智力理论与智力测验

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本章要点

- 智力理论
- 智力测验（个体）
  - 比奈智力测验
  - 韦氏智力测验
  - 达斯和纳格莱瑞的PASS模型与认知评估系统
- 智力的一些特殊问题

问题

- 智力高是什么意思？
- 你如何看待智力？
  - 写出高智力者的5个最重要的特征？
- 专家是如何看待的？

智力的一些定义

- Binet(cited in Terman, 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.
- Freeman(1955): Adjustment or adaptation of the individual to his total environment, the ability to learn, the ability to carry on abstract thinking.
- J.P.Das(!972): the ability to plan and structure one's behavior with an end in view.
- H.Gardner(1983): the ability to resolve genuine problem or difficulties as they are encountered.
- R.J. Sternberg(1986): mental activities involved in purposive adaptation to, shaping of, and selection of real-world enviorments relevant to one's life.

专家的观点

- 所有
  - 问题解决
  - 获得知识的能力
  - 推理
- 一些
  - 记忆
  - 适应环境
  - 心理加工速度
  - 一般知识
  - 创造力
- ¼
  - 感觉敏锐度
  - 目标导向
  - 成就动机

Sternberg & Detterman(1986), What is Intelligence?

Snyderman & Rothman, American Psychologists, 1987, 42(2), 137-144

智力的度量问题

- 什么能力构成了智力，以及它们是如何相互关联的?
- 什么行为表明了智力（与IQ测验比较）？
- 如何能测量智力，如何定义它？

良好测验的特征

- 效度
  - 度量了要测量的东西
- 信度
  - 测验分数的稳定性
- 标准化
  - 同样的测验
  - 样本人群的统计比较
- 客观性
  - 施测，计分，设置
- 常模
  - 大样本常模
- 实践性
  - 时间
  - 费用

早期实践

- 高尔顿
- 卡特尔（1890）
  - 运动速度
  - 两点阈
  - 压一痛阈限
  - 最小可觉差
  - 反应时
  - 时间判断
  - 大小估计
  - 字母记忆
  - 颜色命名
  - 动态力量
- 比奈（1905）
  - 要求解决有关智力的实际问题
  - 找出法国学习中智力落后的学生
  - 测量判断，注意和推理
- 做法
  - 确定重要的学校活动和成功学生表现的水平
  - 发展途径：做对一个题目（成功）随年龄组提高

比奈的尝试

- 对3－16岁每个年龄的儿童编出5个测验题，如
- 3岁：重复两位数
- 8岁：从20倒数到0
- 15岁：解释事实
- 认为其测验是为实际目的而编，并不测量或反映一种智力理论
- 测验并不意味着是针对“正常”儿童群体
- 强调区分出和培训

智力研究途径

- 心理测量学途径
  - 智力由测验定义
- 发展途径（皮亚杰）
  - 生物适应：同化与调节
  - 认知结构
  - 发展阶段
- 认知途径
  - 信息加工模型
  - 同时加工与继时加工
- 生物学途径
  - 脑区功能定位
  - 遗传基因
- 文化社会人类学途径
  - 不同文化的认识与发展

智力的测量学理论

- 核心问题：智力的构成
  - 一与多（合与分）；构成方式
  - 方法：因素分析
- 一元论：
  - 斯皮尔曼（1904，1927），艾森克，詹森（Jensen,1998)
- 多元论：
  - 桑代克（？），瑟斯顿（1938），吉尔福特（1967），加德纳（1983）

一与多

- 一元论
  - 一个一般能力
  - 一个人在一个测验（如言语)上得高分倾向于在另一个测验(数学）也得高分
  - 心理测量学的g
- 多元论
  - 由相对独立的许多能力构成
  - 能力的量可能少或多
  - 斯皮尔曼与瑟斯顿的公案（争论）
  - 言语理解，词语流畅，数字，空间，机械记忆，知觉速度，归纳推理

