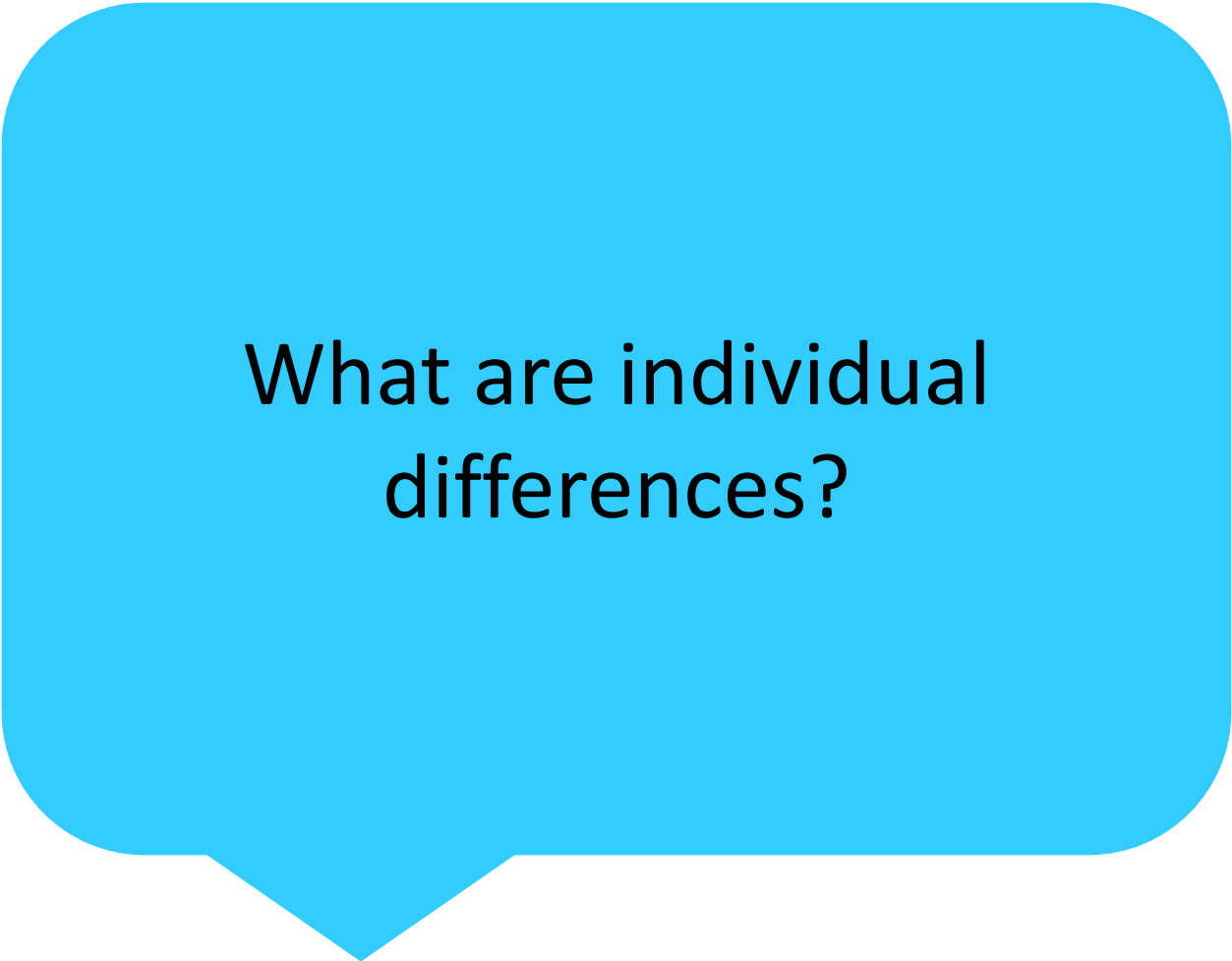


Individual Differences and Assessment



Agenda

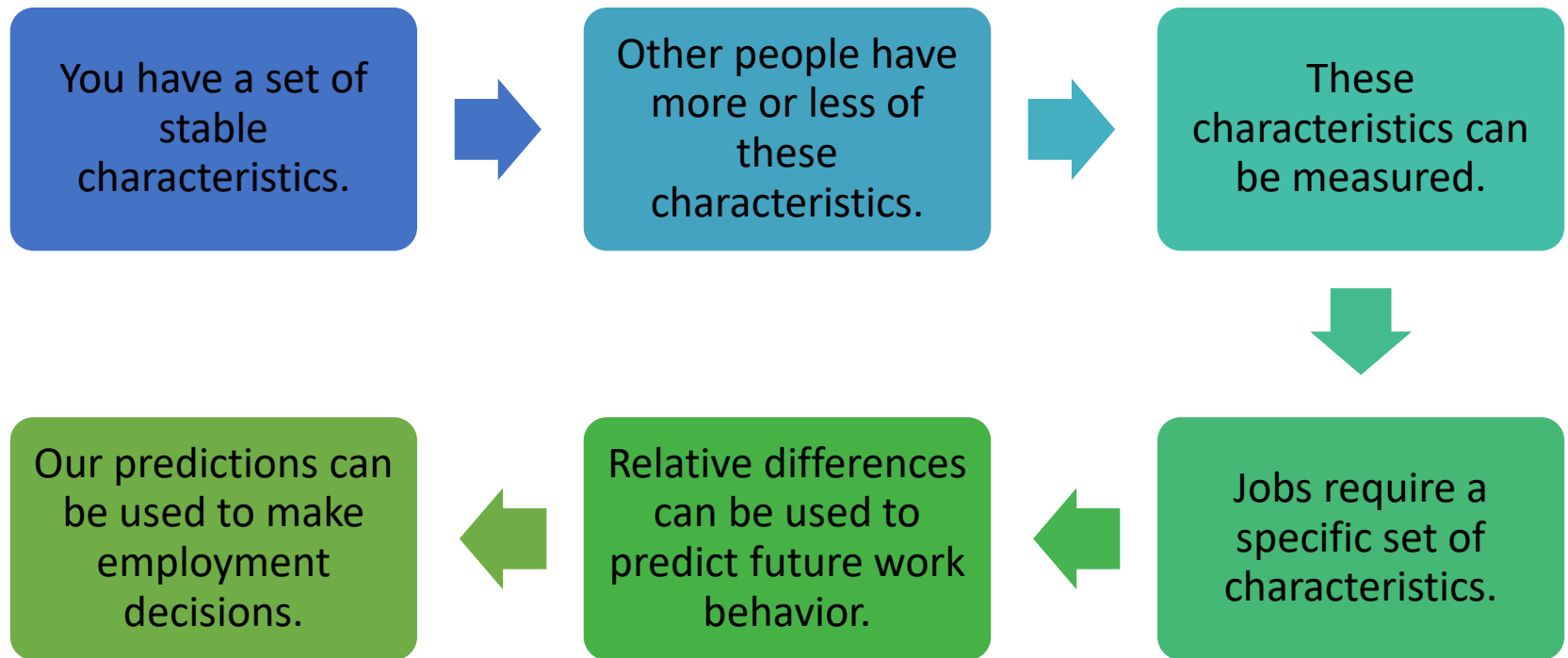
- What are individual differences?
- What is knowledge? What are skills? What are abilities?
- What is intelligence? Cognitive ability? Physical ability? What other abilities do we measure?
- What other characteristics do we measure? What is personality? What is emotional intelligence? What are competencies?
- What is a test? Which test do we choose?
- What tests do we use to measure individual differences?



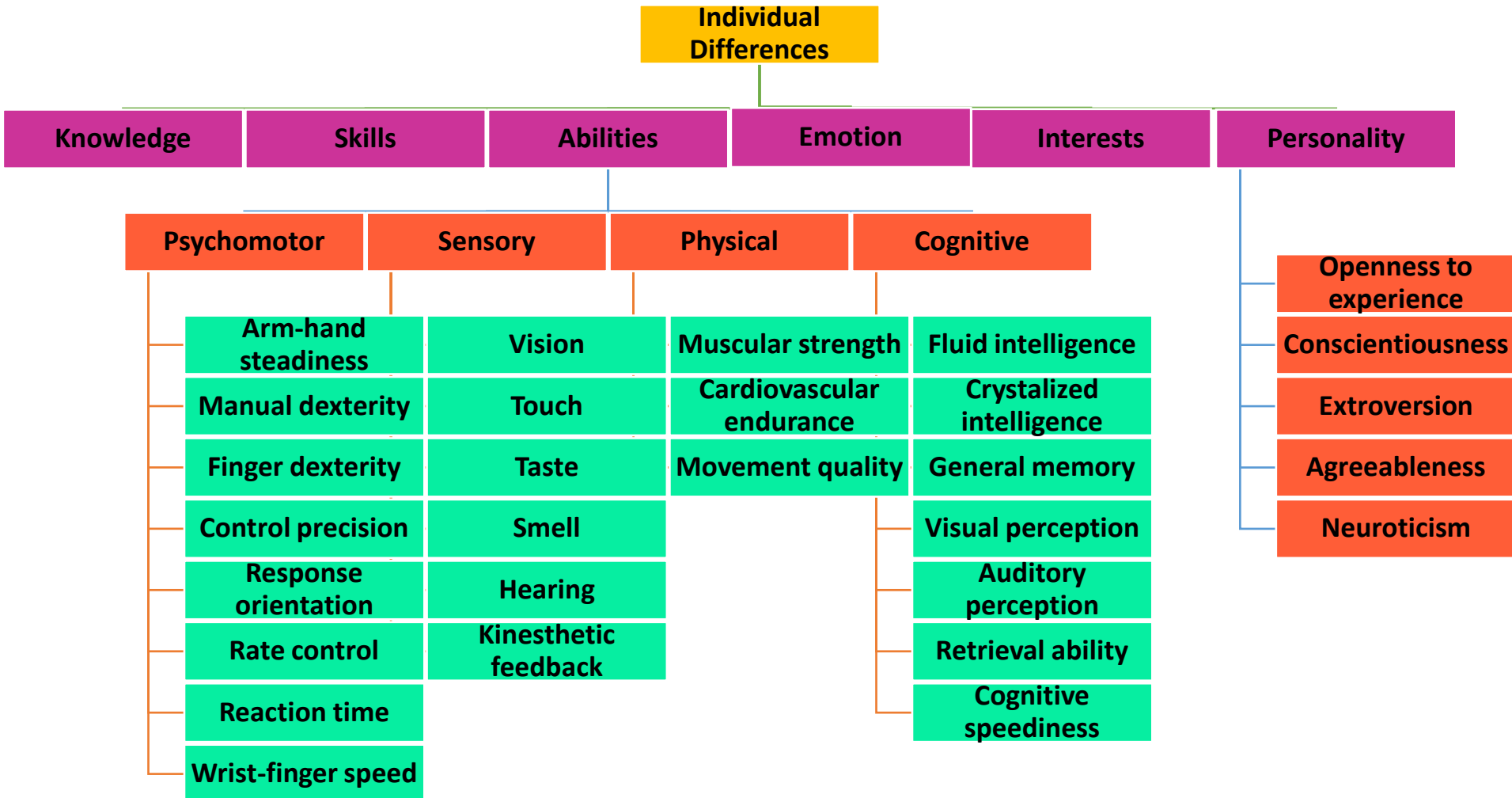
What are individual
differences?

