



The DMGT: straight from the horse's mouth

**ATU East Network Conference
November 14th 2019**

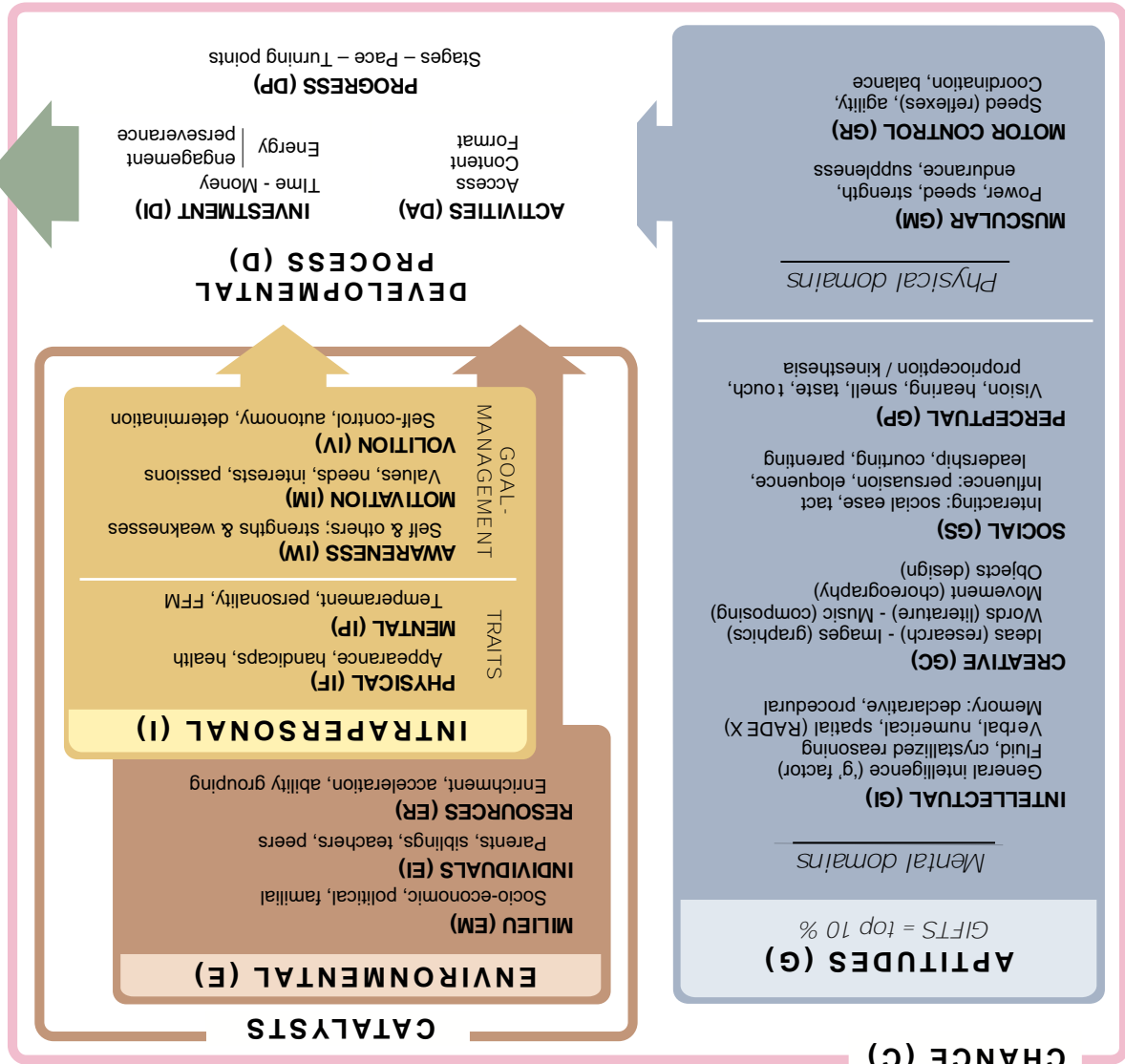
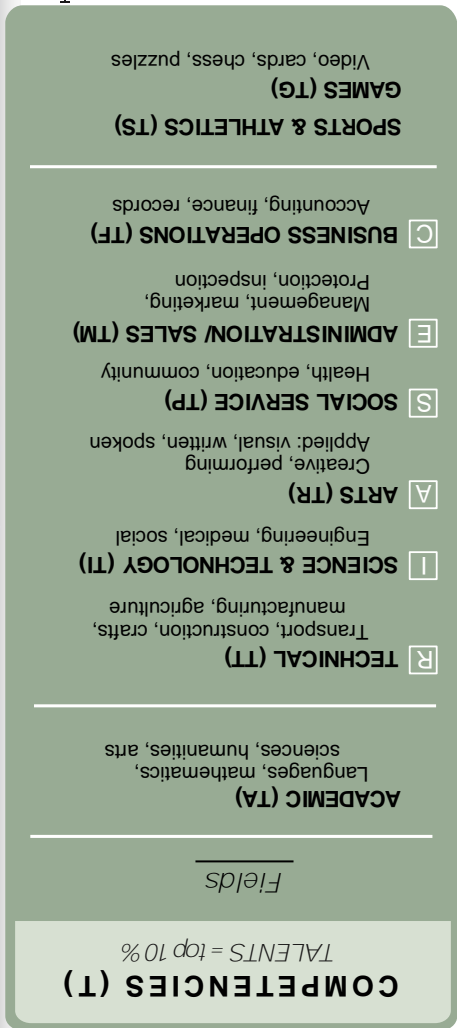
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D M G T ???

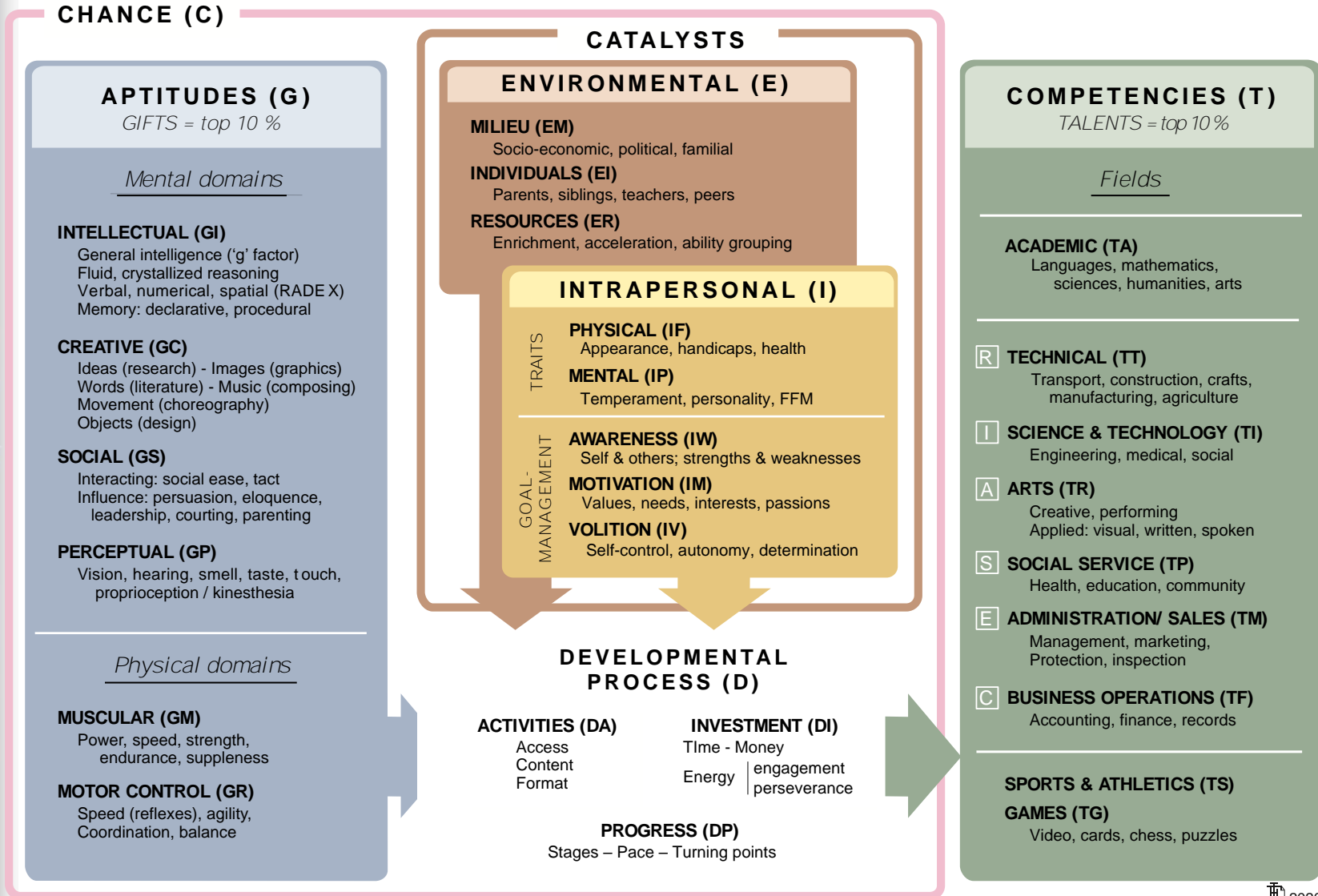
Differentiating
Model of
Giftedness and
Talent

