

Dynamics of Intelligence



Does Intelligence Change Over Time?

⌘ Depends on the type of intelligence

☑ Crystallized:
knowledge
accumulation

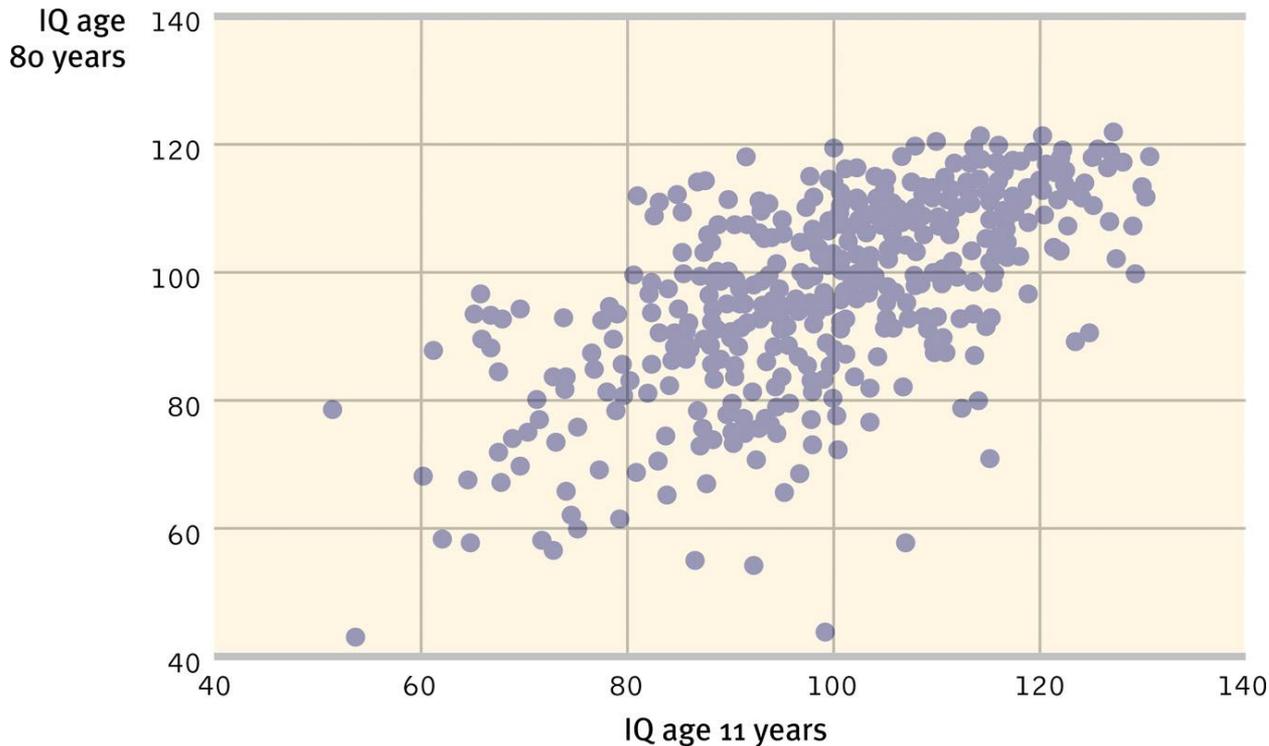


☑ Fluid: speed of
mental processing



The Dynamics of Intelligence

- Is intelligence stable across the lifespan or does it change?