What are individual differences?

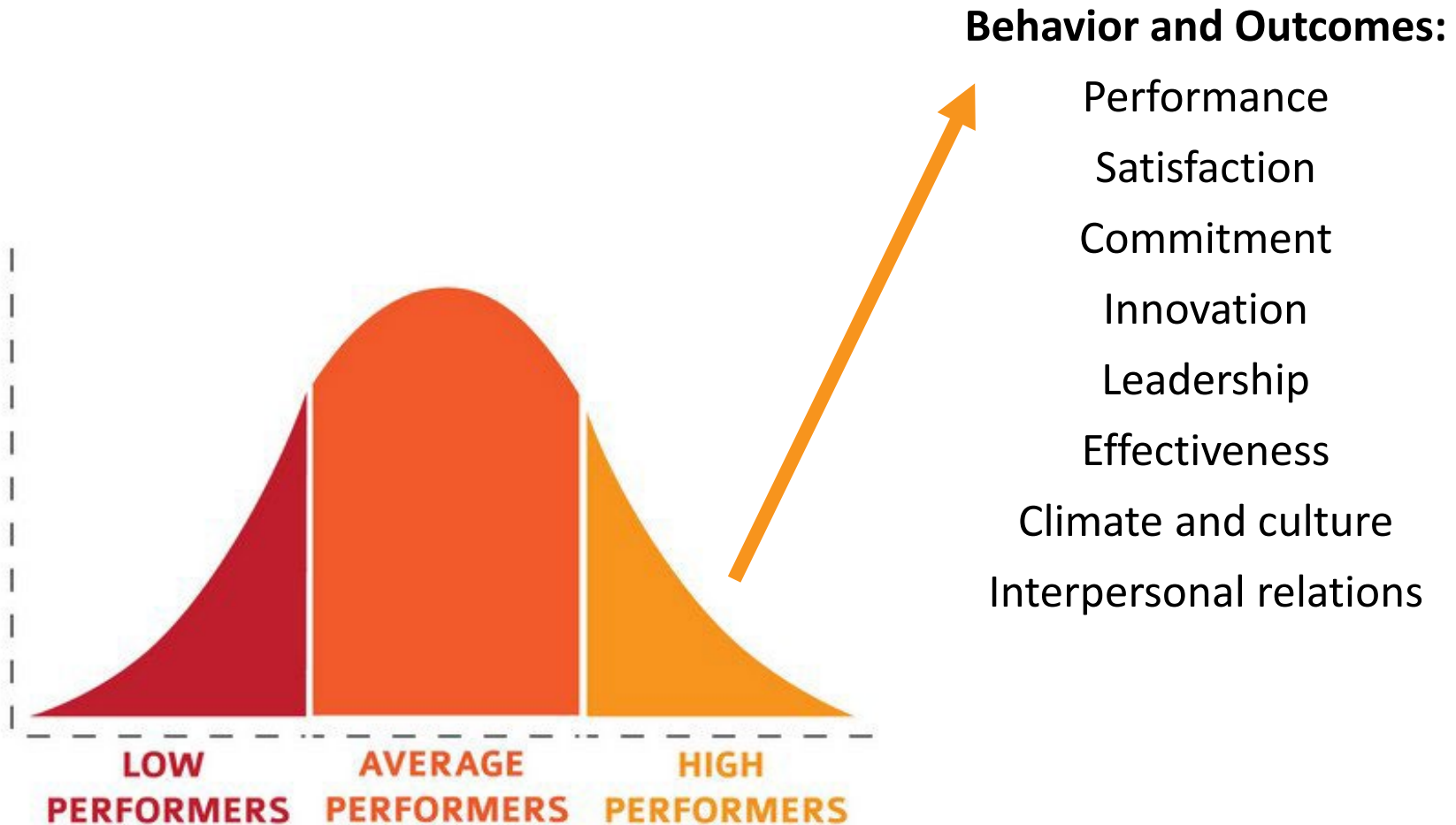
- **Individual differences:** Dissimilarities between 2 or more people

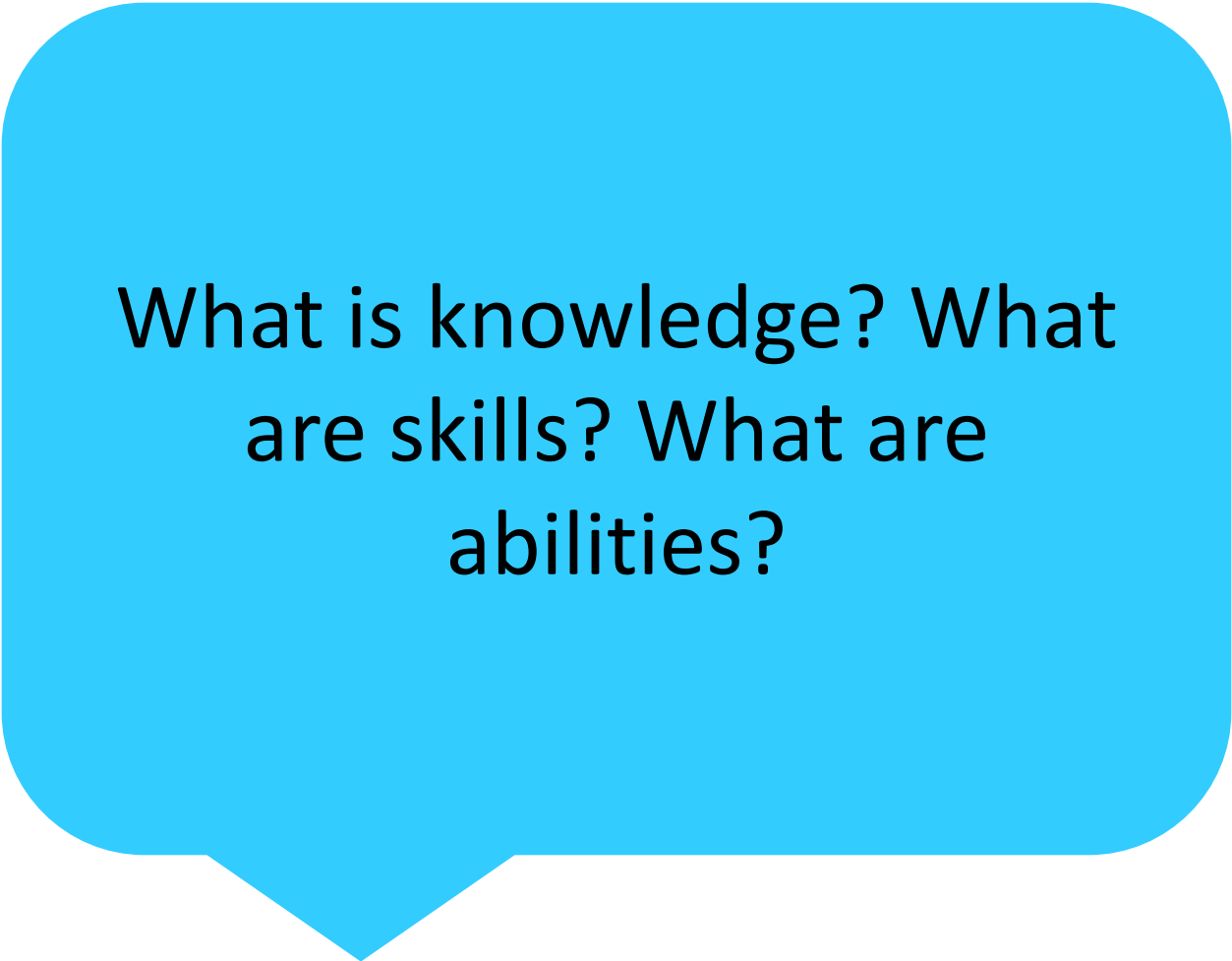


What are individual differences?



What are individual differences?





What is knowledge? What
are skills? What are
abilities?

What is knowledge?

