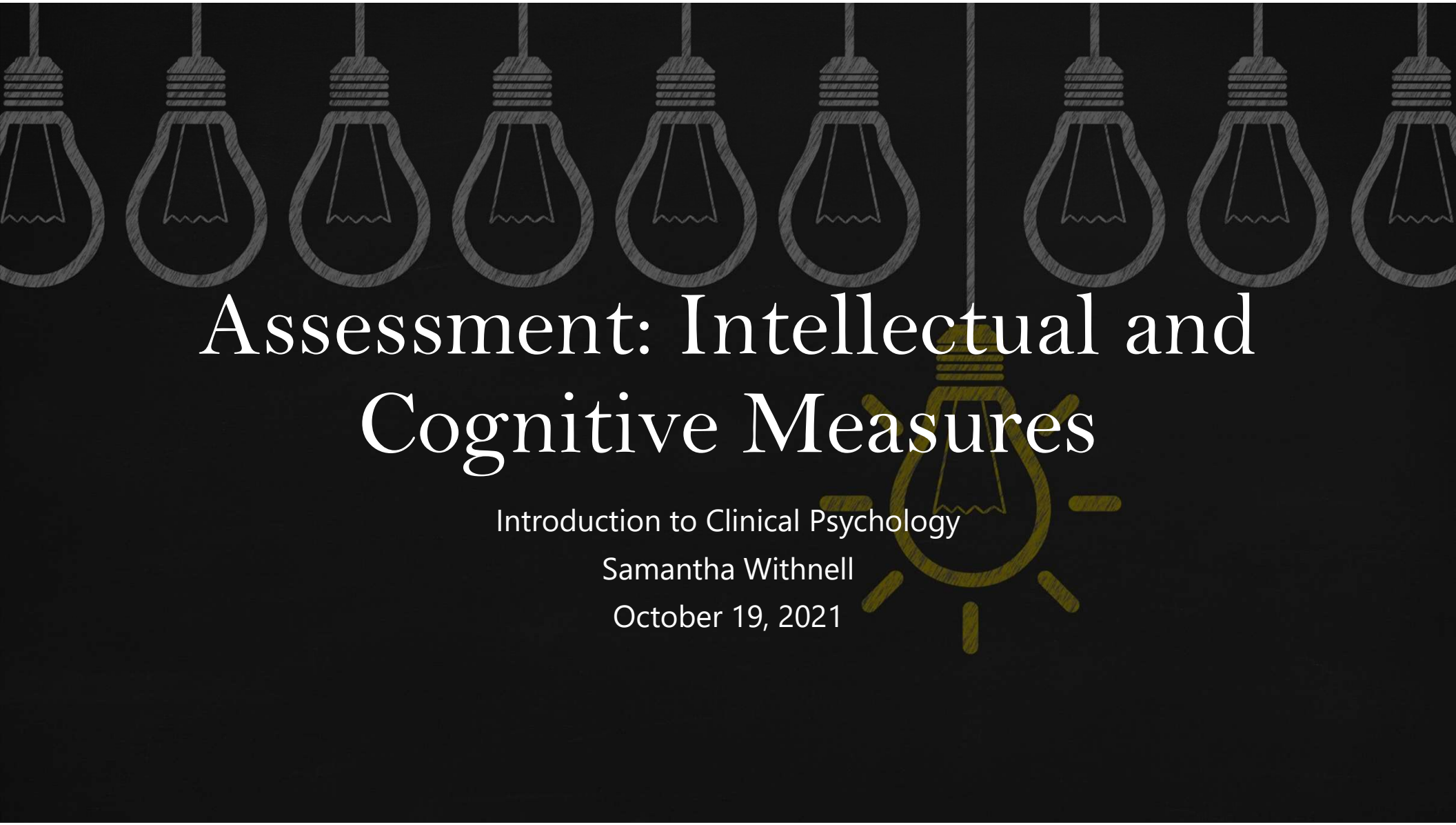


Assessment: Intellectual and Cognitive Measures

Introduction to Clinical Psychology

Samantha Withnell

October 19, 2021

Defining Intelligence

The ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience

How do we assess all these facets of intelligence?