Intelligence test scores don't stabilize until about age 7; after that about a $+0.66$ correlation over time

The Dynamics of Intelligence



- **Extremes of Intelligence**
- **Mental Retardation**
 - a condition of limited mental ability; indicated by an intelligence score below 70; produces difficulty in adapting to the demands of life; varies from mild to profound

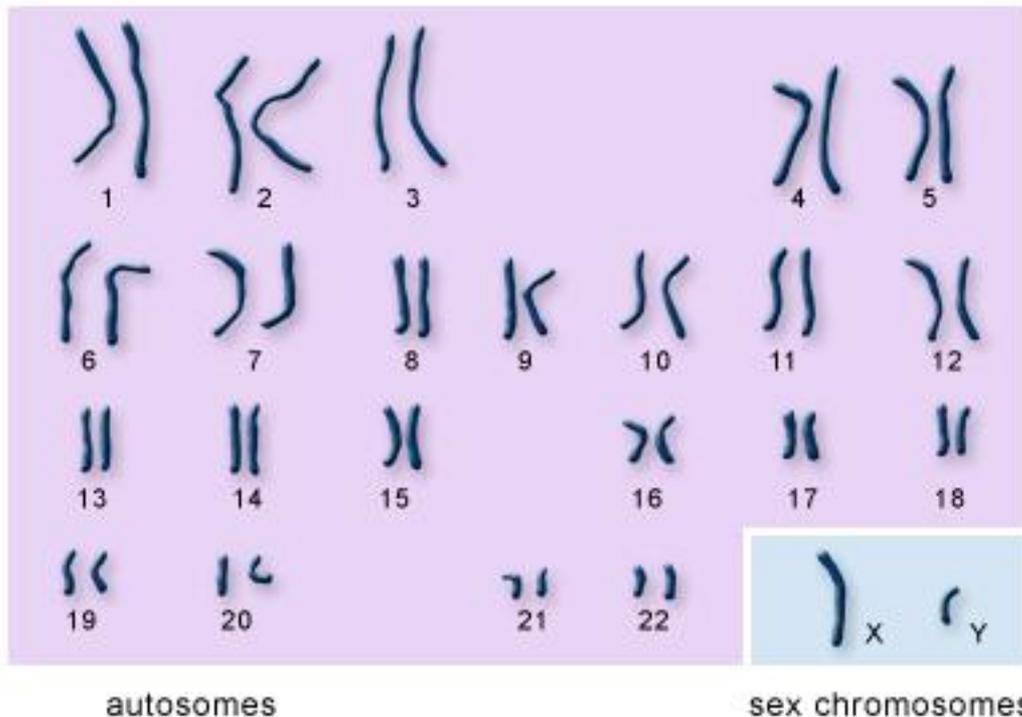
TABLE 11.1**DEGREES OF MENTAL RETARDATION**

Level	Typical Intelligence Scores	Percentage of Persons with Retardation	Adaptation to Demands of Life
Mild	50–70	85%	May learn academic skills up to sixth-grade level. Adults may, with assistance, achieve self-supporting social and vocational skills.
Moderate	35–49	10%	May progress to second-grade level academically. Adults may contribute to their own support by laboring in sheltered workshops.
Severe	20–34	3–4%	May learn to talk and to perform simple work tasks under close supervision but are generally unable to profit from vocational training.
Profound	Below 20	1–2%	Require constant aid and supervision.

Source: Reprinted with permission from the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition. Copyright 1994 American Psychiatric Association.

Mental Retardation

Down Syndrome: retardation and associated physical disorders caused by an extra 21st chromosome in one's genetic makeup



