



Creativity and Personality

Rosa Aurora Chavez-Eakle, M.D., Ph.D.

Creativity Development and Psychotherapy

Washington DC

Faculty Associate

Johns Hopkins University

drchaveze@jhu.edu



Painting by Maya Eakle

Creativity

Crucial to what it is to be human

Enhances our *adaptation*, allows us to *transform*
...even beyond what is considered possible

Foundation for art, science, philosophy, and
technology

Understanding creativity is still a challenge that
“might transform our view of ourselves and our
societies” Zeki, 2001

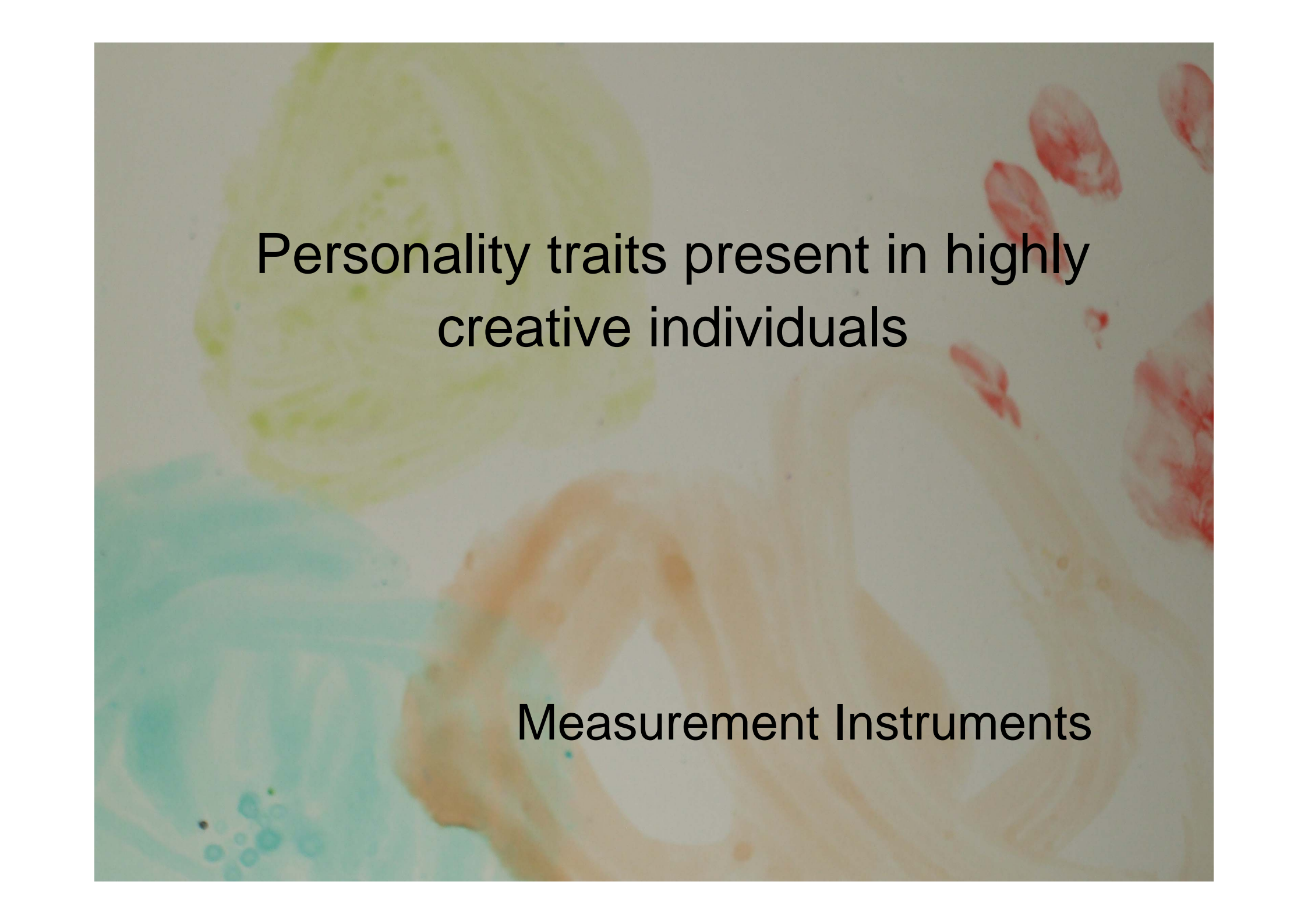
Personality

- Everyday ways of feeling, thinking and acting of an individual
- Temperament (biological, inheritable)
- Character (environmental and social)
- Multidimensional
- Personality as a continuum where personality disorders are the extreme