Models of Intelligence

Factor Approach

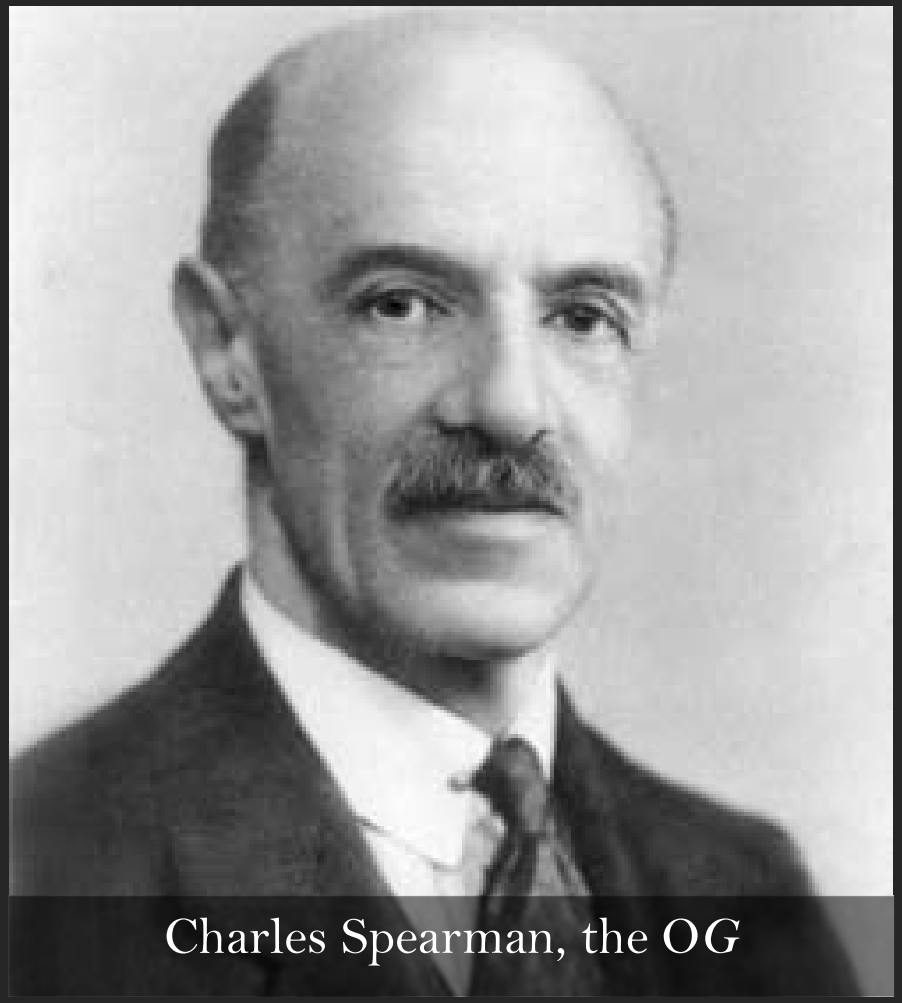
How are different tests correlated with each other?

Hierarchical Approach

Are some factors subordinate to others?

Information Processing Approach

How do we organize and process information?

