ▢ Brown, Campione
- ✦ Cognitive modifiability theories
  - ▢ Feurstein
  - ▢ Learning Potential Assessment Device
- ✦ Piagetian developmental approach
- ✦ Greenspan's Model of Personal Competence

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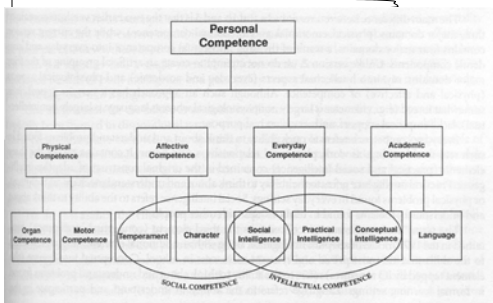
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## Greenspan's Model of Competence



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WISC-III  
Wechsler Intelligence Scale  
for Children—Third Edition

Name: \_\_\_\_\_ Sex: \_\_\_\_\_  
 School: \_\_\_\_\_ Class: \_\_\_\_\_  
 Examiner: \_\_\_\_\_ Handwritten: \_\_\_\_\_

Subtest	Raw Score	Scale Score
Picture Completion		
Information		
Similarities		
Block Design		
Object Assembly		
Comprehension		
Visual Spatial		
Digit Span		
Arithmetic		

Sum of Scale Scores: \_\_\_\_\_

Full Scale IQ: \_\_\_\_\_

Verbal IQ: \_\_\_\_\_

Performance IQ: \_\_\_\_\_

Verbal Score (Standard Score): \_\_\_\_\_

Performance Score (Standard Score): \_\_\_\_\_

Full Scale IQ (Standard Score): \_\_\_\_\_

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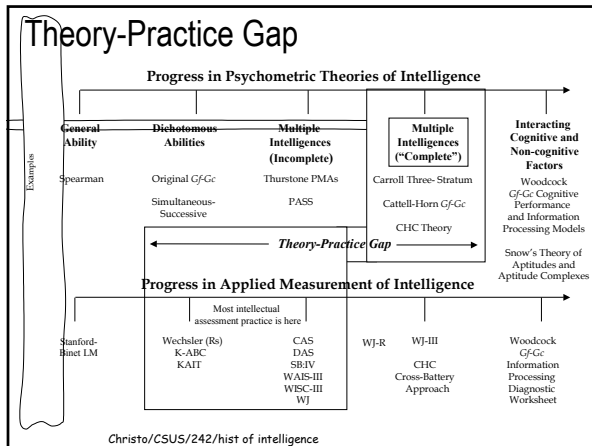
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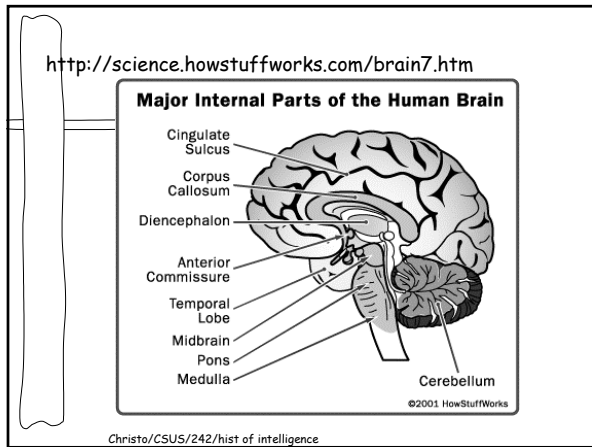
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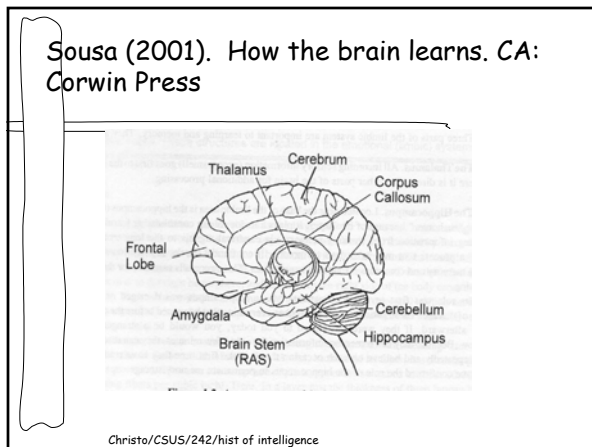
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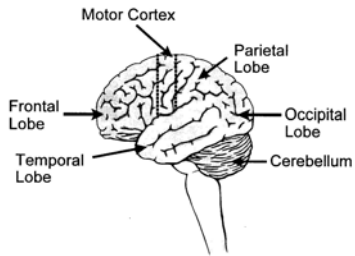
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## Major Brain Sections



