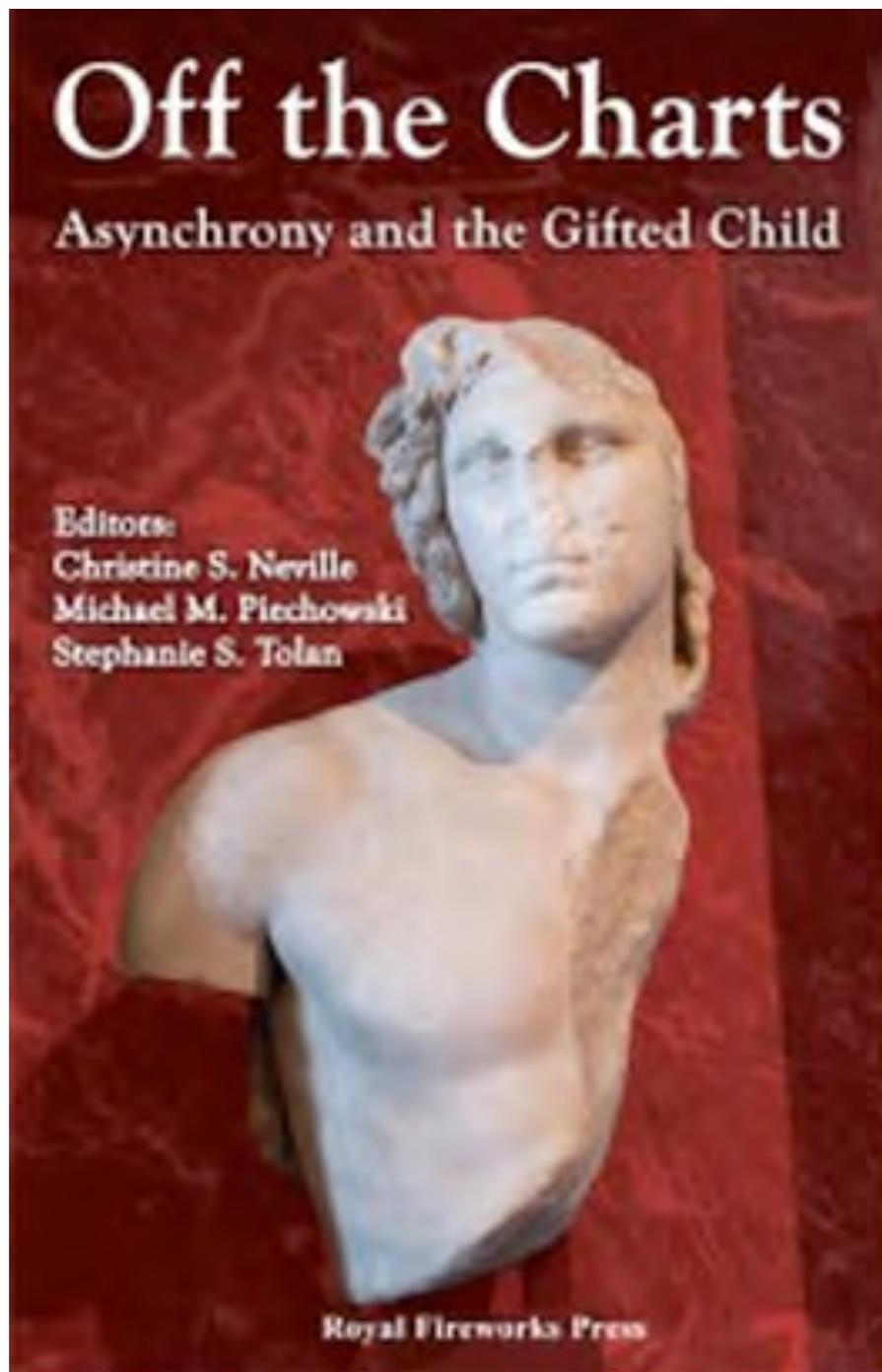


Same, Similar,
or Different?
Openness
to
Experience
and
Overexcitability

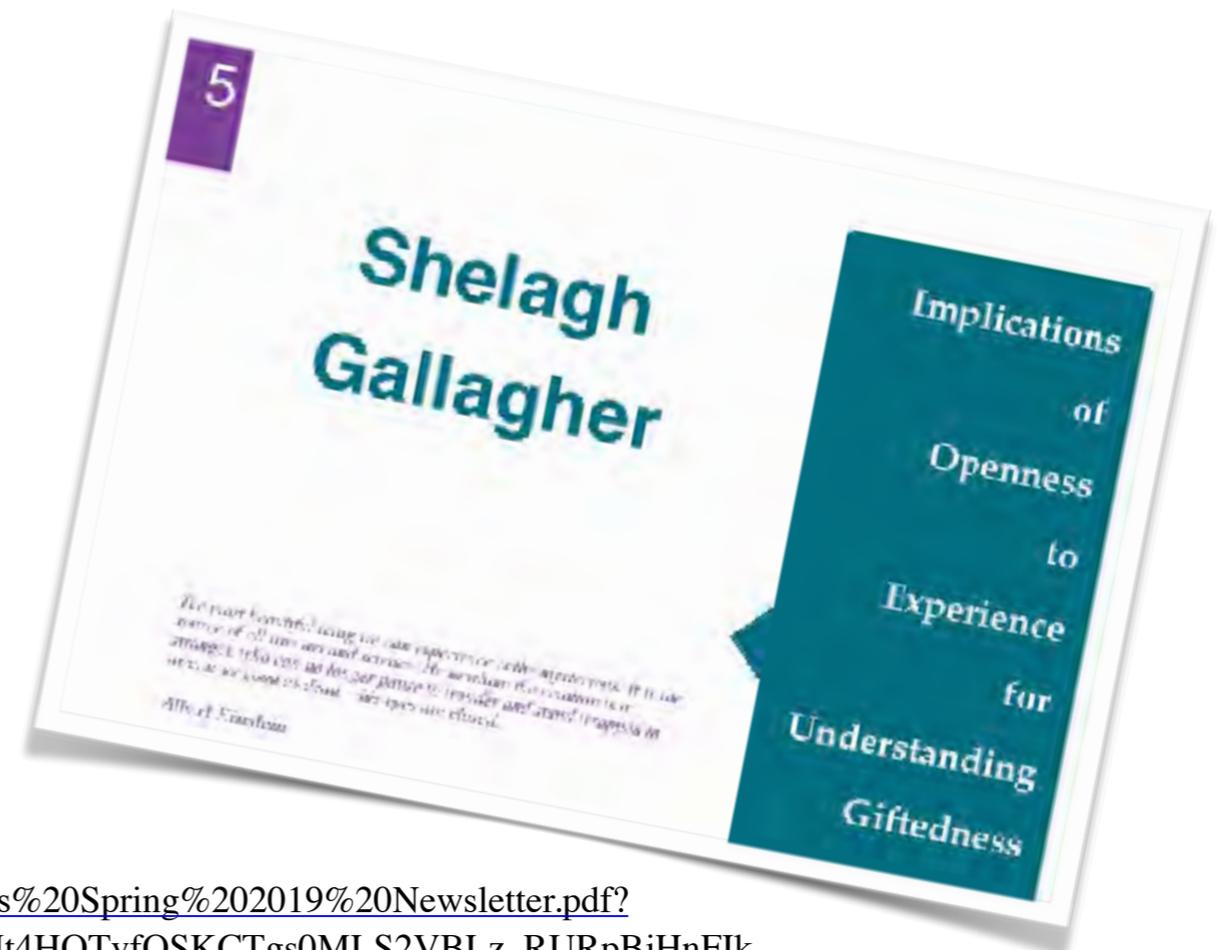
Dr. Shelagh A. Gallagher
Engaged Education
Charlotte, NC
sagallag1@gmail.com



Building Bridges: Research on Gifted Children's Personalities from Three Perspectives

https://www.researchgate.net/publication/288949998_Building_bridges_Research_on_gifted_children's_personalities_from_three_perspectives

Implications of Openness to Experience for Understanding Giftedness
Shelagh A. Gallagher, Ph.D.
NAGC Conceptual Foundations Newsletter



http://www.nagc.org/sites/default/files/Network_Newsletters/Conceptual%20Foundations%20Spring%202019%20Newsletter.pdf?mc_cid=a8952659c7&mc_eid=c9c2b88a2a&fbclid=IwAR1LIWld32DT9U2yj_GOa59Ht4HOTvfQSKCTgs0MLS2VBLz_RURpBjHnFlk

O C E A N

The Five Factor Model of Personality



C A N O E



The Big Five Factor Model of Personality

**is based on
the Lexical Hypothesis**

**which assumes that all the important
personality traits are expressed in natural
language.**

Derived from Lexical Analysis

Conscientiousness

thorough

Agreeableness

kind

Neuroticism

nervous

Openness

imaginative

insightful

Extraversion

energetic
talkative

assertive

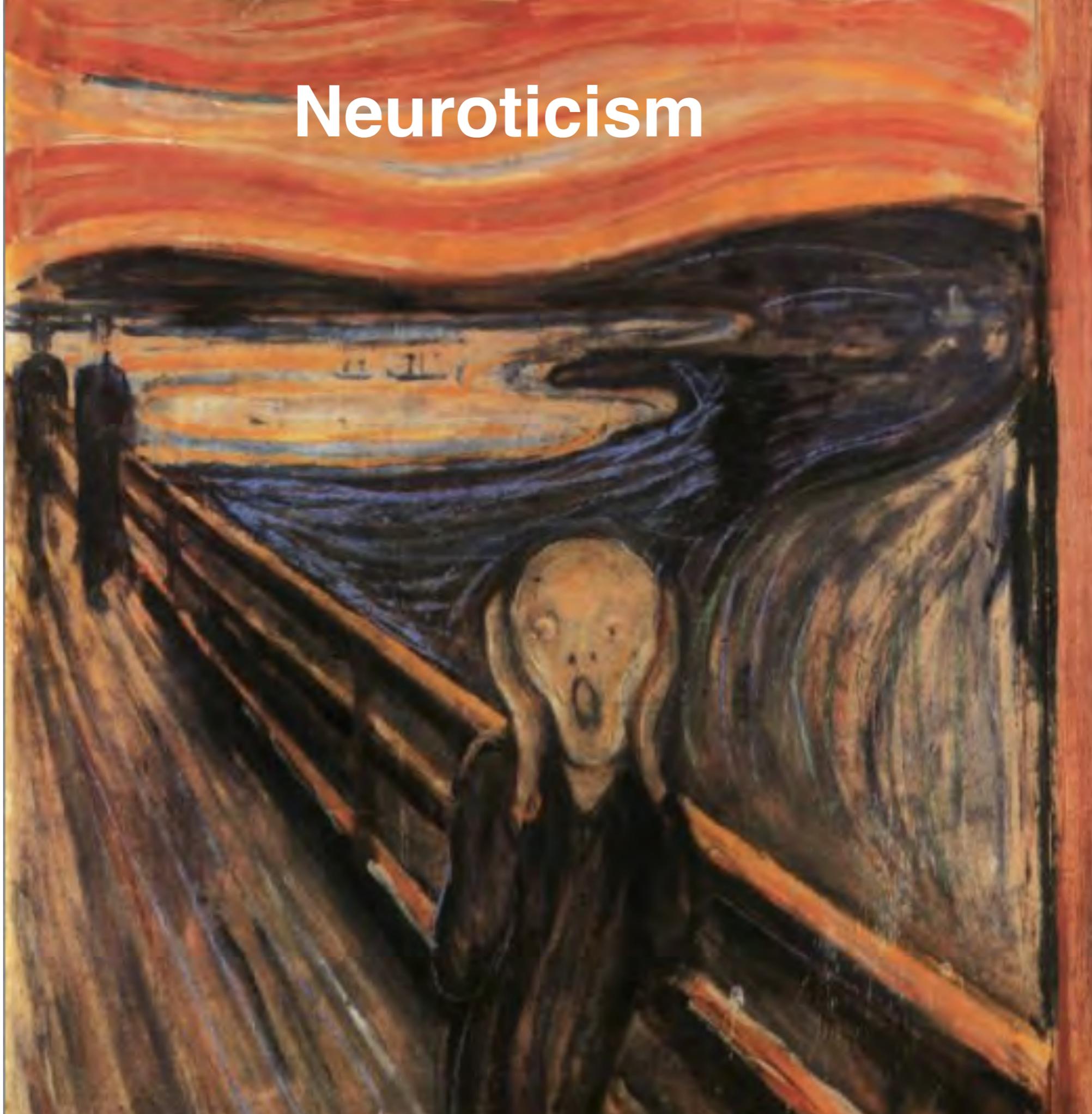
A full-body photograph of Superman in his classic costume. He is wearing a blue long-sleeved suit with a red and yellow 'S' shield on the chest, a red cape, and a yellow belt with a red buckle. He has his hands on his hips and is looking directly at the camera with a serious expression. The background is a plain, light gray wall.

