Exploring Intrapersonal Catalysts

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Differentiated Model of Giftedness and Talent (DMGT 2.0)

The 'I' component

- Different from chemical catalysts
- TALENT DEVELOPMENT as the specific goal
- TWO sub-components
  - Stable TRAITS
  - Goal-management processes
- Both POSITIVE and NEGATIVE impacts
Programme

- Surveying the two sub-components
  - About traits (IT)
  - About goal-management (IG)
  - Is there a 'gifted' I profile?
- Genetic underpinnings
- Dynamic interactions
- Does I make a difference?
- Final comments

About TRAITS (IT)
Physical (IF) and Mental (IP)

Physical traits (IF)

- NOTE: Distinguish from ability-related physical characteristics
- Appearance
  - Gender, comeliness, visible ethnic signs, etc.
- Health
  - Chronic illnesses, allergies
  - Substance abuse (alcohol, drugs, etc.)
- Handicaps
  - Stephen Hawking, Oscar Pistorius
Astrophysicist Stephen Hawking

“Blade Runner” Oscar Pistorius

Mental traits (IP)

- The basic rule: diversity, HUGE diversity!
- The ‘Adjective Check List’ test: 300 descriptive adjectives (positive/negative) of mental traits.
- Example of ‘C’ qualities (n = 25)
  - calm, carefree, careful, caring, casual, cautious, charming, cheerful, clean, clear-thinking, compassionate, composed, confident, conscientious, conservative, considerate, cool, cooperative, courageous, courteous, curious
- Again: the basic rule is diversity, HUGE diversity!
Synthesizing efforts

- The 16 PF personality test
- Myers-Briggs Type Indicators (16 profiles)
  - Extraverted vs. Introverted (E – I)
  - Sensation vs. Intuition (S – N)
  - Thinking vs. Feeling (T – F)
  - Judgment vs. Perceptual (J – P)
- Holland's RIASEC personality (interest) types
- Goleman’s 5 components of "emotional intelligence"
- The Big Five personality factors

Holland’s RIASEC system

- REALISTIC
  - Robust, practical, work with tools & alone, outdoor type.
- INVESTIGATIVE
  - Creative, task oriented, work alone on abstract problems.
- ARTISTIC
  - Creative, sensitive, work alone, introverted.
- SOCIAL
  - Cheerful, altruistic, mediator, leader, popular.
- ENTERPRISING
  - Energetic, leader, dominating persuading, likes power, material wealth.
- CONVENTIONAL
  - Organized, stable, dependable, likes data & numbers, not physical, not social.

Big Five Overview

- Factor V : Openness/Intellect
  - Culture, intelligence, intelligence; is on the intellect; openness, creativity, independence
- Factor III : Conscientiousness / Will
  - Dependability, Will to achieve, Volition, Task interest, superego strength;
    productivity, work ethic, conscientious, self-control
- Factor I : Extraversion / Introversion
  - Social adaptability, assertiveness, sociability & ambition; power, 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 so-called "self-esteem movement" has transformed schools into clinics and teachers into counselors, creating a generation of self-righteous, self-absorbed, underachieving children.
- The Feel-Good Curriculum provides devastating evidence that our belief in the power and importance of self-esteem in education is misplaced and unfounded.
- It shows that by “dumbing-down” curricula to make kids feel good about themselves, we have robbed them of the opportunity to develop their full potential and, in the process, develop genuine self-esteem—the kind that comes from success, not the other way around.

Stout’s (2000) “The Feel-good curriculum” (2)

Stout attacks a series of common beliefs (her “myths”). Here are a few.

- High expectations for students are damaging for their self-esteem.
- Evaluation (grading, testing, report cards) is punitive, stressful, and damaging to self-esteem.
- Teaching and learning must always be “relevant” and student-centered.
- Effort is more important than achievement.
- Competition leads to low self-esteem and should be replaced by cooperation.

Stout’s (2000) “The Feel-good curriculum” (2)

Here are a few more of her myths.

- Students should be promoted from one grade to the next, irrespective of achievement (social promotion) in order to preserve their self-esteem.
- Discipline is bad for self-esteem and should therefore be dispensed with.
- It is the teacher’s, not the student’s, responsibility to ensure learning.
- Feeling is more important than thinking.
About GOAL-MANAGEMENT (IG)

Awareness (IW), Motivation (IM), Volition (IV)

NOTE: Focus on relevance for Motivation and Volition

SELF
- Strengths & weaknesses
- Natural abilities (G), Traits (I)

OTHERS
- Supportive or handicapping EI roles
- Material resources

Cf. Gardner's Multiple Intelligences
- Intrapersonal (self)
- Interpersonal (others)
**Action Control Theory (ACT)**  
(Heckhausen & Kuhl)

<table>
<thead>
<tr>
<th>MOTIVATION (IM)</th>
<th>VOLITION (IV)</th>
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<tbody>
<tr>
<td>Goal identification</td>
<td>Goal attainment</td>
</tr>
<tr>
<td>Decision-making</td>
<td>Implementation</td>
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<tr>
<td>Pre-decisional</td>
<td>Post-decisional</td>
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**Motivation (IM)**
- **Objective**: goal & motive identification.
- **Goal** = What  
  **Motive** = Why
- Goal ≠ desire, wish, dream
- **Intrinsic motives**:
  - mastery, learning for its sake, ipsative
  - interests, passions
- **Extrinsic motives**:
  - Affiliation, change, dominance, achievement, deference, autonomy, acquisition, recognition, etc.