- **Knowledge:** A collection of discrete but related information about a particular domain
 - Declarative knowledge = knowing “what”
 - Procedural knowledge = knowing “how”
- Develops with experience
- Supports skill development



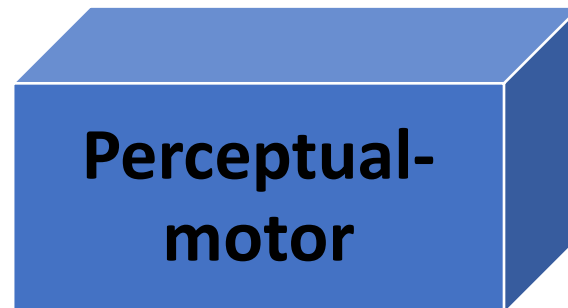
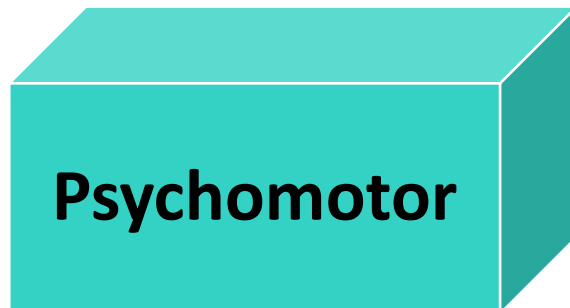
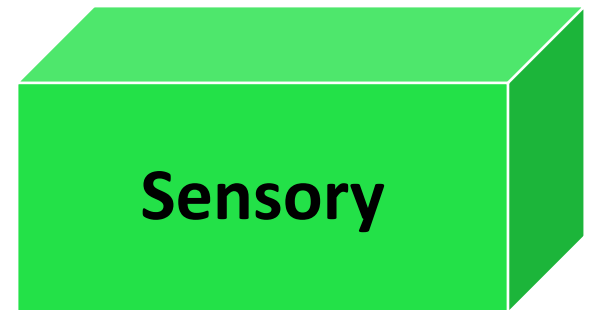
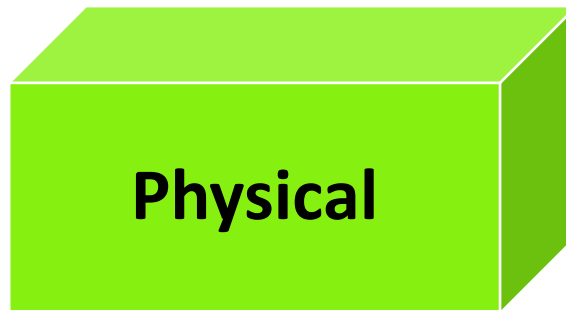
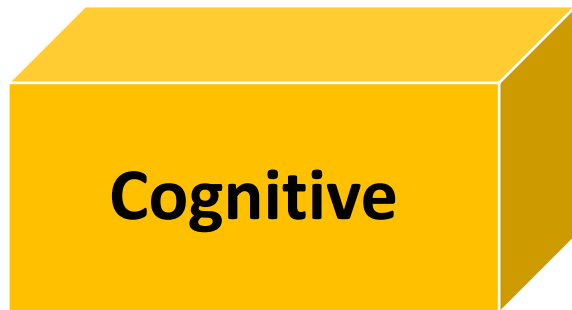


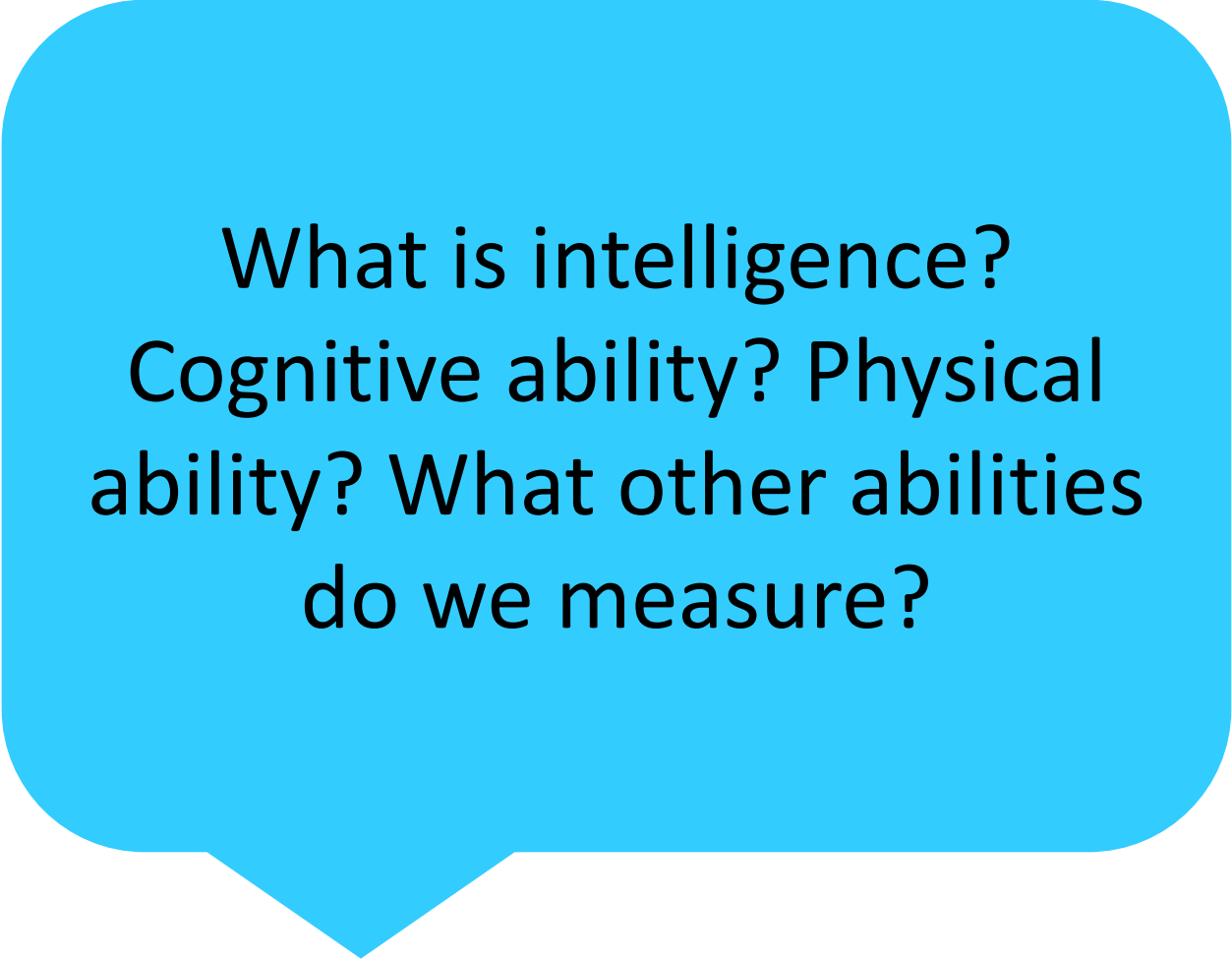
What are skills?

- **Skills:** Practiced behaviors
 - Technical skills = Job-specific
 - People skills = Interpersonal
 - Conceptual skills = Abstract
- Depend on knowledge, abilities, personality, and practice

What are abilities?

- **Abilities:** Broad categories of capabilities
- [Fleishman's taxonomy of 52 abilities](#)

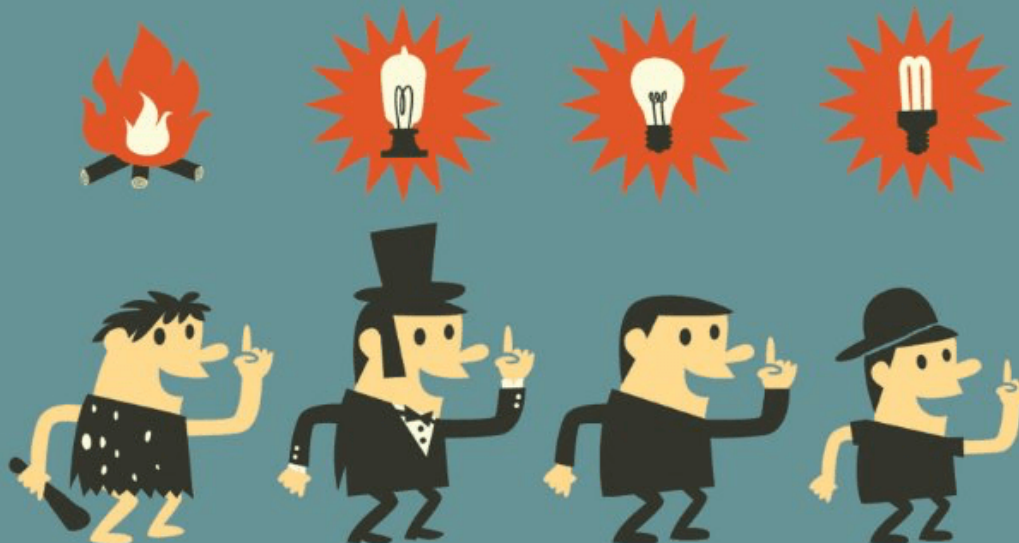




What is intelligence?
Cognitive ability? Physical
ability? What other abilities
do we measure?