Conscientiousness

Agreeableness



Neuroticism



Neuroticism



Openness to Experience



Extraversion



Spontaneous,
impulsive,
disorganized

CONSCIENTIOUSNESS

Hardworking,
dependable,
compulsive

Critical,
uncooperative,
suspicious

AGREEABLENESS

Helpful, trusting,
empathetic

Calm, even-
tempered,
secure

NEUROTICISM

Anxious,
unhappy, prone
to negative
emotions

Practical,
conventional,
prefers routine

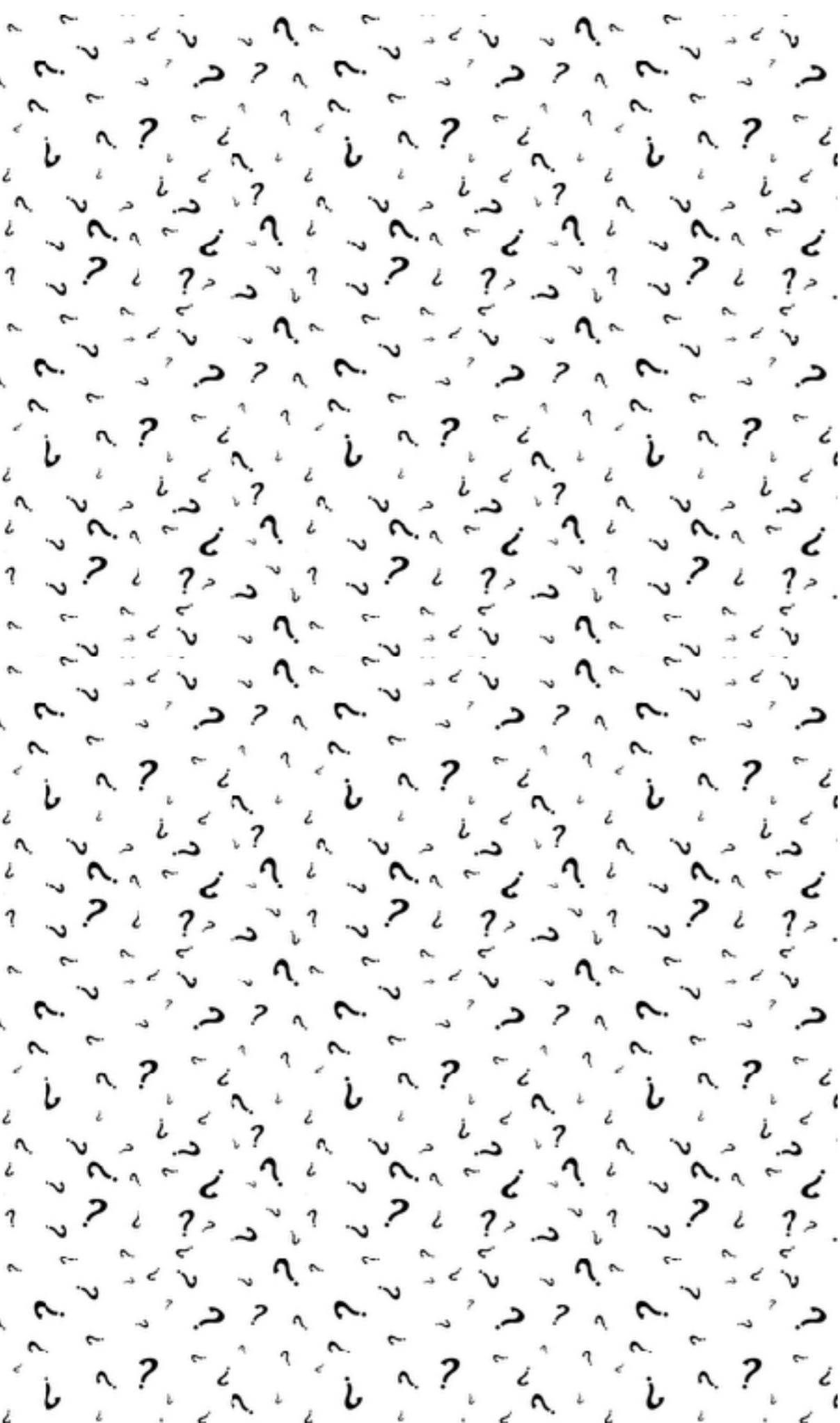
OPENNESS

Curious, wide
range of
interests,
independent

Quiet, reserved,
withdrawn

EXTRAVERSION

Outgoing, warm,
adventure
seeking



Atheoretical or Metatheoretical

Jung, Freud, Cattell, Eysenck, Murray

Factor Analytics

Comprehensiveness

Strength of Factors

What do the Factors Represent

Thorough Critiques

Boyle, G. (2008). Critique of the five-factor model of personality

https://epublications.bond.edu.au/cgi/viewcontent.cgi?article=1308&context=hss_pubs

Block, J. (2010). The Five-Factor framing of personality and beyond: Some ruminations

<https://pdfs.semanticscholar.org/2c74/81d97f38e4eb2cba370f46081888ea6cbee3.pdf>

Openness to Experience



Openness to Experience



Facets

Ideas: intellectual curiosity

Values: readiness to re-examine own values and those of authority figures

Fantasy: receptivity to the inner world of imagination

Aesthetics: appreciation of art and beauty

Feelings: openness to inner feelings and emotions

Actions: openness to new experiences on a practical level

the active seeking and appreciation of experiences for their own sake

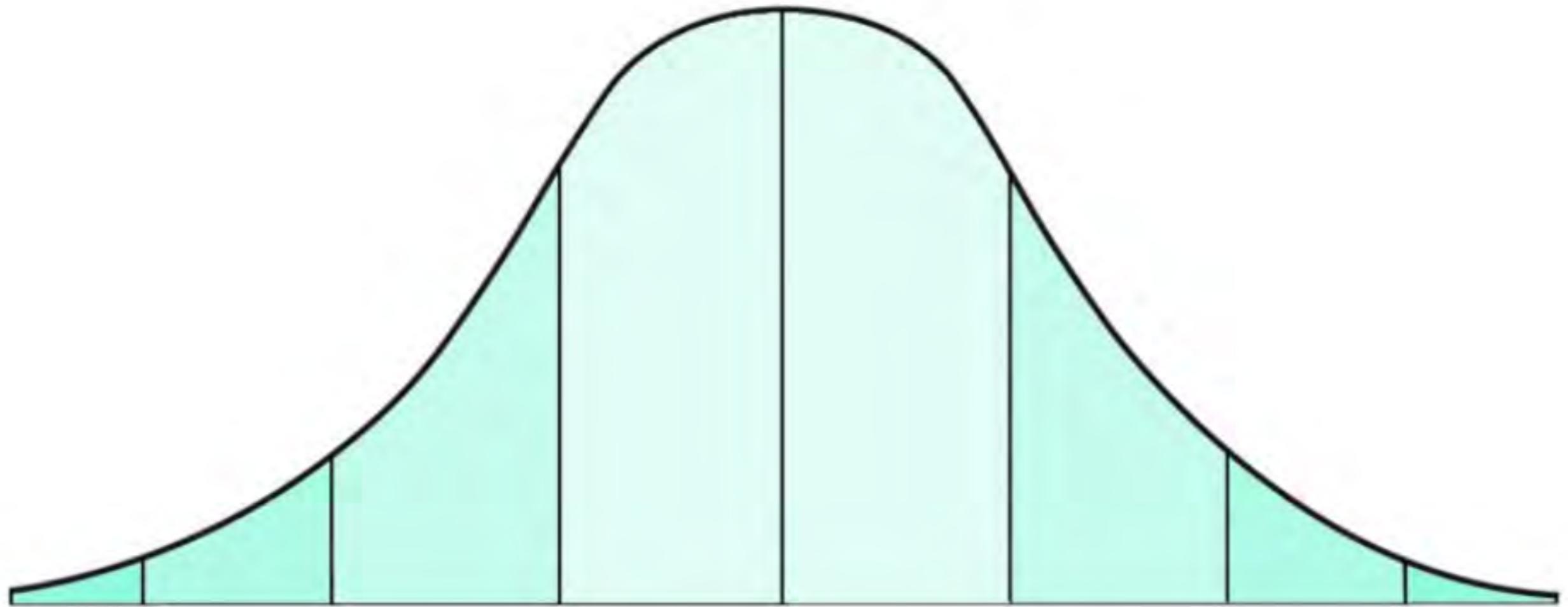
Openness is an Evolving Construct

Absorption

Intellect

Fantasy Aesthetics Feelings

Ideas Values Actions



standard score	55	70	85	100	115	130	145
percentile	.1	2.3	15.9	50	84.1	97.7	99.9

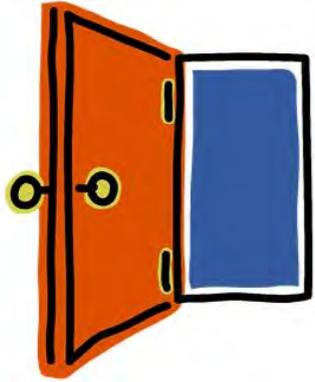
Closed

Open



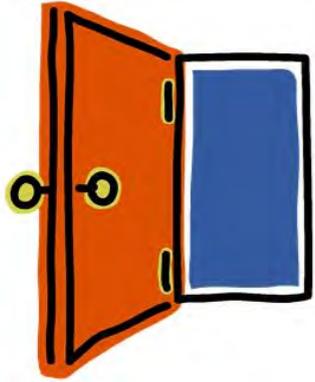
Absorption + Intellect

A Definition of OPENNESS TO EXPERIENCE



Individuals who are high in openness to experience tend to have an *active imagination*, *aesthetic sensitivity*, *attentiveness to inner feelings*, preference for variety, *intellectual curiosity*, and independence of judgment. Open individuals are *curious about both inner and outer worlds*, and their lives are experientially richer than those of closed individuals. They are willing to entertain *novel ideas and unconventional values*, and they *experience both positive and negative emotions more keenly*...Open individuals are willing to question authority and are prepared to *entertain new ethical, social and political ideas*.

A Definition of OPENNESS TO EXPERIENCE



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Overexcitabilities

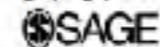
Intellectual
Emotional
Imaginational



Openness to Experience Rather Than Overexcitabilities: Call It Like It Is

M. Alexandra Vuyk¹, Thomas S. Krieshok¹, and Barbara A. Kerr¹

Gifted Child Quarterly
2016, Vol. 60(3) 197–211
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Gifted Children
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DOI: 10.1177/0016986216645407
gcq.sagepub.com



Abstract

Openness to experience is a personality factor in the five-factor model of personality, and it is composed of six facets. Facets of openness appear conceptually analogous to overexcitabilities (OEs), which are displays of inner energy guiding individuals toward advanced achievement. This study compares the corresponding general population and gifted population, and corresponding acceptable fit. Openness seen in the five-factor model of personality is compared to overexcitabilities in gifted individuals.