The DMGT (detailed)

2020



The DMGT (detailed)



Program

Introduction

- I. The key insight
- II. The basic trio: $G \gg D \gg T$
- III. How many are G and/or T?
- IV. About intellectual giftedness (GI)
- V. The GI – TA overlap, ... or lack of!
- VI. The catalysts: Intrapersonal & Environmental
- VII. The role of chance
- VIII. The dynamics of talent development
- IX. What makes a Difference (WMD)?
- X. Summing up



I. The key insight

Popular slogans

Achieve your full potential!

Maximize your aptitudes!

Optimize your talents!

Popular expressions

GIFTEDNESS

He/she is a 'natural'

It is God's gift!

He/she is a born ...

Either you have it,
or you don't!

It comes so easily!

TALENT

He/she excels in ...

He/she is an expert

He/she is eminent ...

He/she is a leader ...

He/she is a prodigy

The DMGT solution

Potential

Aptitudes

Heredity

Natural

Ease

Childhood

Giftedness

Achievement

Competencies

Environment

Exercized

Effort

Adulthood

Talent



II. The basic trio: $G > D > T$

About talents (T)

ACADEMIC (TC)
Language(s), maths, sciences,
humanities, vocational

R TECHNICAL (TT)
Transport, construction, crafts,
manufacturing, agriculture

I SCIENCE & TECHNOLOGY (TI)
Engineering, medical, social

A ARTS (TA)
Creative, performing
Applied: visual, written, spoken

S SOCIAL SERVICE (TP)
Health, education, community

E ADMINISTRATION/ SALES (TM)
Management, marketing,
protection, inspection

C BUSINESS OPERATIONS (TB)
Records, financial, distribution

GAMES (TG)
Video & card, chess, puzzles

SPORTS & ATHLETICS (TS)

- Talent = outstanding performance, **nothing more**
- Outstanding = top 10%
- Very simple measures
- **Hundreds** of fields
- **Non-elitist** perspective
- Dependent on **age/exercise**
- Revised taxonomy (**RIASEC**)

About gifts (G)

MENTAL

INTELLECTUAL (GI)

General intelligence ('g' factor)
Fluid, crystallized reasoning
Verbal, numerical, spatial (RADEX)
Memory: procedural, declarative

CREATIVE (GC)

Inventiveness (problem-solving)
Imagination, originality (arts)
Carroll's 'retrieval fluency'

SOCIAL (GS)

Perceptiveness (manipulation)
Interacting: social ease, tact
Influence: persuasion, eloquence,
leadership, courting, parenting

PERCEPTUAL (GP)

Vision, hearing, smell, taste,
touch, proprioception

PHYSICAL

MUSCULAR (GM)

Power, speed, strength,
endurance

MOTOR CONTROL (GR)

Speed (reflexes), agility,
coordination, balance

- Gifts = Outstanding aptitudes
- SIX domains and many sub-domains
- Top 10% in any one
- Important genetic underpinnings
- Building (LEGO) blocks of talents
- Trademark:
ease & speed in learning

About the developmental process

DEVELOPMENTAL PROCESS (D)

ACTIVITIES (DA)

Access
Content
Format

INVESTMENT (DI)

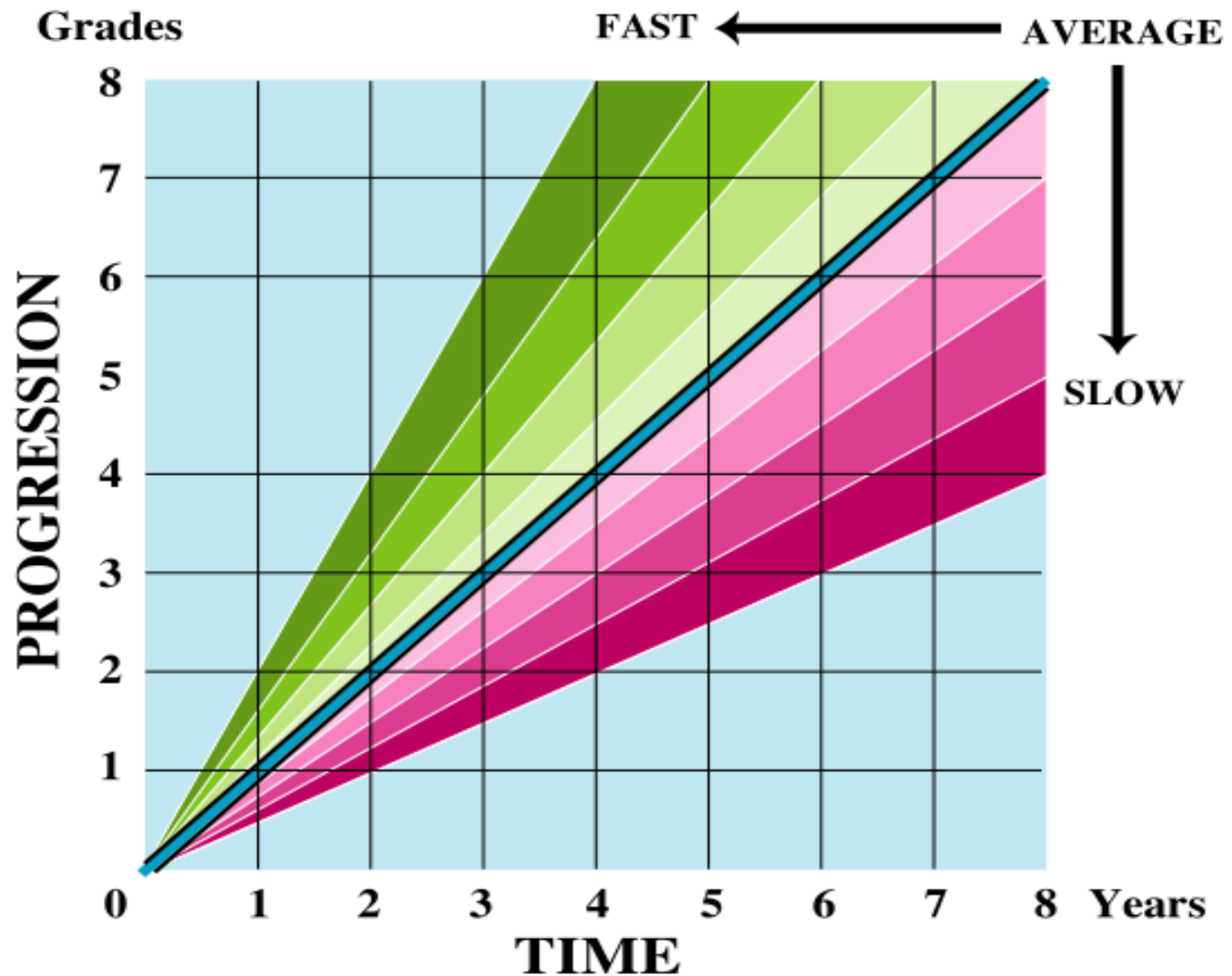
Time
Money
Energy

PROGRESS (DP)

Stages
Pace
Turning points

- **Macro-perspective**
- Three subcomponents:
 - DA: Activities = **qualitative**
 - DI: Investment = **quantitative**
 - **DIE** : engagement, focus, perseverance
 - DP: Progress
 - **STAGES**: from novice to expert
 - **PACE**: normative view
 - **TURNING POINTS**: pos. & neg.

Fan spread effect



Summary

GIFTEDNESS

- Outstanding natural abilities (aptitudes)
- No systematic learning (spontaneous development)
- Building blocks (LEGO) of competencies (talents)

TALENT

- Outstanding competencies (achievements)
- Systematic development (learning)

OUTSTANDING

- Top 10% of a proper reference group.