De al Fuente, 1959/1992
Cloninger, 2002

Relations between creativity and personality

- Personality traits present in highly creative individuals (temperament and character)
- Effects of personality on the realization of the creative potential
- Effects of creative potential in personality development
- Events during development can impact personality development and creativity maturation



Personality traits present in highly
creative individuals

Measurement Instruments

The Adjective Checklist (ACL)

- 300-item list of adjectives, 10-20 minutes
- self-assessment or by observers
- 'actual' & 'ideal' self
- Correlations of ACL scales with:
 - the California Psychological Inventory (CPI),
 - the Minnesota Multiphasic Personality Inventory
 - General Vocabulary Tests

Gough, H. G. and Heilbrun, A. B., Jr. (1983)

Khatena-Torrance Creative Perception Inventory

- Self report measure of creativity
- Two components:
 - **Something About Myself (SAM)** measures artistic inclination, intelligence, individuality, sensitivity, initiative, and self-strength
 - **What Kind of Person Are You? (WKOPAY)** measures imagination, appeal to authority, self-confidence, inquisitiveness, and awareness of others.
- AGE LEVEL: 12 +
Duration: 20–40 minutes

Khatena, Torrance, 1998

Myers-Briggs Type Indicator

- Adult personality test (14+)
- Based on Jungian dichotomies of introversion/extroversion, sensing/intuiting, thinking/feeling, perceiving/judging
- Differences in the way individuals prefer to use their perception and judgment.
- 166-item multiple choice
- 16 personality types, combinations of the following preferences: extraversion vs. introversion, sensing vs. intuition, thinking vs. feeling, judging vs. perceptive

Myers, McCaulley, 1985

Kirton Adaptation-Innovation Inventory KAI

- Difference between level (how creative we are? how much?) VS style: **how we are creative?** in what way?
- measures people on their preferred style of problem solving and creativity
- Cognitive style involves behavior
- Adaptation- innovation continuum

- **Adaptors:**
 - work within the system to improve things
 - Accept and work within problem definition
 - Do things better
- **Innovators:**
 - Challenge or ignore the system
 - See the definition as part of the problem
 - Do things differently

- Mild teens & adults

Kirton (1994)

Buffalo Creative Process Inventory

- Problem solving styles and in what ways they may complement or hinder
- Based on the three stage CPS model of Understanding the Problem, Generating Ideas and Planning for Action
- 36-item test
- Defines the CPS preferences as:
 - Clarifier (collector)
 - Ideator
 - Developer
 - Implementor (executer)

Puccio, 1999

Minnesota Multiphasic Personality Inventory (MMPI)

- Most frequently used personality test
- Identifying personality structure and psychopathology
- MMPI-2, MMPI-2-RF & MMPI-A
- Assumption that psychopathology is a homogenous condition that is additive
- Clinical/RC, validity, content & Psy-5 scales
- Creativity scale?

Sellbom, Ben-Porath, McNulty, Arbisi & Graham, 2006
Nassif & Quevillon, 2008

Rorschach inkblot test

- Personality function
- 10 Ink blots eliciting strange perceptions used clinically
- Linked to kinesthetic perception
- Evoke creativity in controlled ways

Rorschach, 1921
Schachtel, 1951
Gregory, 2000

Research

- 30 artists and/or scientists SNI-SNC, science and arts national prizes
- 30 control individuals
- 30 psychiatric outpatients from the *National Institute of Psychiatry Ramón de la Fuente*



The Torrance Tests of Creative Thinking (TTCT)