Keywords

openness to
methodologie

A controversy

From overexcitabilities to openness: Informing gifted education with psychological science

M. Alexandra Vuyk, Barbara A. Kerr & Thomas S. Krieshok

To cite this article: M. Alexandra Vuyk, Barbara A. Kerr & Thomas S. Krieshok (2016) From overexcitabilities to openness: Informing gifted education with psychological science, *Gifted and Talented International*, 31:1, 59-71. DOI: [10.1080/15332276.2016.1220796](https://doi.org/10.1080/15332276.2016.1220796)

To link to this article: <http://dx.doi.org/10.1080/15332276.2016.1220796>

Benefits of Research On Five Factor Model and Openness to Experience

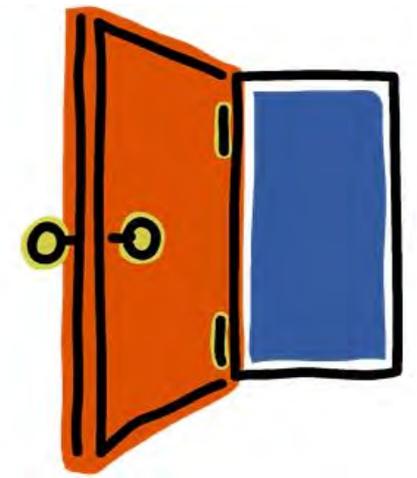
**for
Gifted Education
and
Advanced Development**

Extensive Research
Robust Sample Sizes
Important Connections

- biomedical
- cross-cultural
- longitudinal

Outside of Gifted Education

Strongly correlated with IQ



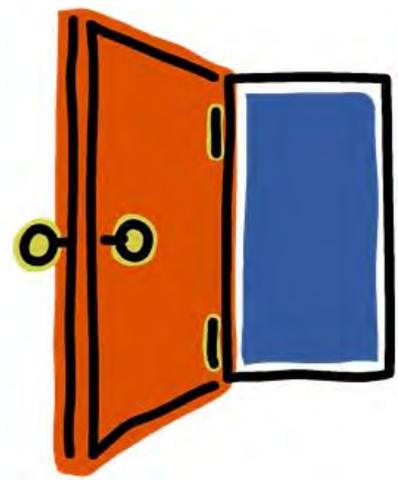
Correlation between Openness and
Measures of Intelligence

0.30

‘Moderate’ or ‘Moderate to Large’

Strongly correlated with IQ

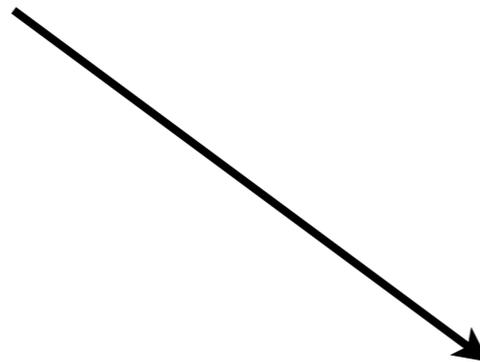
Enhances intelligence



Openness to
Experience



Fluid Intelligence



Crystallized Intelligence

(Bates & Shieles, 2003; Furnham, et al., 2007; Moutafi, et al., 2003; de Young, 2011; Schretlen, van der Hulst, Pearlson, & Gordon, 2010)

Openness is Related to Fluid and Crystallized Intelligence

Openness predicts adult intelligence above and beyond childhood IQ and activity (Hogan, 2012)

Openness predicts high academic achievement (Asendorpf and van Aken, 2003)

Gifted tend to be higher in Openness than typically developing (McCrae et al., 2002; Zeidner & Shani-Zinovich, 2011)



Heritability of Personality

Evidence that Openness is

Substantially heritable

0.8

Highest Heritability Among the Five Factors

Heritability of Personality

Evidence that Openness is

Substantially heritable

0.57

Highest Heritability Among the Five Factors



Openness to Experience Exhibits Early

Openness in preschool related to advanced play patterns at age 5 (Abe, 2005)

Openness in preschool predicts academic achievement in adolescence (Asendorpf & van Aken, 2003)

Gifted Students Tend to be Advanced on Measures of Openness

230 gifted students
2,748 typically developing

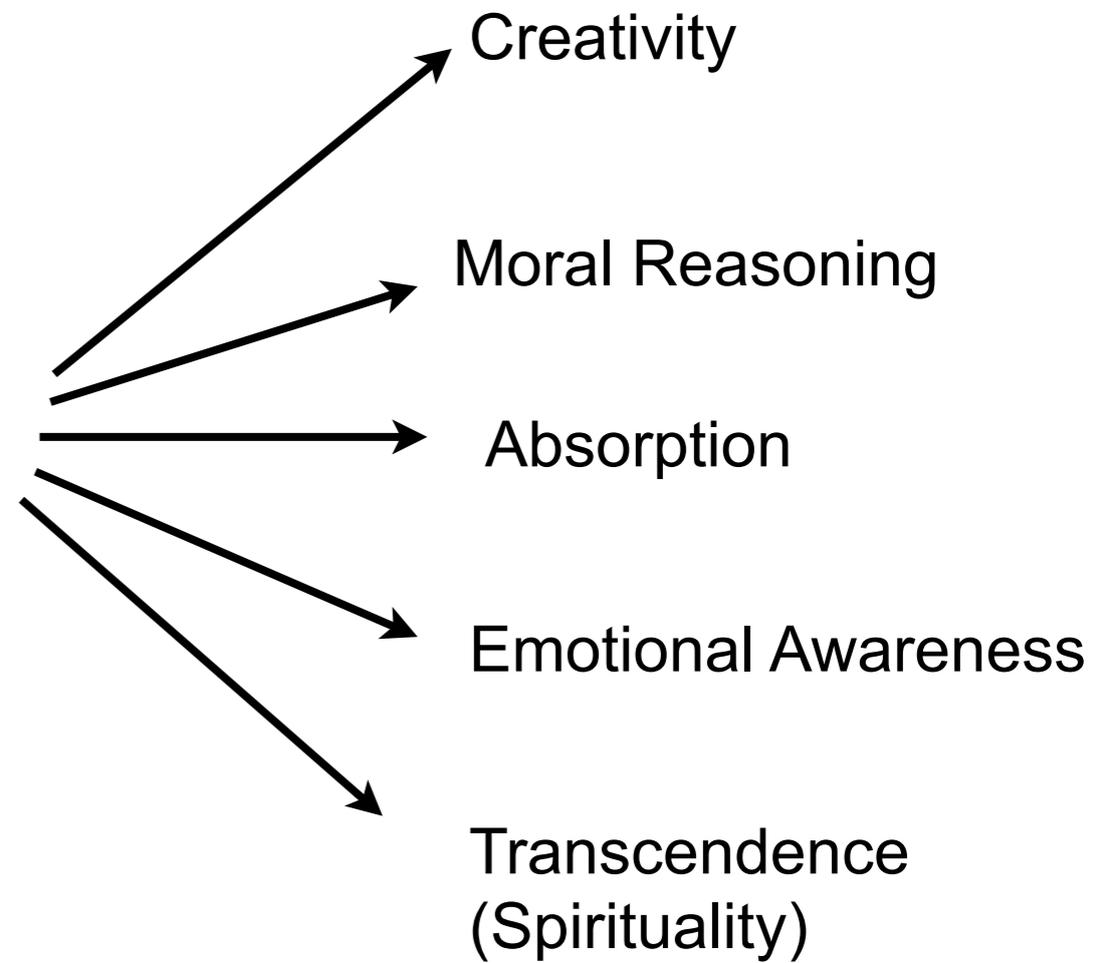
gifted students 0.5 standard deviations difference

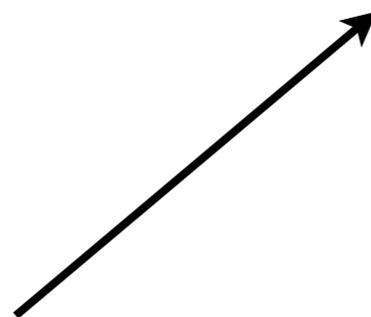
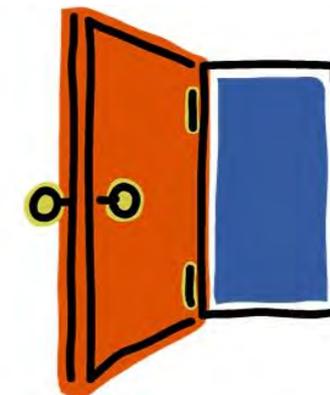
**“At age 12,
[gifted students] have already reached the level of
[Openness to Experience]
characteristic of [typical] 15-year-olds”**

McCrae et al., 2002, p. 1463



OPENNESS to **Experience**

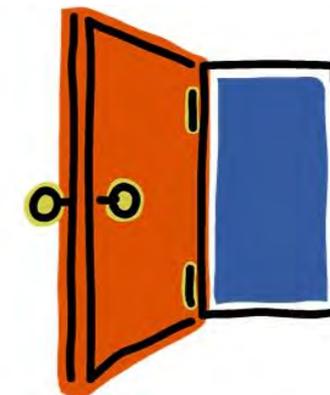




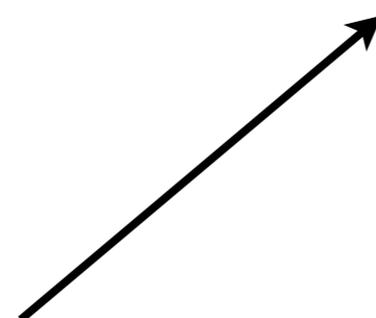
OPENNESS to Experience



- Ideas
- Values
- Action
- Fantasy
- Feeling
- Aesthetics



Creativity

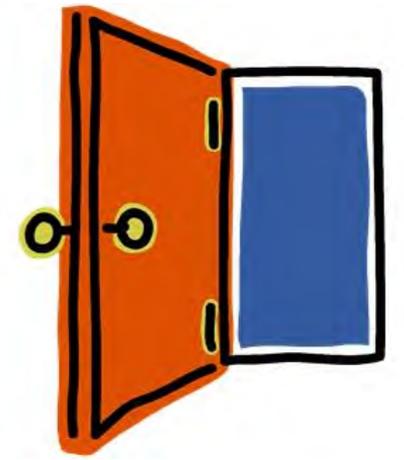


OPENNESS to Experience

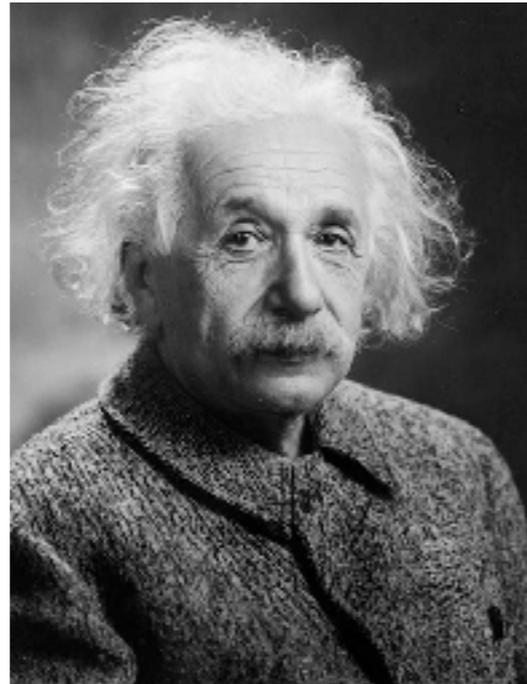


- Ideas
- Values
- Action
- Fantasy
- Feeling
- Aesthetics

CREATIVITY



Creative scientists and artists score higher on Openness than their less creative counterparts (Feist, 1998)



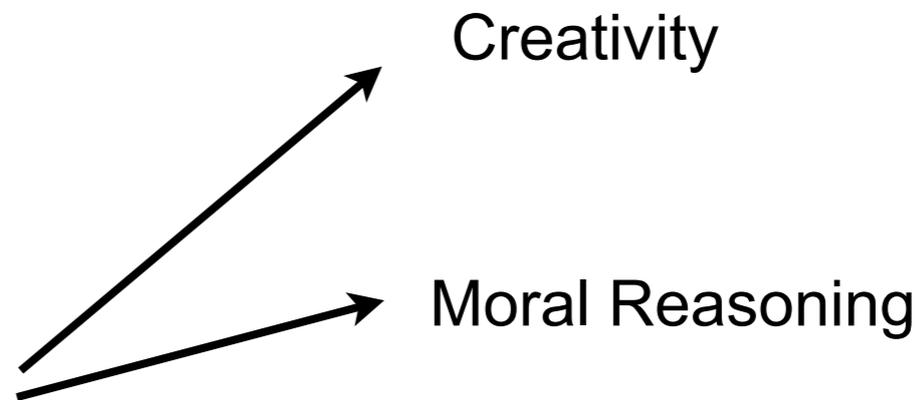
“Intelligence can predict creative thinking only when the openness to experience score is medium or high; conversely, when the openness to experience level is low, intelligence exerts a very limited influence on creative thinking.”