Extremes of Intelligence

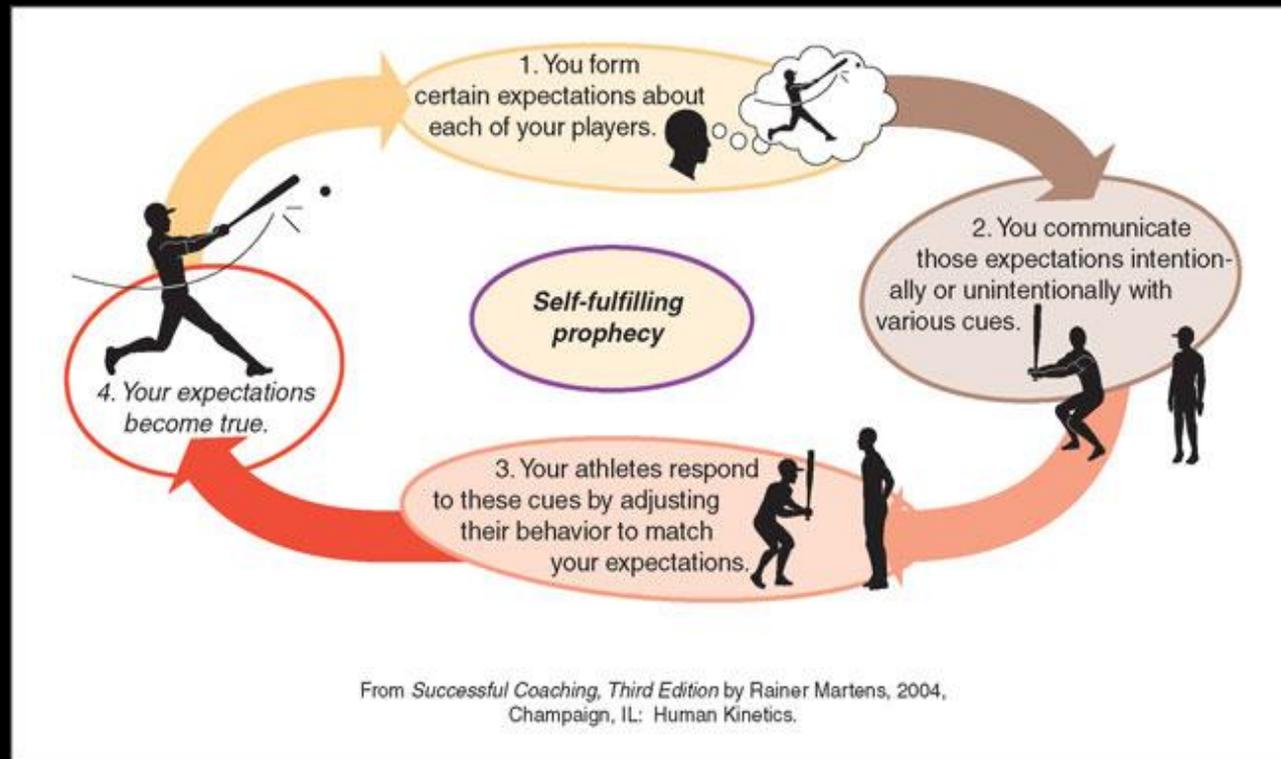
⌘ Mensa – organization for only the top 2% of intelligences