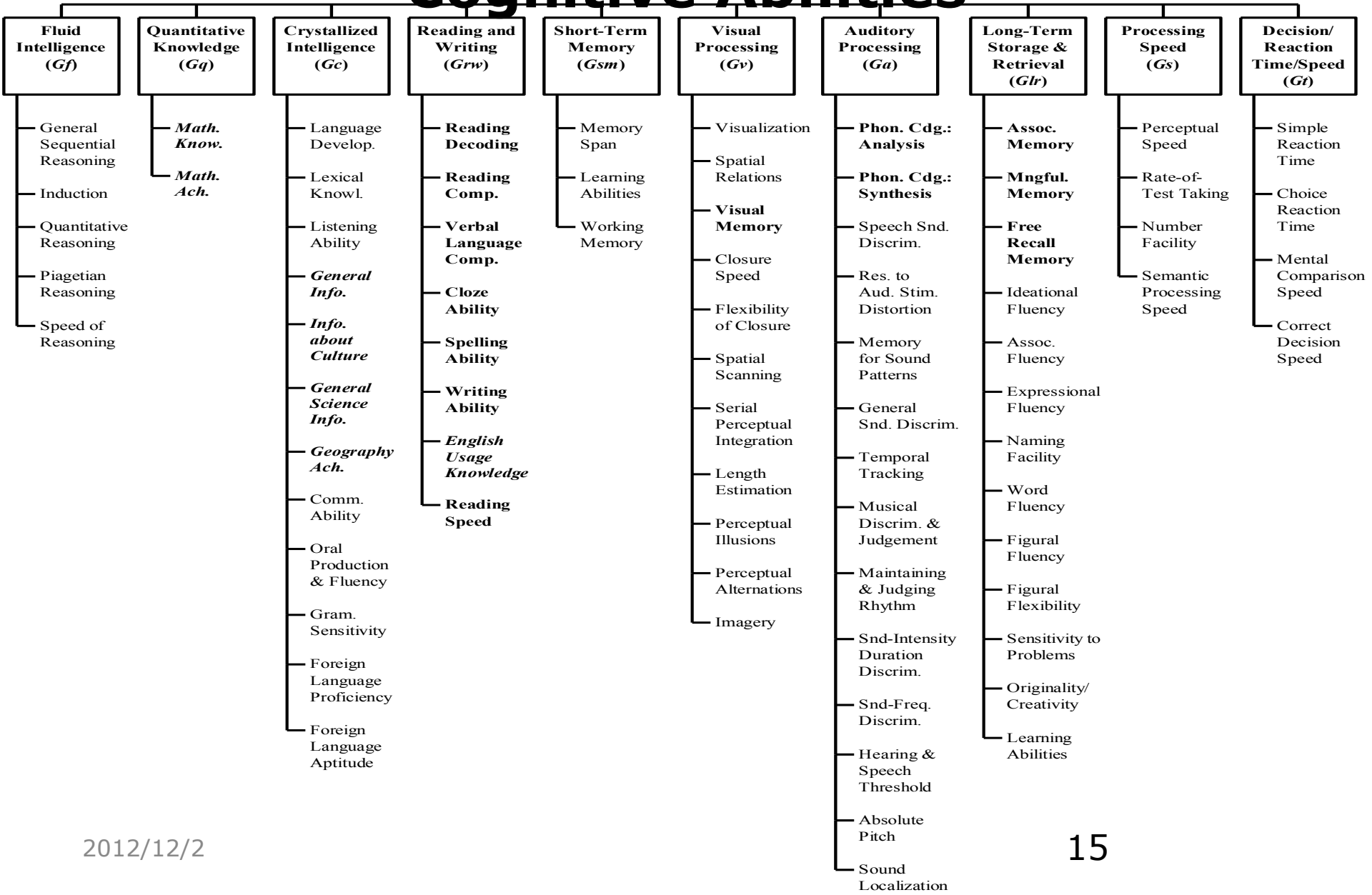
吉尔福特的智力结构

- 三个维度：元素
- 操作：做的事情
  - 认知，编码，保持，发散，聚合思维，评价
- 内容：材料性质
  - 视，听，符号，语义，行为
- 产物：处理形式
  - 单元，类别，关系，系统，转换，蕴涵
- 6X5X6=150 or更多
- 103种被识别（1983）
- 评论

层次理论

- 弗农（1960）
  - 承认g
  - 言语—教育对实践—机械
- 卡特尔的流体智力与晶体智力
  - 测验与生物学证据
  - 发展证据
  - 投资理论：鸡与蛋的问题

Cattell-Horn-Carroll (CHC) Theory of Cognitive Abilities



新近理论

- 斯坦伯格的三元论(1979,1985)
  - 操作子理论（操作成分,元成分,知识活得成分）
  - 经验子理论（新异与熟悉）
  - 背景子理论（适应环境）
- 智力的三种隐含理解
  - 言语智力，问题解决智力，实践智力
- 功能论

- 加德纳(1983)
  - 数学逻辑－Logical-Mathematical
  - 语言－Linguistic
  - 空间Spatial
  - 音乐Musical
  - 身体运动－Bodily Kinesthetic
  - 自我认识－Intrapersonal
  - 人际－Interpersonal
  - 符合系统途径：认知加工
  - 结构模型

PASS模型

- DAS,NAGLIERI, KIRBY(1994)
- 神经心理学基础与证据（鲁立亚，1966）
  - 第一机能单元（脑干，间脑和中央区）：皮层唤醒，注意
  - 第二机能单元（顶叶，颞叶与枕叶）：同时与继时加工
  - 第三机能单元（额叶，前区）：计划

- 特殊人群：学习困难，智力落后，注意缺陷障碍

认知过程的评估（1999），华师大

比奈智力量表
(Binet Intelligence Scale)

- 界定：智力本身由个体的判断、注意和推理三种官能表达出来（Binet & Simon, 1905)
- 比奈测验的建构原则
  - 年龄区分(age differentiation): 心理年龄
  - 一般心理能力概念(concept of general mental ability), 单个分数表示
- 三版：1905，1908，1911
- 1905：30题，难度渐增，白痴-低能-愚笨的分类，定义了要测的东西并找出了合适的题目。
- 1908：保持年龄区分原则，年龄量表，心理年龄概念
- 开创性工作

斯坦福-比奈量表

- 比率智商（W. Stern, 1912)
- 1916: 智商概念，标准化样本，年龄范围（3-14），59题，题目修定，加州
- 1937：年龄扩展，标准记分，指导语，操作题目；样本，复本；信度，效度，IQ变化与年龄有关
- 1960：年龄量表格式，合并M&L，离差智商，1972年重新
- 1986（Thorndike, Hagen, Sattler)：4版
- 模型：三水平层级模型，g；g_c（言语推理，数量推理），g_f(抽象/视觉推理)，短时记忆(STM)
- 2003(Roid，5版）：2－85岁。Cattell－Horn－Carroll模型

Table 12-1
Items From the Stanford-Binet Intelligence Scale

Typical examples of items from the 1986 Stanford-Binet Intelligence Scale for a 6- to 8-year-old.

Test	Description
Verbal Reasoning	
Vocabulary	Defines words, such as "dollar" and "envelope."
Comprehension	Answers questions, such as "Where do people buy food?" and "Why do people comb their hair?"
Absurdities	Identifies the "funny" aspect of a picture, such as a girl riding a bicycle on a lake or a bald man combing his hair.
Verbal Relations	Tells how the first three items in a sequence are alike and how they differ from the fourth: scarf, tie, muffler, shirt.
Quantitative Reasoning	
Quantitative	Performs simple arithmetic tasks, such as selecting a die with six spots because the number of spots equals the combination of a two-spot die and a four-spot die.
Number Series	Gives the next two numbers in a series, such as 20 16 12 8 ___ ___.
Equation Building	Builds an equation from the following array: 2 3 5 + = . One correct response would be 2 + 3 = 5.
Abstract/Visual Reasoning	
Pattern Analysis	Copies a simple design with blocks.
Copying	Copies a geometrical drawing demonstrated by the examiner, such as a rectangle intersected by two diagonals.
Short-Term Memory	
Bead Memory	Shown a picture of different-shaped beads stacked on a stick. Reproduces the sequence from memory by placing real beads on a stick.
Memory for Sentences	Repeats after the examiner sentences such as "It is time to go to sleep" and "Ken painted a picture for his mother's birthday."
Memory for Digits	Repeats after examiner a series of digits, such as 5-7-8-3, forward and backward.
Memory for Objects	Shown pictures of individual objects, such as a clock and an elephant, one at a time. Identifies the objects in the correct order of their appearance in a picture that also includes extraneous objects; for example, a bus, a clown, an *elephant,* eggs, and a *clock.*