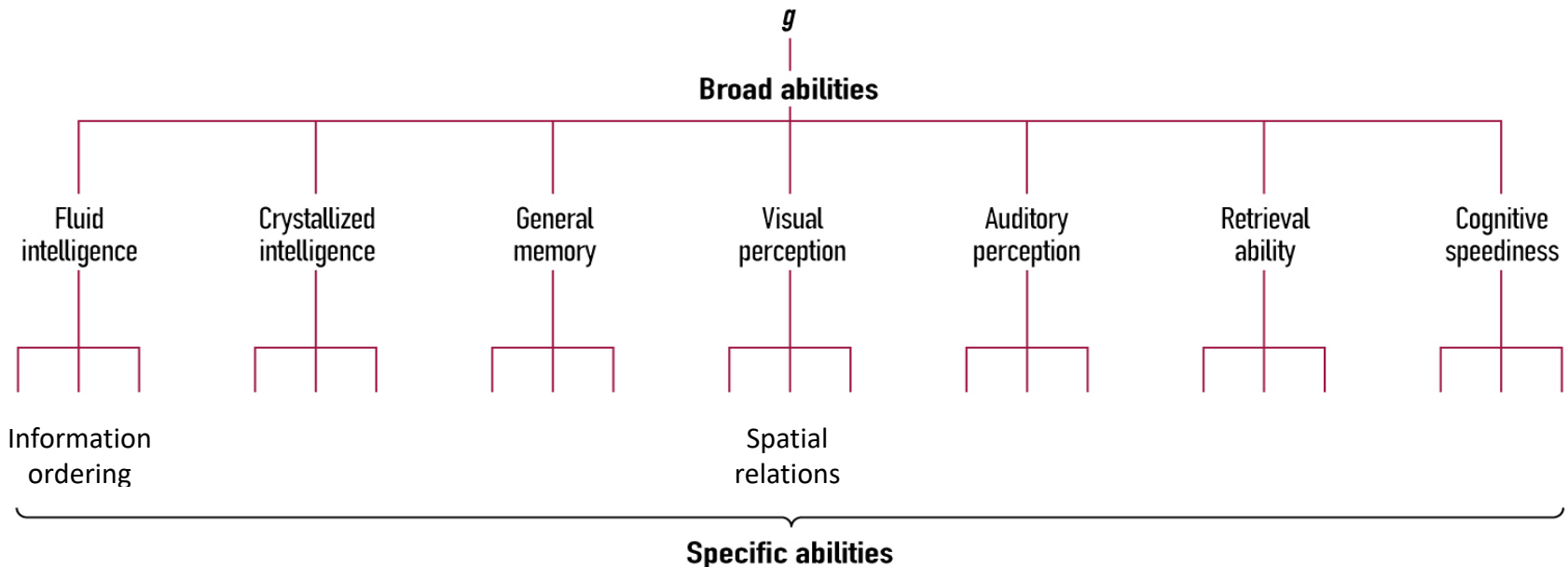
What is intelligence?

- **Intelligence (g):** General intellectual capacity; the ability to learn and adapt to the environment
- Reasoning, planning, solving problems
- More predictive as job complexity increases

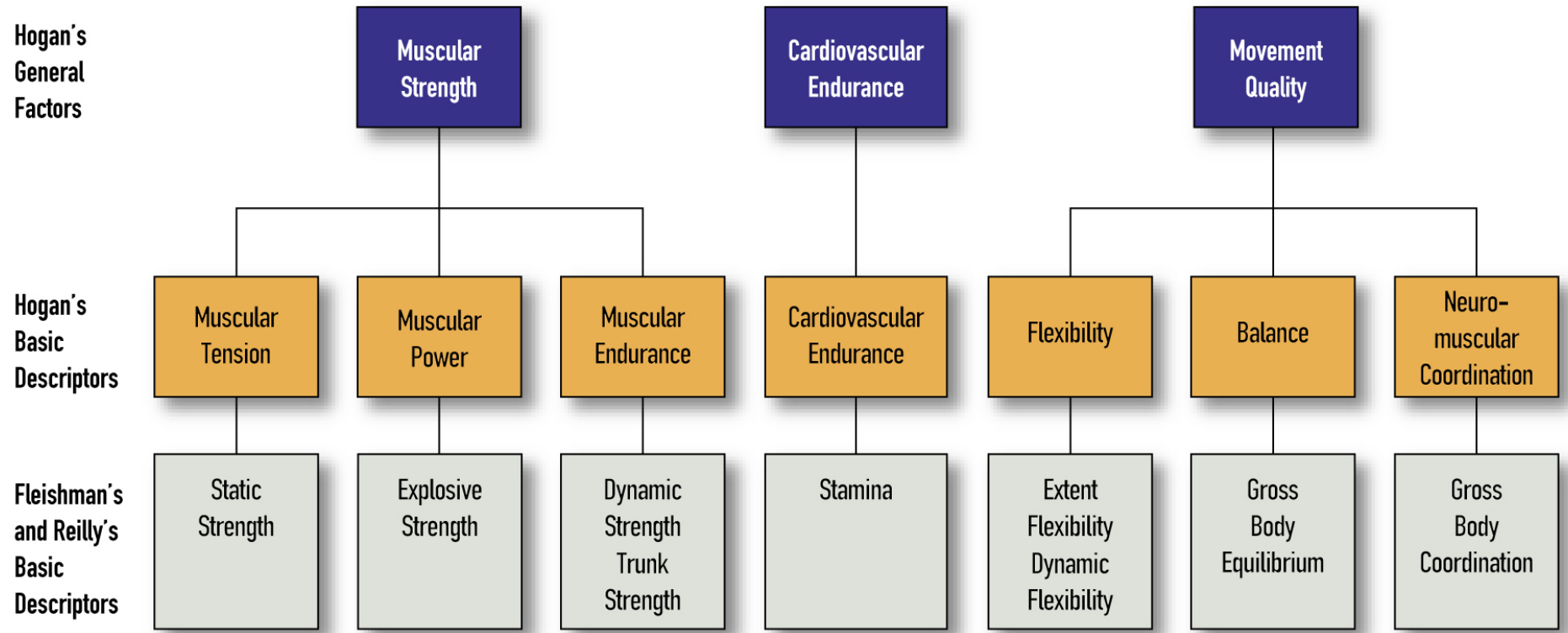


What is cognitive ability?

- **Cognitive ability:** Broad categories of intellectual capacity; the capacity to reason, plan, and solve problems
 - AKA mental ability



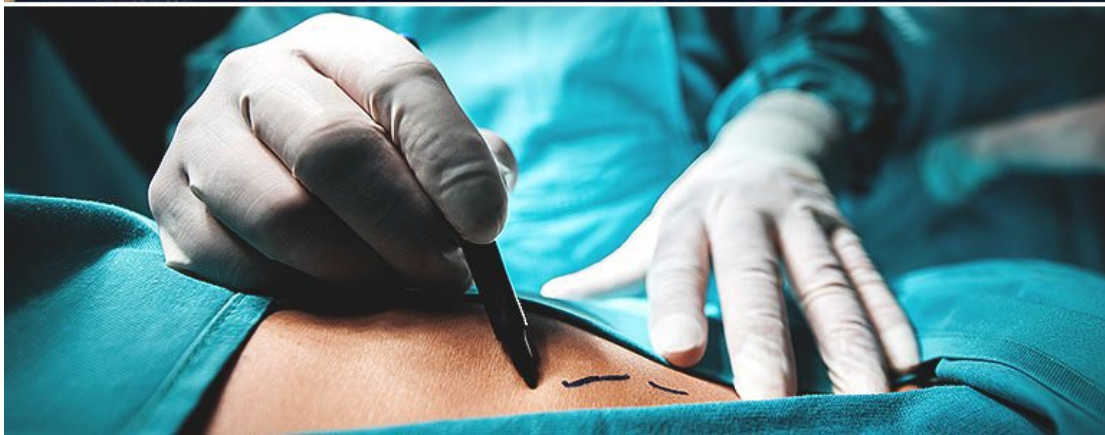
What is physical ability?



What other abilities do we measure?

- **Sensory abilities:** Physical functions of the five senses and kinesthetic feedback





What other abilities
do we measure?

- **Psychomotor abilities:**
Physical functions of movement
 - E.g., coordination, dexterity, and reaction time

What other abilities do we measure?

- **Perceptual-motor abilities:** Physical functions that combine sensory abilities and psychomotor abilities



What other characteristics
do we measure? What is
personality? What is
emotional intelligence?
What are competencies?

What is personality?

- **Personality:** A person's typical response

Openness to Experience

The tendency to be willing to consider new ideas

Conscientiousness

The tendency to accomplish things and perform well

Extraversion

The tendency to be energized in private or social situations

Agreeableness

The tendency to get along well with others

Emotional Stability

The tendency to maintain emotional balance in stressful situations

What is personality?

- Broad traits predictive of broad performance
- Specific traits predictive of specific performance
- Relationship with performance influenced by perceived autonomy



What is emotional intelligence?