- The TTCT are the most widely used instruments that assess creative potential (not only divergent thinking).
- These tests have been used for identification of the creatively gifted in the USA and in several parts of the world
- Reliable in multicultural settings.
- High predictive validity for future career image, and for academic, and style-living creative achievements in 22 and 30and 40-year follow-up studies

Torrance, 1999

The Torrance Tests of Creative Thinking

- **FIGURAL:** fluency, originality, elaboration, abstractness of titles, and resistance to premature closure 30 min



Torrance, 1999

Checklist of creative strengths

- emotional expressiveness
- internal visualization
- storytelling articulateness
- extending or breaking boundaries
- movement or action
- humor
- expressiveness of titles
- richness of imagery
- synthesis of incomplete figures
- colorfulness of imagery
- synthesis of lines or circles
- fantasy
- unusual visualization

VERBAL

- Fluency,
originality,
flexibility 45 min
- Five activities:
 - asking questions
 - improving products
 - “just suppose”.

Torrance, 1999

Temperament and character traits present in productive and successful highly creative individuals

Cloninger's psychobiological mode
Temperament and Character Inventory (TCI)

↑ *Exploratory excitability*

Display exploratory behavior when
they encounter novelty

NS1 M=8.13, F=9.63, p=0.0001, r = 0.29/0.39

↓ *Harm avoidance*

Optimistic, unafraid when faced with
uncertainty, and they do not easily tire

HA M=11.37, F=16.80, p=0.0001; r = 0.38/0.43

↑ ***Self-directedness***
Demonstrate responsibility, are
directed to their goals, utilize many resources,
are self accepting, and are congruent
SD M=34.83, F=22.76, p=0.0001; r = 0.51/0.53

↑ ***Cooperativeness***
Display empathy, tolerance, and
integrated consciousness
C M=33.77, F=5.70, p=0.0001, r = 0.34

↑ ***Persistence***
Pursue goals with intensity, persist
and survive against adversity
Pp = 0.005, r = 0.31/0.3

Chávez, 2001

Chávez, Lara y Cruz, 2006

Highly creative individuals have a tendency to be physiologically overactive to stimulation. Martindale, 1996

Overexcitability

Dabrowsky, 1964

OEQII

- OE sensual
 - OE intellectual
 - OE imaginal
- } CI

Falk, Yakmaci-Guzel, Chang,

Chávez-Eakle., 2007

Chávez, 2001

Chávez, Lara y Cruz, 2003

- **Highly significant inverse correlation** between the creativity index and **psychopathology** (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism).

$R = -0.52 \dots -0.36, p = 0.0001$

- Flexibility, abstraction, premature closure resistance, emotional expressiveness, imagination, humor, fantasy the most affected by psychopathology.

Molecular genetic variations

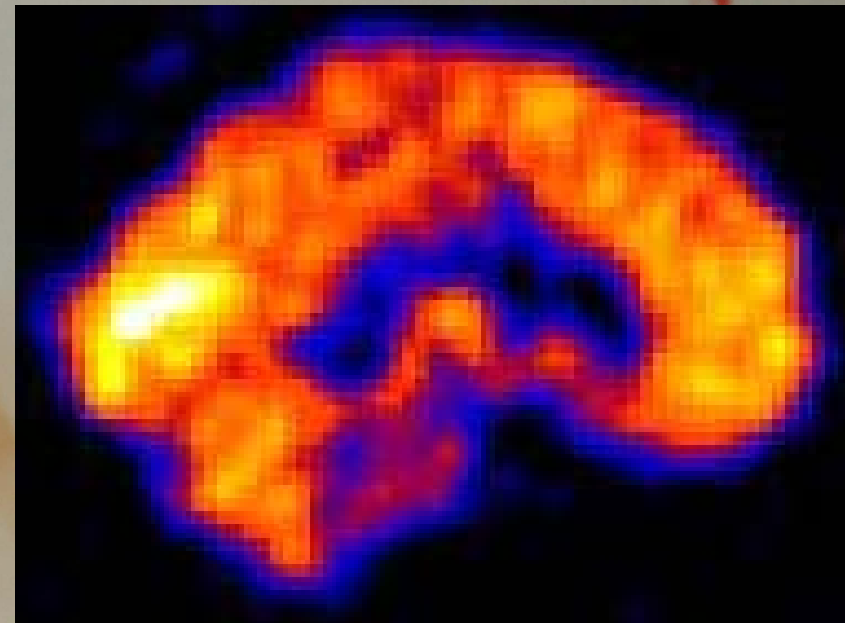
- DRD4 dopamine receptor gene (CI, OEs)
- Serotonin transporter gene (HA, NS, OEe)