- 言语推理
  - 词汇（46）
  - 理解（42）
  - 荒谬（32）
  - 言语关系（）
- 数量推理
  - 数量（40）
  - 数字系列（26）
  - 建立方程
- 抽象/视觉推理
  - 模式分析（42）
  - 复制（28）
  - 矩阵（26）
  - 折纸与剪纸（18）
- 短时记忆
  - 串珠记忆（42）
  - 句子记忆（42）
  - 数字记忆（26）
  - 物体记忆（14）

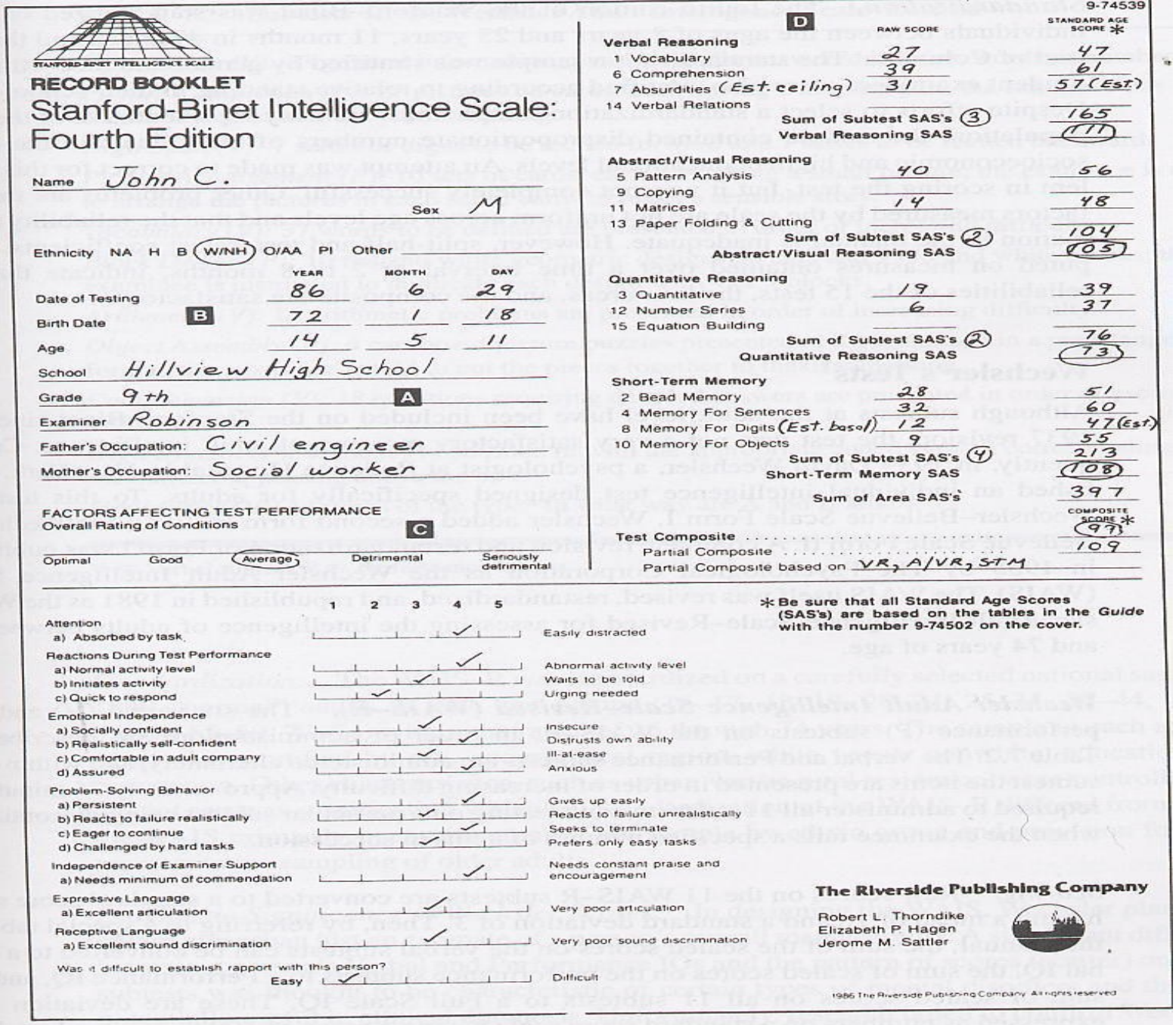


FIGURE 7.2 Front Cover of Record Booklet of the Stanford–Binet Intelligence Scale: Fourth Edition.

模型

- 流体推理：言语类比、物体系列/矩阵
- 知识（晶体）：词汇、图片辨识
- 定量推理：言语数量推理、非言语定量推理
- 视觉—空间加工：位置与方向、形板
- 工作记忆:句子记忆、延迟反应

斯坦福-比奈量表（续）

- 施测与记分
  - 个别施测：适应性原理
  - 30-90分钟
  - 10个量表
  - 三阶段法：词汇/矩阵+(非言语)知识、定量推理、视觉空间加工、工作记忆＋言语（4个）
  - 起始水平；基线水平与最高水平
  - 0-1记分与原始记录
- 标准化与常模
  - 3-23岁，5000多样本
  - 地区，民族，性别，父母职业与教育水平
  - 有偏的常模调整
  - 原始分转化为标准年龄分（SAS）（总分的标准差为16（100）；分量表为8（50））；
  - SAS间距：2-5岁4个月，6-10岁6个月，11-17为1年，18-23岁，18-23一个单独的表