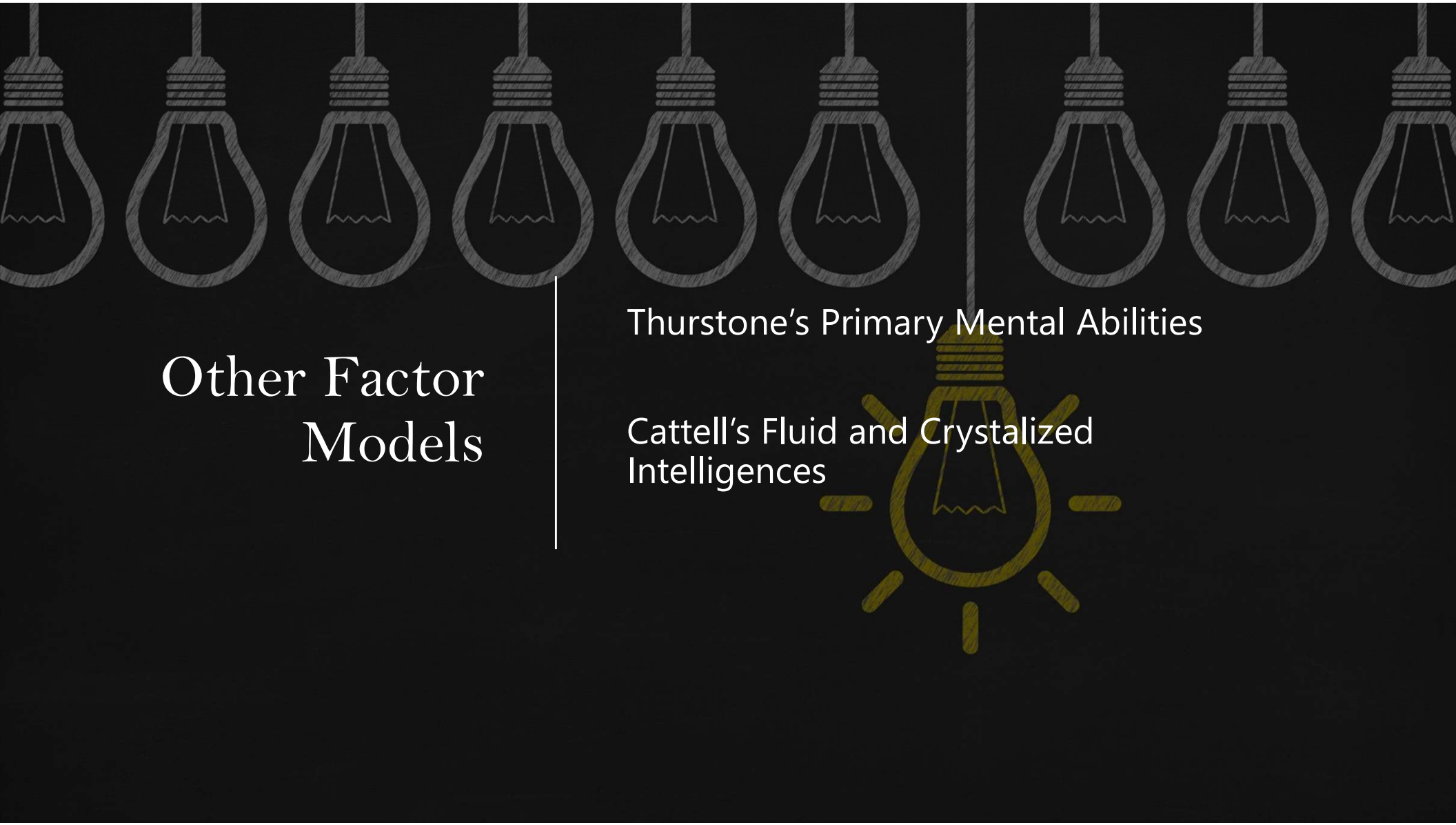


Charles Spearman, the OG

Spearman's *g*

Found patterns of correlation between tests of various mental abilities

Used **Factor Analysis** to summarize shared correlations between tests and found that tests shared underlying general factor of intelligence

