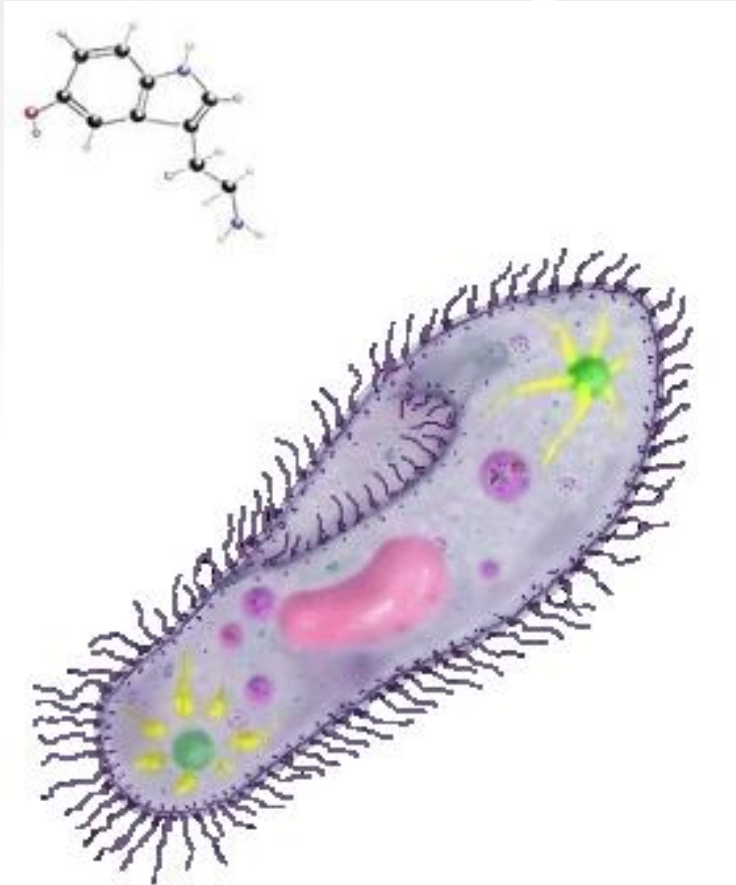




Self-awareness as a Motor of Well-Being: A Longitudinal Study from ages 20 to 45 years

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What's the Unit of Life? Cell or Cosmos??



- Cells are NOT separate from their environment or one another
- Cell membranes are semi-permeable
- They are actively related and interdependent with surroundings, as are multicellular organisms including people

Paramecium

What is Health ? – WHO Definition

- A state of **physical, mental, social, and spiritual well-being** in which the developing person
 - Realizes and uses his or her own abilities
 - Can cope with the normal stresses of life
 - Learns to work productively and fruitfully
 - Learns to contribute to his or her community
- **Indivisible from physical health**
- **More than the absence of disease**

What is Well-Being?

- “**Well-Being** is a contented **state of being healthy, happy, & prosperous; welfare**” (American Heritage Dictionary, 4th ed, 2000)
- Types or Components of Well-Being
 - **Hedonic Well-Being** – feeling good (deriving pleasure and happiness from life)
 - **Eudaemonia**– doing good – mature and actively virtuous living
 - **Wellness** – physical health, absence of disease or infirmity
 - **Prosperity** – good fortune, fulfillment, flourishing, life satisfaction
- “**Ill-Being** is the absence of health, happiness, or prosperity”
 - Inactive or physically disabled
 - Unhappy
 - Unsuccessful or dissatisfied (not thriving)

How is Well-Being measured?

- **Emotions:** presence of positive emotions and absence of negative emotions, as in the Watson's PANAS
- **Personality:** maturity and integration of character traits, as in the Temperament and Character Inventory (TCI), Antonofsky's measures of coherence, or Ryff's measures of eudaimonic well-being
- **Life Satisfaction:** reliable subjective rating, as in Diener's SWLS or WHO's measures of Quality of Life
- **Virtues:** prototypical character traits like hope, courage, trust, justice, moderation, honor, wisdom, patience, love, and faith, as in Peterson and Seligman's Character Strengths and Virtues inventory

Facts - What influences Well-Being?

- Weakly related to age, gender, race, education
(successfully retired men near 65 years old are happiest)
- Unrelated to increases in absolute income above poverty level (but associated with relative wealth when there is inequality)
- Associated with heritable personality traits
- Associated with meaningful work, mutually caring friendships, and spiritual values based on an outlook of unity and connectedness
- Growth in **self-awareness** consistently leads to a happy and satisfying life as an expression of a mature & integrated **personality**

(1) What is personality?