斯坦福-比奈量表（续）

- 信度
  - 内部一致性
    - 总分：.95-.99各年龄
    - 分量表：.80-.90以上（物体记忆.66-.78)
    - 年龄越大信度越高
  - 再测
    - 总分：5岁.91，8岁.90
    - 间隔2-8月，言语推理在.80以上，但其他分数有一定波动
    - SEM：SAS为2-3分
- 效度
  - 题目经过偏差检验
  - 样本组年龄与分数分析，因素分析
  - 不同类别儿童的对比
  - 特殊样本，超常与落后儿童
  - 问题是诊断弱智有不足

研究与评价

- 四因素层级模型被支持(Boyle, 1989,1990; Thorndike, 1990)
- 与其他标准智力测验的相关
- 评定低：施测，解释，有用性。

- Kaplan & Saccuzzo, 93, 281

- 问题：
  - It has been said that a camel is a horse made by committee, the modern Binet may be such an animal.
  - 施测太复杂。
  - 种族差异
- 总的来说，比奈量表是一个良好建构的智力测验。尽管不完美，但达到了现代心理测验的最高要求

韦克斯勒智力量表

- 界定：综合能力
- 成人（WAIS,1939;1981;1997;2003）
- 儿童（WISC,1949;1974;1991;2003）
- 幼儿 (WPPSI,1967;1988)
- 记忆量表（WM)
- 11-12个量表

Handbook of Psycheducational Assessment(2001)

WISC版本沿革——分测验

版本	分测验
Wechsler-Bellevue Intelligence Scale, 1939	常识，算术，类同，词汇，背数，理解，填图，图排，积木，拼图，译码 （11个）
WISC 1949	增加迷津 （12个）
WISC-R 1974	同上
WISC-Ⅲ 1991	增加符号搜索
WISC -Ⅳ 2004	去3：图片排列、拼图和迷津； 增5：图片概念、字母数字排序、矩阵推理、语词推理和划消

WISC版本沿革——结构

版本	指标
Wechsler-Bellevue Intelligence Scale, 1939	
WISC 1949	VIQ，PIQ，FSIQ
WISC-R 1974	VIQ，PIQ，FSIQ
WISC-Ⅲ 1991	VIQ，PIQ，FSIQ VCI，POI，FDI，和PSI
WISC -Ⅳ 2004	VIQ，PIQ，FSIQ VCI，PRI，WMI，PSI

韦克斯勒智力测验（续）

- 常识(VC)
- 类同(VC)
- 算术(FD)
- 词汇(VC)
- 理解(VC)
- 记忆广度(FD)
- 填图(PO)
- 图片排列(PO)
- 积木(PO)
- 拼图(PO)
- 数字—符号(PS)
- （迷津）
- （符号搜索）(PS)

Table 12-2
Tests Composing the Wechsler Adult Intelligence Scale

The tests of the Wechsler Intelligence Scale for Children are similar to those of the adult scale, with some modifications.

Test	Description
Verbal Scale	
Information	Questions tap a general range of information, for example, "What is the capital of Italy?"
Comprehension	Tests practical information and ability to evaluate past experience, for example, "Why do we put stamps on a letter to be mailed?"
Arithmetic	Verbal problems testing arithmetic reasoning.
Similarities	Asks in what way two objects or concepts (for example, *recipe* and *map*) are similar; assesses abstract thinking.
Digit Span	A series of digits presented auditorily (for example, 7-5-6-3-8) is repeated in a forward or backward direction; tests attention and rote memory.
Vocabulary	Assesses word knowledge.
Letter Number Sequencing	Orally presented letters and numbers in a mixed-up order must be reordered and repeated, first with the numbers in ascending order and then with the letters in alphabetical order; assesses working memory.
Performance Scale	
Digit Symbol	A timed coding task in which numbers must be associated with marks of various shapes; assesses speed of learning and writing.
Picture Completion	The missing part of an incompletely drawn picture must be discovered and named; assesses visual alertness, visual memory, and perceptual organization.
Block Design	Pictured designs must be copied with blocks; assesses ability to perceive and analyze patterns.
Picture Arrangement	A series of comic-strip pictures must be arranged in the right sequence to tell a story; assesses understanding of social situations.
Matrix Reasoning	A geometric shape that is similar in some way to a sample shape must be selected from a set of possible alternatives; assesses perceptual organization.
Object Assembly	Puzzle pieces must be assembled to form a complete object; assesses ability to deal with part-whole relationships.
Symbol Search	A series of paired groups of symbols are presented, a target group of two symbols and a search group. Examinee must determine if either target symbol appears in the search group; assesses processing speed.

Sample Completed Summary Page

WISC-IV

WECHSLER INTELLIGENCE SCALE FOR CHILDREN™– FOURTH EDITION

Record Form

Child's Name: Hayley Keller

Examiner's Name: Emily Lauren Martinez

A Calculation of Child's Age

	Year	Month	Day
Date of Testing	2005	5 6	42 42
Date of Birth	1992	2	18
Age at Testing	11	3	24

B Total Raw Score to Scaled Score Conversions

Subtest	Raw Score	Scaled Scores					
Block Design	32	9		9			9
Similarities	26	12	12				12
Digit Span	16	10			10		10
Picture Concepts	16	8		8			8
Coding	45	9				9	9
Vocabulary	44	13	13				13
Letter-Number Seq.	18	11			11		11
Matrix Reasoning	20	9		9			9
Comprehension	28	12	12				12
Symbol Search	21	8				8	8
(Picture Completion)				( )			( )
(Cancellation)	75	9				(9)	(9)
(Information)			( )				( )
(Arithmetic)	25	10			(10)		(10)
(Word Reasoning)			( )				( )