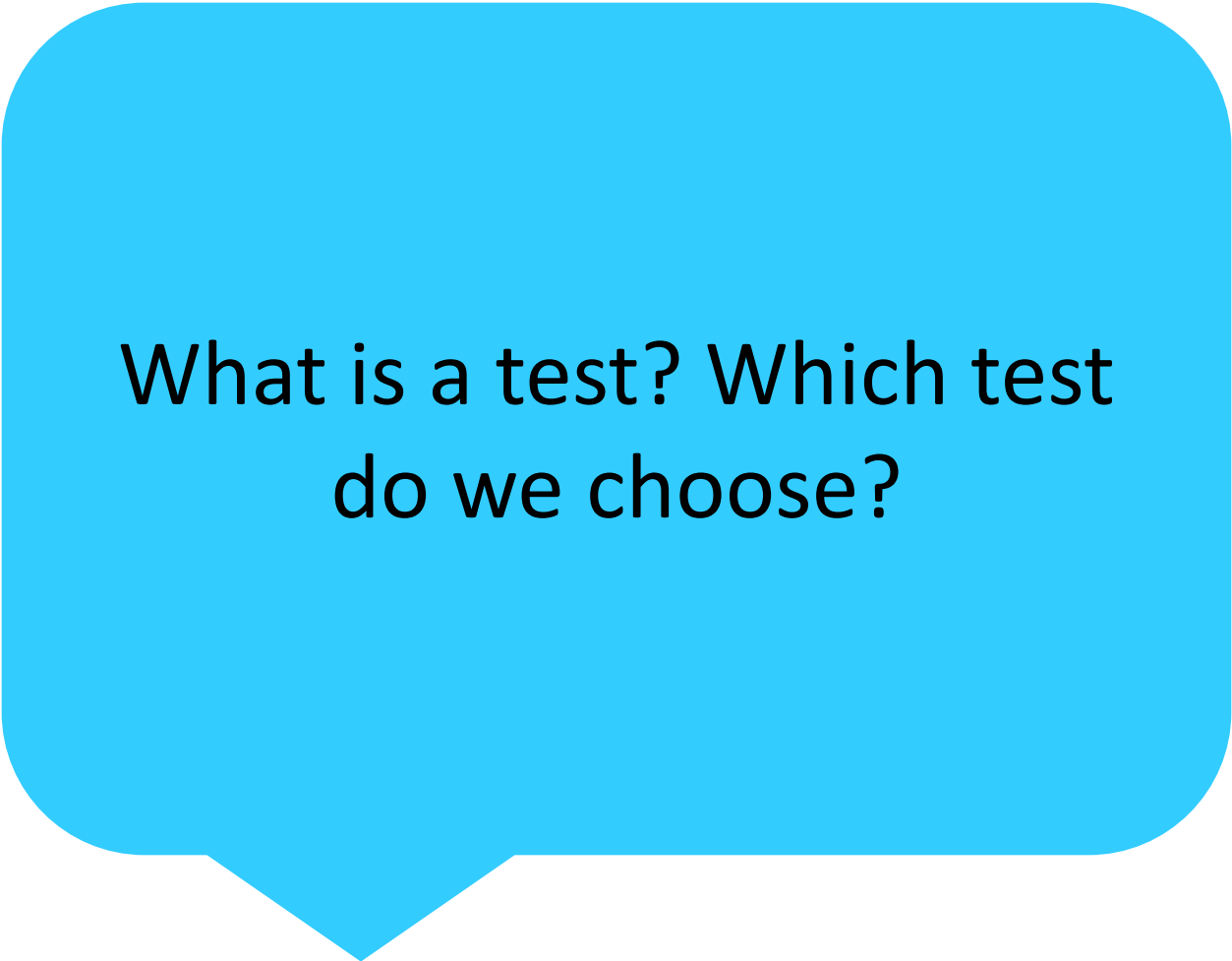
- **Emotional intelligence:** Awareness and understanding of your own and others' emotions
 - Intrapersonal = Ability to understand my emotions
 - Interpersonal = Ability to understand others' emotions
- Controversial construct



What are competencies?



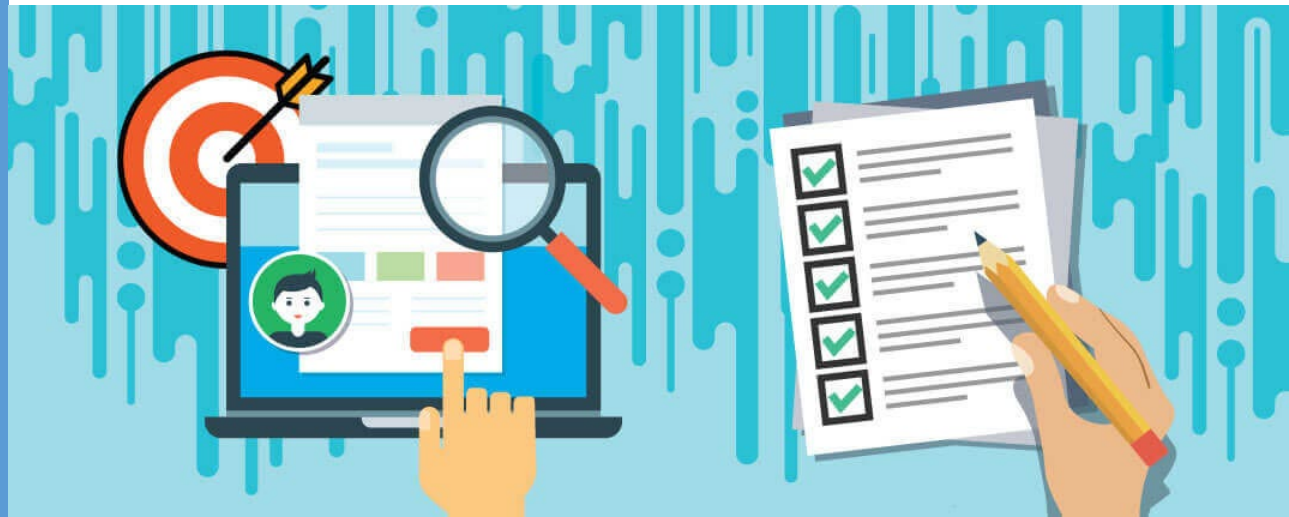
- **Competencies:** A combination of characteristics that are important to job success
 - Organization-specific
 - Identified through job analysis and competency modeling



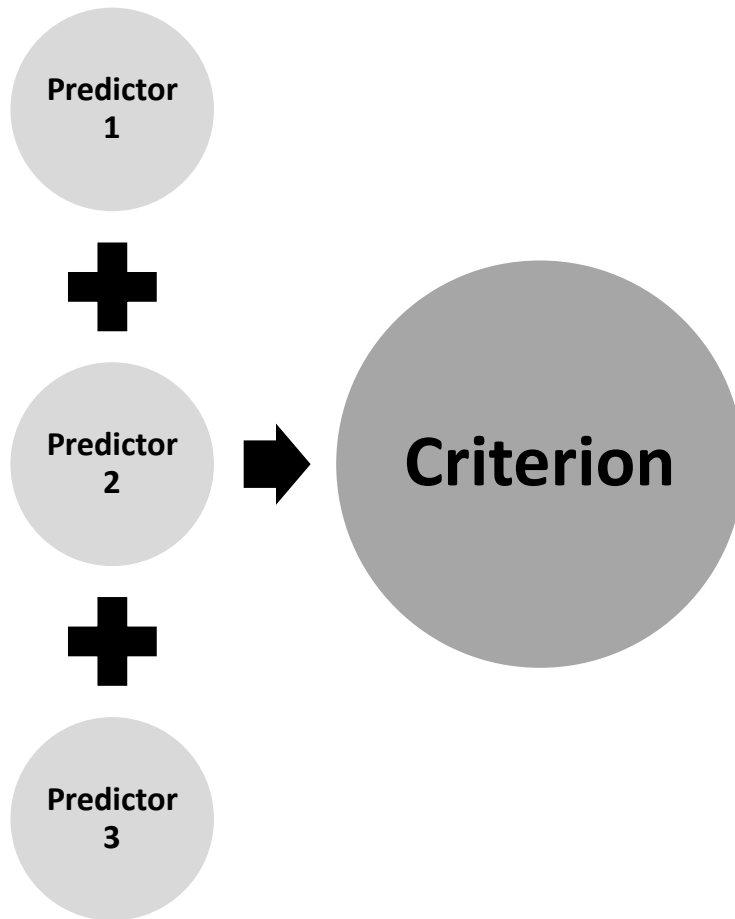
What is a test? Which test
do we choose?

What is a test?

- **Test:** An objective and standardized procedure for measuring a psychological construct using a sample of behavior
- **Test battery:** A collection of tests assessing a variety of different characteristics
- Norming and norm groups used to interpret and give meaning to a score
- Found in the Mental Measurements Yearbook



What is a test?



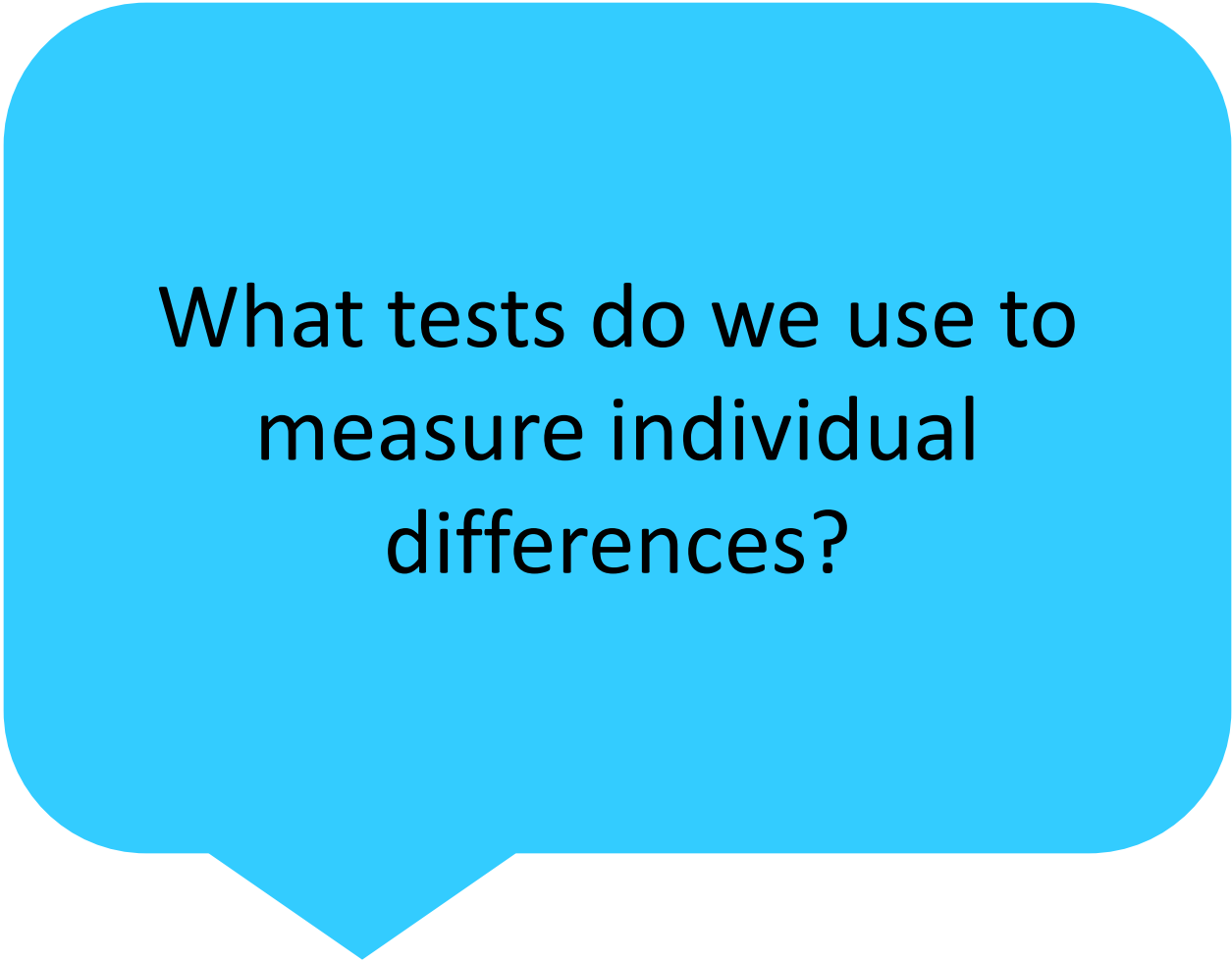
- More is better!
- **Incremental validity:**
The increased validity associated with adding a predictor to a selection system