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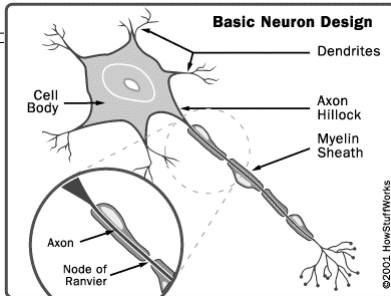
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<http://science.howstuffworks.com/brain7.htm>



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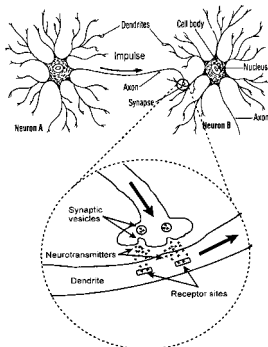
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## Synapse



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## Neurology of Intelligence

- ✦ Structural differences
- ✦ Speed of connections
- ✦ Number of connections
- ✦ Neurotransmitters

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## The Questions?

So, what is intelligence?

Why do we measure it?

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## Qualities of Intelligence Tests

- ✦ Considerable common variance among tests
- ✦ Psychometrically sound
- ✦ Predictors of job and school success
- ✦ Differ in
  - Tasks
  - Constructs measured
  - Approaches to scoring and administration
- ✦ Scores are generally quite stable

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## Influences of Nature on Intelligence

- # Inherit a genotype which sets parameters
- # Polygenic model
- # Specific abilities as well as global scores are genetically linked
- # Genetic influences increase with age

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## "Nurture" Influences Are Varied

- # Physical
- # Social
- # Instructional
- # Cultural

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## Nature-Nurture Issues

- # What conclusions can we draw about intelligence?

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## Other Issues

- ‡ Gender
  - Spatial visualization
- ‡ Constancy of scores
  - After age 5
  - More change for children with early high IQ
    - Why?

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## Questions to Consider

- ‡ IQ and Social Order
- ‡ Schools that screen all children with IQ test
  - Why would they do this?
  - What can we say to persuade them to stop the practice?
- ‡ GATE testing
  - What is the rationale for it?

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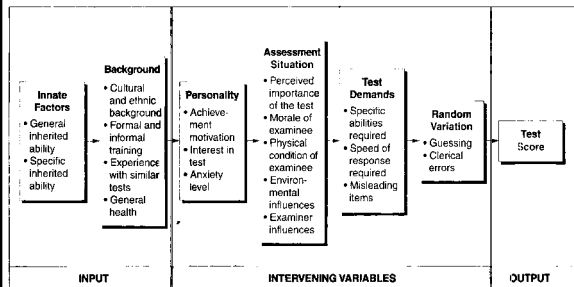
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## Sattler Test Score



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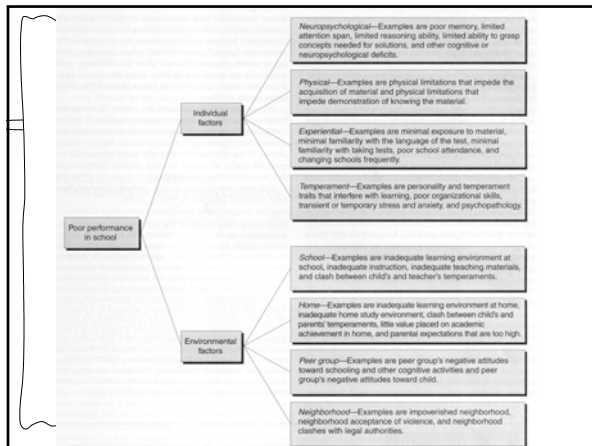
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### School Success Affected By:

- ⌘ What student brings to situation:
  - ▣ Cognitive
  - ▣ Affective
- ⌘ Environmental variables in larger context:
  - ▣ Family
  - ▣ School
  - ▣ Community
- ⌘ Instructional variables:
  - ▣ Teacher behaviors
  - ▣ Classroom processes

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### School Learning Equation

- ⌘ Learning is a function of
  - ▣ Time available for learning and perseverance of student
  - ▣ Attributes of student such as ability and aptitude
  - ▣ Quality of instruction

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## Topics to Remember

- # History?
- # Theories?
- # Assessment process?

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