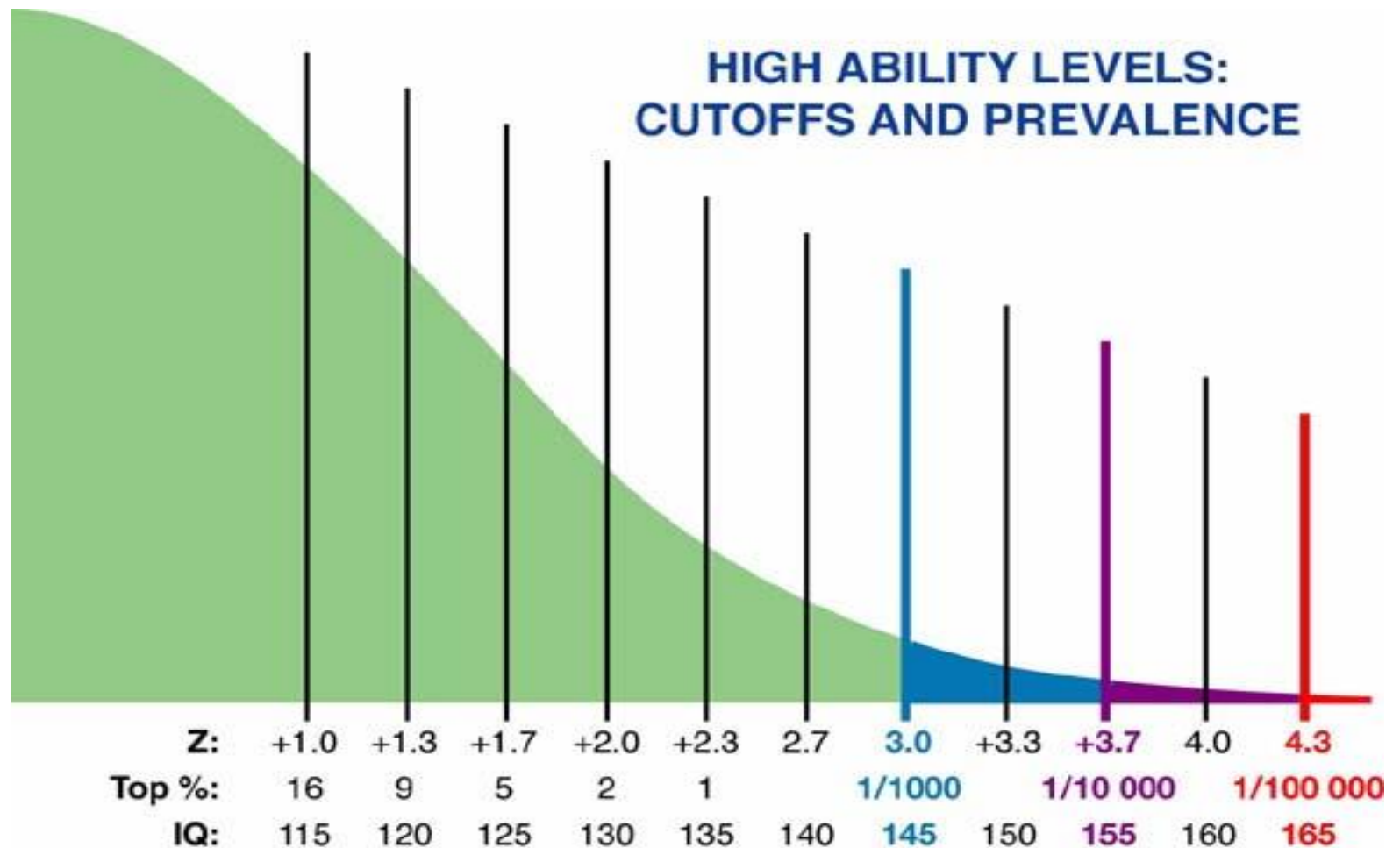


III. Why top 10%?

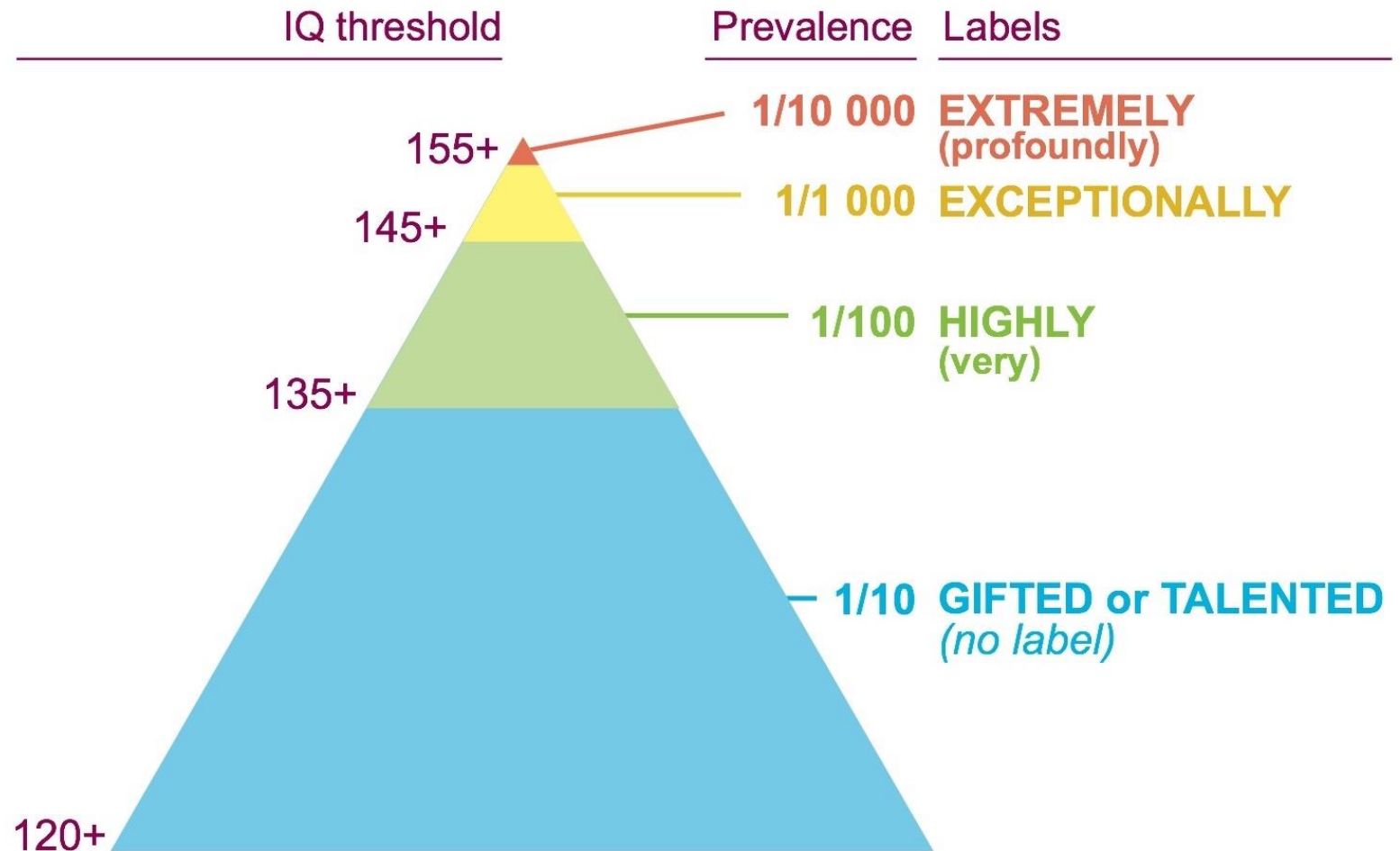
About prevalence

- **Important question**
 - **Theoretically:** defining 'normative' concepts
 - **Practically :** Identification
- **Subjective question**
 - **NO** objective answer
 - A solution that requires **a consensus**
 - Applies to **all normative** concepts

Where does giftedness begin?