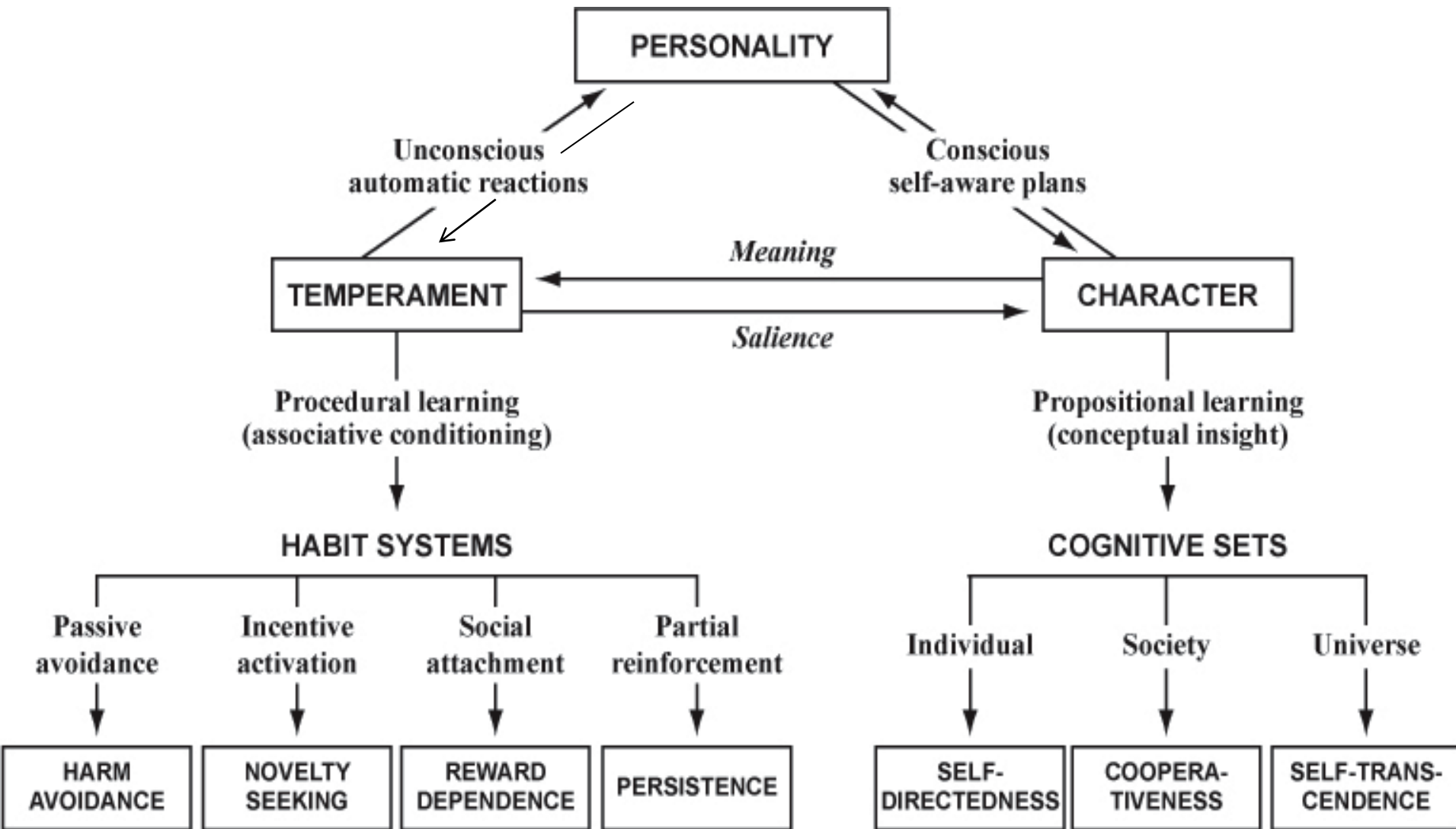
▪ Personality is...

- the way people learn and adapt
- the self plus the internal and external forces that pull on the self
- the “dynamic organization within the individual of the psychobiological systems by which the person both shapes and adapts uniquely to an ever-changing internal and external environment” (Cloninger 2004)

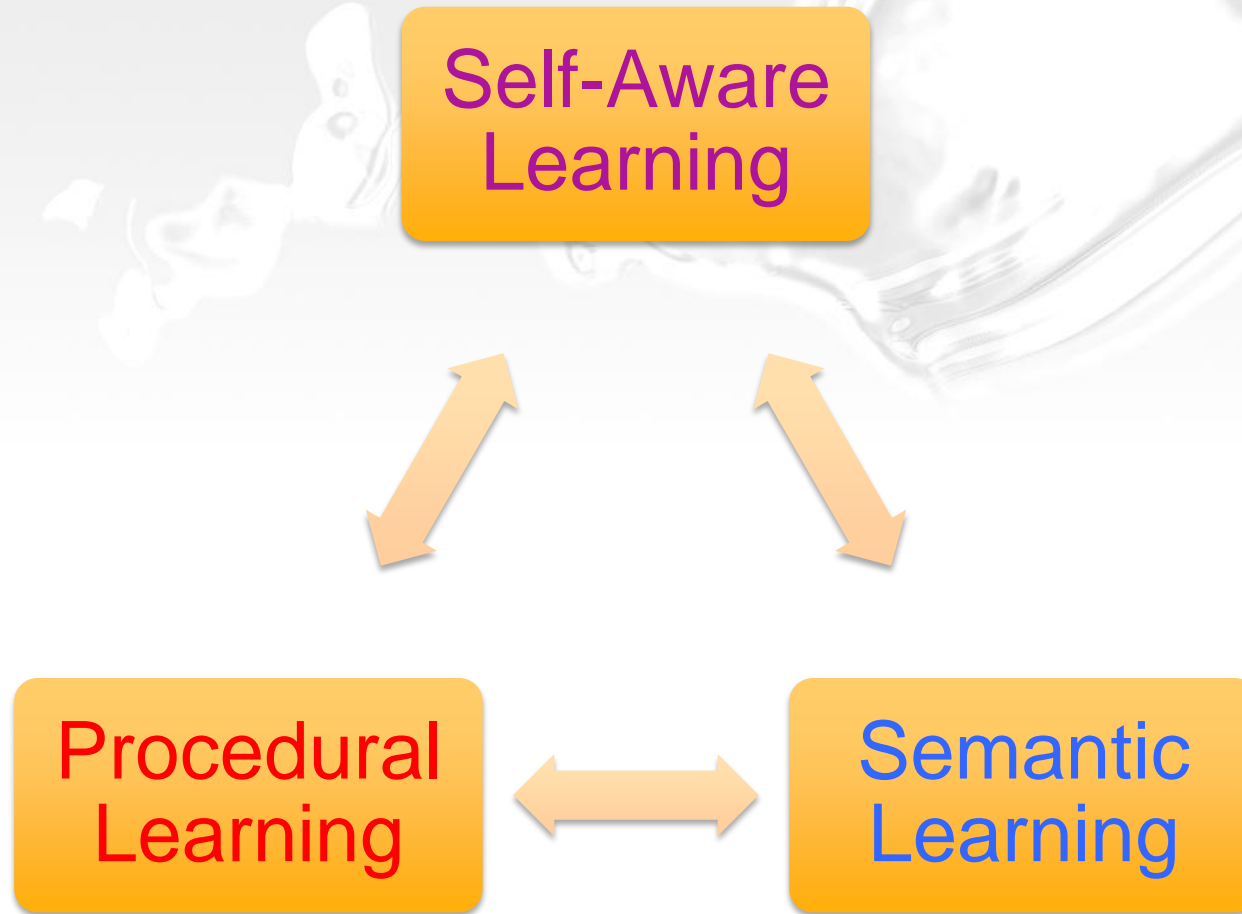
Key Features of Personality

- **Dynamical** – non-linear and adaptive, not linear or fixed
- **Psychobiological** – involves body (soma), analytical mind (thought), and intuitive and creative mind (psyche)
- **Organized** – there is a universal structure shared by human beings that allows us to understand one another and to communicate
- **Personal (Intrapsychic)** – adaptive processes occur **WITHIN** the individual, not between persons
- **Idiographic** – each person is unique in the development of their life narrative