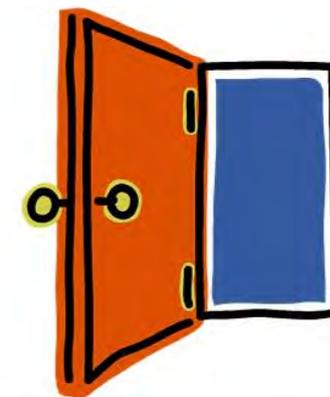
Shi, Dai, and Lu (2016)

OPENNESS to Experience



- Ideas
- Values
- Action
- Fantasy
- Feeling
- Aesthetics

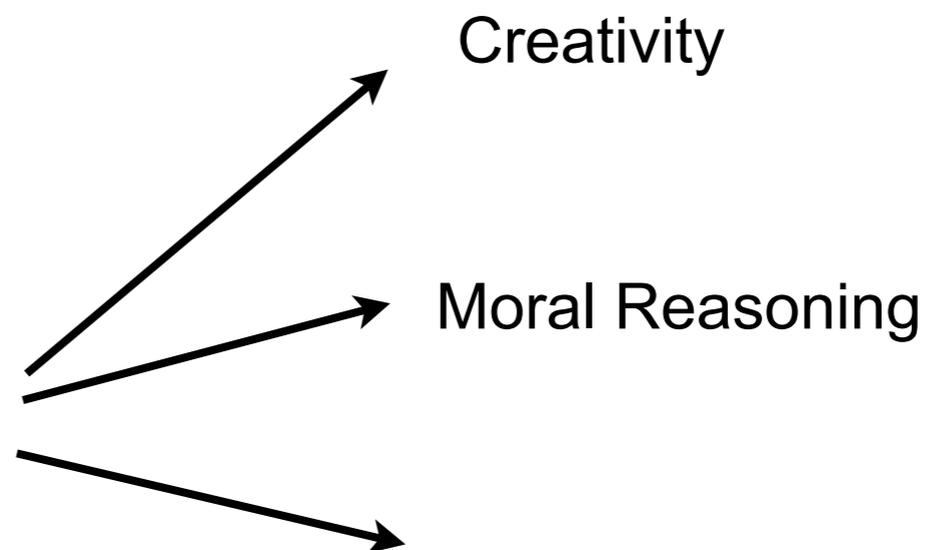


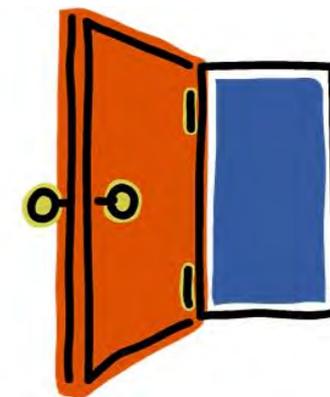


OPENNESS to Experience



- Ideas
- Values
- Action
- Fantasy
- Feeling
- Aesthetics

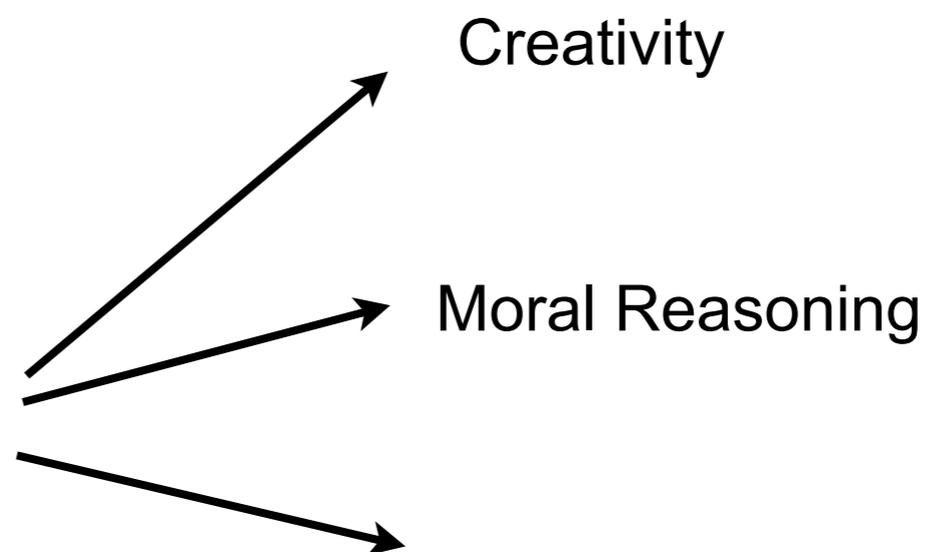


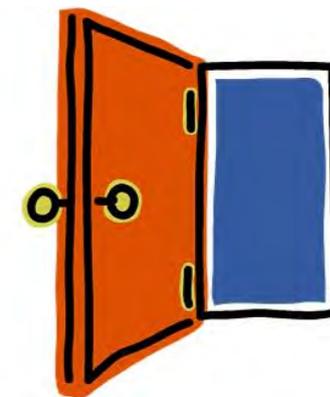


OPENNESS to Experience



- Ideas
- Values
- Action
- Fantasy
- Feeling

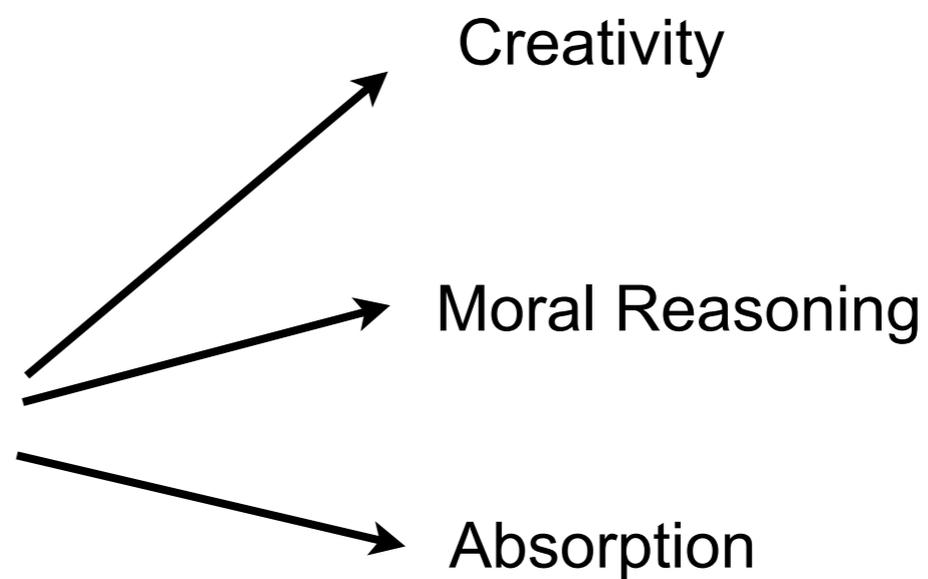




OPENNESS to Experience



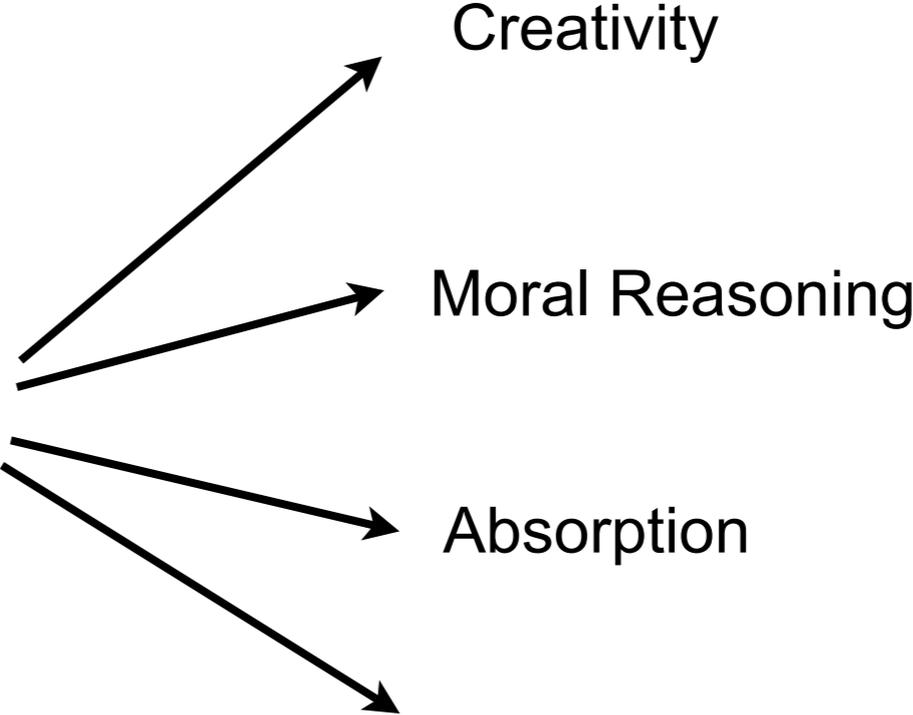
Ideas
Values
Action
Fantasy
Feeling



OPENNESS to Experience



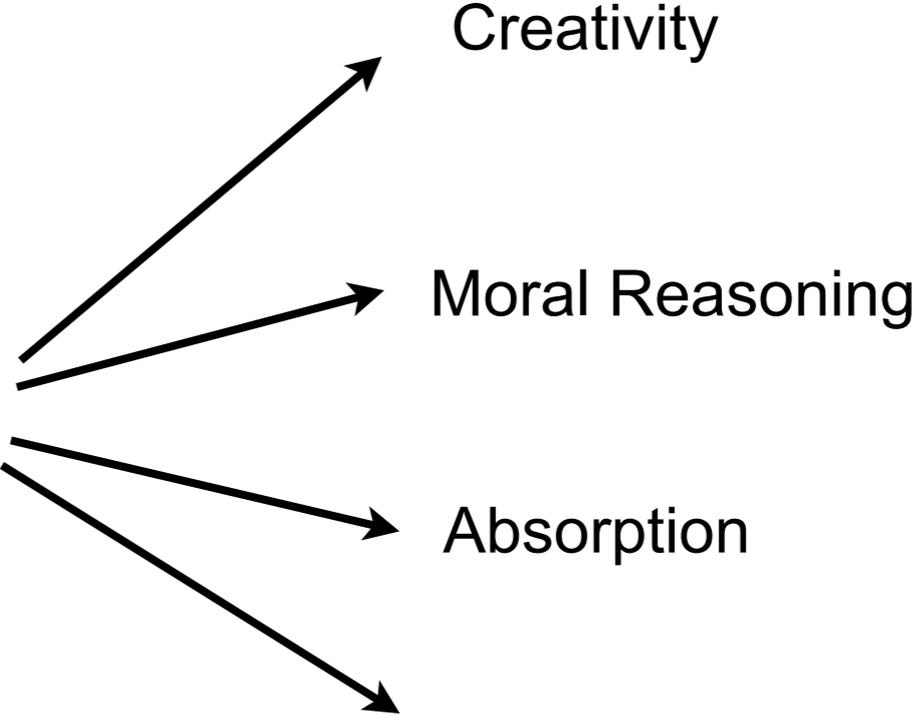
- Ideas
- Values
- Action
- Fantasy
- Feeling
- Aesthetics