Tracking

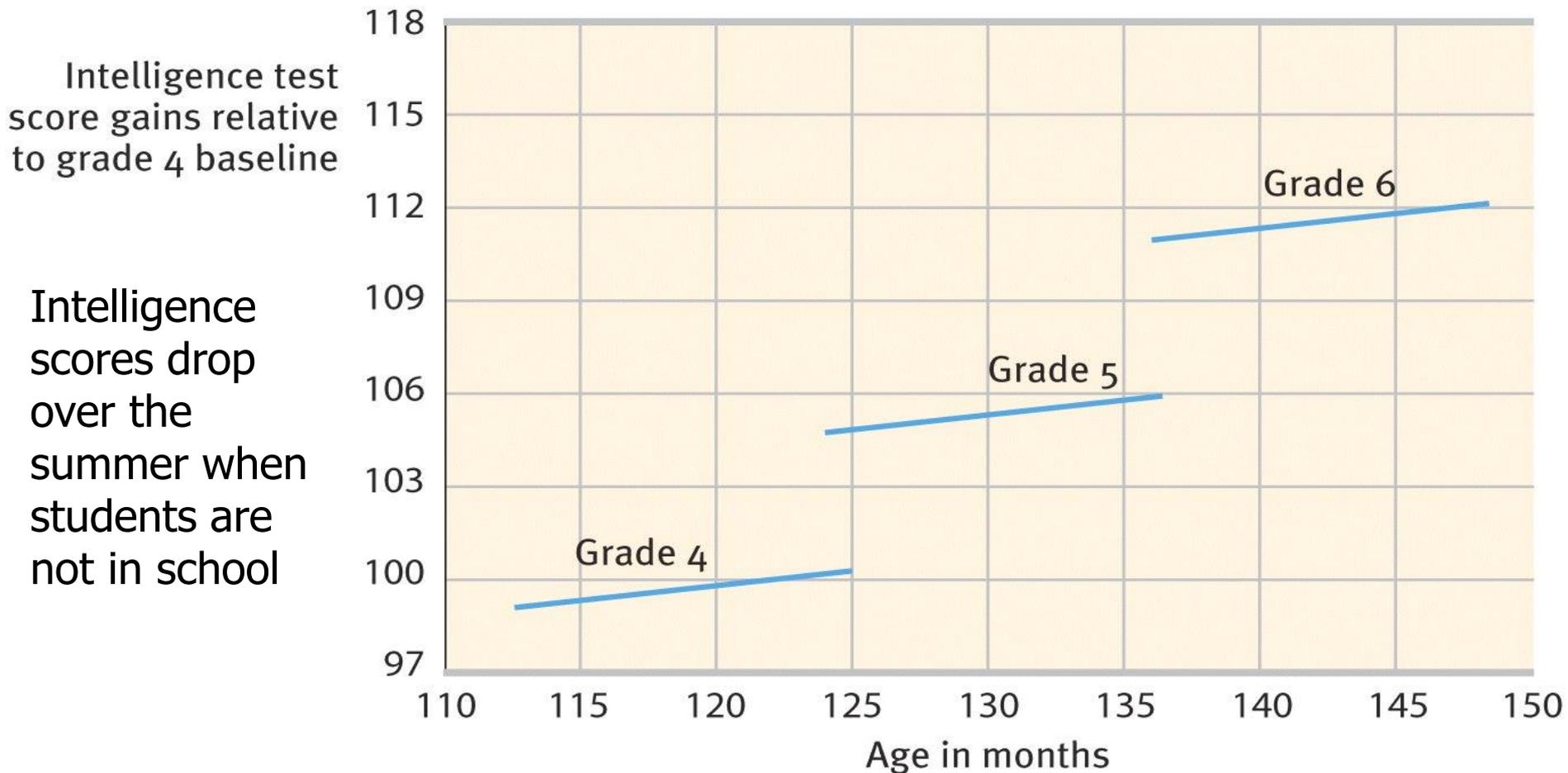
⌘ From early age students are often tracked into “gifted” programs and “remedial” programs... what’s a potential problem with this?