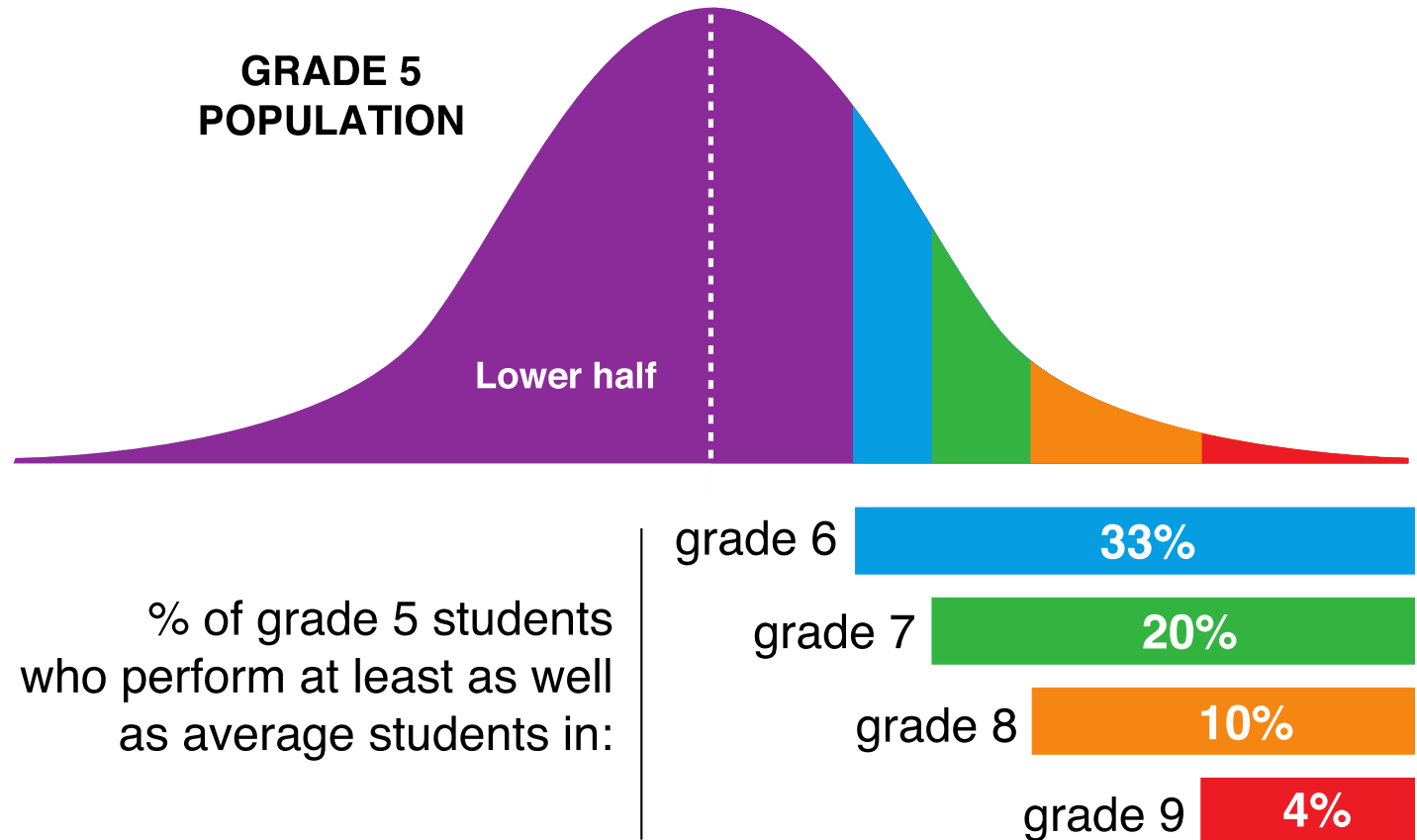
MB system of 4 levels (G and T)



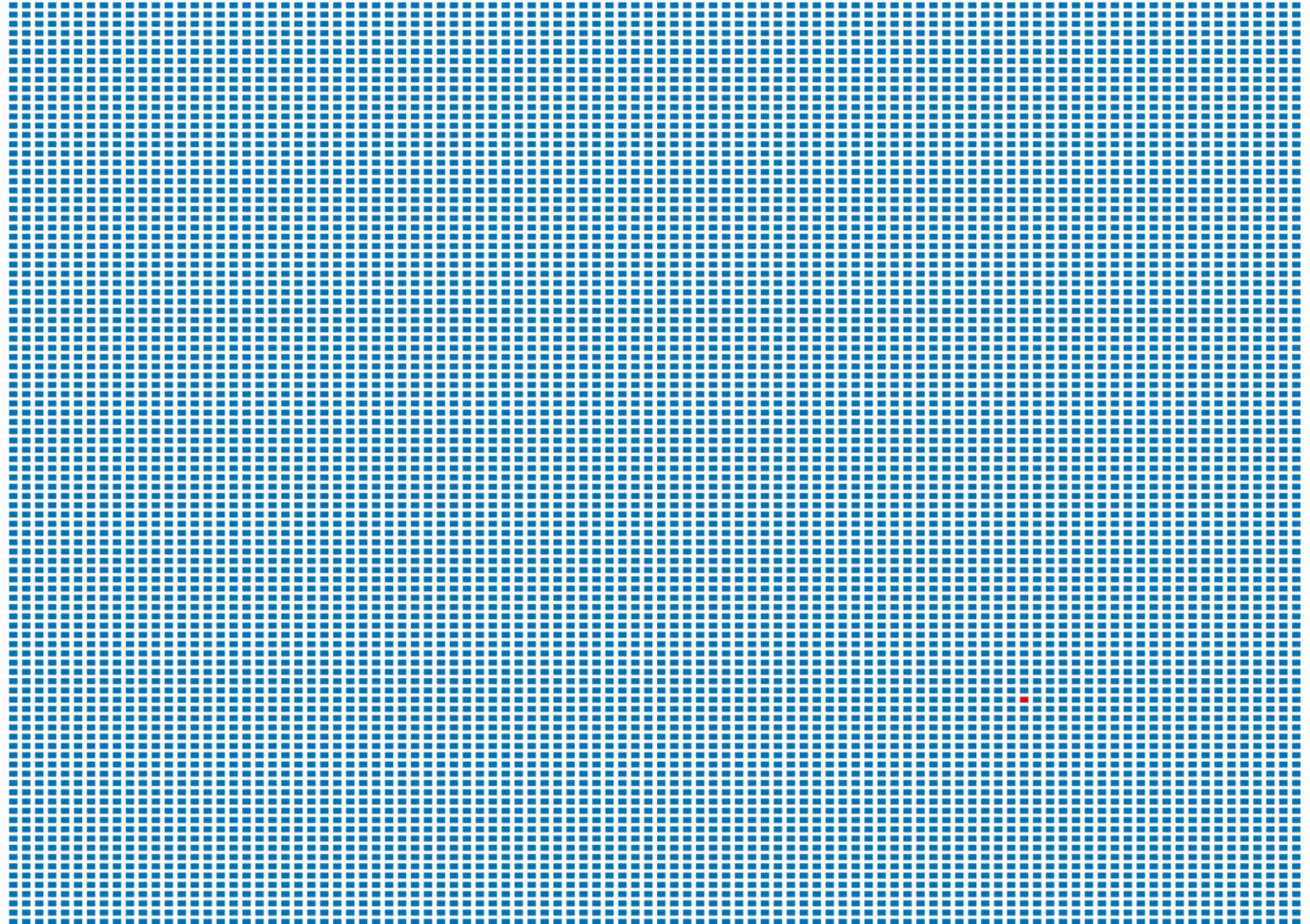
Advanced academic mastery


Frequency of advanced academic mastery among grade 5 students

[Adapted from Gagné, F. (2004). Exploring the range of academic achievement within and between grade levels. *Gifted Child Quarterly*]



Where is Charlie? (1 in 10 000)





IV. The 'real' nature of GI

Intelligence is like a pizza

What makes a pizza a pizza?

Without all the frills!

Intelligence is like a pizza

What makes intelligence?

Without all the frills!

Defining intelligence

Mainstream Science on Intelligence (MSOI)

1. 52 eminent US cognitive psychologists
2. *The Wall Street Journal*, december 1994
3. 25 short articles on the concept, its measure, its impact on daily life, and individual/group differences.

Defining Intelligence (MSOI – Article 1)

Intelligence is a very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience.

It is not ...

(Gottfredson, 1997, p. 13)

Gottfredson's characteristics

1. Reasoning (inductive/deductive)
2. Planning
3. Solving problems
4. Thinking abstractly
5. Comprehending complex ideas
6. Learning easily & quickly (trademark)
7. Learning from experience (transfer)

Defining Intelligence (MSOI – Article 1)

It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings—“catching on,” “making sense” of things, or “figuring out” what to do.”