OPENNESS to Experience



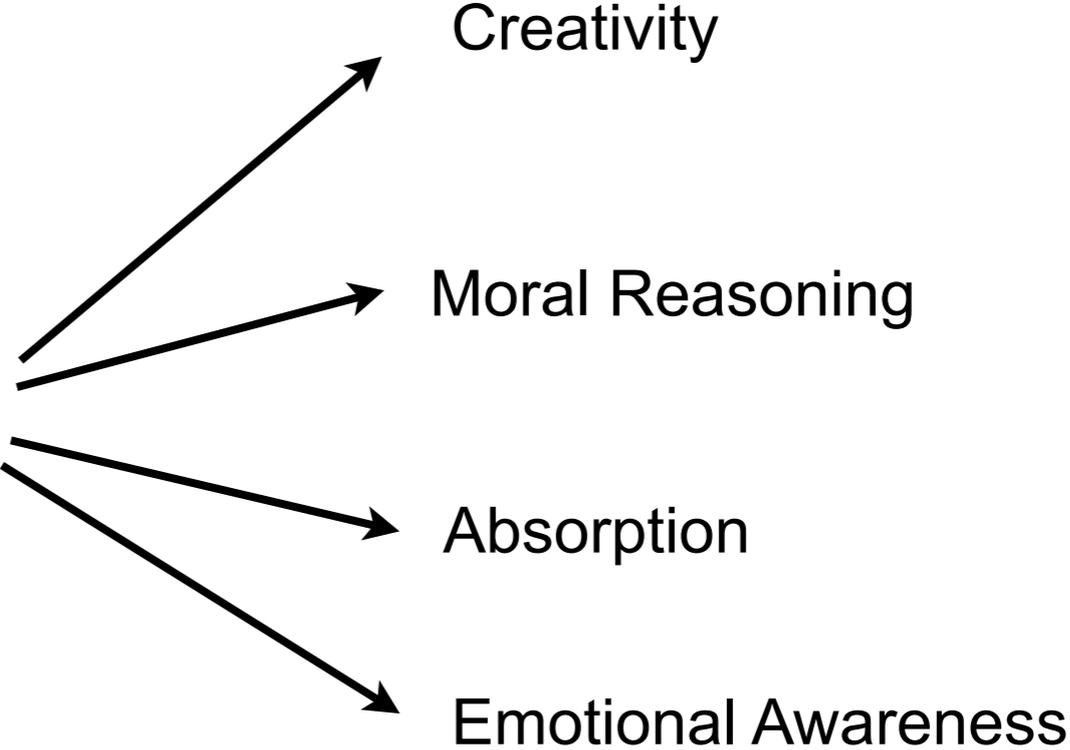
- Ideas
- Values
- Action
- Fantasy
- Feeling



OPENNESS to Experience



- Ideas
- Values
- Action
- Fantasy
- Feeling





Openness leads to *vulnerability to joy and distress*, as well as *heightened awareness of inner conflicts*,



People who are Open are more *aware of the difference between actual and ideal states*.

Intense experience of positive and negative emotions.

(McCrae & Costa, 1999; McCrae, 2000; Wolfenstein & Trull, 1997)



Openness May Change Over Time



**Childhood =
intelligence,
creativity,
curiosity**

Caspi, Roberts, Shiner (2005)

Openness May Change Over Time

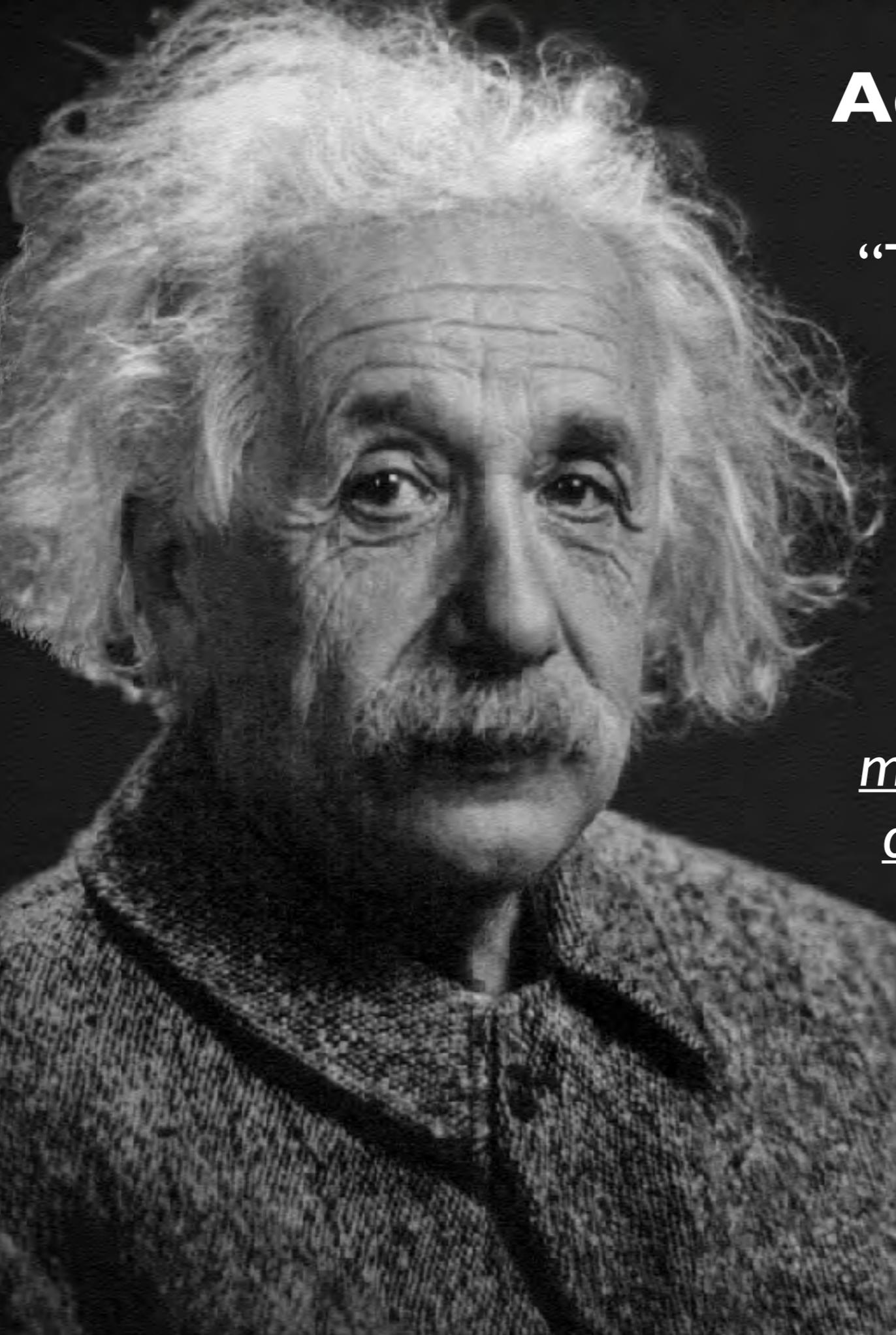
**Adult =
ability to access
inner experiences**

Caspi, Roberts, Shiner (2005)





Openness May Change Orientation



Adult Expertise/Genius

“The case studies we have reviewed are consistent with the idea that Openness to Experience is a key feature of the psychology of genius...”

Perhaps genius is a quality of the mind...an approach that takes in much of life experience, processes it deeply and discovers new possibilities.”

(McCrea & Greenberg, 2014, p. 237)