The Psychobiological Model of Personality (Cloninger 1993)



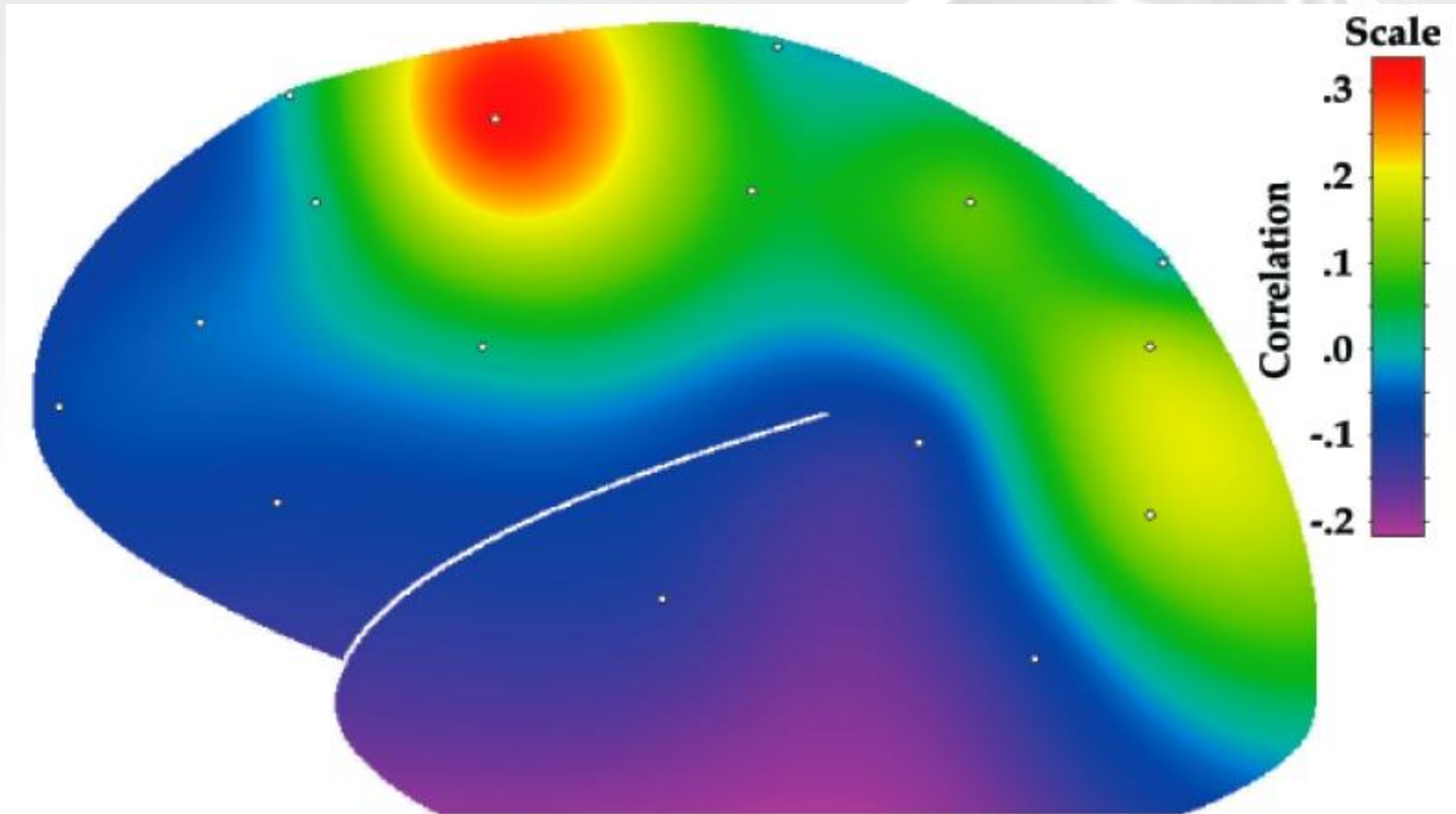
Cycle of Reciprocal Interactions – 3 Memory Systems



Is Well-Being a matter of chance, choice, or both?

- **David Lykken and Auke Tellegen (1996)** say that we are born with certain heritable personality traits and these modulate how we respond to life events. They say further that the valence of these life events is random, so that how happy we become is a matter of chance (“**happiness is a stochastic phenomenon**”).
- On the other hand, **Barbara Fredrickson (2004)** shows that environmental stimuli can induce positive emotions that evoke a broadening of focus, which she proposes then helps people to build up personal resources, like their strengths of character, resilience, and creativity “**Broaden and build theory of PA**”. She confirms this in a prospective study (Cohn et al, 2009).
- **Does personality development cause health and happiness, or is it the other way around? Or is it a cycle of reciprocal interactions???**

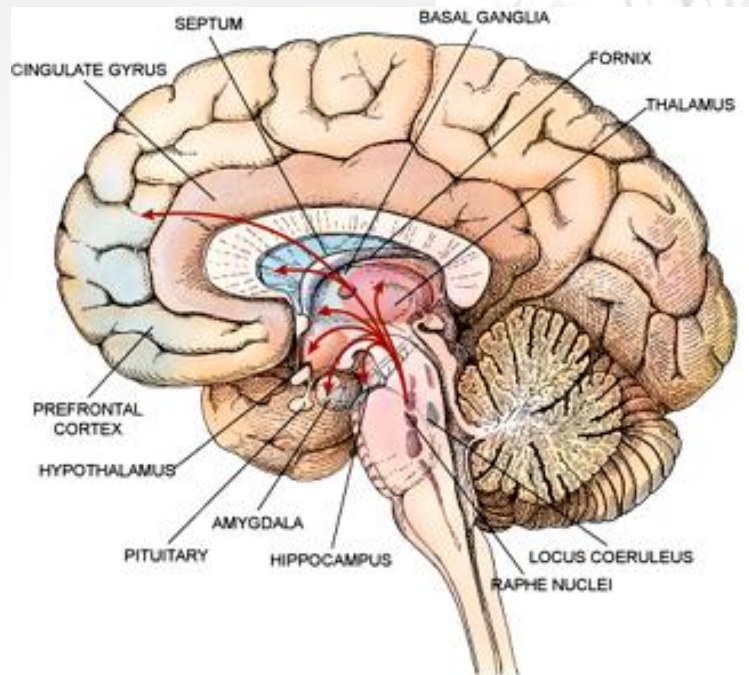
Neocortical Correlates of Psychological Well-Being



