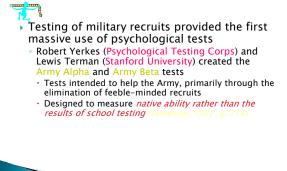
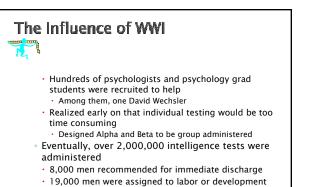
### The Influence of WWI



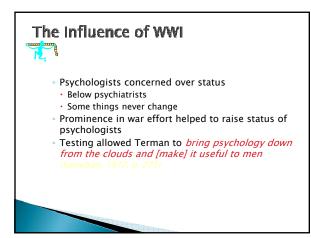


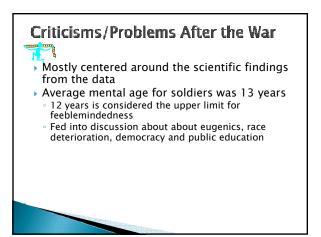
### The Influence of WWI · This experience engrained the psychological test in American psychology Because of Alpha and Beta, the General Education Fund

- initiated a grant for the development of an intelligence test for children
- National Test of Intelligence—given to approximately 7 million children during the 1920's
- Testing provided unity for the field of
  - psychology

battalions

Before the war, there were big rifts in the field · Arguments over ontology, epistemology, and methodology





## Criticisms/Problems After the War

- Results pertaining to race and nationality
  - Southern and Eastern Europeans inferior in scores to Northern Europeans
  - African Americans inferior to Caucasians
  - Findings were eventually abandoned, except maybe as prejudices
  - We'll talk more about this when we get to correlates of intelligence

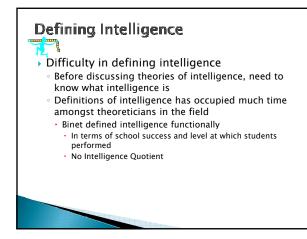
### Criticisms/Problems After the War Question as to whether Alpha and Beta actually assessed native ability rather than school learning Assessment of school learning could (and probably does) account for racial differences Alpha and Beta were highly correlated with school learning Yerkes et al. took this to mean that native intelligence kept people in school longer rather than the other way around We'll return to this, too, when we get to Correlates of Intelligence

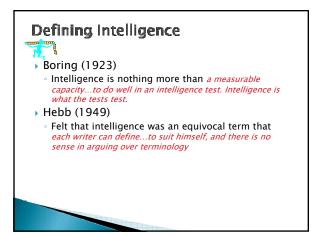
# Criticisms/Problems After the War

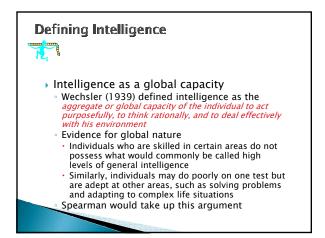
- Nonverbal test where examinees had to perform ballet moves
- Some evidence that African American recruits fell asleep while examiners pantomimed instructions
- > Everybody and his brother created an intelligence test
  - 1921: Thomas Edison created an intelligence test
  - Few people could answer his questions
  - Led to some loss of faith in psychological testing

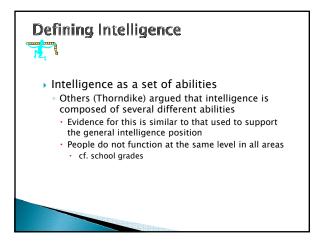
### James McKeen Cattell

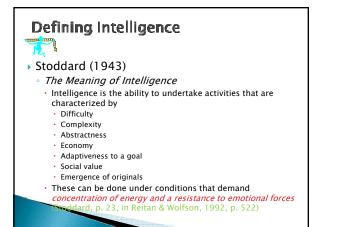
- Huge promoter of psychological tests and testing
- Founded the Psychological Corporation in 1921 as a nonprofit publisher of psychological tests
  - Psychological Corporation remains a major publisher today, but is in the private sector