**Needs according to Henry Murray**

1. **Ambition Needs**
   - Achievement: success, accomplishment, and overcoming obstacles.
   - Exhibition: shocking or thrilling other people.
   - Recognition: displaying achievements and gaining social status.

2. **Materialistic Needs**
   - Acquisition: obtaining things.
   - Construction: creating things.
   - Order: making things neat and organized.
   - Retention: keeping things.

3. **Information Needs**
   - Cognizance: seeking knowledge and asking questions.
   - Exposition: educating others.
Needs according to Henry Murray (2)

4. Power Needs
- Abasement: Confessing and apologizing.
- Autonomy: Independence and resistance.
- Aggression: Attacking or ridiculing others.
- Blame Avoidance: Following the rules and avoiding blame.
- Deference: Obedying and cooperating with others.
- Dominance: Controlling others.

5. Affection Needs
- Affiliation: Spending time with other people.
- Nurturance: Taking care of another person.
- Play: Having fun with others.
- Rejection: Rejecting other people.
- Succorance: Being helped or protected by others.

“The hungry mind”

Von Stumm’s title: "The Hungry Mind: Intellectual Curiosity Is the Third Pillar of Academic Performance"

Intellectual curiosity measured as “typical intellectual engagement” (TIE).
- TIE captures people’s typical expression of engaging with and understanding their environment and their desire to solve and be absorbed by complex, intellectual problems
- It is closely related to the FFM’s “Openness to experience”

The three pillars of academic achievement
- First: natural ability (intellectual giftedness)
- Second: effort (volition)
- Third: intellectual curiosity (intrinsic motivation)

About passions (1)

R. J. Vallerand’s definition:
- “A strong inclination toward an activity that people like, that they find important, and in which they invest time and energy.”

Two types, according to how it is internalized into one’s core identity, (Based on Deci/Ryan’s SDT).
- ‘Harmonious’ (HP): autonomous internalization (activity freely accepted as important without any contingencies attached to it).
- ‘Obsessive’ (OP): controlled internalization (contingencies like social acceptance or self-esteem, or derived excitement is uncontrollable).
About passions (2)

- **Measures**
  - Identify an activity that “is very dear to your heart”.
  - Then answer a 34-item Passion Scale about it.
  - Passion = 4+ on a 7-point scale!

- **Much too generous** in my view: 84% of college respondents judged passionate about “something”.

- What is that “something” for these college students?
  - 81% in sports/physical activity (individual/team)
  - 20% in passive leisure (music, movies, reading)
  - 4% in education/work related activity

Trevor Barry’s passion

- Trevor Barry, an Australian mine fitter and machinist in Broken Hill (Western NSW), who left high school in year 10, spent his first four decades mostly ignoring the heavens.

- Then, one night, a friend showed him the ethereal image of Saturn floating in his backyard scope, and Trevor’s life changed. Astronomy became a passion, science an obsession, and knowledge a treasure chest that had suddenly sprung open.

- These were what drove him, a man without an academic record and against the odds, to undertake an online postgraduate degree in astronomy, one of the most demanding subjects in the curriculum of Swinburne University of Technology.

- The same passion led Trevor, in his 50s, to top honors and a faculty prize for outstanding achievement.

Crossing the ‘Rubicon’
Volition (IV)

Objective: Maintain focus on goal attainment.

Components

A - Volitional styles (relevant IP concepts)
  E.g., autonomous, conscientious, (vs. impulsive)

B - Goal-related cognitions
  Selecting developmental activities (DA)
  Monitoring investment (DI) & progress (DP)

C - Action control processes
  Motivation control: reinforcement, sub-goals, ...
  Emotional control: boredom, failures, ...

Grit - Hardiness - Resilience (1)

- We define grit as perseverance and passion for long-term goals. Grit entails working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress. The gritty individual approaches achievement as a marathon; his or her advantage is stamina, (...) the gritty individual stays the course.
  (Duckworth et al, 2007, p. 1089)

- “We’re primed to think that talent [giftedness] is the key to success. But what counts even more is a fusion of passion and perseverance. In a world of instant gratification, grit may yield the biggest payoff of all.”
  (Doskoch, P., 2008, p. 42)

Grit - Hardiness - Resilience (2)

- Duckworth recommendations
  1. Children who demonstrate exceptional commitment to a particular goal should be supported with as many resources as those identified as “gifted and talented.”
  2. We should encourage children to work not only with intensity but also with stamina.
  3. We should prepare youth to anticipate failures and misfortunes and point out that excellence in any discipline requires years and years of time on task.
Is there a 'gifted' I profile?