Which test do we choose?

- Purpose
- Job relatedness
- Perceived fairness
- Cost effectiveness
- Reliability and validity
- Legal considerations

Which test do we choose?

- **Work sample tests: 54%**
- **Structured interviews: 51%**
- **GMA tests: 51%**
- **Peer ratings: 49%**
- **Job knowledge tests: 48%**
- **Training and experience behavioral consistency method: 45%**
- **Job tryout procedure: 44%**
- **Integrity tests: 41%**
- **Unstructured interviews: 38%**
- **Assessment centers: 37%**
- **Biographical data measures: 35%**
- **Conscientiousness tests: 31%**
- **Reference checks: 26%**
- **Job experience in years: 18%**
- **Training and experience point method: 11%**
- **Years of education: 10%**
- **Interests: 10%**
- **Graphology: 2%**



What tests do we use to
measure individual
differences?

What are work sample tests?

- **Work sample tests:** Measure specific and broad job knowledge and skills in realistic job-like conditions

MOTOR WORK SAMPLES

Carving dexterity test for dental students
Blueprint reading test
Shorthand and stenography test
Rudder control test for pilots
Programming test for computer programmers
Map reading test for traffic control officers

VERBAL WORK SAMPLES

A test of common facts of law for law students
Group discussion test for supervisor
Judgment and decision-making test for administrators
Speech interview for foreign student
Test of basic information in chemistry
Test of ability to follow oral directions

What are work sample tests?

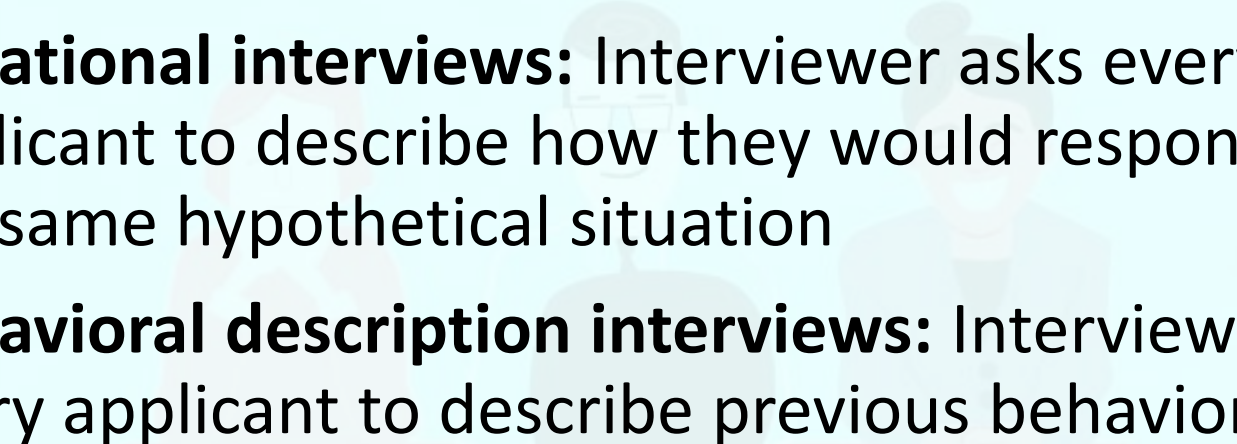
Advantages

- Valid predictors
- High face validity
- Difficult to fake
- Less influenced by demographics
- Easy to defend

Disadvantages

- Do not assess the ability to learn new knowledge and skills
- Expensive development and administration

What are interviews?

- **Structured interviews:** Interviewer follows a detailed, standardized protocol
 - **Situational interviews:** Interviewer asks every applicant to describe how they would respond to the same hypothetical situation
 - **Behavioral description interviews:** Interviewer asks every applicant to describe previous behaviors
- 

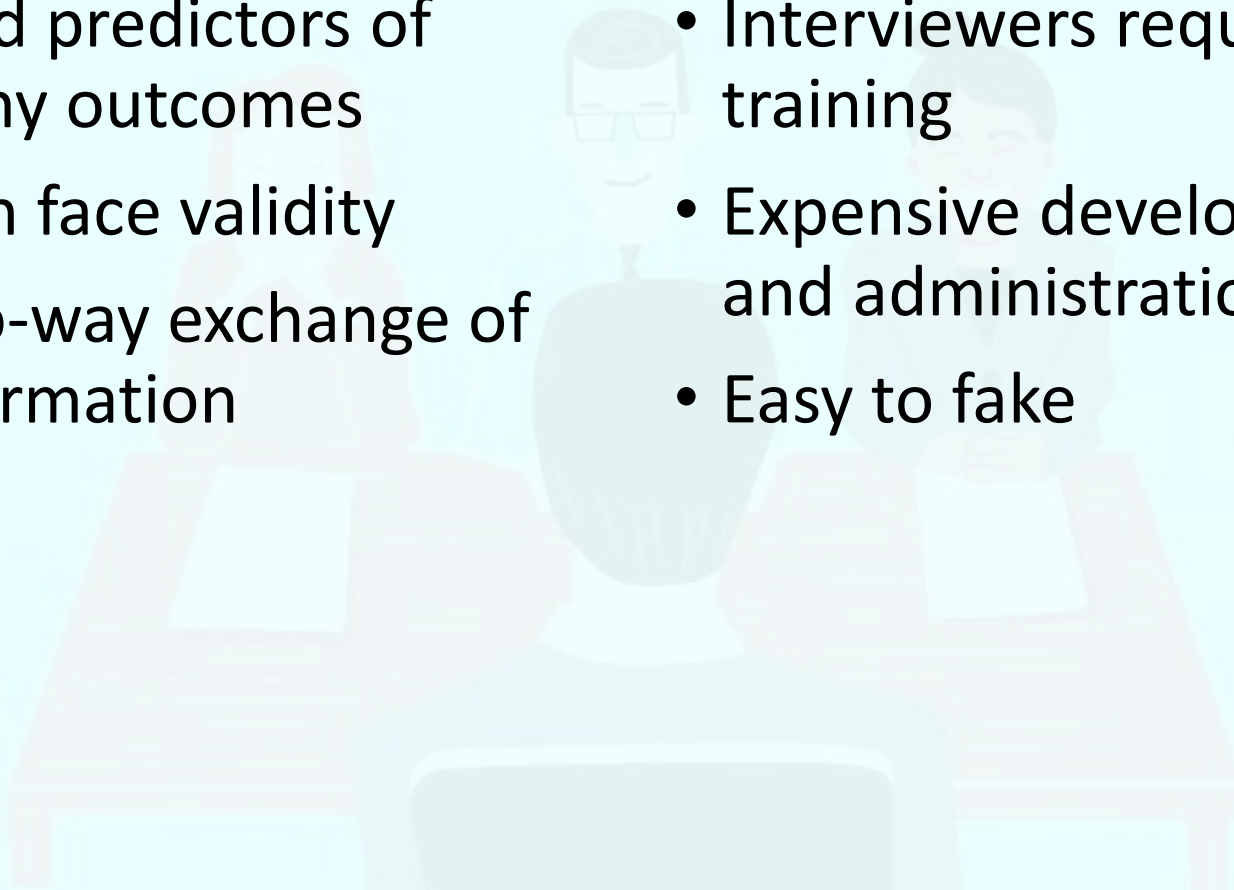
What are interviews?