Superior Prefrontal L > R

[Urry et al, Psychological Science 2004]

Fear shuts off Rational-Emotive Understanding

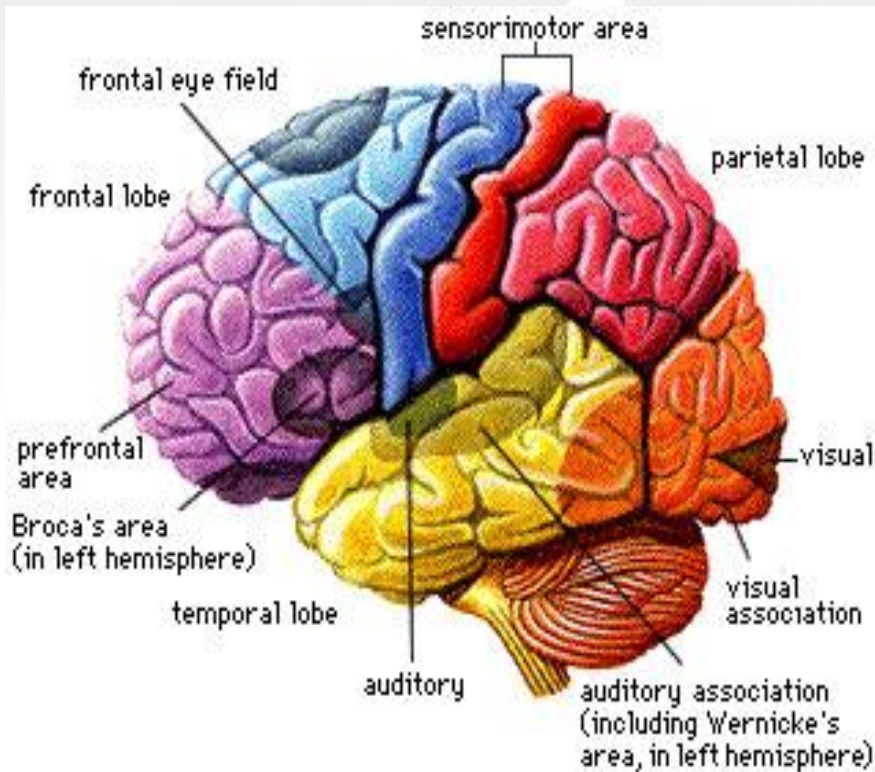


HA explains 30% variance in Amygdala-Cingulate Connectivity (Pezawas et al, 2005)



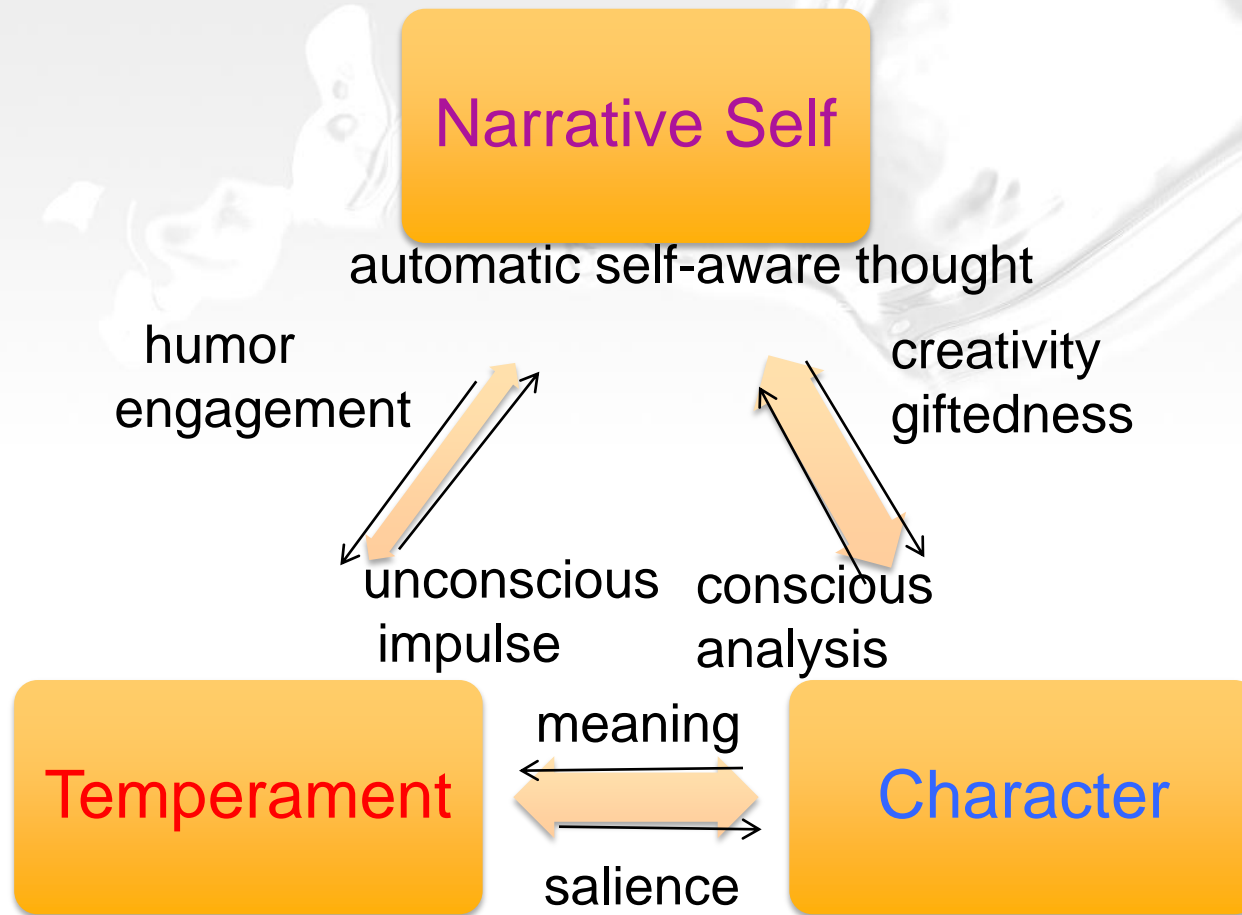
Munch's "The Scream"