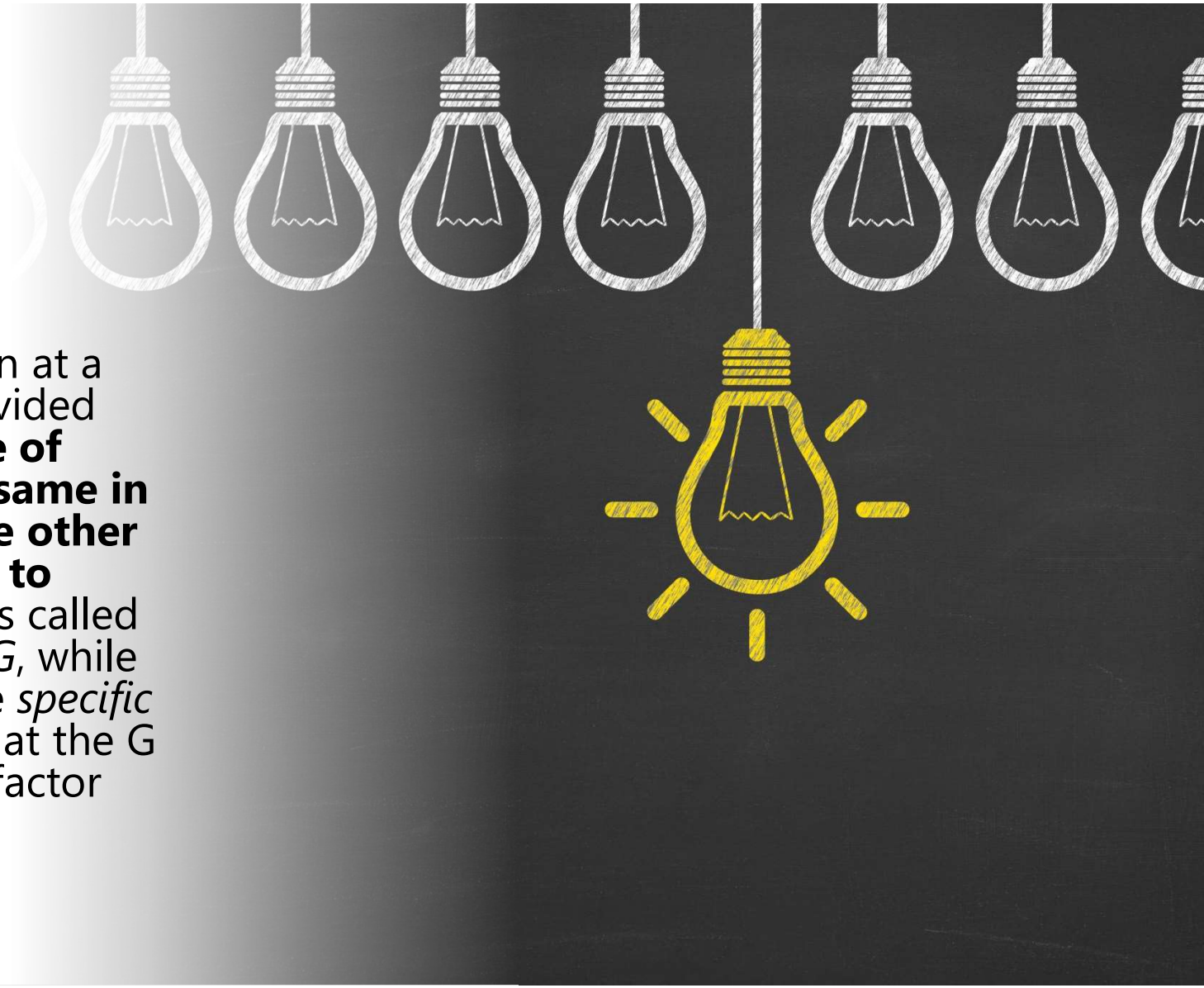


Other Factor Models

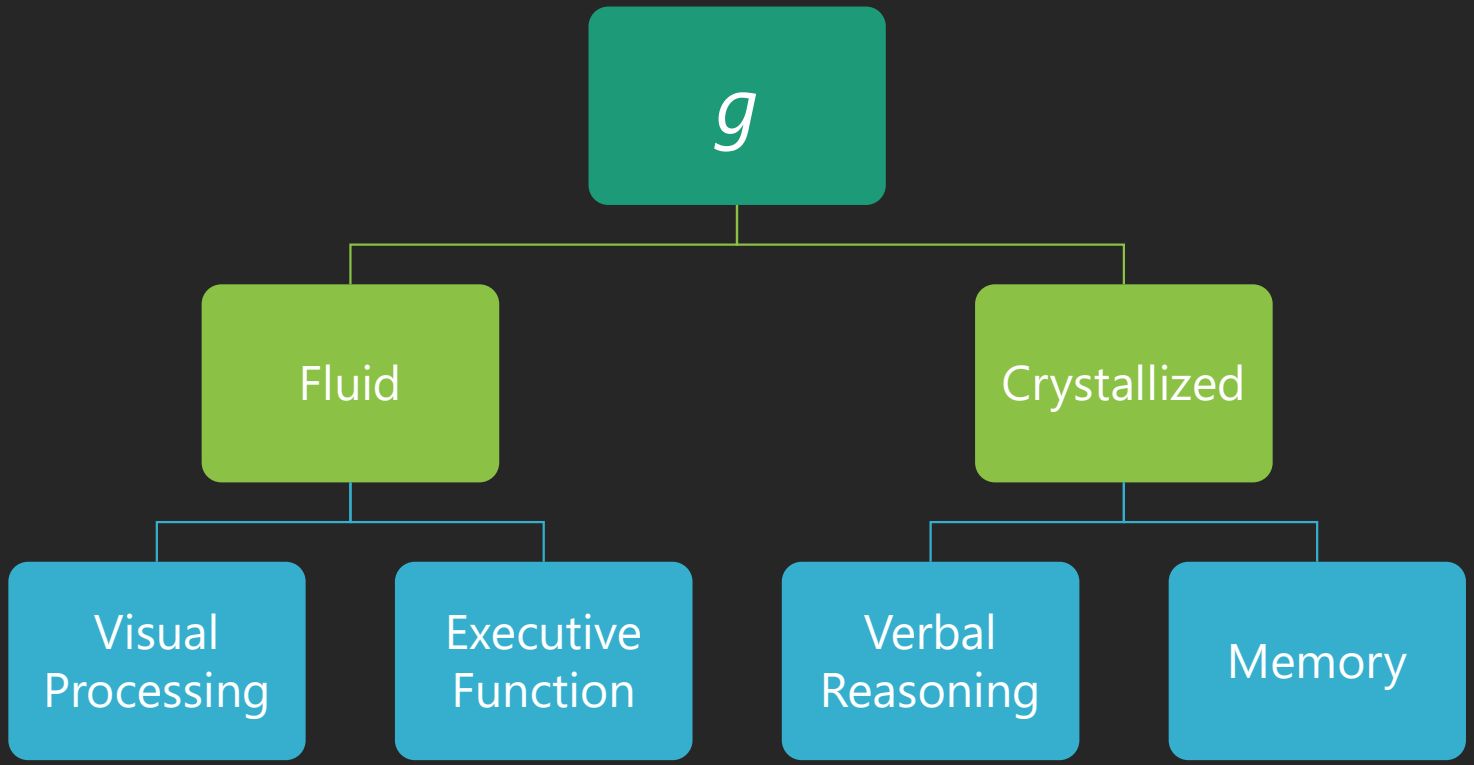
Thurstone's Primary Mental Abilities

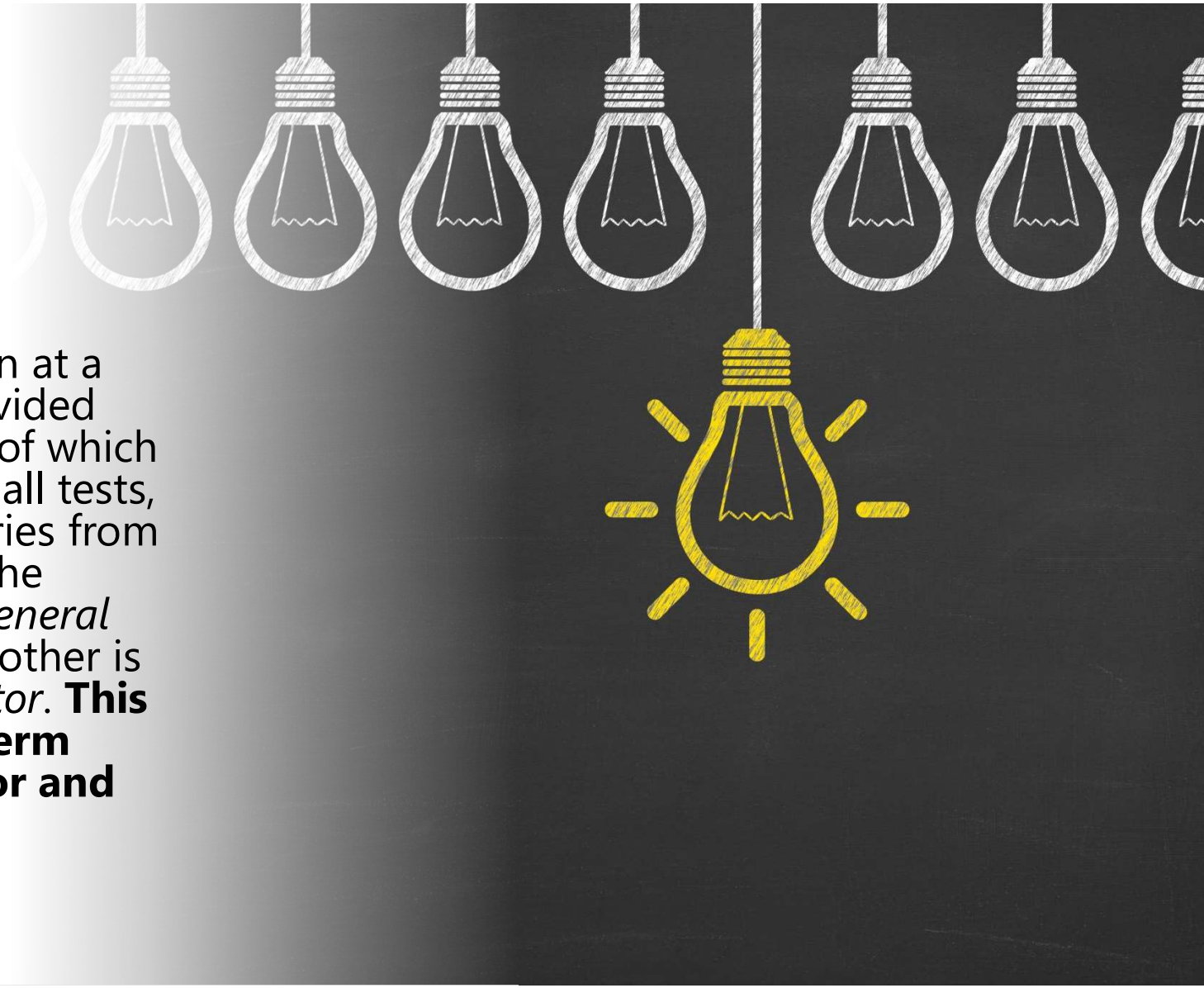
Cattell's Fluid and Crystalized Intelligences

"The score of a person at a mental test can be divided into **two factors, one of which is always the same in all tests, whereas the