Chavez, et al, 2001

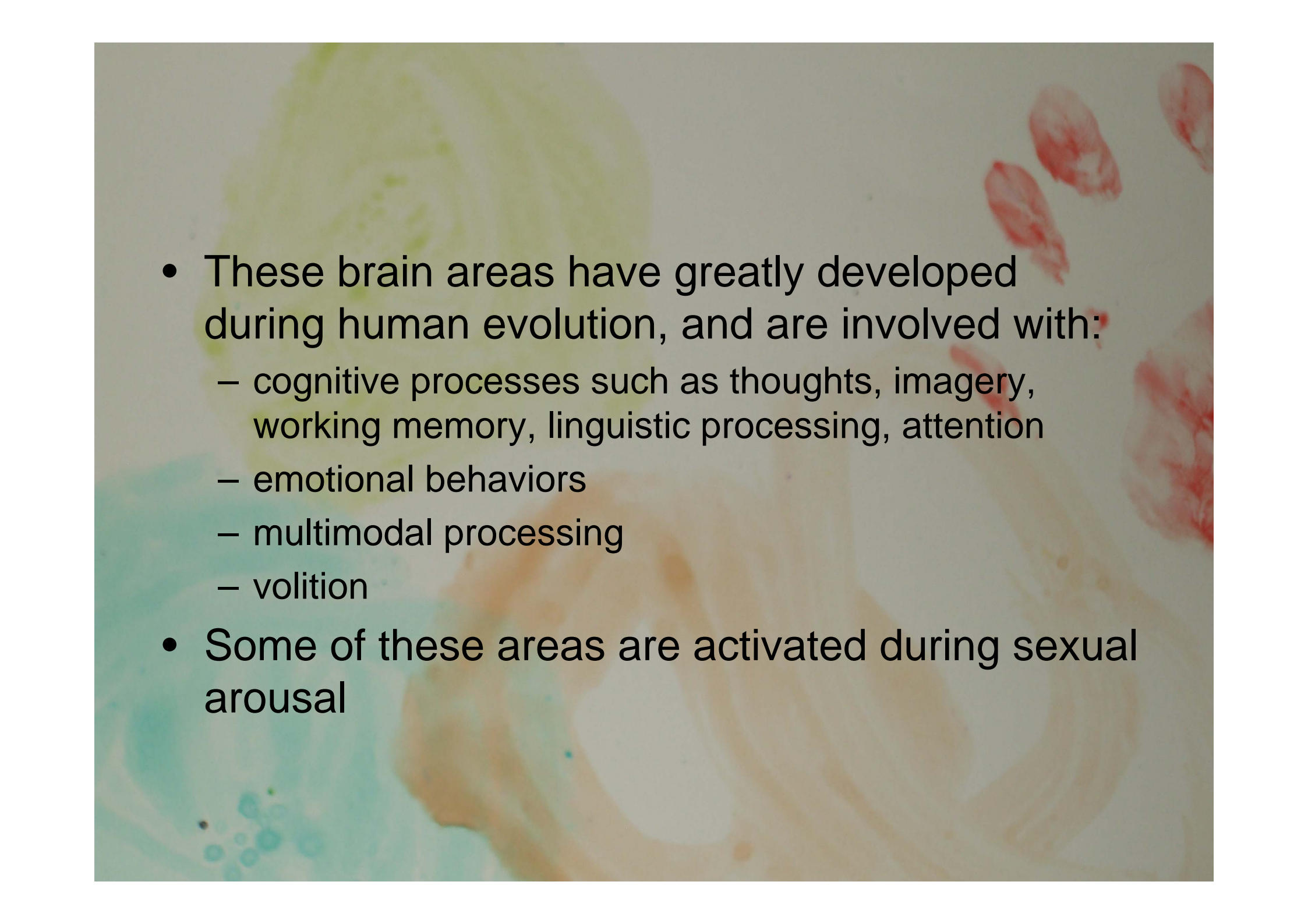
Chavez-Eakle, 2004, 2007

Differential brain activation

- Highly creative individuals with high creative performance during the SPECT
- Significantly higher activation in both right and left cerebral hemispheres simultaneously
- Right precentral gyrus BA 6, Right cerebellum, culmen, Left middle frontal gyrus, BA 6 and 10, Right frontal rectal gyrus, BA 11, Left frontal orbital gyrus BA 47, Left inferior temporal gyrus, BA 20.
- Increased CBF in specific areas in correlation with fluency, originality and flexibility



Chávez-Eakle, Graff-Guerrero, García-Reyna, Vaugier, & Cruz-Fuentes, 2007

- 
- These brain areas have greatly developed during human evolution, and are involved with:
 - cognitive processes such as thoughts, imagery, working memory, linguistic processing, attention
 - emotional behaviors
 - multimodal processing
 - volition
 - Some of these areas are activated during sexual arousal

- Higher activation in these areas could be related to:
- the **vivid experience of insight, emotions and perceptions** present in highly creative individuals
- **higher symbolic processing**, enabling highly creative individuals to translate their experiences into creative works.

Chavez & Lara, 2000
Chávez-Eakle, Graff-Guerrero, García-Reyna, Vaugier, & Cruz-Fuentes, 2004,
2007

Effects of creative potential in personality development

- Highly creative individuals are permanently open to personality reorganizations
- During adolescence might display of what seems *severe* psychopathology but without damaging consequences
- Creativity allows re-organization which makes possible to experience states that *seem* to be pathological

Eissler, 1967

Developmental events critical in both personality formation and creativity maturation

- Creative impulses are **present at any age** but they are **related to the individual's first vital experiences**
- Caregivers' adaptation to the child's needs produce the illusion of an exterior reality that corresponds with the own capacity to create
- Child relates with the self, the caregiver, and the world in a benign, creative way
- Also allows children to experience their feeling as their own
- Creativity makes life to be worth to be lived, sense of being alive

Winnicott, 1971

Bion, 1967