C Sums of Scaled Scores

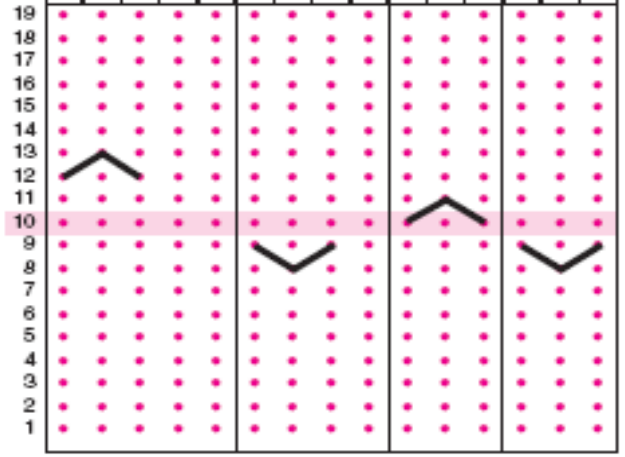
Verbal Comp.	Perc. Reas.	Work. Mem.	Proc. Speed	Full Scale
37	26	21	17	101

D Sum of Scaled Scores to Composite Score Conversions

Scale	Sum of Scaled Scores	Composite Score	Percentile Rank	95% Confidence Interval
Verbal Comp.	37	VCI 112	79	105–118
Perc. Reasoning	26	PRI 92	30	85–100
Working Memory	21	WMI 102	55	94–109
Processing Speed	17	PSI 91	27	83–101
Full Scale	101	FSIQ 101	53	96–106

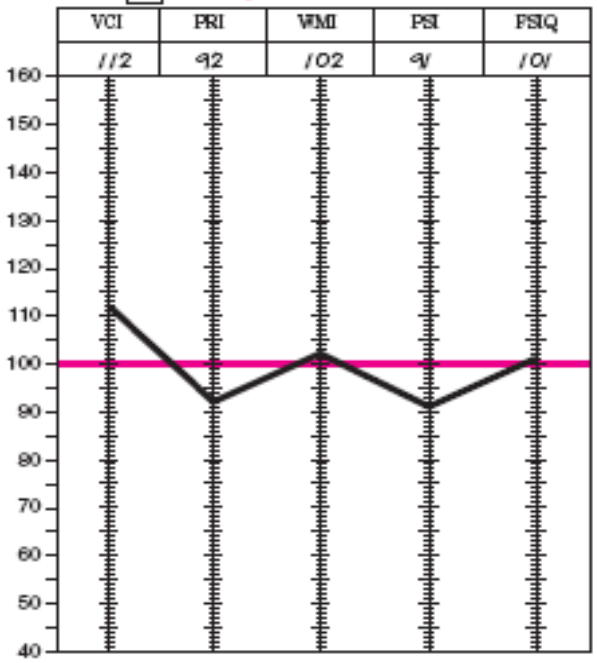
E Subtest Scaled Score Profile

Verbal Comprehension					Perceptual Reasoning				Working Memory			Processing Speed		
SI	VC	CO	(IN)	(WR)	BD	PCn	MR	(PCn)	DS	LN	(AR)	CD	SS	(CA)
12	13	12			9	8	9		10	11	10	9	8	9