other varies from one test to another**; the former is called the *general factor or G*, while the other is called the *specific factor*. This then is what the G term means, a score-factor and nothing more."



Hierarchical Approach





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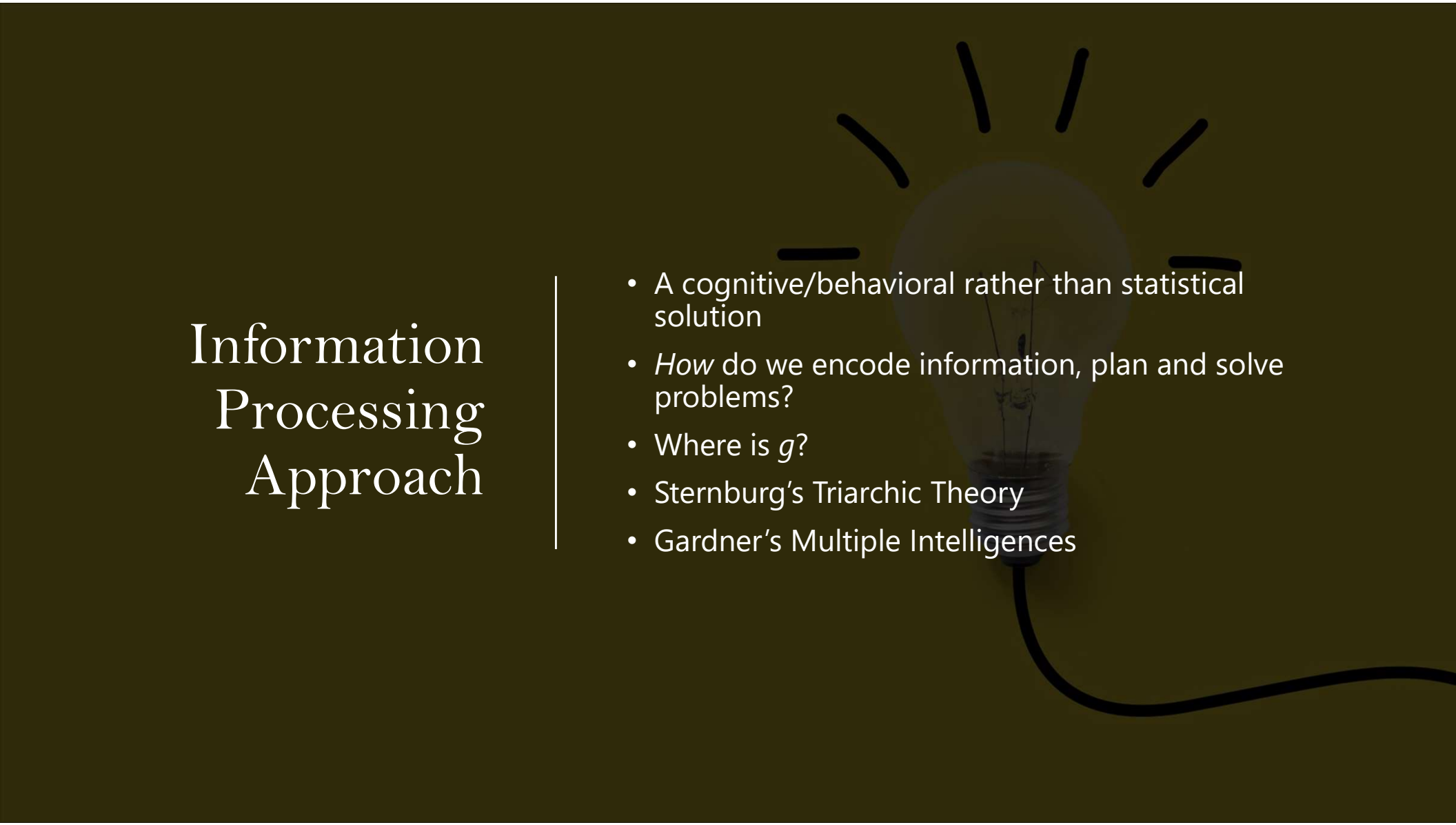
Information Processing Approach