(Gottfredson, 1997, p. 13)

Measuring Intelligence (MSOI – Article 2)

Intelligence, so defined, can be measured, and **intelligence tests measure it well.**

They are among the most accurate (in technical terms reliable and valid) of all psychological tests and assessments.

They **do not** measure creativity, character, personality, or other important differences among individuals, **nor are they intended to do.**

(Gottfredson, 1997, p. 13)

IQ and achievements

Education

Elementary	.60 a .70
Secondary	.50 a .60
College	.40 a .50
Graduate studies	.30 a .40

Occupations

High complexity	.55 a .60
Medium complexity	.45 a .50
Low complexity	.35 a .40



V. The GI – TA overlap

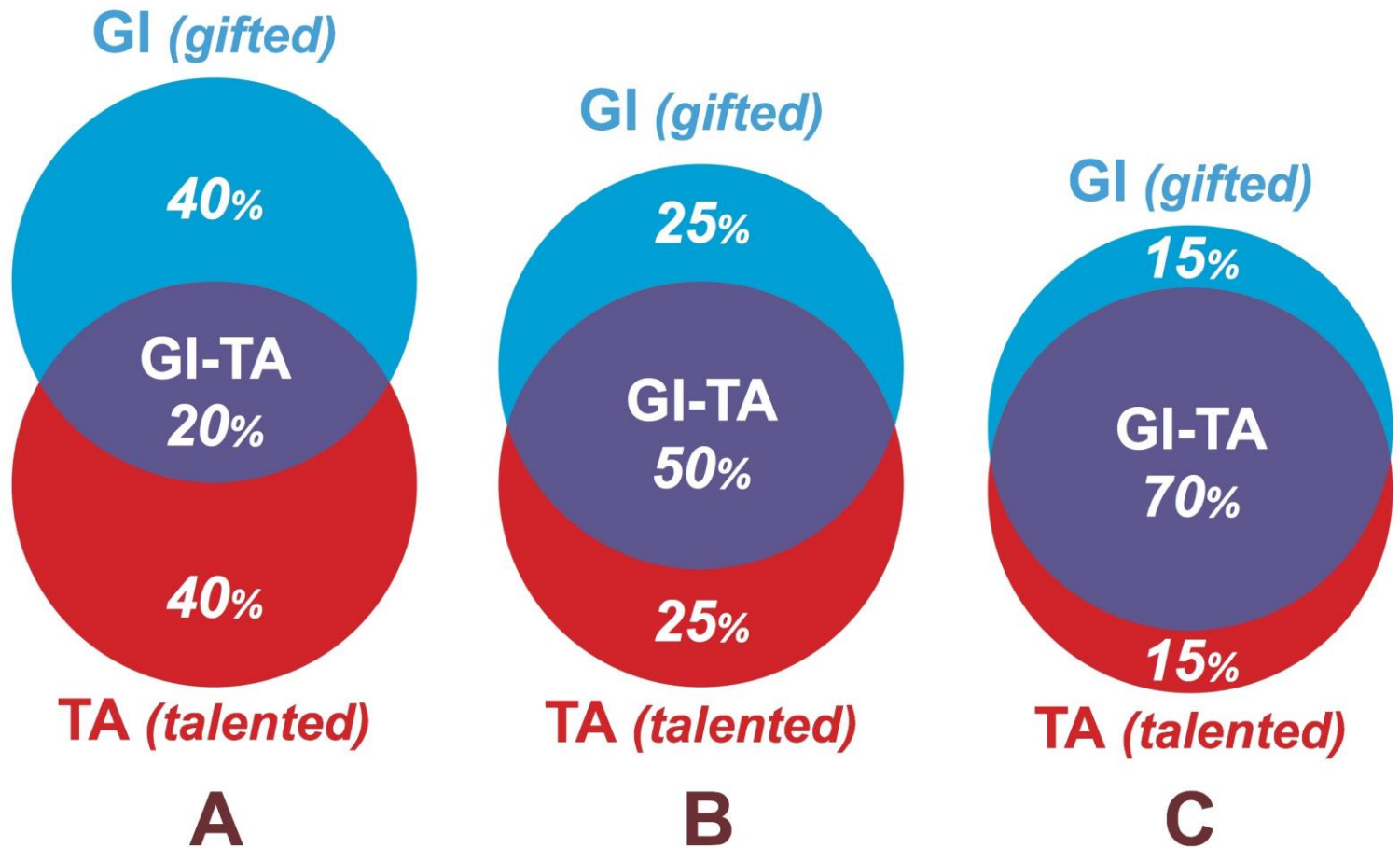
Distribution ?

		INTELLECTUAL APTITUDES			
ACADEMIC ACHIEVEMENT		AI (Average/Low) IQ < 110	BI (Bright) IQ = 110-119	GI (Gifted) IQ ≥ 120	Total
TA (Talented) Top 10%		?	BI-TA ?	GI-TA ?	100
HA (High Achievers) Next 15%		?	BI-HA ?	GI-HA ?	150
AA (Average/Low) All others		?	?	?	750
Total		750	150	100	1000 Total Population

Distribution with $r = 1$

		INTELLECTUAL APTITUDES			
ACADEMIC ACHIEVEMENT		AI (Average/Low) IQ < 110	BI (Bright) IQ = 110-119	GI (Gifted) IQ ≥ 120	Total
TA (Talented) Top 10%	-	-	-	GI-TA 100	100
HA (High Achievers) Next 15%	-	-	BI-HA 150	-	150
AA (Average/Low) All others	750	-	-	-	750
Total	750	150	100	1000 Total Population	

GI & TA: What is the overlap?