F Composite Score Profile

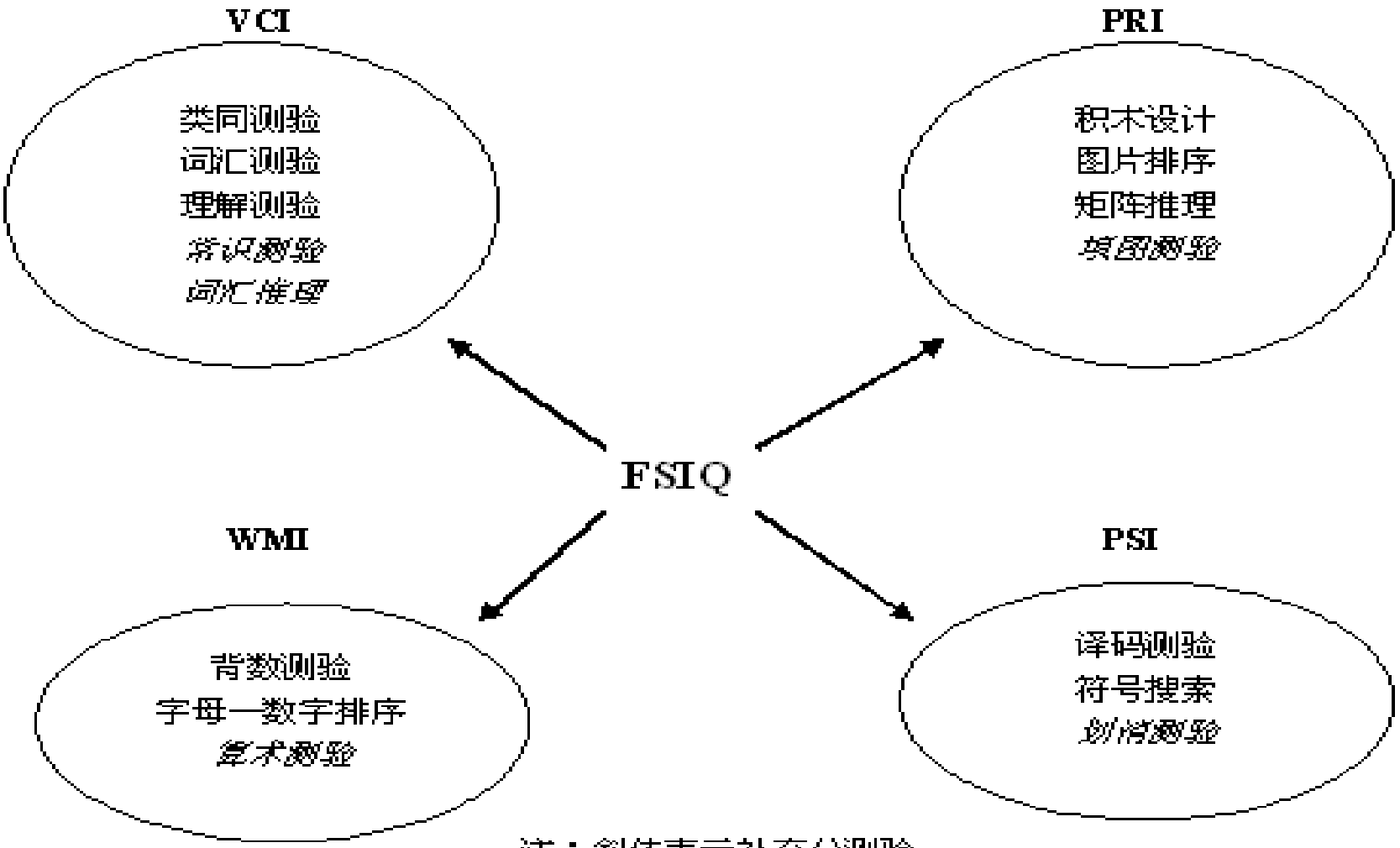
VCI	PRI	WMI	PSI	FSIQ
112	92	102	91	101



1 2 3 4 5 6 7 8 9 10 11 12 A B C D E

To reorder WISC–IV Record Forms, call 1-800-872-1726

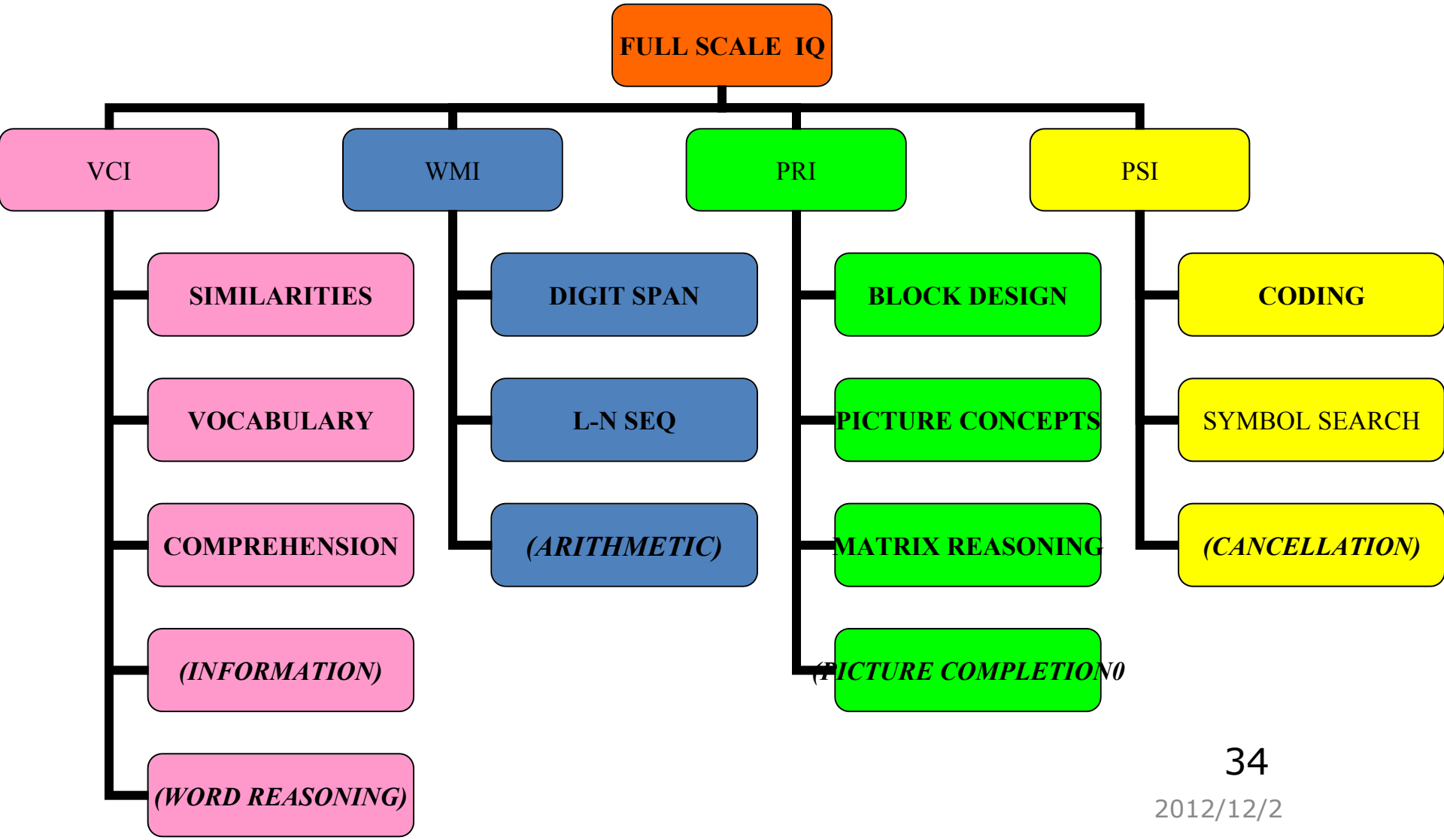
WISC-IV结构



注：斜体表示补充分测验

图 1.1　WISC-IV 测验的构架

WISC-IV structure: 3-level hierarchy



韦克斯勒智力测验（续）

- 总智商(FSIQ)，言语智商(VIQ)，操作智商(PIQ):平均值为100，标准差为15
- 四因素模型:言语理解（VC）,知觉组织（ PO）,不分心（ FD）, 加工速度（PS）
- 施测：量表次序，计分，转换（10，3）
- 使用范围 －89岁
- 信度：三个IQ量表一致性>.89;分量表>.86
- 效度：大量研究支持

注意：韦氏智力测验在临床上经常与成就测验和记忆测验一起使用

考夫曼量表

- Kaufman Assessment Battery for Children (K-ABC; 1983)
- 智力：同时加工（7）与系列加工（3）
- 成就：表达词汇，人脸与地方，算术，解迷，阅读/译码（2）
- 适用年龄：2岁半到12岁
- 成人：流体智力与晶体智力
- 降低文化偏差

考夫曼量表

- 四个综合分数：
  - 系列，同时，心理加工与成就。
  - 平均数为100，标准差为15
- 测量学指标
  - 好
- 对听力或语言能力有限者更适宜
- 时间短，方便测量