Engagement or Improvisation activate Anterior PFC



- When making charitable donations, “pleasurable engagement” was correlated 0.87 with activation of the anterior prefrontal cortex (frontal poles and medial frontal gyrus- BA 10/11/32 – see pole of purple region of figure) [Moll J et al, PNAS 2006]
- Anterior prefrontal cortex is also activated by spontaneous multi-tasking, exploring new choices that are not exploitative, or creative improvisation of music in self-awareness [Cloninger 2004, Daw et al 2006; Limb & Braun 2008]

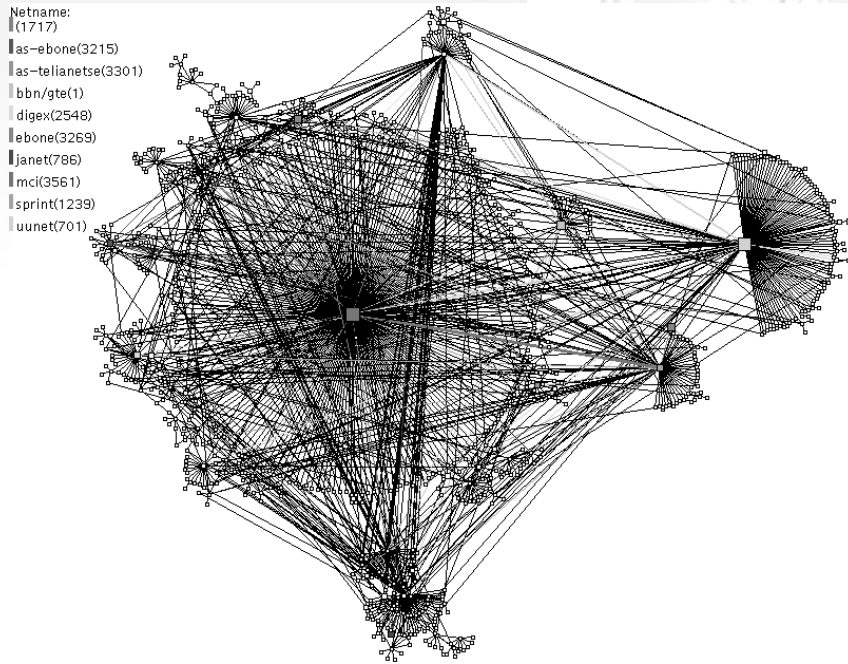
Cycle of Reciprocal Interactions – Personality



Personality is a Complex Adaptive System

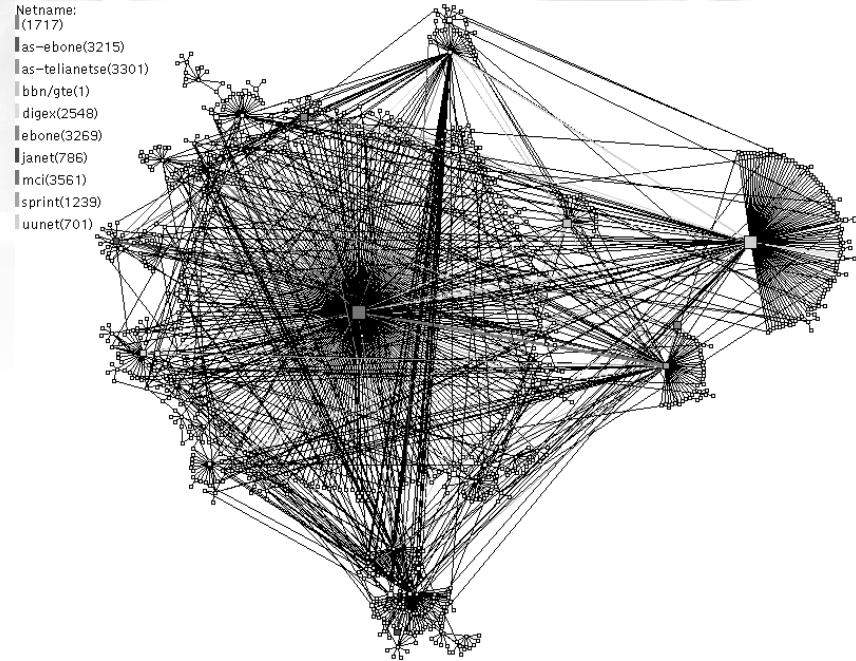
- Personality is a dynamic system with **self-directed emergent properties**.
- Effects are **simultaneously top-down and bottom-up**
- Consequently, **personality must be studied as a whole** with nested networks of reciprocally interactive relationships
- Personality development can **spiral up** toward greater well-being or **spiral down** toward ill-being in response to parenting, social and cultural influences, and individual experiences including self-directed choices about activities and attitudes.