- A cognitive/behavioral rather than statistical solution
- *How* do we encode information, plan and solve problems?
- Where is *g*?
- Sternburg's Triarchic Theory
- Gardner's Multiple Intelligences

Assumptions of Modern Intelligence Tests

g

Scores are stable over time

Scores predicts things related to intelligence

Intelligence is heritable *and also* highly influenced by environmental factors

Why Do Clinical Psychologists Care About Intelligence?

Carrot is a 9-year-old boy in 4th grade. His parents are concerned by comments from his teachers that he is struggling in school. He has trouble understanding the teacher's directions and often has to have concepts explained to him multiple times. He will also often be distracted or give up quickly on activities and go play with toys. He rarely speaks up in class and seems to have few friends. Carrot's grades were average in earlier years, but he now has trouble particularly with reading and mathematics. Carrot's parents are also concerned that he often refuses to try new activities or eat different kinds of foods.

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Why Do Clinical Psychologists Care About Intelligence?

Deviation from baseline

- Brain disease or injury

Deviation from norms

- Age or grade
- Intellectual or Learning Disability

Wechsler Intelligence Scales

Wechsler-Bellevue Intelligence Scale (1939)

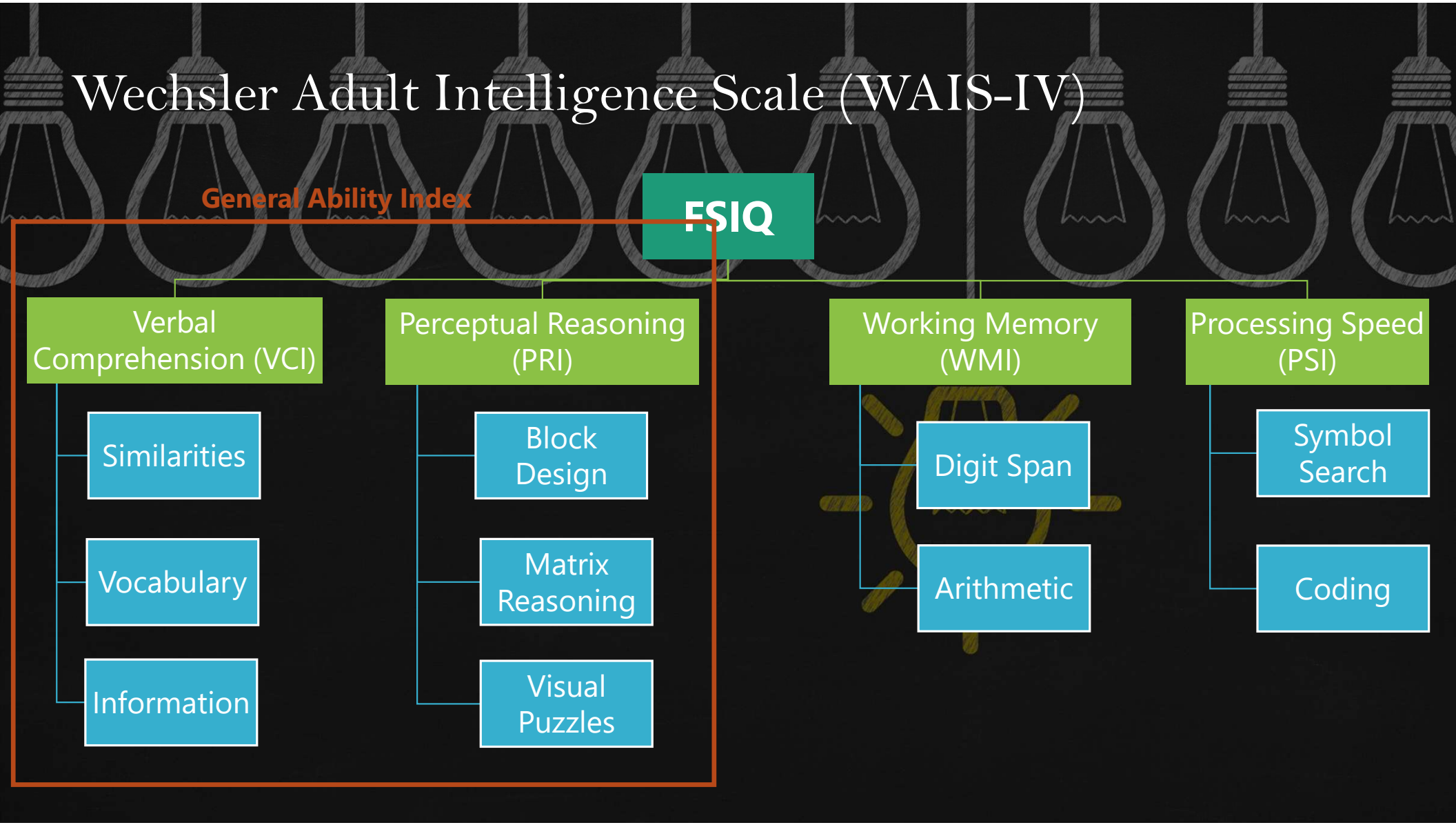
Sought to improve on the Stanford-Binet and Army tests