认知评定系统

- Das-Naglieri Cognitive Assessment System (CAS, 1997)
- 测量认知机能（基于神经心理学基础的PASS模型），与学习有关但独立于教育
- 计划，注意，同时加工与系列加工
- 强有力的实验与理论支持
- 5－17岁, 干预计划
- 解释成就变异接近50％

CAS构成

- 计划
  - 视觉搜索(X)
  - 计划连接
  - 计划作文
  - 数字匹配
- 注意
  - 表达性注意
  - 寻找数字
  - 听觉选择性注意(X)
  - 接受性注意
- 同时加工
  - 图形记忆
  - 矩阵
  - 言语-空间关系
- 系列加工
  - 单词系列
  - 句子重复
  - 说话速度或句子提问

CAS操作

- 标准化
  - 3072个正常与特殊教育儿童
  - 常模样本:2200
  - 信度与效度样本：872
- 施测
  - 顺序
  - 时限
  - 终止规则
  - 提供帮助
  - 刺激出现速度
- 记分
  - 原始分（正确数，时间，错误检测数）
  - 转换：M=10,SD=3
  - 标准分：100（15）
- 解释
  - 四步
  - 出现的基础率
  - 相对优劣势
  - 能力—成就差

CAS:Leslie案例

	标准分	百分位	90%CI	与平均差	需要的差	显著性
计划	81	10	76-91	-10.5	9.7	SIG
同时	89	23	83-96	-2.5	8.6	NS
注意	98	45	91-106	6.5	9.9	NS
系列	98	45	92-105	6.5	8.6	NS
平均	91.5					
总量表	88	21	84-93			

P46, Handbook; Don,2001

作为主试

- 心理学家的职责。
  - 精确描述测验结果、结果的意义和局限性以及由结果所建议的行为指南
- 一丝不苟地遵循标准化测验程序
- 记录任何不同寻常的测验条件，不管其多么不重要
- 解释结果时考虑测验条件

个别测验与团体测验

- 团体测验的优点
  - 大规模施测，省事
  - 简化主试的作用
  - 常模样本大，精确
- 缺点
  - 无法确定影响成绩的因素
  - 强加的反应限制(选择）
  - 缺乏灵活性（固定顺序），乏味
  - 不考虑人的因素

- 个体

- 规模化与经济化的影响

其他测验

- 特殊总体测验
  - 格塞尔发展顺序量表（1940），婴幼儿
  - 皮亚杰量表（尤基里斯和亨特，1975）
- 残疾人测验
  - 听觉受损
  - 盲人
  - 运动受损
- 团体测验
  - 多重水平成套测验(CogAT)
- 能力倾向性测验
  - 区别能力测验（DAT)
  - 多维能力倾向成套测验（MBA)
  - ETS的GRE,GMAT,SAT

智力测验的有关问题

- 测验成绩的稳定性与可变性
- 福林效应（Flynn effect)
- 教育干预计划
  - 培训能提高多少IQ?
- 跨文化研究
- 智力：我们知道的和不知道的

IQ and Age

- Does IQ decline with age?
  - Early research- Yes.
    - But this research- cross sectional.
  - Later research- No
    - Longitudinal research: Until a relatively old age – IQ remarkably stable.
  - Why the difference between longitudinal and cross-sectional studies?
  - Possibility for confound also with Longitudinal studies.
  - Some aspects of intelligence ("wisdom) get better with age: General knowledge, integrative judgments etc.,
    - One 70 year old saying: "50 years ago I had a great memory but I was a fool".
  - Crystallized intelligence: One's accumulated knowledge (as reflected in vocabulary and analogies tests). Vs. Fluid intelligence: One's ability to reason speedily and abstractly (as reflected in new logic problems).
  - CRYSTALLIZED increases up to old age, FLUID decreases with age.
  - Mathematicians/physicists produce their most creative work in late 20s, early 30s. Philosophers/historians/authors in their 50s and beyond.

Intelligence: Genetics vs. Environment

- Galton – Intelligence runs in families.
- In support of the genetic argument:
  - Identical twins reared together: IQ scores virtually as similar as test retest for same person
  - Identical twins reared separately show high similarity in IQ.
  - Adopted siblings: In childhood moderate correlation, as they grow up – correlation diminishes, and by adulthood basically zero correlation.
  - Also: correlation higher with biological than adopting parents.
    - Boucahrd (1996): "About 70%" of intelligence variation is due to "genetic variation".
- In support of environment:
  - Fraternal twins reared together more similar than siblings.
  - In very disadvantaged environments early human stimulation is likely to lead to greater intellectual abilities.
  - For example: In an orphanage where children were severely neglected and appeared passive and apathetic, the stimulation by human speech etc., created dramatic differences in vocabulary etc.,
  - BUT: It may be that a minimal level of environmental warmth and support is the necessary background for the development of genetically determined differences.

Some data on Genetics & IQ

• Unrelated–grew separately		-.01(4)
• Unrelated-grew together	.24 (5)	
• Cousins		.26 (3)
• Grandparent-grandchild	.27 (3)	
• Parent-child		.50 (12)
• Brothers – separate		.47 (3)
• Brothers-together		.55 (36)
• Fraternal twins- separate	.49 (9)	
• Fraternal twins- together	.56 (11)	
• Identical twins- separate	.75 (4)	
• Identical twins –together	.87 (14)	

- The Sir Cyril Burt scandal- (Hearnshaw, 1979)

IQ的稳定性与可变性

- 事实（追踪研究，总体与个体）：
  - 测验的间隔越短，稳定性越高
  - 年龄越大，预测稳定性越强（3岁看小，7岁看老）
- IQ跨时间的稳定性：
  - 智力发展的累积性质
  - 先前学会的技能对后继学习的影响（学习的序列性质）
- 个体分数变化：可能很大（个案），甚至30分
  - 成就动机，好奇心，竞争性，鼓励与价值

智力：训练与干预有作用吗？

- 新东方培训GRE和托福：显著提高
- 笨鸟先飞计划(Headstart), 启蒙计划，0岁计划。。。。
- 措施：教父母，教会老师，教学生；N年
- 好消息：每个干预后IQ或其他测量都有显著提高，20分或更多
- 坏消息：收获随时间而逝。最多7年全无。失败
- 你如何分析并解释?回归中值？
- 教育的价值与投入之比。智力是慢变量
- 悲观与乐观: **事实与解释是两码事**。