Development can be visualized as **Internet** and/or **Spiral**

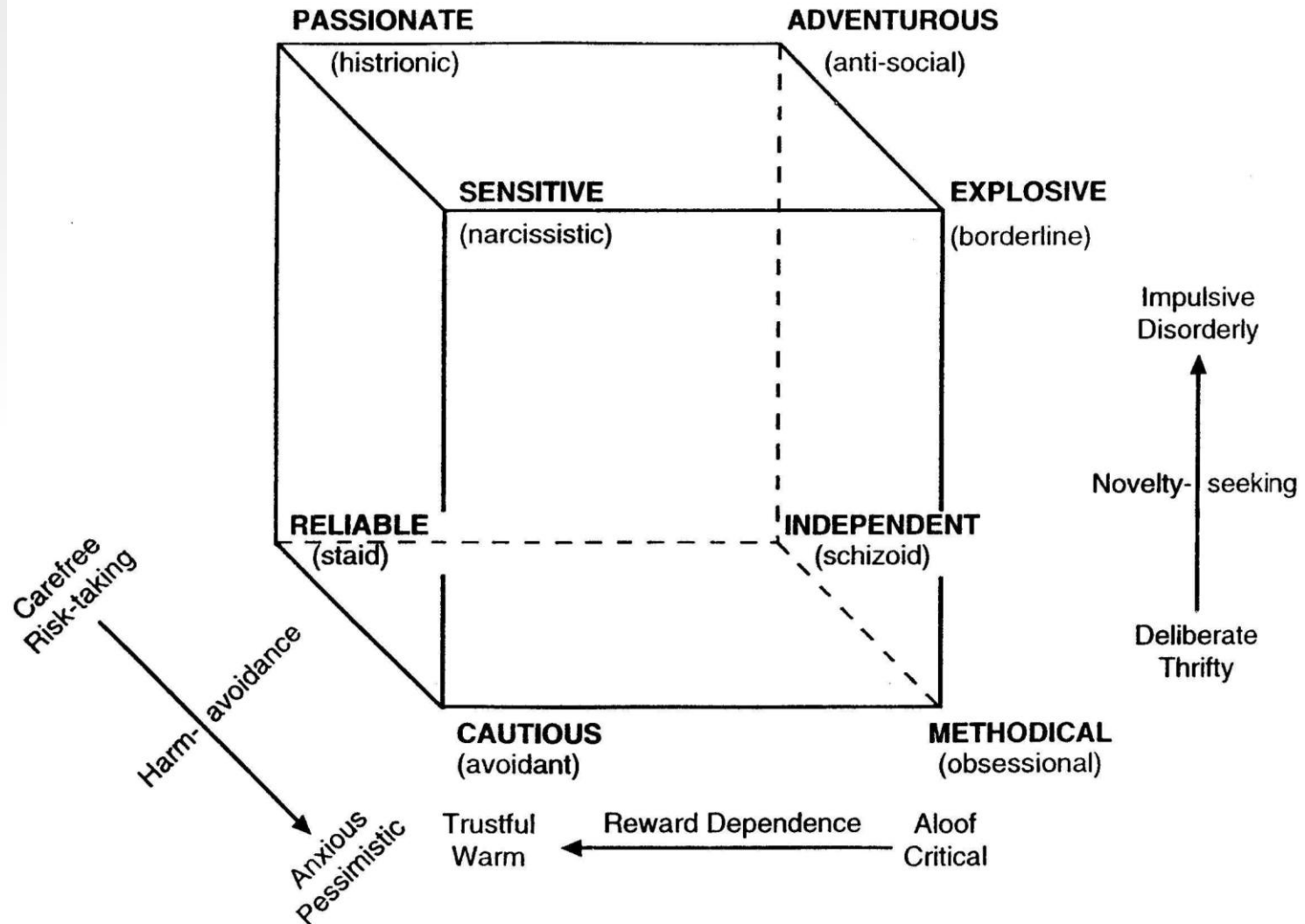


The Principles of Cultivating Self-awareness

- Perception of **Undivided Wholeness** from varying attitudes or perspectives
- **Uniqueness of associations** – vary with individual genotypes, experience, culture, situations
- **Coherence Principle: strengths in one component can leverage change in other components**
- **Interactivity Principle: Proactive coping with specific situations allows cultivation of well-being** by modifying a person's outlook and epigenetic expression
- **Generalization Principle: self-directed monitoring of diet or posture generalizes to self-control of other functions (e.g., emotional regulation)**



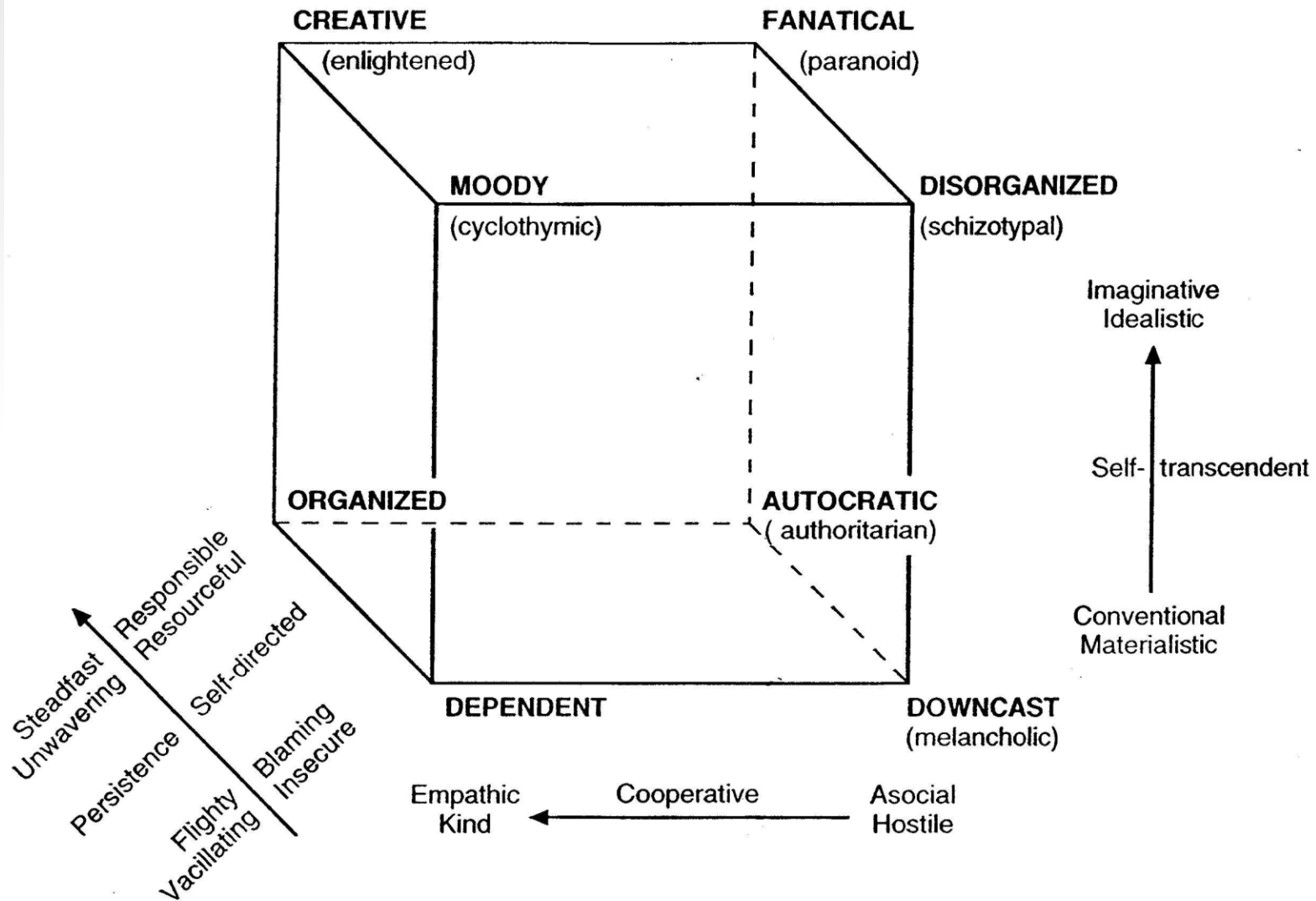
The Temperament Cube (Cloninger 1987)



