

**"Assessing
Intellectual Functioning"
CJA Training
St. Louis September 2011
J. Russell Patton
(Jim)**

Some FYIs:
(1) AAIDD DP Task Force
"Manual on Appropriate
(2) Meadows Center - UT
"Disability & Crime"
www.meadowscenter.org

Preliminary Notes:

- terminology
MR>ID
- in the UK ...
- role of IQ in ...
"IQ is ki
- IQ data (Blur

Concept of intelligence:
• practical perspective
• professional perspective

Notes on Definition:
• AAIDD (2010)
• DSM-V -- current
• Anastassi

Instrumental:
• standards
• instruments
• measures

ed experts
test administration

ies:

Key Topics:

- Preliminary notes
- Concept of intelligence
- Notes on definition of subaverage
- Prong 1 findings
- Assessment instruments
- Issues of importance
- Recommendations

Preliminary Notes:

- terminology has changed:
MR>ID
- in the UK ... LD is ID
- role of IQ in MR determination
"IQ is king"
- IQ data (Blume et al., 2009)

AVERAGE IQ SCORES OF ATKINS' CLAIMANTS

- African American Inmates – 71
- Caucasian Inmates – 73
- Hispanic Inmates - 69



Concept of intelligence:

- practical perspective
- professional perspectives

General notion --practical:

- reasoning
- problem solving
- abstract thinking

Sternberg (1986)	"... mental activity involved in purposive adaptation to, shaping of, and selection of real-world environments relevant to one's life" (p. 33).
Anastasi (1986)	"Intelligence is not an entity within the organism but a quality of behavior. Intelligent behavior is essentially adaptive, insofar as it represents effective ways of meeting the demands of a changing environment. Such behavior varies with the species and with the context in which the individual lives" (pp. 19–20).
Gardner (1983)	"...a human intellectual competence must entail a set of skills of problem solving—enabling the individual <i>to resolve genuine problems or difficulties</i> that he or she encounters, and, when appropriate, to create an effective product—and must also entail the potential for <i>finding or creating problems</i> —thereby laying the groundwork for the acquisition of new knowledge" (pp. 60–61).
Das (1973)	"...the ability to plan and structure one's behavior with an end in view" (p. 27).
Wechsler (1958)	"The aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his [or her] environment" (p. 7).
Binet & Simon (1916)	"The tendency to take and maintain a definite direction; the capacity to make adaptations for the purpose of attaining a desired end; and the power of autocriticism" (p. 45).

Adapted from Sattler (2001)

Notes on Definition:

- AAIDD (2010)
- DSM-V -- currently proposed
- Anastassi comments
- state deviations [J. Blume et al., 2009]

CHAPTER 4

INTELLECTUAL FUNCTIONING AND ITS ASSESSMENT

For purposes of diagnosis, intellectual functioning is currently best conceptualized and captured by a general factor of intelligence. Intelligence is a general mental ability. It includes reasoning, planning, solving problems, thinking abstractly, comprehending complex ideas, learning quickly, and learning from experience. The “significant limitations in intellectual functioning” criterion for a diagnosis of intellectual disability is an IQ score that is approximately two standard deviations below the mean, considering the standard error of measurement for the specific instruments used and the instruments’ strengths and limitations.

- A. Intellectual Disability is characterized by deficits in general mental abilities such as reasoning, problem-solving, planning, abstract thinking, judgment, academic learning and learning from experience. Intellectual Disability requires a current intellectual deficit of approximately 2 or more standard deviations in Intelligence Quotient (IQ) below the population mean for a person's age and cultural group, which is typically an IQ score of approximately 70 or below, measured on an individualized, standardized, culturally appropriate, psychometrically sound test.

What is clear from examining different definitions is that no general agreement can be found. Anastasi and Urbina (1997) make three very important points in regard to definition:

1. ...it should be noted that the unqualified term “intelligence” is used with a wide diversity of meanings, not only by the general public but also by members of different disciplines ... and by psychologists who specialize in different areas or identify with different theoretical orientations. (p. 294)
2. ...tested intelligence should be regarded as a descriptive rather than an explanatory concept. (p. 295)
3. ... [a] major point to bear in mind is that intelligence is not a single, unitary ability, but a composite of several functions. (p. 296)

- State deviations from clinical definitions of MR:
 - Prong 1 – Intellectual functioning
 - Strict IQ cutoff (“70 or below”)
 - Failure to account for standard error of measurement or practice effects
 - Disregarding the Flynn effect

Assessment Instruments:

- gold standards
- other instruments
- nonverbal measures

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Gold Standards:

- Wechsler scales
 - WISC-IV (2003, 1991, 1974, 1949)
 - WAIS-IV (2008, 1997, 1981, 1955)
 - [WPPSI-III (2002, 1989, 1967)]
- Stanford Binet (2003, 1986, 1973, 1960, 1937)