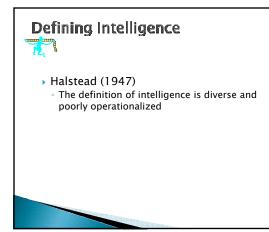


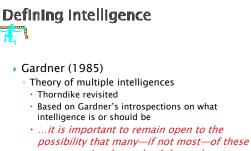




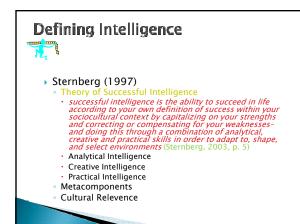


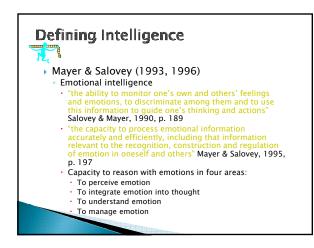






competencies do not lend themselves to measurement by standard verbal methods, which rely heavily on a blend of logical and linguistic abilities. (Gardner, p. x, in Reitan &





**Definition and Implementation Problems** 

### 1

- We have a number of problems when trying to define and measure intelligence
  - And few of them have been addressed—that's why we still have problems
  - What is an adequate criterion for the measurement of intelligence?
  - If someone scores highly on an intelligence test, what should that predict?

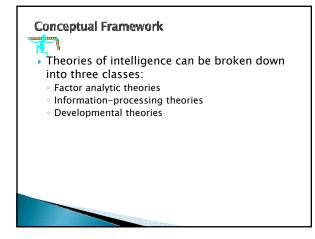
### Definition and Implementation Problems

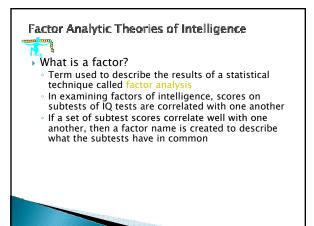
- What other behaviors should correlate well with high scores?
- Traditionally, intelligence scores have been correlated with scores from other intelligence tests
- If intelligence is diverse, what are the diverse expressions of intelligence and how should they be represented fairly on an intelligence test?

### Definition and Implementation Problems

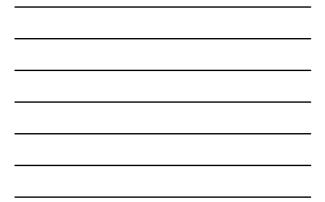
• How do we distinguish between what is achievement and what is aptitude?

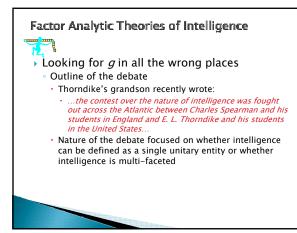
- Or, do we have to distinguish between the two (cf., Gardner)
- Do different cultures value the same "type" of intelligence?

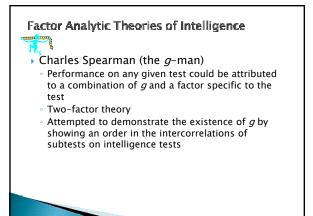




Theories of Intelligence					
SKILL	Throw	Catch	Hit	Run	Read
Throw					
Catch	.78				
Hit	.65	.77			
Run	.67	.65	.57		
Read	.10	.04	.03	.08	







# Factor Analytic Theories of Intelligence In general, for most subjects the subtests are highly correlated Mental horsepower In 1923, Spearman defined g as a fund of mental energy that a person could bring to a task Perfect differences in penelse abilities to a subject of the subject of the

- Reflects differences in people's abilities to apprehend experiences, deduce relations among these experiences, and deduce correlates
  - Thus, g was taken into the realm of encoding and memory of information, inferential reasoning, and other higher cognitive tasks

### Factor Analytic Theories of Intelligence



### Edwin Thorndike (Mr. Multiple Factors)

- In general, there is evidence of a complex set of bonds between the psychological equivalents of both what we call the formal side of thought and what we call its content, so that one is almost tempted to replace Spearman's statement by the equally extravagant one that there is nothing whatever common to all mental functions, or to any half of them. (Thorndike, 1990, p. 227)
- The primary fact is that intelligence is not one thing but many. The abilities measured by a speed test with language and mathematics are not identical with, or even very similar to, those measured by a test with pictures and less exacting in speed. (Thorndike, 1990, p. 228)