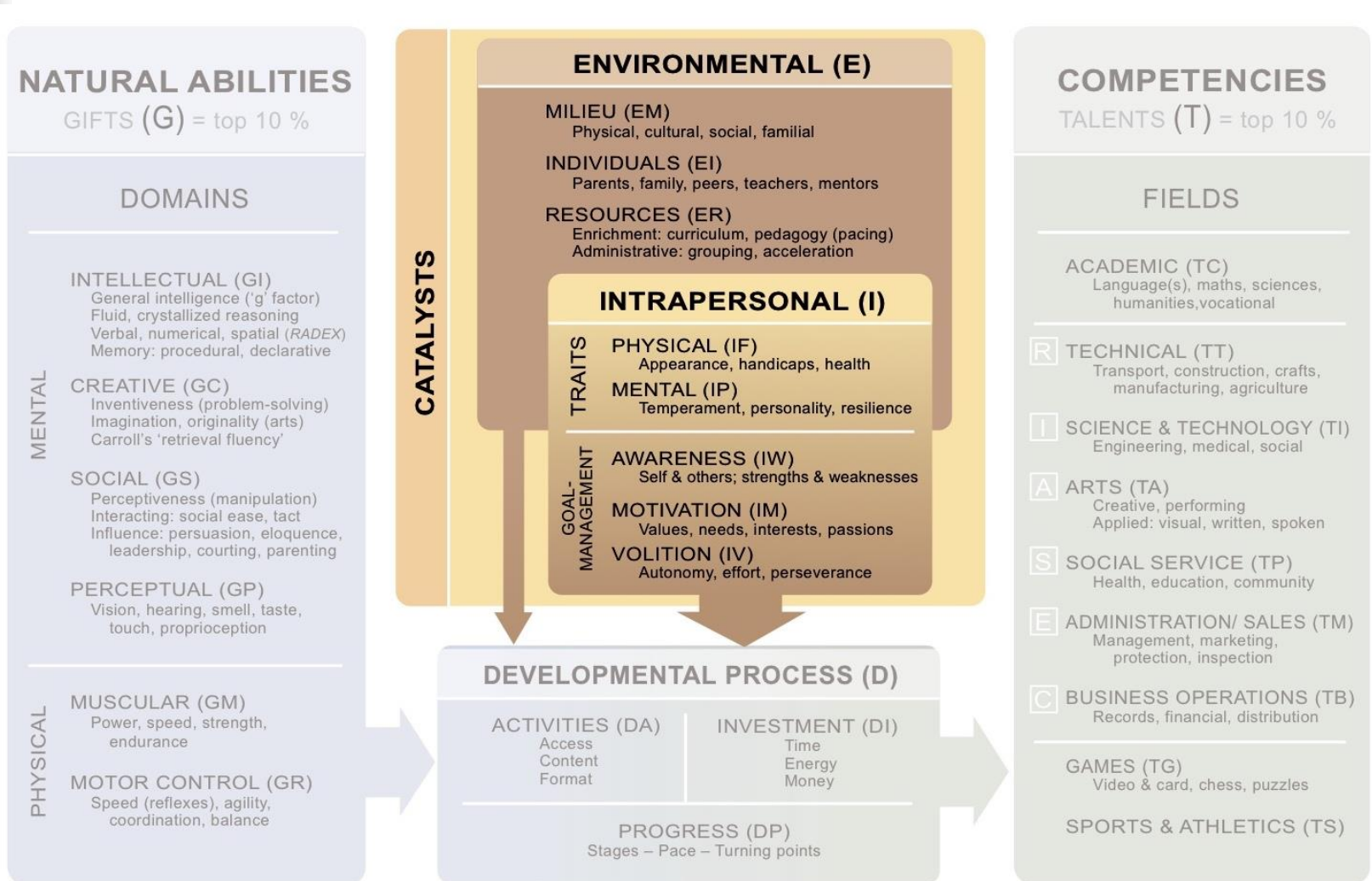
Distribution with $r = .5$

ACADEMIC ACHIEVEMENT	INTELLECTUAL APTITUDES			Total
	AI (Average/Low) IQ < 110	BI (Bright) IQ = 110-119	GI (Gifted) IQ ≥ 120	
TA (Talented) Top 10%	30	BI-TA 40	GI-TA 30	100
HA (High Achievers) Next 15%	55	BI-HA 55	GI-HA 40	150
AA (Average/Low) All others	655	55	30	750
Total	750	150	100	1000 Total Population



VI. The I and E catalysts

Two important catalysts



The « I » component

INTRAPERSONAL (I)	
TRAITS	PHYSICAL (IF) Appearance, handicaps, health
	MENTAL (IP) Temperament, personality, resilience
GOAL- MANAGEMENT	AWARENESS (IW) Self & others; strengths & weaknesses
	MOTIVATION (IM) Values, needs, interests, passions
	VOLITION (IV) Autonomy, effort, perseverance

- The most complex component
- Stable traits *versus* evolutive processes
- Traits: physical & mental
- Important genetic roots

Big Five Overview

Factor V : **Openness/Intellect**

(Culture; intelligence; inquiring intellect; openness; creativity; independence)

Factor III : **Conscientiousness / Will**

(Dependability; Will to achieve; superego strength; prudence; work ethics; constraint; self-control)

Factor I : **Extraversion / Introversion**

(Social adaptability; assertiveness; sociability & ambition; activity; interpersonal involvement)

Factor II : **Agreeableness/ Hostility**

(Conformity; likeability; friendly compliance; love; sociability; paranoid disposition)

Factor IV : **Neuroticism / Emotional stability**

(Emotionality; anxiety; adjustment; affect; negative emotionality)

The « I » component: goals

INTRAPERSONAL (I)

TRAITS

PHYSICAL (IF)

Appearance, handicaps, health

MENTAL (IP)

Temperament, personality, resilience

GOAL-MANAGEMENT

AWARENESS (IW)

Self & others; strengths & weaknesses

MOTIVATION (IM)

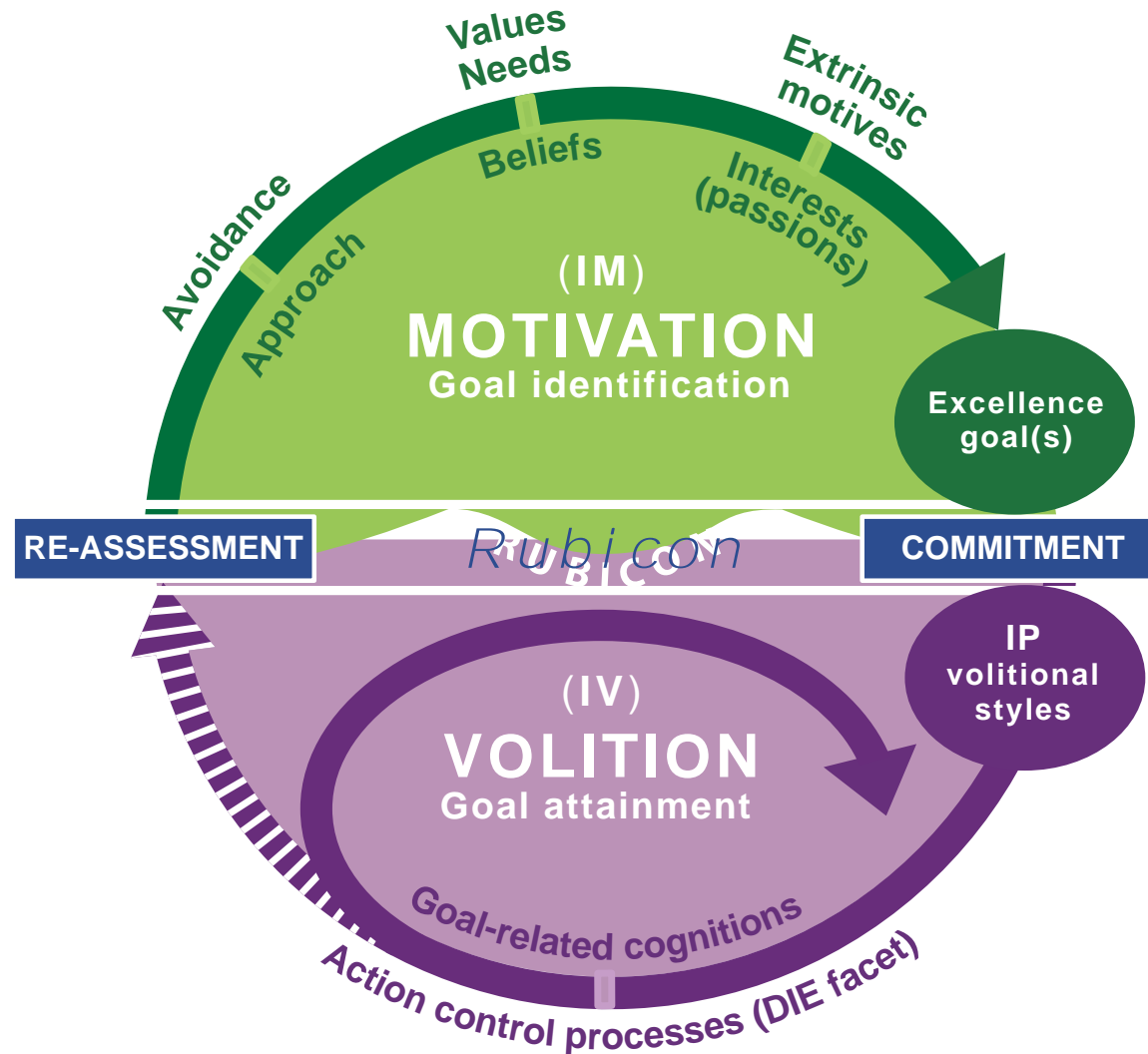
Values, needs, interests, passions

VOLITION (IV)

Autonomy, effort, perseverance

- Awareness of self/others
- ACT : Action Control Theory (IM + IV)
- Motivation = Goal IDENTIFICATION (What -Why-How much)
- Volition = (How) Goal ATTAINMENT
- IM & IV are very ≠
- IV & DIE closely related
- Important genetic roots

« Crossing the Rubicon »



The “E” component

ENVIRONMENTAL (E)

MILIEU (EM)

Physical, cultural, social, familial

INDIVIDUALS (EI)

Parents, family, peers, teachers, mentors

RESOURCES (EP)

Enrichment: curriculum, pedagogy (pacing)

Administrative: grouping, acceleration

MILIEU (EM)

SOCIAL dimension

INDIVIDUALS (EI)

INTERPERSONAL

dimension

RESOURCES (ER)

EDUCATIONAL

dimension

The “EM” subcomponent

ENVIRONMENTAL (E)

MILIEU (EM)

Physical, cultural, social, familial

INDIVIDUALS (EI)

Parents, family, peers, teachers, mentors

RESOURCES (EP)

Enrichment: curriculum, pedagogy (pacing)

Administrative: grouping, acceleration

National, State, Local

Politics (Elitism)

Socio-economics

Geography (urban, rural)

Family

Structure (parents, siblings)

SES (Educ + Occup + Income)

Educational system

Policies & funding

Programming & structure

Teacher training

The “EI” subcomponent

ENVIRONMENTAL (E)

MILIEU (EM)

Physical, cultural, social, familial

INDIVIDUALS (EI)