Brody(1992), Intelligence

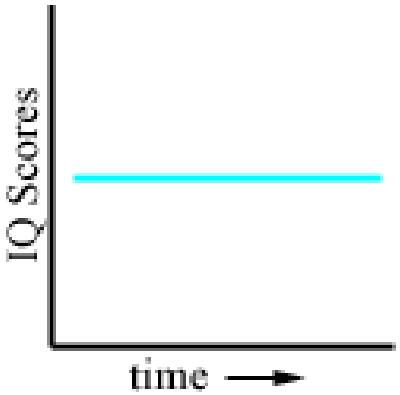
Under Achievement and IQ

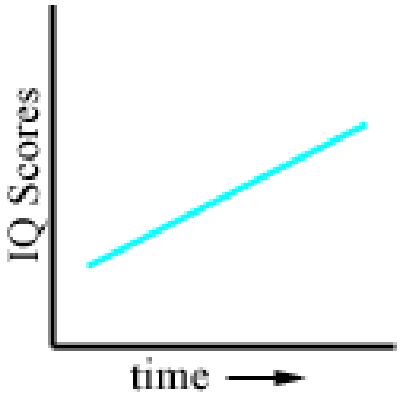
- People who score low on IQ tests hardly excel
- People who score high- not always attain high achievements
- Under-achievement is caused by emotional factors
  - Emotional instability, test anxiety, self-esteem
  - The vicious circle of low self esteem

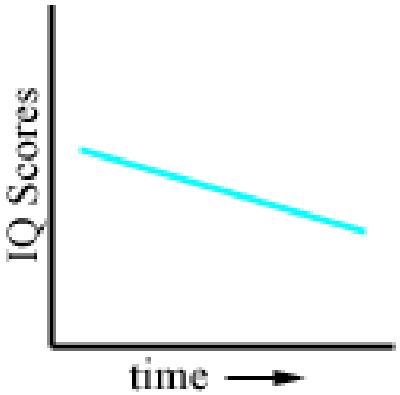
福林效应

你这一代比你的父辈们更聪明吗？

人类的智力如何变？







Flynn Effect

- 1984年，新西兰心理学家福林(James Flynn)发现，在1932－1978年间，美国人的一般IQ在增长。后经其他国家的资料分析，该现象得到证实。即世界人口的智力随人类的代代延续而增长。
- 5－25分/代（30年）
- 有意思吗? 你想到什么？
- 为什么？
- 方法学问题？

http://www.indiana.edu/~intell/flynneffect.html

跨文化研究

- 文化无关(culture-free)，文化公平测验（culture-fair,卡特尔,1940），跨文化
- 非言语测验是否是公平的，如瑞文推理测验（SPM)？
- 偏差(bias):测验分数或基于这些分数预测的统计特征。当一个测量或预测存在系统误差时，即说有偏差。
- 智力与政治：钟形曲线（Richard Herrnstein and Charles Murray ，1994）

Inequality of endowments, including intelligence, is a reality. Trying to pretend that inequality does not really exist has led to disaster. Trying to eradicate inequality with artificially manufactured outcomes has led to disaster. It is time for America once again to try living with inequality, as life is lived: understanding that each human being has strengths and weaknesses, qualities we admire and qualities we do not admire, competencies and incompetencies, assets and debits; that the success of each human life is not measured externally but internally; that all of the rewards we can confer on each other, the most precious is a place as a valued fellow citizen." (pp 551-552)

http://www.indiana.edu/~intell/bellcurve.html

智力：已知与未知

- 成员(1996, American Psychologists)
- Ulric Neisser, Emory University (chair of the task force)
  Gwyneth Boodoo, Educational Testing Service
  Thomas J. Bouchard, Jr., University of Minnesota
  A. Wade Boykin, Howard University
  Nathan Brody, Wesleyan University
  Stephen J. Ceci, Cornell University
  Diane F. Halpern, California State University, San Bernadino
  John C. Loehlin, University of Texas, Austin
  Robert Perloff, University of Pittsburgh
  Robert J. Sternberg, Yale University
  Susana Urbina, University of North Florida

- http://www.lrainc.com/swtaboo/taboos/apa_01.html

智力：已知与未知

1. **Differences in genetic endowment contribute substantially to individual differences in (psychometric) intelligence,** but the pathway by which genes produce their effects is still unknown. The impact of genetic differences appears to increase with age, but we do not know why.
2. **Environmental factors also contribute substantially to the development of intelligence,** but we do not clearly understand what those factors are or how they work. Attendance at school is certainly important, for example, but we do not know what aspects of schooling are critical.

智力：已知与未知

3. **The role of nutrition in intelligence remains obscure.** Severe childhood malnutrition has clear negative effects, but the hypothesis that particular "micro-nutrients" may affect intelligence in otherwise adequately-fed populations has not yet been convincingly demonstrated.

4. **There are significant correlations between measures of information processing speed and psychometric intelligence,** but the overall pattern of these findings yields no easy theoretical interpretation.

智力：已知与未知

5. **Mean scores on intelligence tests are rising steadily. They have gone up a full standard deviation in the last fifty years or so, and the rate of gain may be increasing.** No one is sure why these gains are happening or what they mean.
6. **The differential between the mean intelligence test scores of Blacks and Whites (about one standard deviation, although it may be diminishing) does not result from any obvious biases in test construction and administration, nor does it simply reflect differences in socio-economic status.** Explanations based on factors of caste and culture may be appropriate, but so far have little direct empirical support. There is certainly no such support for a genetic interpretation. At present, no one knows what causes this differential.

智力：已知与未知

7. It is widely agreed that standardized tests do not sample all forms of intelligence. Obvious examples include creativity, wisdom, practical sense and social sensitivity; there are surely others. Despite the importance of these abilities we know very little about them: how they develop, what factors influence that development, how they are related to more traditional measures.