Joyce, A., 2005

- Early experiences with parents, other caregivers and teachers is critical to :
 - experience emotional arousal within manageable limits
 - emotional regulation
 - make meaning of emotional states
 - Feel OK about impulses
- Child becomes able to build and use internal resources and to develop intuition

Early experiences

Positive

- Child's potential as human being is activated
- Sense of continuity *going on being*
- Caregiver provides context to explore inner urges as coming from the self
- Child relates with the self the caregiver and the world in a benign, creative way

Negative

- Frustrations that the child cannot handle *impingements*
- Disrupt the sense of *going on being*
- Individuality and creativity remain hidden *false self organization*
- Urges are experienced *"as a clap of thunder from elsewhere"*

Winnicott, 1960

- Caregiver make available the experience to being mirrored providing a coherent, creative sense of self




- The child develops empathy

Fonagy, 1999; Winnicott, 1960
Joyce, A., 2005

Other critical events

- Play
- Shame
- Ownership of the body
- Control over the body
- Gender identification
- Fantasy
- Imitation
- Symbolization
- Early literacies
- Socialization
- School experiences: with teachers, with classmates



Play is crucial for the development of creativity and the development of a healthy personality

- Good, exciting and dramatic play leaves a child calmer and satisfied, like a good night of sleep
- Disrupted play can leave a child in deep distress

Play is prevented

- If the child is too terrified to play
- Over strict climate where playing is devaluated

This produces in the child:

- **Frustration**
- **Hate and resentment**
- **Feelings of being tormented and prosecuted**
- **Becomes unable to feel for other people**
- **Other children become playthings → ruthless games**


Ruthless Play

- Others are seen as objects
- Sadistic
- Unempathic
- Cold
- *Psychopathic*
- Full of frustrations torturing the self and tormenting others

...

These games continue in adult life

- Empire building
- Criminals
- Ruthless use of others with no consideration of their needs
- *Malevolent creativity*



What is the role of education?
What should it be...

Creativity and personality development?

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