- A large proportion of "no difference" results.
- When present, differences slightly favor the G/T.
- The differences cover a broad spectrum of qualities.
- Major methodological problems:
  - So many traits to assess.
  - Defining and measuring personality traits
- Individual impacts may be very important.

The overlap is important (1)
The overlap is important

![Characteristics Chart]

The case of Boredom
- Spontaneously associated with E (boring) situations.
- Large individual differences observed suggesting...
- ...a genetic predisposition to boredom.
- Many types: from 'transient' to 'existential ennui'.
- Two major causes:
  - Need for novelty, excitement, stimulation
  - Attention problems, alexithymia
- Associated with depression, drug addiction, social awkwardness, gambling.

The limits of passion
- Who is he?
- Yes, Andre Agassi at age 8.
- In his biography, 'Open', he wrote on the very first page:
- "I play tennis for a living, even though I hate tennis, hate it with a dark and secret passion, and always have." (p. 3)
An example: ‘perfectionism’

- A mental trait commonly seen as positive/negative.
- Disagreement on definition and measurement
- Two faces of the perfectionist ‘coin’:
  - Adaptive: high performance standards
  - Maladaptive: chronic dissatisfaction, procrastination
- ...and don’t forget the “non-perfectionists”!
- Inconsistent results: basically, not typical of gifted/talented students.

Underneath the I component

Genetic underpinnings of Traits (IT) and Goal-management (IG)

THREE basements for the DMGT

![Diagram of three basements for the DMGT]

- Behavioral phenotypes
- Anatomical (exo) phenotypes
- Physiological (endo) phenotypes
- Genotypic foundations
Assessing Nature/Nurture influences

Major sources of information

- Comparing adoptees within the same family.
- Comparing adoptees and biological siblings.
- Comparing fraternal (HZ) and identical (MZ) twins.
- Comparing identical twins raised apart

Genetically influenced sub-components

<table>
<thead>
<tr>
<th>INTRAPERSONAL (I)</th>
<th>PHYSICAL (IF)</th>
<th>Appearance, handicaps, health</th>
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</thead>
<tbody>
<tr>
<td>TRAITS</td>
<td>MENTAL (IP)</td>
<td>Temperament, personality, resilience</td>
</tr>
<tr>
<td></td>
<td>AWARENESS (IW)</td>
<td>Self &amp; others; strengths &amp; weaknesses</td>
</tr>
<tr>
<td></td>
<td>MOTIVATION (IM)</td>
<td>Values, needs, interests, passions</td>
</tr>
<tr>
<td></td>
<td>VOLITION (IV)</td>
<td>Autonomy, effort, perseverance</td>
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</tbody>
</table>

Heritability of Happiness (well-being)

<table>
<thead>
<tr>
<th>Type of twins</th>
<th>n. pairs</th>
<th>intraclass R</th>
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<tbody>
<tr>
<td><strong>Reared together</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identical</td>
<td>647</td>
<td>0.44</td>
</tr>
<tr>
<td>Fraternal</td>
<td>733</td>
<td>0.08</td>
</tr>
<tr>
<td><strong>Reared apart</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identical</td>
<td>75</td>
<td>0.52</td>
</tr>
<tr>
<td>Fraternal</td>
<td>36</td>
<td>-0.02</td>
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</table>
Dynamic aspects of 'I'

Within the I component
I as the source
I as the target
The feedback loop

DMGT 2.0

Within 'I' dynamics

- Both **POSITIVE** and **NEGATIVE** impacts
- Among 'traits'
- **Within** the goal-management trio
- **Between** the two sub-components
‘I’ as the SOURCE of impacts

- Impact of IMIV on the D component
  - Foremost on the DI (investment) dimension
  - Also on the DA (activities) dimension
- Impact on the E component
- The ‘triage nurse’ metaphor
- Impact on the G component
  - Motivation as a motor for NAT development

‘I’ as the TARGET of impacts

- Impacts from the E component
  - Ex. Teachers’ efforts to motivate students.
- Impacts from the D component
  - Ex. Growing TD costs (DI) affect Volition.
- Impacts from the G component
  - Ex. Social abilities contribute to IW
- Impacts from the T component
  - Ex. The “Feedback Loop”

Does ‘I’ make a difference?
Some Scholarly Statements

- "We are justified in believing that geniuses, so-called, are not only characterized in childhood by a superior IQ, but also by traits of interest, energy, will, and character that foreshadow later performance."
  (L. M. Terman, 1926, p. IX)

- "By natural ability, I mean those qualities of intellect and disposition, which urge and qualify a man to perform acts that lead to reputation. I do not mean capacity without zeal, nor zeal without an adequate power of doing a great deal of very laborious work."
  (F. Galton, 1892, p. 77)

Summing up

- The human psyche is a most complex 'machine'.
- Filtering environmental stimuli is the most important role of the 'I' component.
- The core of I impacts is in IV and IM.
- The important and complex interactions we have surveyed send an important message: *Beware of stereotypes*. Each gifted/talented child is unique, and deserves his/her uniqueness to be recognized and respected.

That’s all...for now!

Thanks for your attention