Advantages

- Valid predictors of many outcomes
- High face validity
- Two-way exchange of information

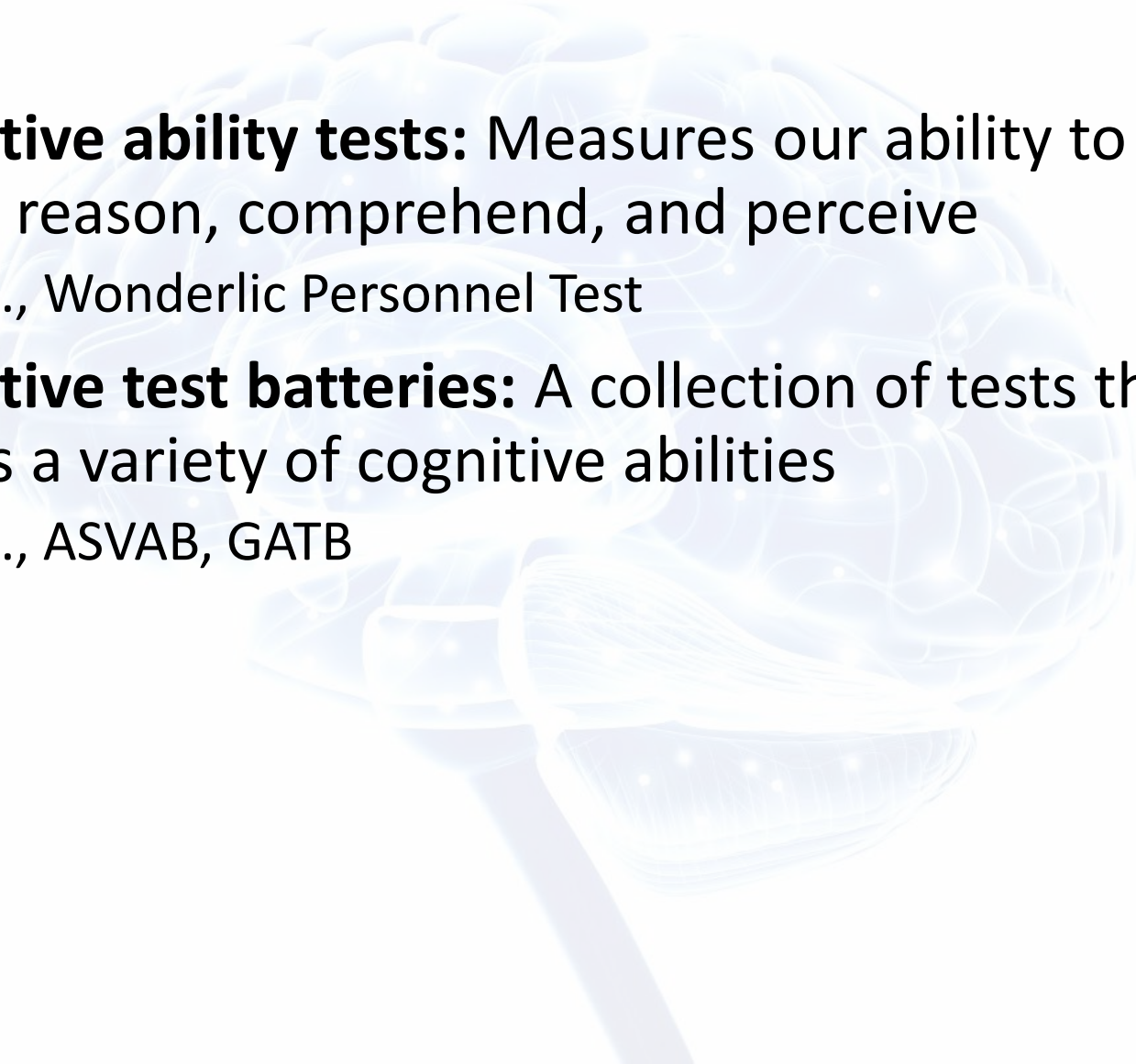
Disadvantages

- Interviewers require training
- Expensive development and administration
- Easy to fake



What are cognitive ability tests?

- **Cognitive ability tests:** Measures our ability to learn, reason, comprehend, and perceive
 - E.g., Wonderlic Personnel Test
- **Cognitive test batteries:** A collection of tests that assess a variety of cognitive abilities
 - E.g., ASVAB, GATB




What are cognitive ability tests?

Wonderlic W P T - R

Sample Questions



1. Which of the following is the earliest date?
A) Jan. 16, 1898 B) Feb. 21, 1889 C) Feb. 2, 1898 D) Jan. 7, 1898 E) Jan. 30, 1889
2. **LOW** is to **HIGH** as **EASY** is to ?.
J) **SUCCESSFUL** K) **PURE** L) **TALL** M) **INTERESTING** N) **DIFFICULT**
3. A featured product from an Internet retailer generated 27, 99, 80, 115 and 213 orders over a 5-hour period. Which graph below best represents this trend?

A B C D E
4. What is the next number in the series? 29 41 53 65 77 ?
J) 75 K) 88 L) 89 M) 98 N) 99
5. One word below appears in color. What is the *OPPOSITE* of that word?
She gave a **complex** answer to the question and we all agreed with her.
A) long B) better C) simple D) wrong E) kind
6. Jose's monthly parking fee for April was \$150; for May it was \$10 more than April; and for June \$40 more than May. His average monthly parking fee was ? for these 3 months.
J) \$66 K) \$160 L) \$166 M) \$170 N) \$200

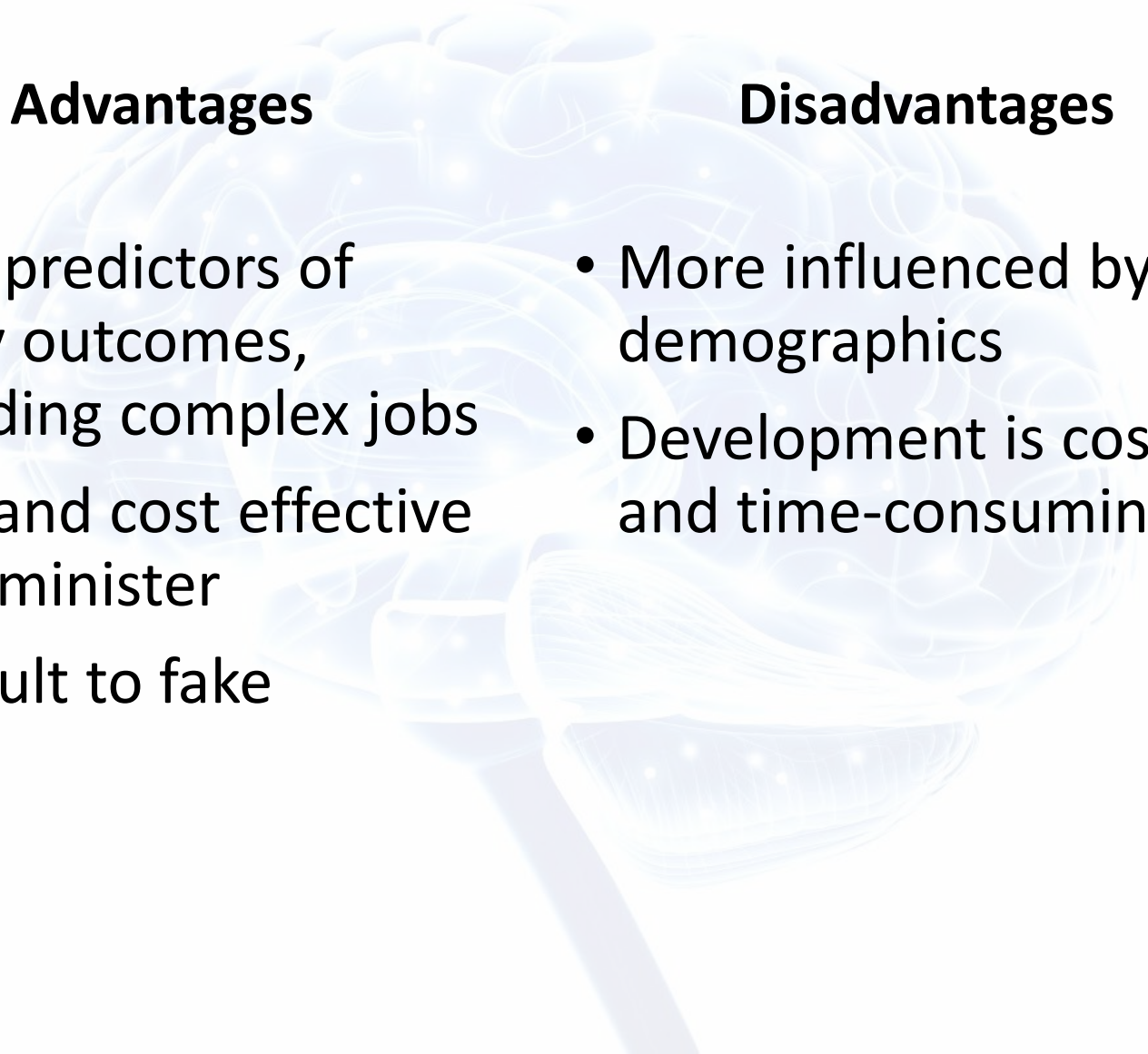
What are cognitive ability tests?

Advantages

- Valid predictors of many outcomes, including complex jobs
- Easy and cost effective to administer
- Difficult to fake

Disadvantages

- More influenced by demographics
- Development is costly and time-consuming



What are knowledge tests?

- **Knowledge tests:** Measures our knowledge and understanding of job-relevant information
- Often includes multiple choice or essay items
- Often tailored to fit the job
- Often required for licensing and certification purposes

What are knowledge tests?

Advantages

- Valid predictors of many outcomes
- High face validity
- Difficult to fake
- Cost effective administration

Disadvantages

- Must be frequently updated
- Not appropriate when knowledge can be learned OTJ
- Expensive development

What are integrity tests?

- **Integrity tests:** Measure attitudes and experiences related to honesty
- **Overt integrity test:** Asks direct questions about past behaviors and attitudes
 - *“There is nothing wrong with telling a lie if no one suffers any harm.”*
- **Personality-based integrity test:** Infers honesty from broad personality constructs
 - *“Do you like taking risks?”*

What are integrity tests?

Advantages

- Valid predictors of many outcomes
- Less influenced by demographics
- Easy and cost effective to administer

Disadvantages

- Applicants seldom see their scores
- Easy to fake
- Personality tests better at measuring CWBs

What are personality tests?