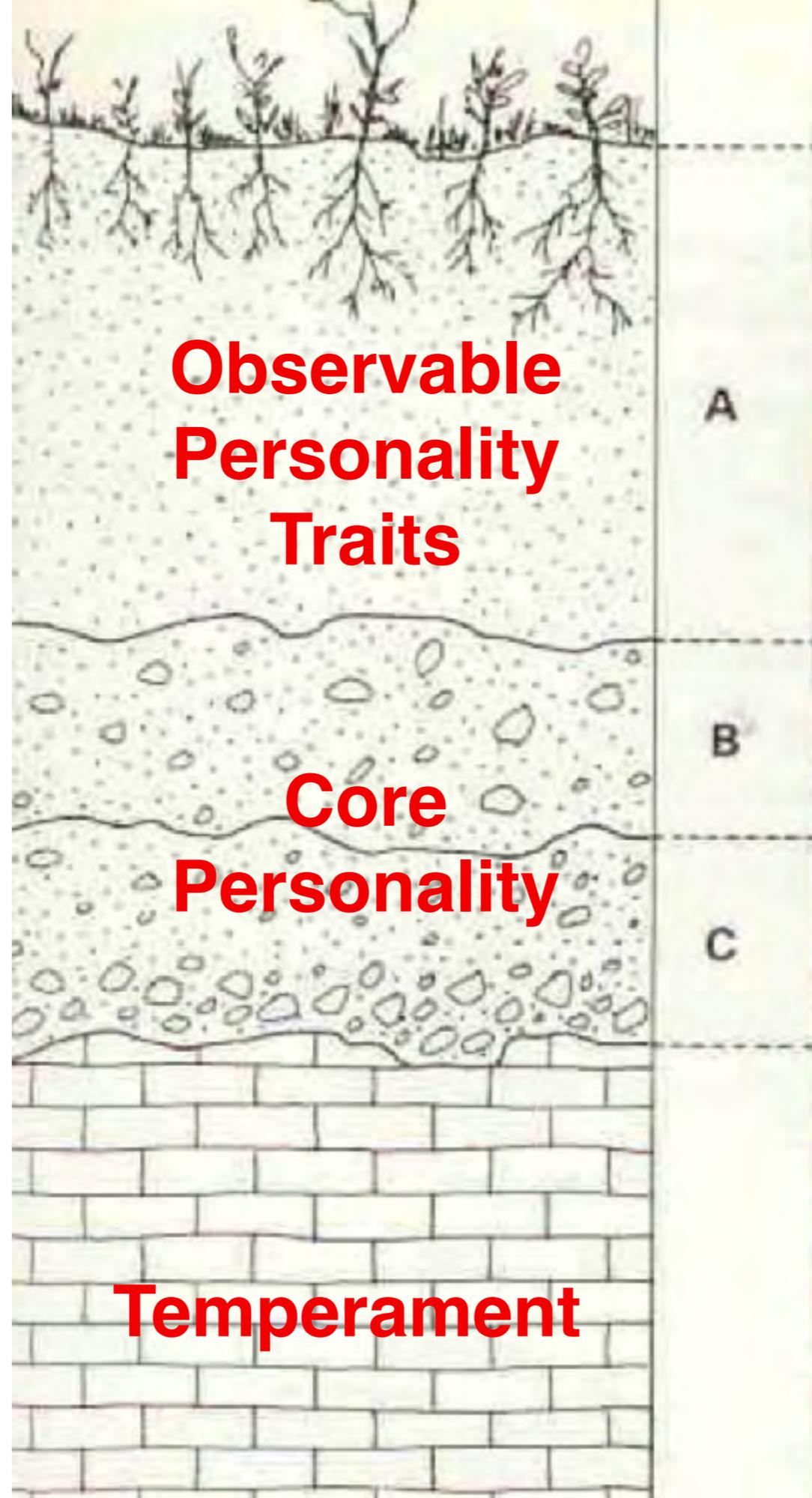
**Is
OE
the same as
OE?**

**Uncertainty
over
Representation**

Openness

Overexcitability

MBTI Intuition



**Observable
Personality
Traits**

A

**Core
Personality**

B

**Core
Personality**

C

Temperament



Forms of Overexcitability

Openness Facets

Psychomotor

Sensual

Imaginational

Intellectual

Emotional

Aesthetic

Fantasy

Ideas

Feelings

Values

Actions

Forms of Overexcitability

Openness Facets

Psychomotor

Sensual

Aesthetic

Imaginational

Fantasy

Intellectual

Ideas

Emotional

Feelings

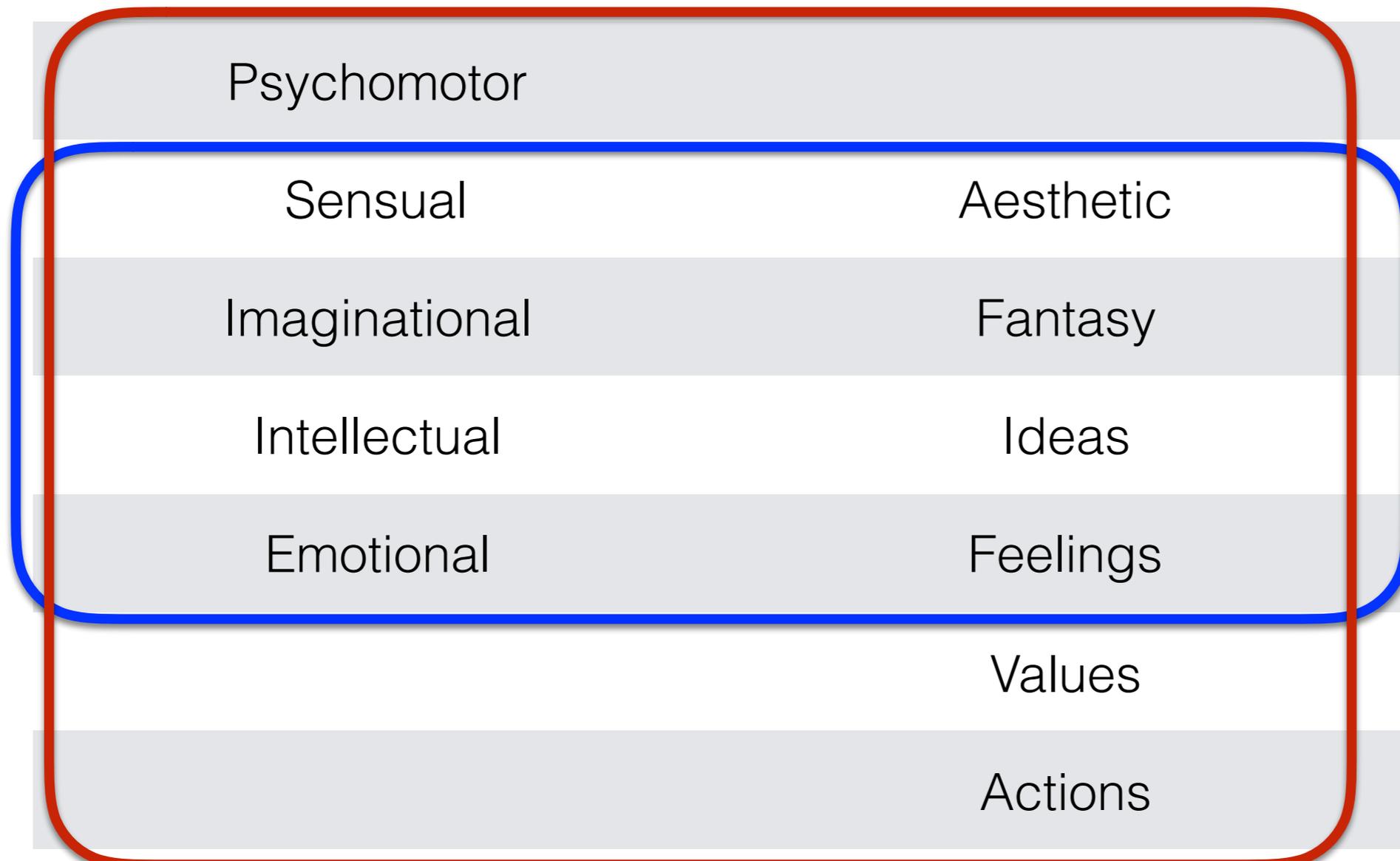
Values

Actions

Something

Forms of Overexcitability

Openness Facets



Something

Not Everything



**What about
Psychomotor OE?**

Openness  MBTI Intuition

Furnham, Moutafi, & Crump, 2003	$r = .64$
McCrae & Costa, 1989 males	$r = .72$
McCrae & Costa 1989 females	$r = .69$
McDonald et al., 1994 males	$r = .71$
McDonald et al., 1994 females	$r = .70$
Furnham, 1996	$r = .49$

Does this mean that Overexcitabilities are the same as MBTI Intuition?



Study	Sample	Sensing	Intuition
Normative Group	9,320	68.1	31.9
Sak, 2004	5,834	28.4	71.7
Cross et al., 2007	931 gifted high school students	31.1	68.9
Folger et al., 2003	96 college honors students	34.4	65.6
Lysy & Piechowski, 1983	44 graduate students	25	75
McCaulley, 1976	1001 National Merit Finalists	17.6	82.4
Ruf & Radosevich, 2009	124 gifted youth and adults	16.1	83.9
MacKinnon, 1978	120 (approx) creative scientists, mathematicians, architects, writers	4	96

Lysy & Piechowski, 1983

Regression analysis predicting Dabrowski developmental level of 42 graduate students using MBTI and OEQ

No significant correlation between MBTI Intuition and any Overexcitability

MBTI Intuition + TOE + EOE

Openness  MBTI Intuition

Furnham, Moutafi, & Crump, 2003	$r = .64$
McCrae & Costa, 1989 males	$r = .72$
McCrae & Costa 1989 females	$r = .69$
McDonald et al., 1994 males	$r = .71$
McDonald et al., 1994 females	$r = .70$
Furnham, 1996	$r = .49$

“The most important implication of [these correlations] is that the research ... can be joined to provide a more comprehensive picture of the construct of personality.”(Furnham et al., 2003, p. 583).

Table 1
Descriptive statistics, alpha coefficients values for the gifted and controls, and two MANOVA results (simple effects) for OEs and the Big Five dimensions.

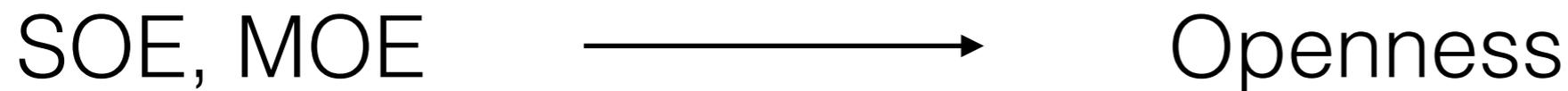
Measure	Gifted, N = 132			Control, N = 103			F(1, 233)	η^2 /Cohen's d
	M	SD	α	M	SD	α		
<i>OEs (range 1–5)</i>								
P-OE	3.34	.84	.90	3.35	.71	.81	.004	–
S-OE	3.08	.77	.87	2.87	.77	.77	4.12*	.02/0.27
T-OE	3.67	.62	.79	3.35	.67	.83	16.33**	.07/0.48
M-OE	3.30	.77	.85	2.99	.84	.90	8.70*	.04/0.37
E-OE	3.16	.55	.69	3.24	.75	.83	.92	–
<i>Big Five (range 1–60)</i>								
N	18.20	7.59	.81	22.22	5.57	.67	20.38**	.08/0.72
E	30.93	6.67	.79	31.34	5.56	.66	.25	–
O	28.85	6.01	.66	26.01	5.09	.65	14.92**	.06/0.56
A	28.26	6.01	.73	27.74	5.44	.73	.46	–
C	29.61	6.65	.81	31.01	6.09	.76	2.81	–

Note: OEs—overexcitabilities, Big Five—personality traits, P-OE—psychomotor, S-OE—sensual, T-OE—intellectual, M-OE—imaginational, E-OE—emotional, N—neuroticism, E—extraversion, O—openness, A—agreeableness, C—conscientiousness.

* $p < .05$.

** $p < .01$.

Limont et. al path analysis



NOT TOE, POE, EOE...even though Openness is being partially redefined as “Intellectance”

And yet...

Perhaps this is an Opportunity

Questions about Overexcitabilities

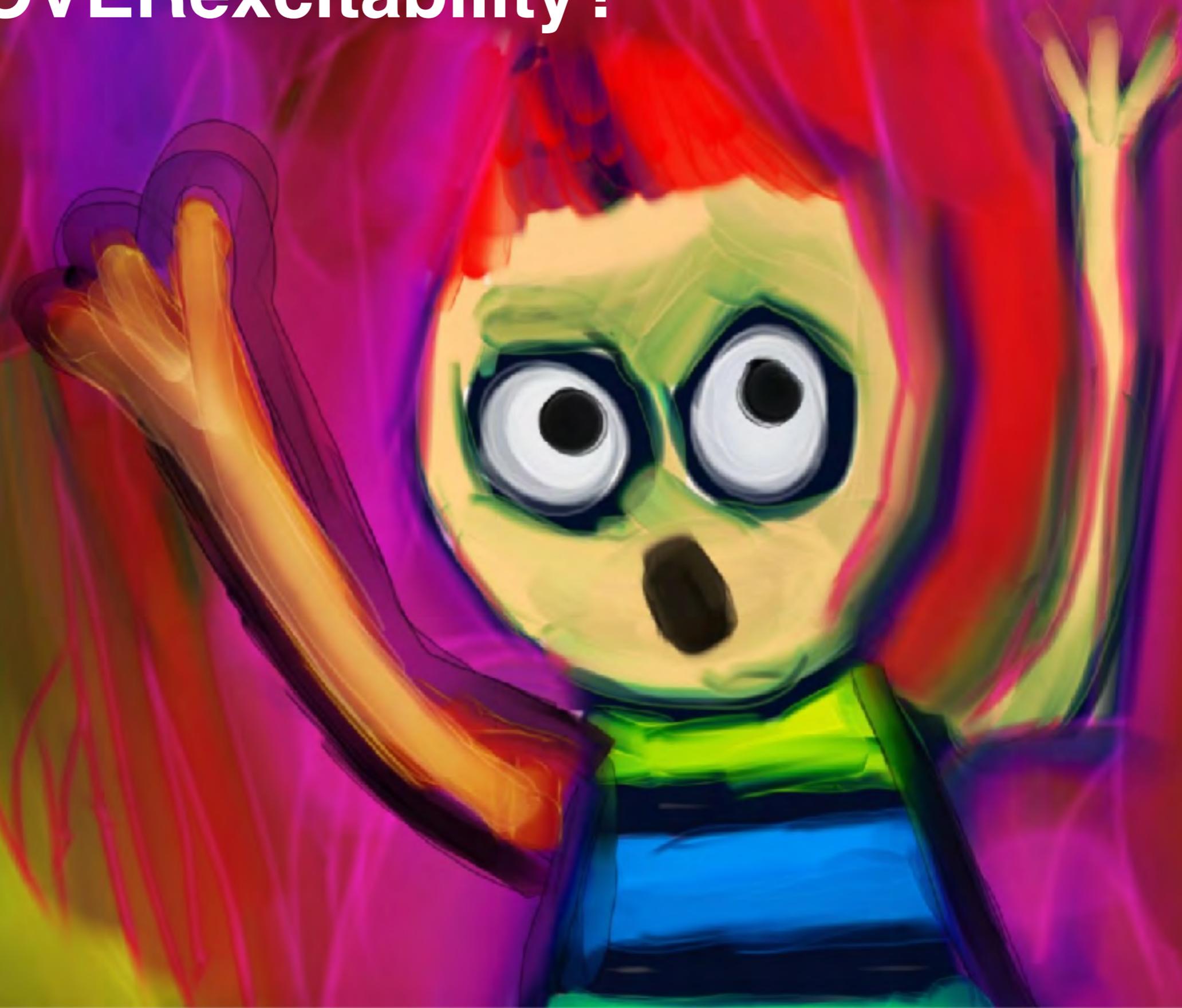
What about Overexcitabilities?