Higher Cognitive Functions: Mental Self-Government

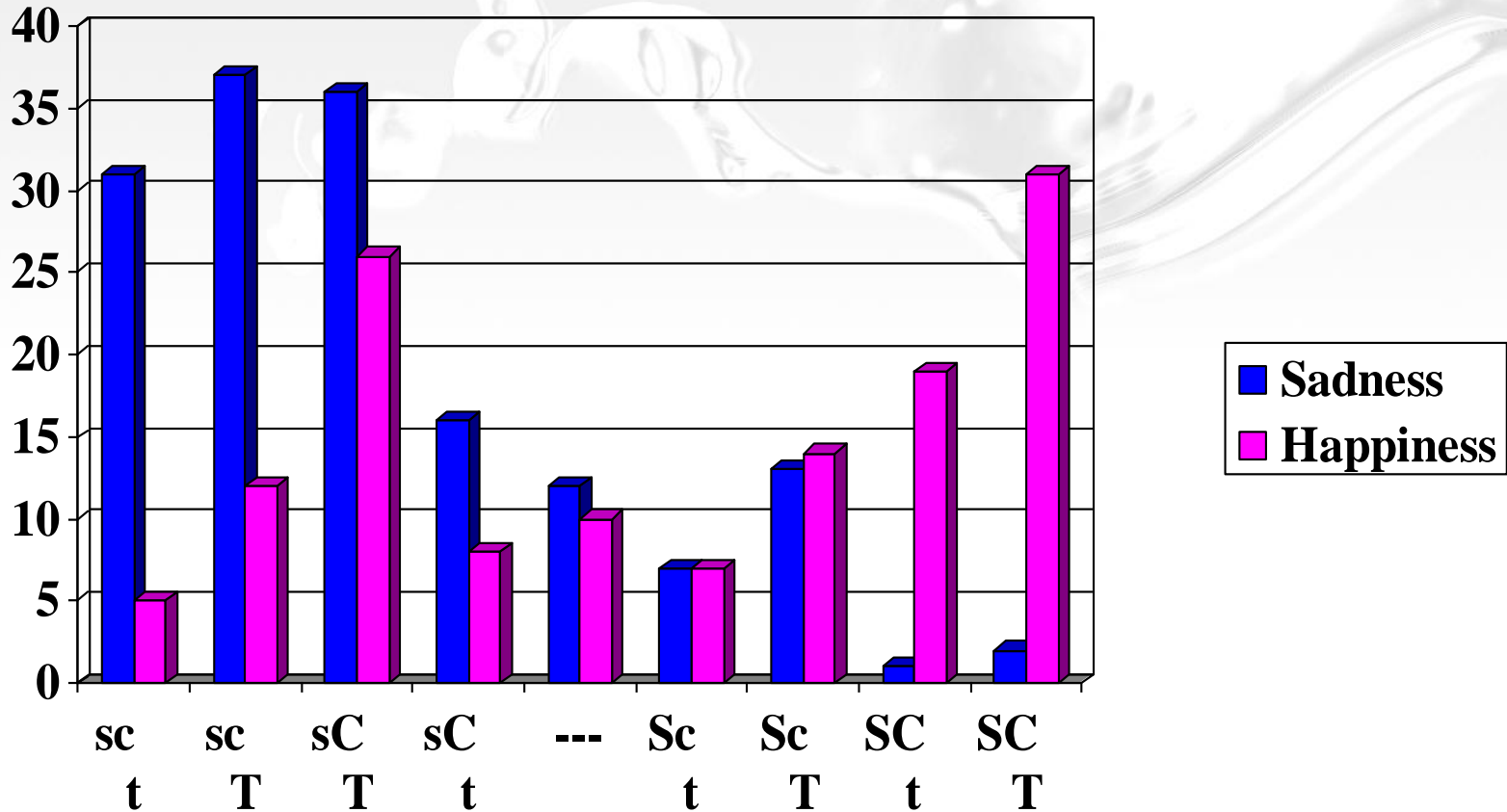
- **Executive Functions (Self-directedness)**
 - responsible, purposeful, resourceful
- **Legislative Functions (Cooperativeness)**
 - flexible, helpful, compassionate
- **Judicial Functions (Self-transcendence)**
 - judicious, insightful, intuitive

The Character Cube (Cloninger 1993)