WISC-IV Subtests, Abbreviations, and Descriptions of Subtests

Subtest	Abbreviation	Description
Block design	BD	While viewing a constructed model or a picture in the Stimulus Book, the child uses red-and-white blocks to re-create the design within a specified time limit.
Similarities	SI	The child is presented two words that represent common objects or concepts and describes how they are similar.
Digit span	DS	For Digit Span Forward, the child repeats numbers in the same order as presented aloud by the examiner. For Digit Span Backward, the child repeats numbers in the reverse order of that presented aloud by the examiner.
Picture concepts	PCn	The child is presented with two or three rows of pictures and chooses one picture from each row to form a group with a common characteristic.
Coding	CD	The child copies symbols that are paired with simple geometric shapes or numbers. Using a key, the child draws each symbol in its corresponding shape or box within a specified time limit.
Vocabulary	VC	For Picture Items, the child names pictures that are displayed in the Stimulus Book. For Verbal Items, the child gives definitions for words that the examiner reads aloud.
Letter-number sequencing	LN	The child is read a sequence of numbers and letters and recalls the numbers in ascending order and the letters in alphabetical order.
Matrix reasoning	MR	The child looks at an incomplete matrix and selects the missing portion from five response options.
Comprehension	CO	The child answers questions based on his or her understanding of general principles and social situations.
Symbol search	SS	The child scans a search group and indicates whether the target symbol(s) matches any of the symbols in the search group within a specified time limit.
Picture completion	PCm	The child views a picture and then points to or names the important part missing within a specified time limit.
Cancellation	CA	The child scans both a random and a structured arrangement of pictures and marks target pictures within a specified time limit.
Information	IN	The child answers questions that address a broad range of general knowledge topics.
Arithmetic	AR	The child mentally solves a series of orally presented arithmetic problems within a specified time limit.
Word reasoning	WR	The child identifies the common concept being described in a series of clues.

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Indices and scales

There are four index scores representing major components of intelligence:

- Verbal Comprehension Index (VCI)
- Perceptual Reasoning Index (PRI)
- Working Memory Index (WMI)
- Processing Speed Index (PSI)

Two broad scores are also generated, which can be used to summarize general intellectual abilities:

- Full Scale IQ (FSIQ), based on the total combined performance of the VCI, PRI, WMI, and PSI
- General Ability Index (GAI), based only on the six subtests that comprise the VCI and PRI

Other

general intellectual abilities:
the VCI, PRI, WMI, and PSI
comprise the VCI and PRI

Other Instruments of Note:

- Woodcock Johnson Tests of Cognitive Ability (WJ-III) (2001)
- Kaufman Assessment Battery for Children (KABC-II) (2004)

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Nonverbal Measures:

- TONI-4 (2010)
- CTONI-2 (2009)

Intellectual Functioning Issues:

- test selection
- cutoff score
- measurement error:
 - SEM, confidence intervals
- test fairness:
 - Larry P. v. Riles
- Flynn effect:
 - generational increase in IQ
- comparability of scores from different tests:
 - not all scores are the same
- practice effects:
 - retesting on same instrument
- role of IQ in diagnosis:
 - importance of clinical judgment
- malingering
- need for new testing
- assessor credentials



General Subaverage Intellectual Functioning Criterion Across

Three Definitional Perspectives

Definitional Perspective	Meaningful IQ Score Cutoff	Wording from Definitional Source
AAMR (2010)	"approximately" 70	"... criterion for a diagnosis of intellectual disability is an IQ score that is <i>approximately</i> two standard deviations below the mean..." (p. 31)
DSM-IV-TR (2000)	"about" 70	"Significantly subaverage intellectual functioning is defined as an IQ of <i>about</i> 70 or below (approximately 2 standard deviations below the mean)." (p. 41)
APA (1996)	"is" 70	"The criterion of significance <i>is</i> an IQ or comparable normed score that is 2 or more standard deviations below the population mean for the measure." (p. 13)

Standard of Practice and Flynn Effect Testimony in Death Penalty Cases

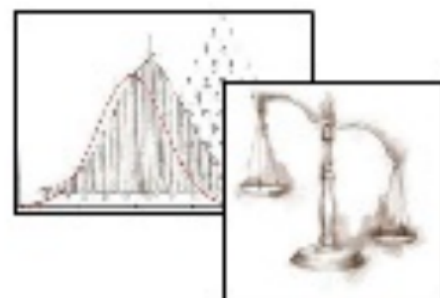
Frank M. Gresham and Daniel J. Reschly

Abstract

The Flynn Effect is a well-established psychometric fact documenting substantial increases in measured intelligence test performance over time. Flynn's (1984) review of the literature established that Americans gain approximately 0.3 points per year or 3 points per decade in measured intelligence. The accurate assessment and interpretation of intellectual functioning becomes critical in death penalty cases that seek to determine whether an individual meets the criteria for intellectual disability and thereby is ineligible for execution under *Atkins v. Virginia* (2002). We reviewed the literature on the Flynn Effect and demonstrated how failure to adjust intelligence test scores based on this phenomenon invalidates test scores and may be in violation of the *Standards for Educational and Psychological Testing* as well as the "Ethical Principles for Psychologists and Code of Conduct." Application of the Flynn Effect and score adjustments for obsolete norms clearly is supported by science and should be implemented by practicing psychologists.

The Flynn Effect in Atkins MR/ID cases

To adjust or not to adjust?—that is the question



Kevin S. McGrew, Ph.D.

Educational Psychologist
Director
Institute for Applied Psychometrics



Learning Disabilities:

- not ID
- sometimes students w/ ID given the label LD
- discrepancy btw ... IQ & achievement
- typically demonstrated in reading, writing, math, ...

80 for this session!

JrP's Recommendations -- Intellectual Functioning:

- team approach
- knowledgeable, skilled, & experienced experts
- most recent versions of instruments
- investigate the test, the tester, and the test administration
- consult key resources

General Subaverage Intellectual Functioning Criterion Across

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