Parents, family, peers, teachers, mentors

RESOURCES (EP)

Enrichment: curriculum, pedagogy (pacing)
Administrative: grouping, acceleration

Family dynamics

Parenting styles

Sibling relationships

Extended family roles

School/classroom dynamics

Teacher attitudes toward GT

T – S connectedness

Peer influences

School & community

Role models

Mentors, idols

The “ER” subcomponent

ENVIRONMENTAL (E)

MILIEU (EM)

Physical, cultural, social, familial

INDIVIDUALS (EI)

Parents, family, peers, teachers, mentors

RESOURCES (EP)

Enrichment: curriculum, pedagogy (pacing)

Administrative: grouping, acceleration

Content

Key concept = ENRICHMENT

Enriched curriculum

Enriched pedagogy

Condensed pacing

Administration

Ability grouping

As early as possible

As full-time as possible

Acceleration

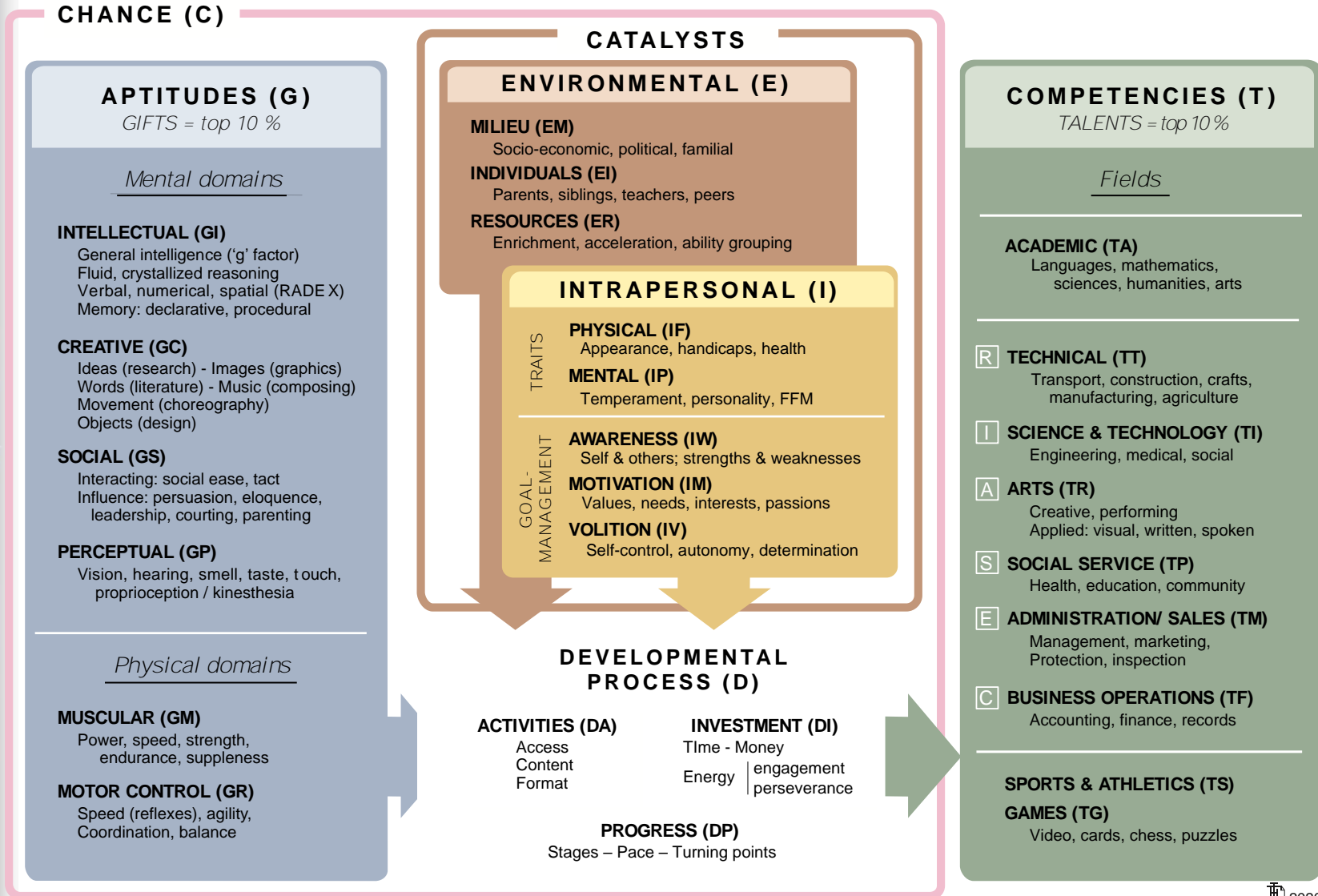
As early as possible

As often as possible



VII. Chance and giftedness

The DMGT (detailed)



About chance!

- Back in 1980, a woman named Maureen Wilcox played the Rhode Island and the Massachusetts lotteries at the same time.
- And she hit the correct numbers for both!
- In each case, the probability was around 1 in ten million (10,000,000 or 10^7), which means a combined probability of $1/10^{14}$ or one in 100 trillions.

(Mirsky, 2014, p. 80)

About chance!

- Unfortunately, she picked all the correct Massachusetts numbers on her Rhode Island ticket and all the right Rhode Island numbers on her Massachusetts ticket.
- So, she won nothing!
- Is there a more terrifying lottery story!

(Mirsky, 2014, p. 80)

About the CHANCE factor (C)

- CHANCE means “lack of control.”
- Chance is a special type of cause.
- It can have + (luck) and – (bad luck) impacts.
- **Atkinson’s view:** “All human accomplishments can be ascribed to two crucial rolls of the dice: the accidents of birth and background.”
- Think of Chance as influencing all components.