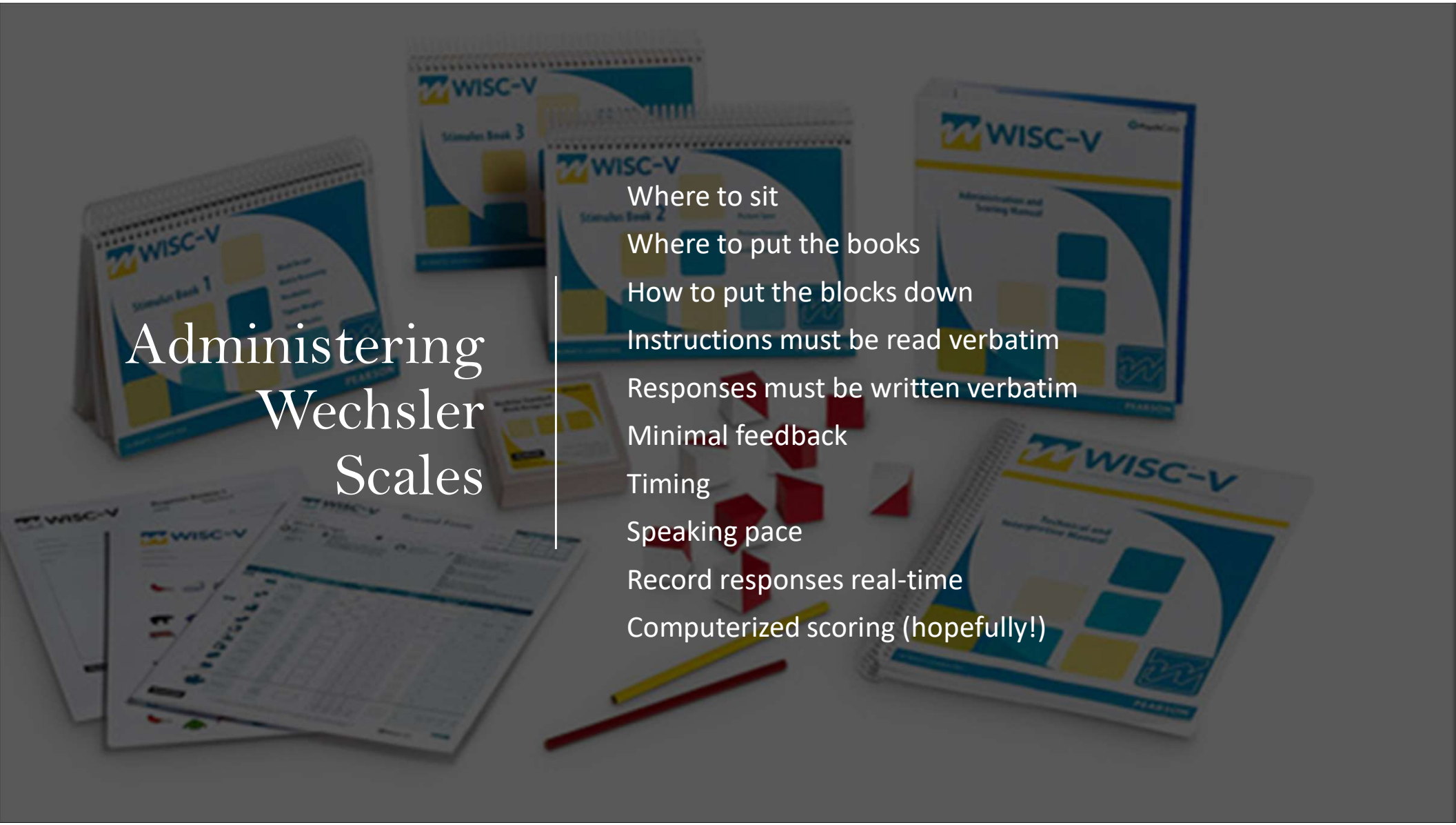
- Assess across lifespan
- Increase clinical utility
- Standardize scores
- Use a test battery
- Assess non-verbal performance
- Reduce reliance on processing speed