☑ Self-Fulfilling Prophecy

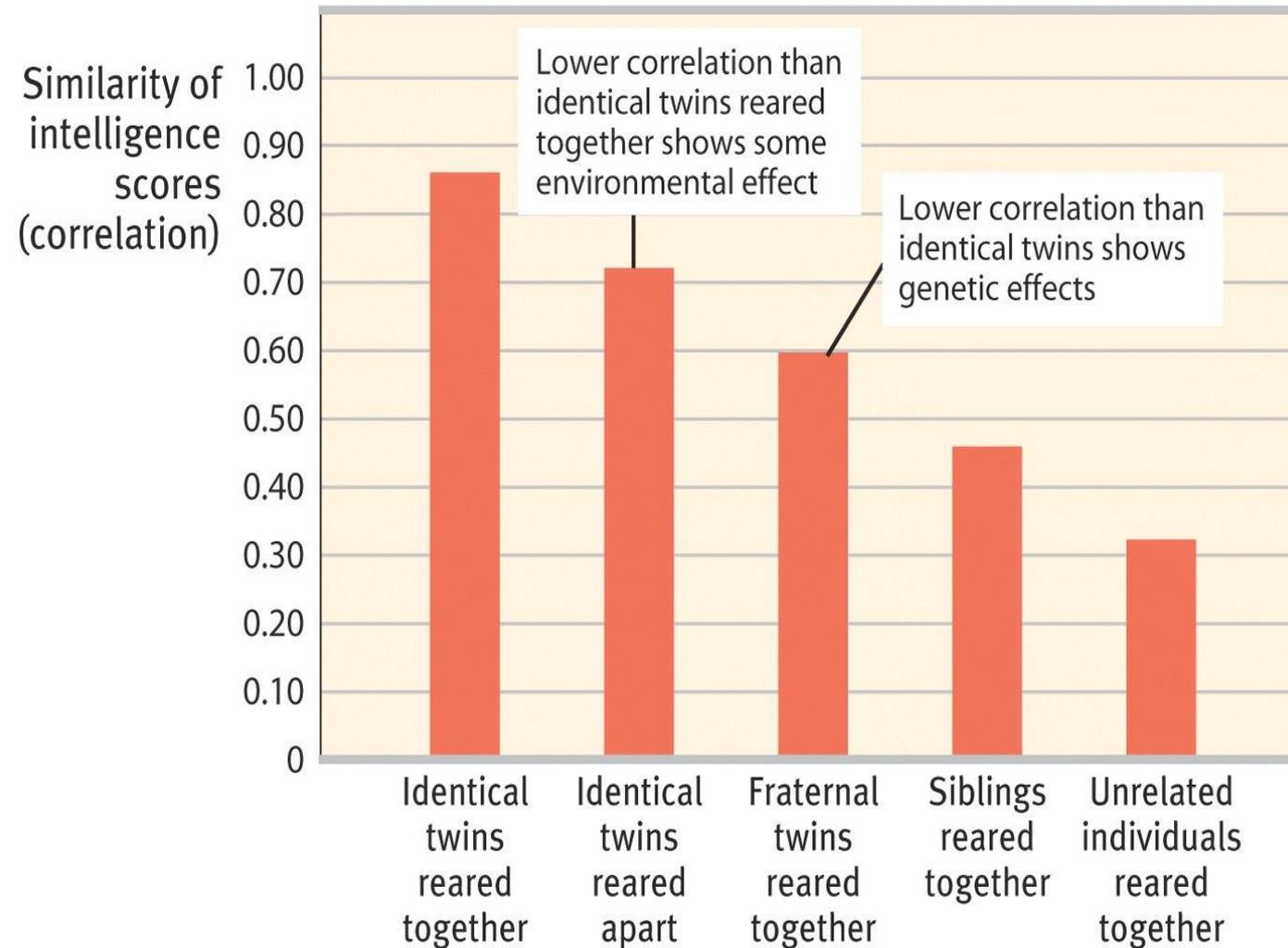


Environmental Influences

- The Schooling Effect



Genetic Influences



- The most genetically similar people have the most similar scores

Group Differences



- Average IQ scores vary by racial groups
 - Whites: Roughly 100
 - Blacks: Roughly 85
 - Hispanics: Roughly 92/93
- Differences are diminishing over time
- What might explain these differences?

Group Differences

■ Stereotype Threat

- A self-confirming concern that one will be evaluated based on a negative stereotype

- Example: Women score higher on math tests when no male test-takers are in the room



Group Differences

⌘ Gender Differences

- ☑ Girls score higher on:
 - ☒ Spelling
 - ☒ Verbal Ability
 - ☒ Nonverbal Memory
 - ☒ Sensation (more sensitive)
 - ☒ Detecting Emotion
- ☑ Boys outnumber girls in special education, talk later, stutter more often
- ☑ Girls now match or surpass boys at math



The Question of Bias



- Are intelligence tests biased?
 - Depends on definition of “biased,” but...
 - Yes, often due to CULTURAL BIAS
 - Chitling Test, Australian Aborigine Test examples