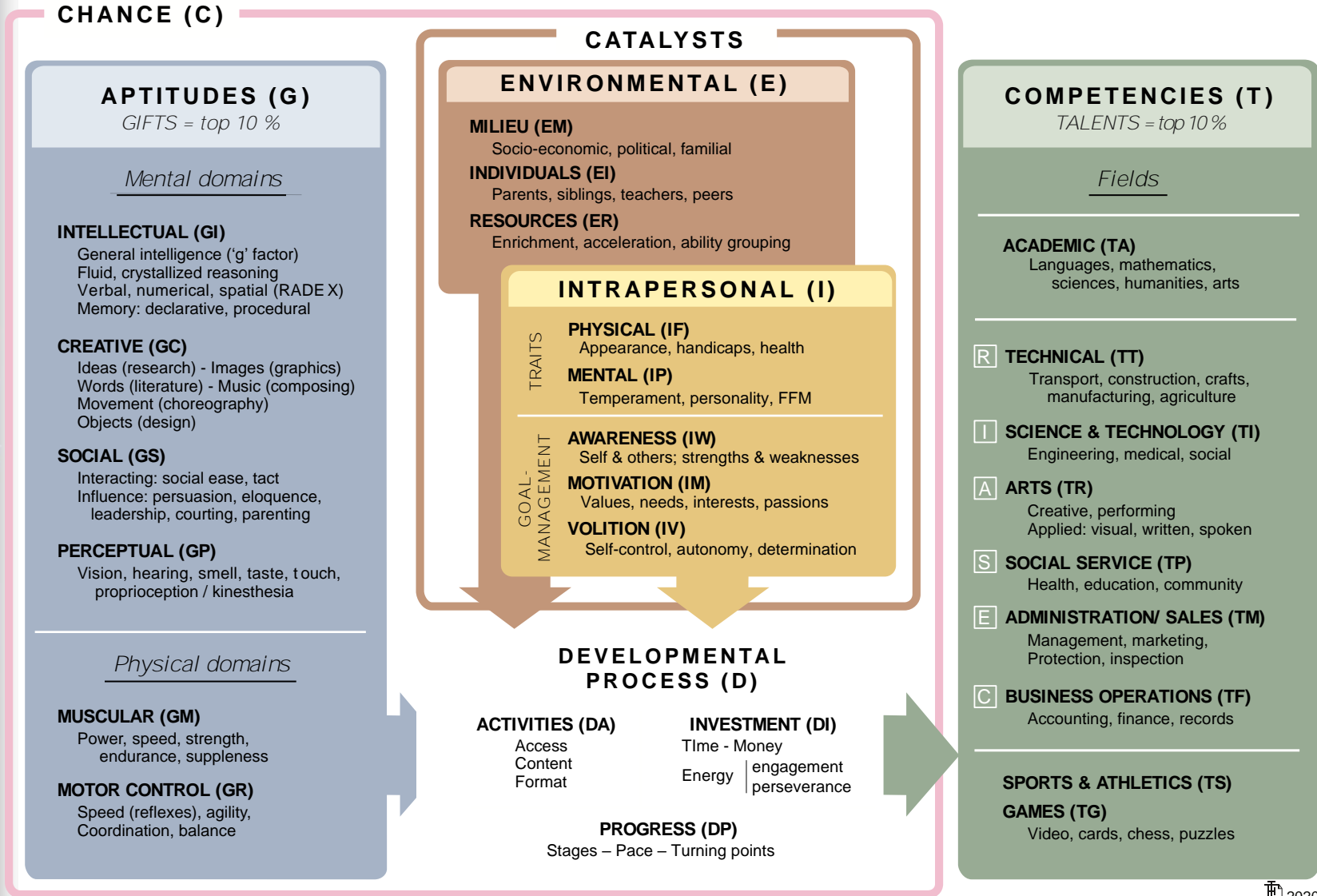
About Chance

- GENETIC chance (birth)
 - Impact on aptitudes (G)
 - Impact on temperament / personality (IP)
 - Impact on motivation and volition (IM + IV)
 - Impact on parental/teacher temperament (EI)
- ENVIRONMENTAL chance (background)
 - Country of origin
 - Parental SES
 - Family dynamics
 - Neighbourhood/school dynamics
 - Existence/admission to a TD program
 - Accidents in sports



VIII. Dynamic highlights

The DMGT (detailed)



Dynamics highlights

- Each individual story is unique.
- Basic equation:
 - T requires G's building blocks, but ...
 - ...G may not lead to T (ex. underachievement).
 - D is an essential go-between.
- Talent (top 10%) can be reached **without** (top 10%) aptitudes (G)
- Strengths compensate weaknesses...
...but only partially!

The richness of T measures

- T measures are very **reliable** and **stable**.
- T measures reflect the **combined** impact of
 - **G**, the level of aptitudes,
 - **D**, the quality of the developmental processes,
 - **I**, the personal qualities of the talentees,
 - **E**, the qualities of the environmental influences.
- Strengths compensate weaknesses...
...but only partially!
- **One** major weakness can block the TD process.

Three distinct profiles

Peter



Paul



Patrick





IX. What makes a difference?

Inventory of recurring causal influences.

Component D :

DI: Time investment (**homework & study**)

DI: Energy investment (**focus, engagement, perseverance**)

Component E:

EM: Family SES, educational policies

EI: Parental support, quality of teaching, peer influences

ER: Enriched curriculum, grouping, acceleration

Component G : GI (cognitive aptitudes)

Component I:

IP: conscientious, curious, calm, optimistic, etc.

IM: Intrinsic (**passion**) and/or extrinsic (**ambition**)

Motivations

IV: Will power, grit, determination.

Inventory of 24 possible hierarchies

DGIE

EGDI

GDIE

IGDE

DGEI

EGID

GDEI

IGED

DIGE

EDGI

GIDE

IDGE

DIEG

EDIG

GIED

IDEG

DEGI

EIGD

GEDI

IEGD

DEIG

EIDG

GEID

IEDG

My preferred hierarchy

DGIE

EGDI

GDIE

IGDE

DGEI

EGID

GDEI

IGED

DIGE

EDGI

GIDE

IDGE

DIEG

EDIG

GIED

IDEG

DEGI

EIGD

GEDI

IEGD

DEIG

EIDG

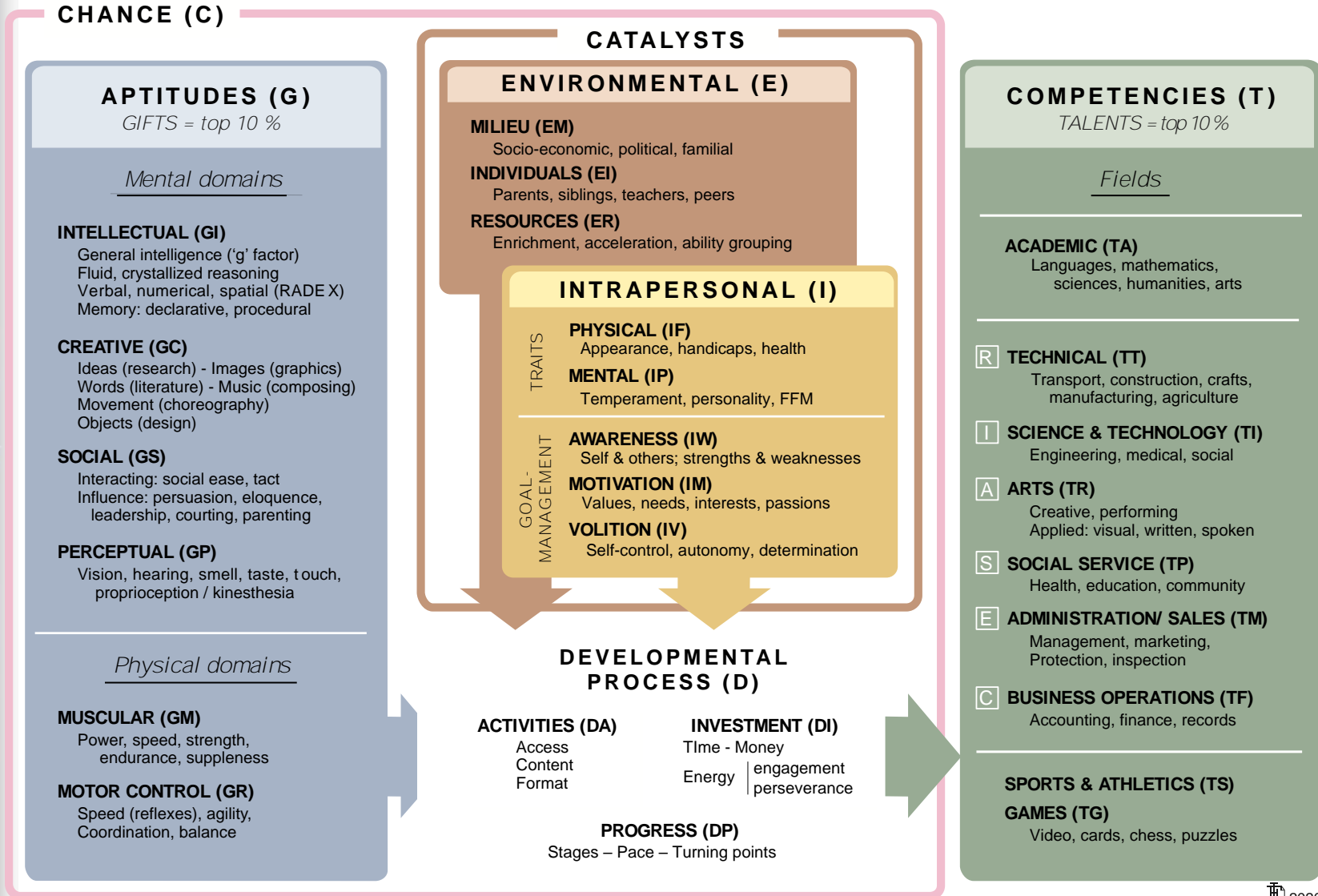
GEID

IEDG

My preferred hierarchy

C . GIDE

The DMGT (detailed)





X. Summing up

Summary of the DMGT

The term talent describes an outstanding mastery (top 10%) of the competencies (knowledge & skills) specific to a particular field of occupation.

Individuals become talented during a long developmental process that uses as building blocks outstanding aptitudes or natural abilities (the gifts).

That developmental process is constantly influenced, either positively or negatively, by two large groups of catalysts: intrapersonal and environmental.

What makes the DMGT unique

1. Clear, distinct, empirical definitions for Giftedness and Talent.
2. A clear system to assess the prevalence and levels of both gifts & talents.
3. A full coverage of all significant causes of talent emergence.
4. A clear separation between building blocks and catalysts.
5. Openness to Gifts/Talents beyond GI and TC.

Famous last words!

But, beyond these unique qualities,
here is the best reason
to adopt the DMGT:

“It makes so much sense!”



Færdig

Tak for din
opmærksomhed

If you need more.

You have a question?

You would like more information?

Just have a look at my web site:

Gagnefrancoys.wixsite.com/dmgt-mddt

I also offer “mouse delivery”.

Just send me an email:

fysgagne@gmail.com