David Wechsler, bow-tie enthusiast

Age	Scale
2.6-7.7	Wechsler Preschool and Primary Scale of Intelligence (WPPSI-IV)
6-16	Wechsler Intelligence Scale for Children (WISC-V)
16-90	Wechsler Adult Intelligence Scale (WAIS-IV)

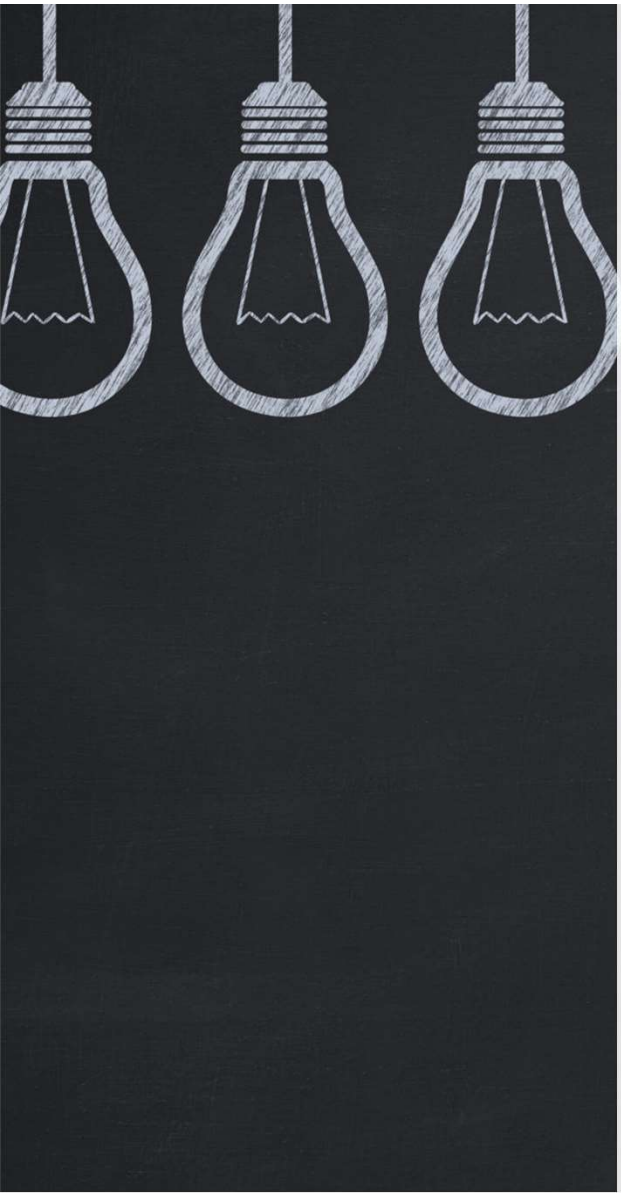
Wechsler Adult Intelligence Scale (WAIS-IV)





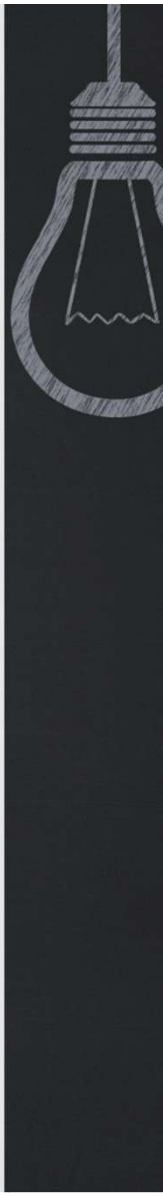
Administering Wechsler Scales

- Where to sit
- Where to put the books
- How to put the blocks down
- Instructions must be read verbatim
- Responses must be written verbatim
- Minimal feedback
- Timing
- Speaking pace
- Record responses real-time
- Computerized scoring (hopefully!)



Issues

- Really hard to administer!
- Unbalanced Emphasis
- Situation Effects
- Novelty/Familiarity
- Culture
- Psychopathology



Wechsler Individual Achievement Test (WIAT-III)

Often used to assess if achievement is in line with others at the same grade level

Differential diagnosis based on comparison to cognitive assessment

- Learning Disability: average cognitive ability but poor achievement in specific areas
- Intellectual Disability: poor achievement related to poor cognitive abilities

Tests of Specific Cognitive Processes

Memory	Weschler Memory Scale (WMS)
Reading Skills	Comprehensive Test of Phonological Processing (C-TOPP)
Cognitive Impairment	Montreal Cognitive Assessment (MoCA)
Attention	Tests of Variables of Attention (TOVA)

Assessment Batteries

- Cognitive Assessment (WAIS/WISC/WPPSI)
- Achievement Tests (WIAT)
- Specific Tests
- Informant/Self-Report Questionnaires
- Report Card/Medical History Review
- Behavioral Observation
- Clinical Interview
- Integrated Assessment Report


How did I do today?