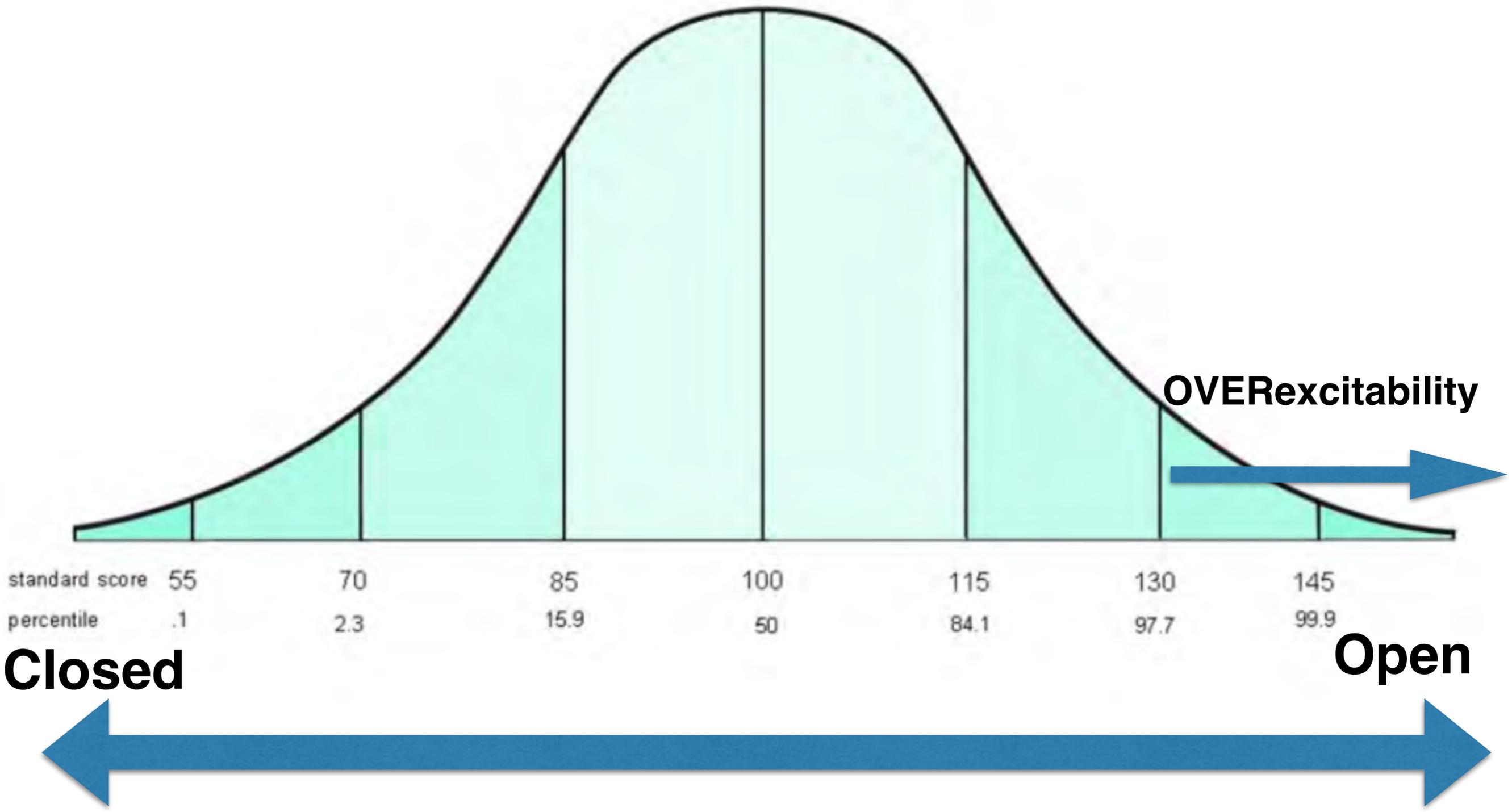
Do Overexcitabilities develop in childhood?

Do they change (strengthen, weaken) over time?

Can the Overexcitability energy shift forms?

What is OVERexcitability?





standard score 55
percentile .1

70
2.3

85
15.9

100
50

115
84.1

130
97.7

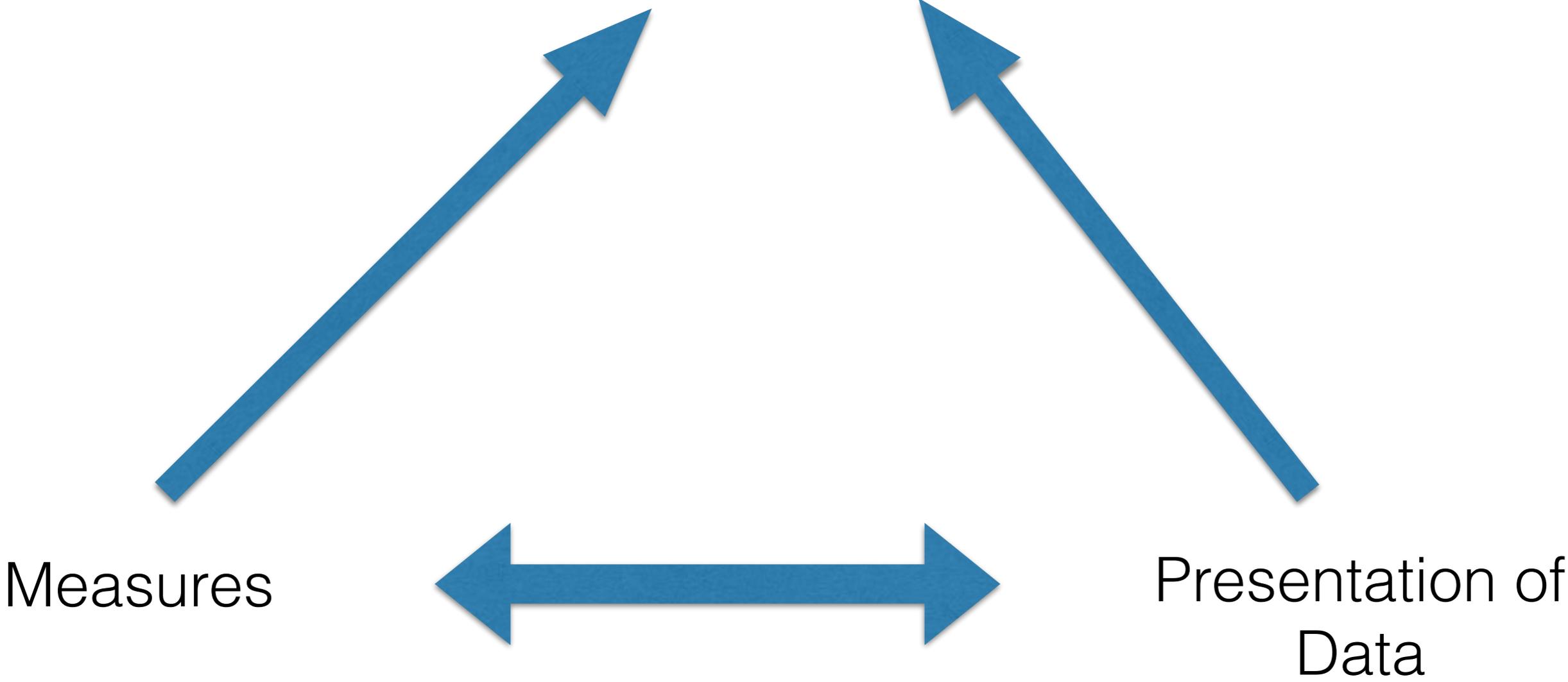
145
99.9

Closed

Open

OVERexcitability

Original Descriptions
of OEs



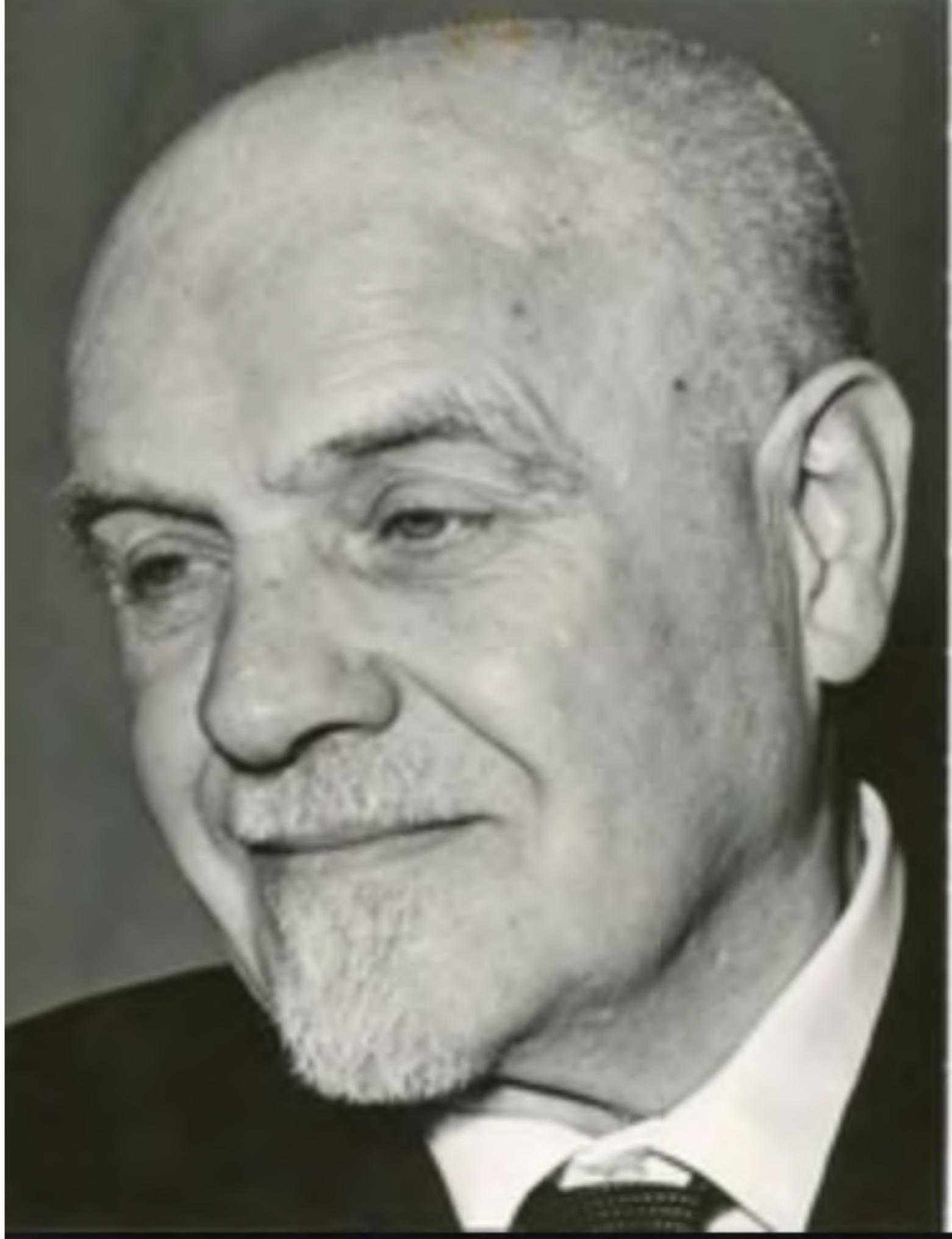
Measures

Presentation of
Data

The Measurement of *Extremes*

**Increased psychic
excitability, or
superexcitability, to
differentiate it from
manifestations of “normal”
excitability, is a
phenomenon difficult to
delineate precisely.**