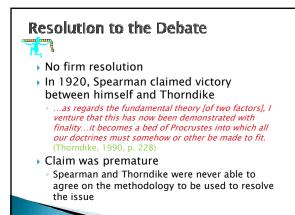
### Factor Analytic Theories of Intelligence

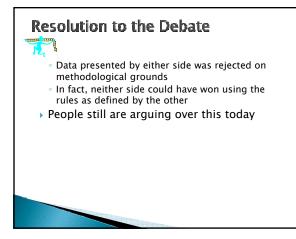
- $\circ$  Intelligence is the summation of multiple distinct abilities
- Thorndike's position is much like Binet's
- Intelligence can only be understood in the context of the entire person
- Intelligence tests measure only a limited aspect of behavior
- Abstract intelligence
- Intelligence includes:
  - Social intelligence
    - The ability to understand and work successfully with people

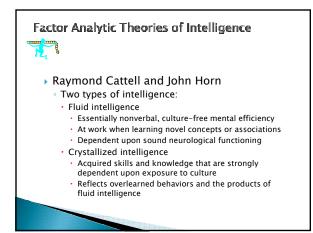
### Factor Analytic Theories of Intelligence

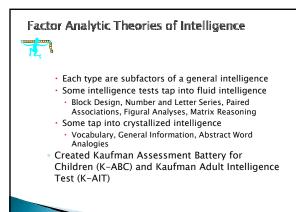


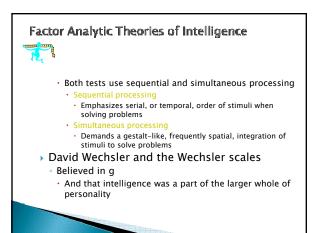
- Mechanical intelligence
- The ability to understand and deal with concrete things
- There is not a perfect relationship among different mental tests
- Simpson (Thorndike's student) conceded there may be something called general mental ability
- However, there were also certain capacities that were relatively specialized and did not necessarily imply other abilities except to a very limited extent



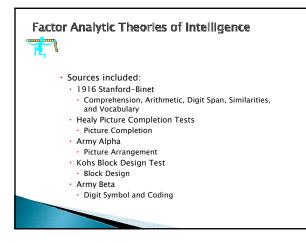










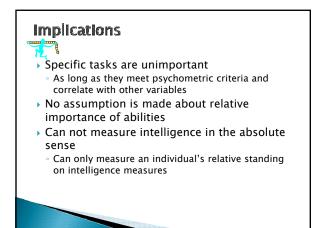


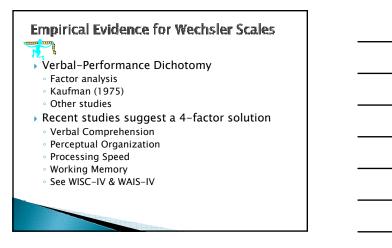
## Factor Analytic Theories of Intelligence

- Wechsler designed original material for all subtests
   Though some items differed only slightly from their original forms
- Selected tasks that were easy to administer and score, were appropriate across a wide range of ages and ability levels, and had been proven to discriminate between high and low levels of intellectual ability
- · Divided test between verbal and nonverbal subtests
- IQ obtained from the scale was designed to represent an index of general mental ability

## • Broad verbal and nonverbal domains

- Underscored Wechsler's convictions that there are different ways in which intelligence can manifest itself
- Distinction between Verbal and Performance subscales reflects the different ways in which intelligence could be measured, not different types of intelligence
- Multifaceted nature of intelligence
- · We do not measure intelligence directly
- · Subtests he selected were a means to an end





### **Global Ability**

### 

- Results w/Wechsler scales support g
- Most of the subscales have high commonality
  Data suggests a strong single factor that cuts
  - across all scales
  - $^\circ$  Subscales that load highest w/g:
  - Vocabulary
  - Block Design