- **Personality tests:** Measure stable patterns of behavior
- Screen-in tests identify normal personality
 - May be administered as pre-employment tests
 - E.g., HPI, NEO-PI, PCI
- Screen-out tests identify psychopathology
 - Can only be administered after job offers
 - E.g., MMPI

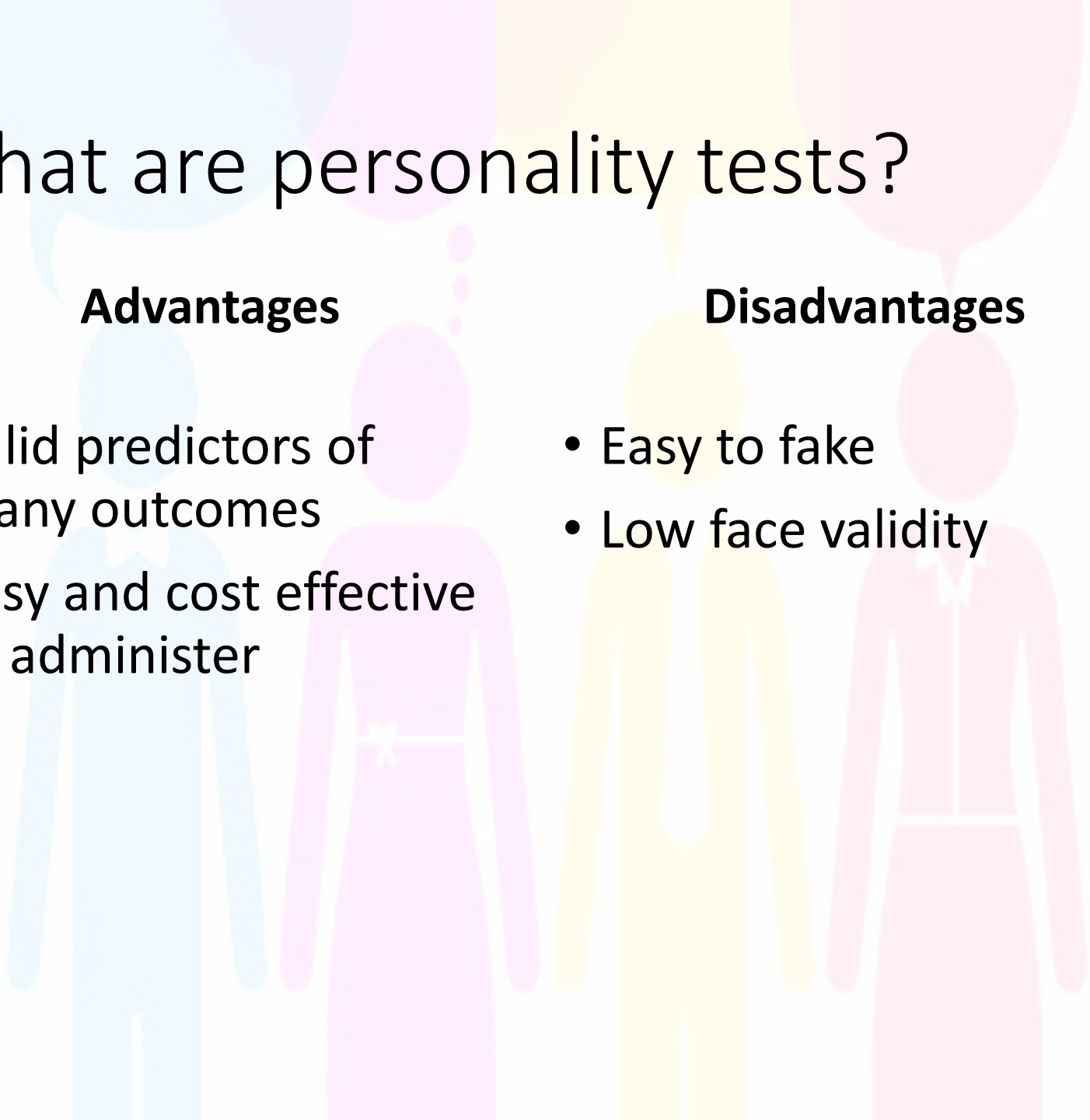
What are personality tests?

Advantages

- Valid predictors of many outcomes
- Easy and cost effective to administer

Disadvantages

- Easy to fake
- Low face validity



What are physical ability tests?

- **Physical ability tests:**
Measures our ability to meet the physical demands of a job
- Must be assessed for employment discrimination



What are physical ability tests?

Advantages

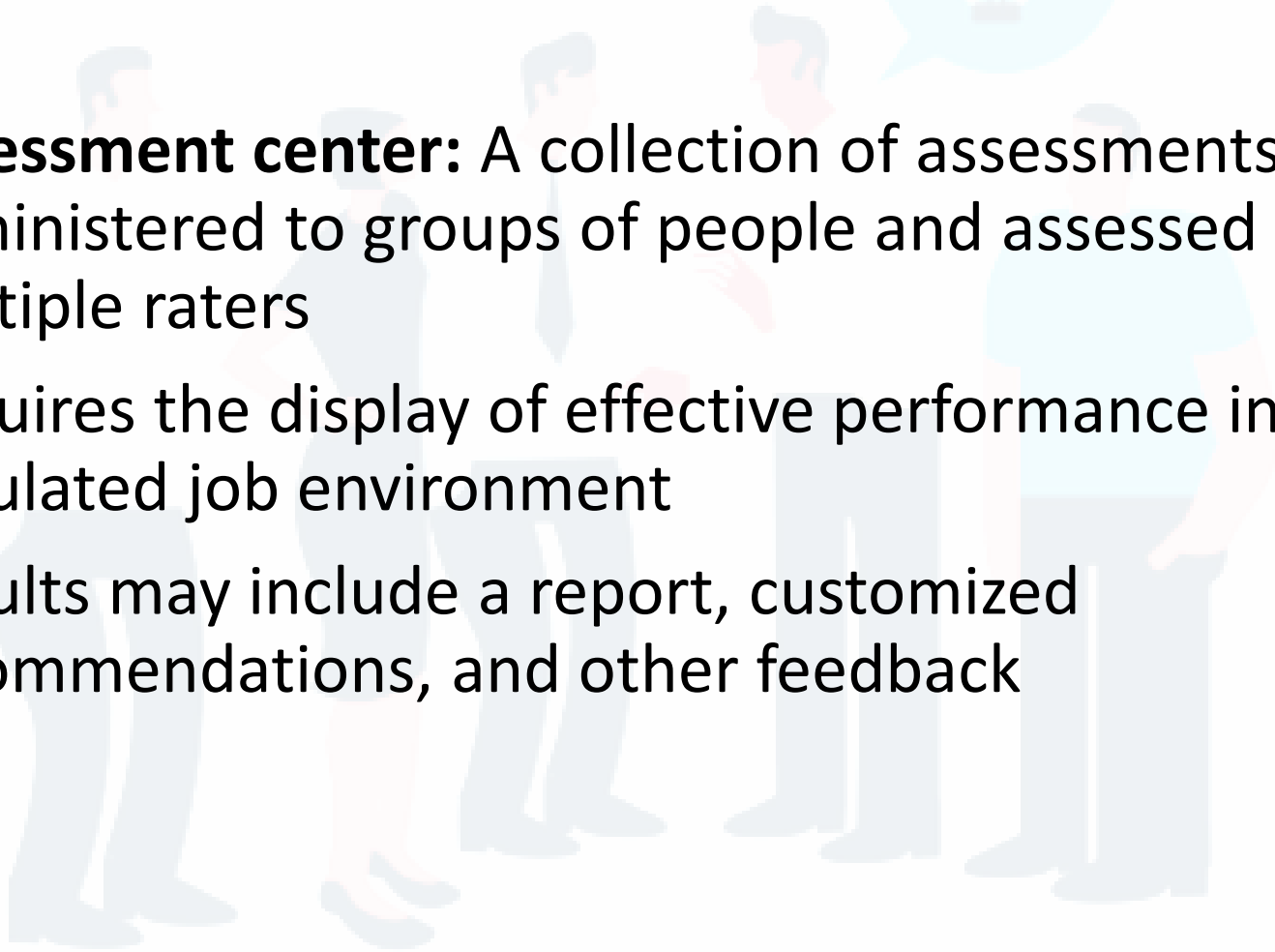
- Valid predictors in physically demanding jobs
- Exclude those who cannot perform essential tasks
- Difficult to fake

Disadvantages

- Impacted by age and gender
- Expensive development and administration

What are assessment centers?

- **Assessment center:** A collection of assessments administered to groups of people and assessed by multiple raters
- Requires the display of effective performance in a simulated job environment
- Results may include a report, customized recommendations, and other feedback



What are assessment centers?

Advantages

- Valid predictors of many outcomes
- High face validity
- Focused on behaviors
- Useful for identifying developmental needs

Disadvantages

- Interviewers require training
- Expensive development and administration

What are situational judgment tests?

- **Situational judgment test:** Measures our judgments about future behaviors

You are assigned to answer calls from customers today. When you return from your break, you notice that there is only one employee working at the register and a long line has formed. What response would you avoid?

Choice	Answer
A	Inform your supervisor that you are going to help at the register.
B	Ask a colleague to go help at the register.
C	Continue taking calls as usual.
D	See if there are customers at the store you can offer products to.

What are situational judgment tests?

Advantages

- Valid predictors of many outcomes
- High face validity
- Incremental validity above personality and intelligence tests

Disadvantages

- Easy to fake
- Expensive development and administration

What is drug testing?

- **Drug tests:** Measure traces of prohibited substances
- Includes paper-and-pencil, urine, hair, saliva, fitness for duty tests
- Expected for public safety and transportation jobs

What is drug testing?

Advantages

- Identify people who cannot fulfill essential job duties
- Most difficult to fake

Disadvantages

- Positive result does not determine amount, frequency, time since use, or impairment
- Administration is costly
- Many legal concerns