Dabrowski, 1938



Factor Structure of the OEQ II

De Bondt & Van Petegem, 1963

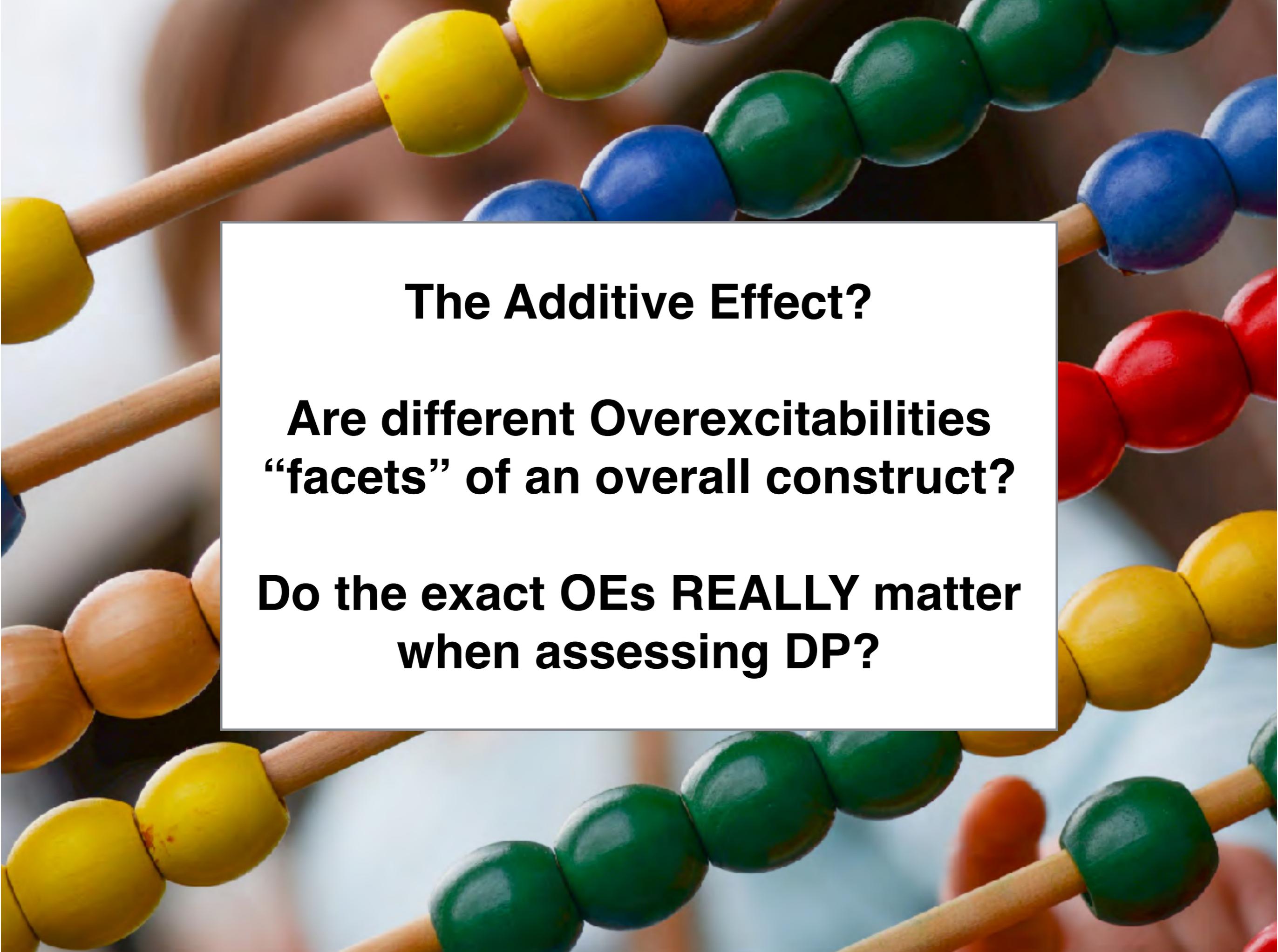
Falk & Lind, 1998

Kort-Butler & Lind, 1998

Van Den Brock, Hofmans, Corremans, & Staels, 2013

Is it **OVER**? How do we extract **OVER**?

Back to the Source...



The Additive Effect?

**Are different Overexcitabilities
“facets” of an overall construct?**

**Do the exact OEs REALLY matter
when assessing DP?**

**Intellectual + Imaginational + Emotional =
Mental and Creative Development**

**Emotional + Intellectual + Psychomotor =
Design Talent**

**Emotional + Sensual + Psychomotor =
Tenderness, Compassion, Deepened Creative Experience**

**Emotional + Sensual + Imaginational + Intellectual =
Overall, Multilevel Perception**

Limont, W. "Passion of Growth": Giftedness and Creativity in the Theory of Positive Disintegration

https://www.academia.edu/4967823/_Passion_of_Growth_Giftedness_and_Creativity_in_the_Theory_of_Positive_Disintegration

Dabrowski said OE in any given area
could be

broad

or

narrow

NEW Data

108 Students Highly Gifted Students

3 sd above average on an IQ test

or

2 sd and clear evidence of a surpassing factor

Overexcitability Questionnaire II

and

NEO-FFM-S

Variables	1. NN	2. NE	3. NO	4. NA	5. NC	6. POE	7. SOE	8. MOE	9. TOE	10. EOE
1. NN	---									
2. NE	-0.18*	---								
3. NO	0.11	0.11	---							
4. NA	-0.12	0.14	0.09	---						
5. NC	-0.32***	0.20*	0.00	0.21*	---					
6. POE	-0.16*	0.44***	-0.08	-0.05	0.09	---				
7. SOE	0.10	0.23**	0.72***	0.24**	0.06	0.03	---			
8. MOE	0.38***	-0.04	0.64***	0.11	-0.29***	-0.15	0.56***	---		
9. TOE	0.03	-0.12	0.41***	-0.06	0.14	0.23**	0.27**	0.25**	---	
10. EOE	0.41***	0.18	0.51***	0.39***	0.05	-0.21**	0.51***	0.51***	0.22**	---

Levene's test for Equality of Variances

Neuroticism F = 2.19, df 7,102 p 0.041

Creating A Metric of OVERexcitability

Step 1: Code

OE score under 3.6 = 0

OE score 3.6 and up = 1

Step 2: Sum

Number of OEs over 3.6

Step 3: Collapse into Categories

0 = 0 OEs over 3.6

1 = 1 OE over 3.6

2 = 2 OEs over 3.6

3+ = 3 or More OEs over 3.6

Does Openness to Experience vary with number of OVERexcitability?

Analysis of Variance Results

Effect	Dependent	Type III sum	df	Mean	F	p	Eta ² /partial eta ²
Number of OEs	NN	218.90127	3	72.96709	1.37091	0.256	0.03804
	NE	526.24619	3	175.4154	2.83316	0.042	0.07555
	NO	1677.34785	3	559.11595	15.96311	0.000	0.31529
	NA	697.12363	3	232.37454	5.71011	0.001	0.14142
	NC	113.4484	3	37.81613	0.49166	0.689	0.01398
Error	NN	5535.42281	104	53.22522			
	NE	6439.16122	104	61.91501			
	NO	3642.65215	104	35.0255			
	NA	4232.31155	104	40.6953			
	NC	7999.21827	104	76.91556			
Total	NN	5754.32407	107				
	NE	6965.40741	107				
	NO	5320	107				
	NA	4929.43519	107				
	NC	8112.66667	107				

ANOVA type III model

		<u>Neuroticism</u>		<u>Extraversion</u>		<u>Openness</u>		<u>Agreeableness</u>		<u>Conscientiousness</u>	
Number of OEs	<u>n</u>	<u>Mean</u>	<u>sd</u>	<u>Mean</u>	<u>sd</u>	<u>Mean</u>	<u>sd</u>	<u>Mean</u>	<u>sd</u>	<u>Mean</u>	<u>sd</u>
0 OE	19	24.89	6.38	30.26	5.22	25.79	4.50	32.53	5.09	28.84	5.80
1 OE	30	26.67	6.70	27.73	9.49	26.07	7.21	27.03	6.86	26.03	9.20
2 OE	30	27.97	7.28	32.30	7.79	27.80	5.40	30.23	6.03	27.63	8.85
3+ OE	29	29.00	8.38	33.24	7.51	35.38	5.74	33.48	6.93	28.21	9.75

Norms Ages 12-13
Openness to Experience

Mean
27.10

sd
6.00

Number of OEs	n	<u>Neuroticism</u>		<u>Extraversion</u>		<u>Openness</u>		<u>Agreeableness</u>		<u>Conscientiousness</u>	
		<u>Mean</u>	<u>sd</u>	<u>Mean</u>	<u>sd</u>	<u>Mean</u>	<u>sd</u>	<u>Mean</u>	<u>sd</u>	<u>Mean</u>	<u>sd</u>
0 OE	19	24.89	6.38	30.26	5.22	25.79	4.50	32.53	5.09	28.84	5.80
1 OE	30	26.67	6.70	27.73	9.49	26.07	7.21	27.03	6.86	26.03	9.20
2 OE	30	27.97	7.28	32.30	7.79	27.80	5.40	30.23	6.03	27.63	8.85
3+ OE	29	29.00	8.38	33.24	7.51	35.38	5.74	33.48	6.93	28.21	9.75

Norms Ages 12-13
Openness to Experience

Mean
27.10

sd
6.00

Openness

3.6 or more OE

40

t

40

s,m,t

41

p, m,t

41

p,s,m,t,e

42

s

42

p,s, t

42

s,m,t

42

p,s,m,t

42

p,s,m,t

43

s,m, e

43

s,m, e

43

s,m,t,e

Better Together: Describing Qualitative Differences

Psychomotor Remains Important

Better Together: Describing Qualitative Differences

There is a relationship between intelligence and personality attributes of open-mindedness, intuition, experience seeking, questioning

Genetic

Generally, Dabrowski Supported

Three or more Dimensions (OEs, Openness Facets) may be Important

Psychomotor Remains Important

Openness

Overexcitability

Atheoretical

Based in theory

Surface-to-deep

Deep-to-surface

Actions

Psychomotor OE

Global to specific

Specific to Global?

Breadth

Intensity

Full Spectrum

Extreme High End

Many Measures

Limited Number of Measures

Sizable Body of Research

Limited Body of Research



"The truly creative mind in any field is no more than this: A human creature born abnormally, inhumanly sensitive. To him...a touch is a blow, a sound is a noise, a misfortune is a tragedy, a joy is an ecstasy, a friend is a lover, a lover is a god, and failure is death. Add to this cruelly delicate organism the overpowering necessity to create, create, create - - - so that without the creating of music or poetry or books or buildings or something of meaning, his very breath is cut off from him. He must create, must pour out creation. By some strange, unknown, inward urgency he is not really alive unless he is creating." – Pearl Buck