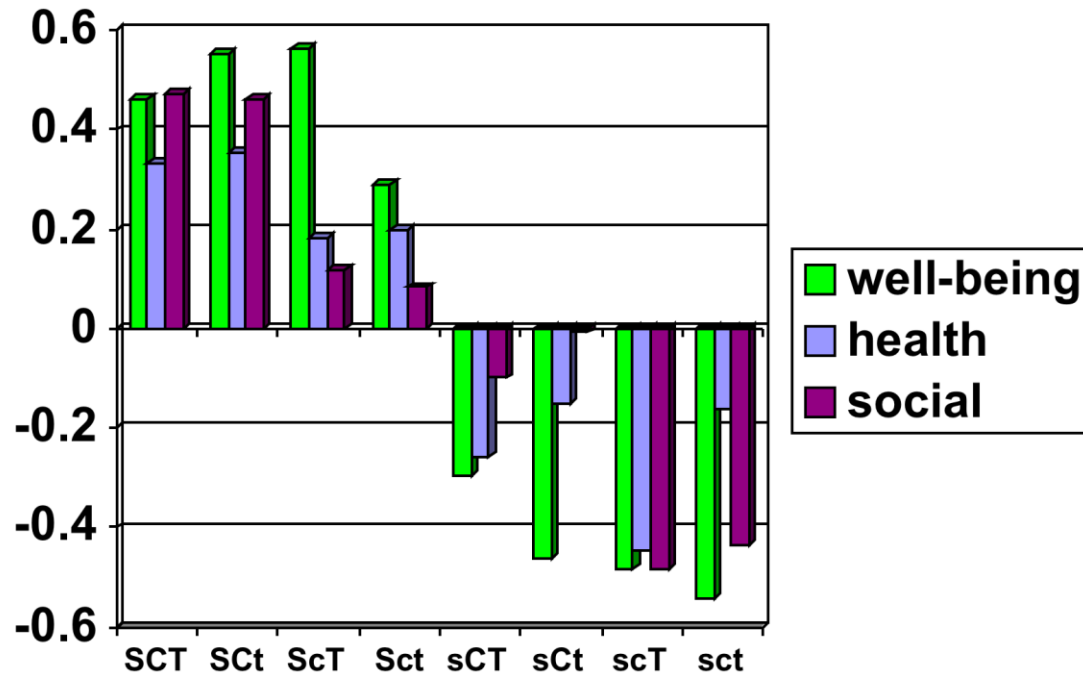


Character and Subjective Well-Being

- **Happiness** and **Sadness** depend on all 3 TCI character dimensions

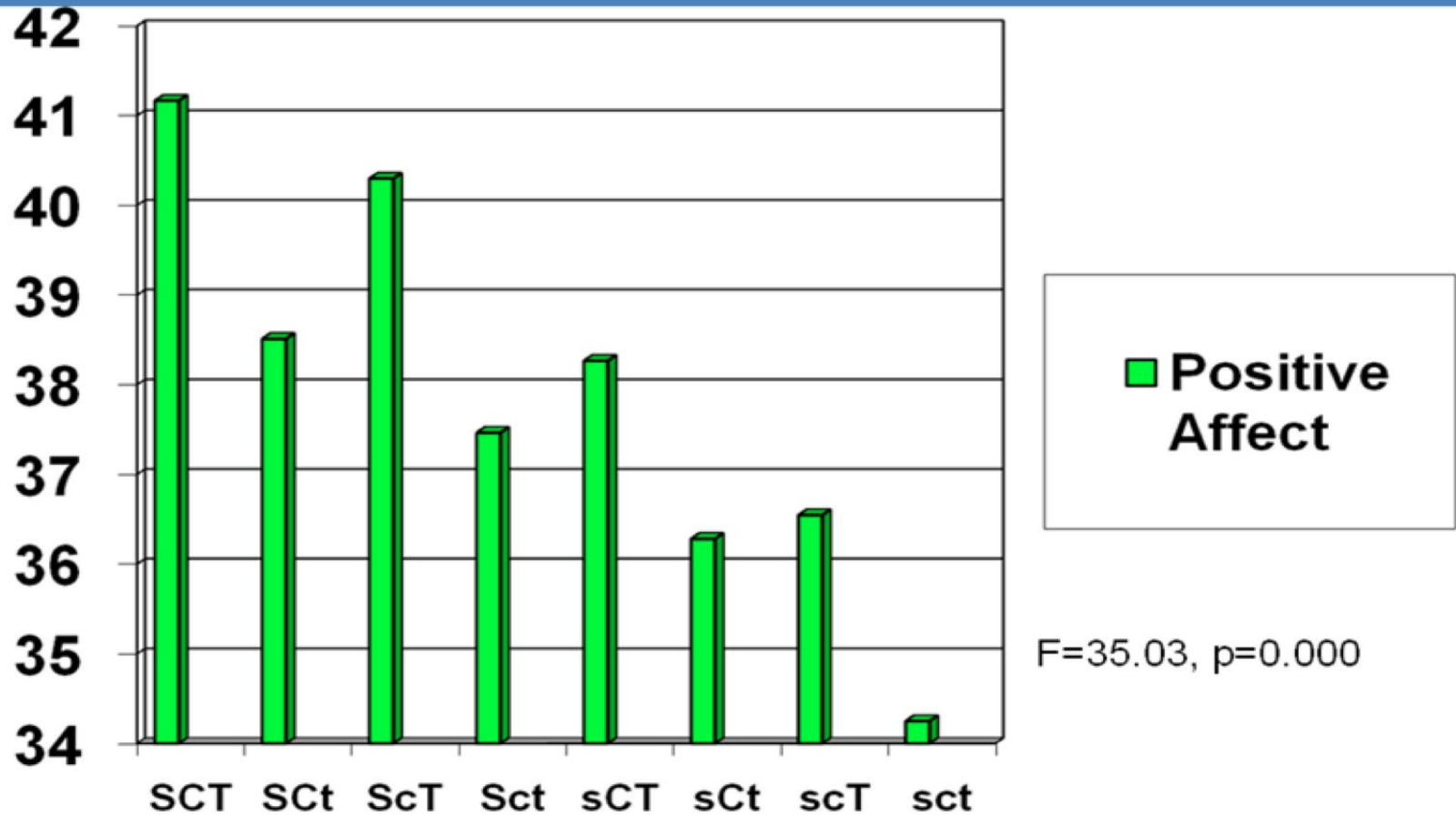


Emotional, Physical, and Social Well-being depend on Character Profiles



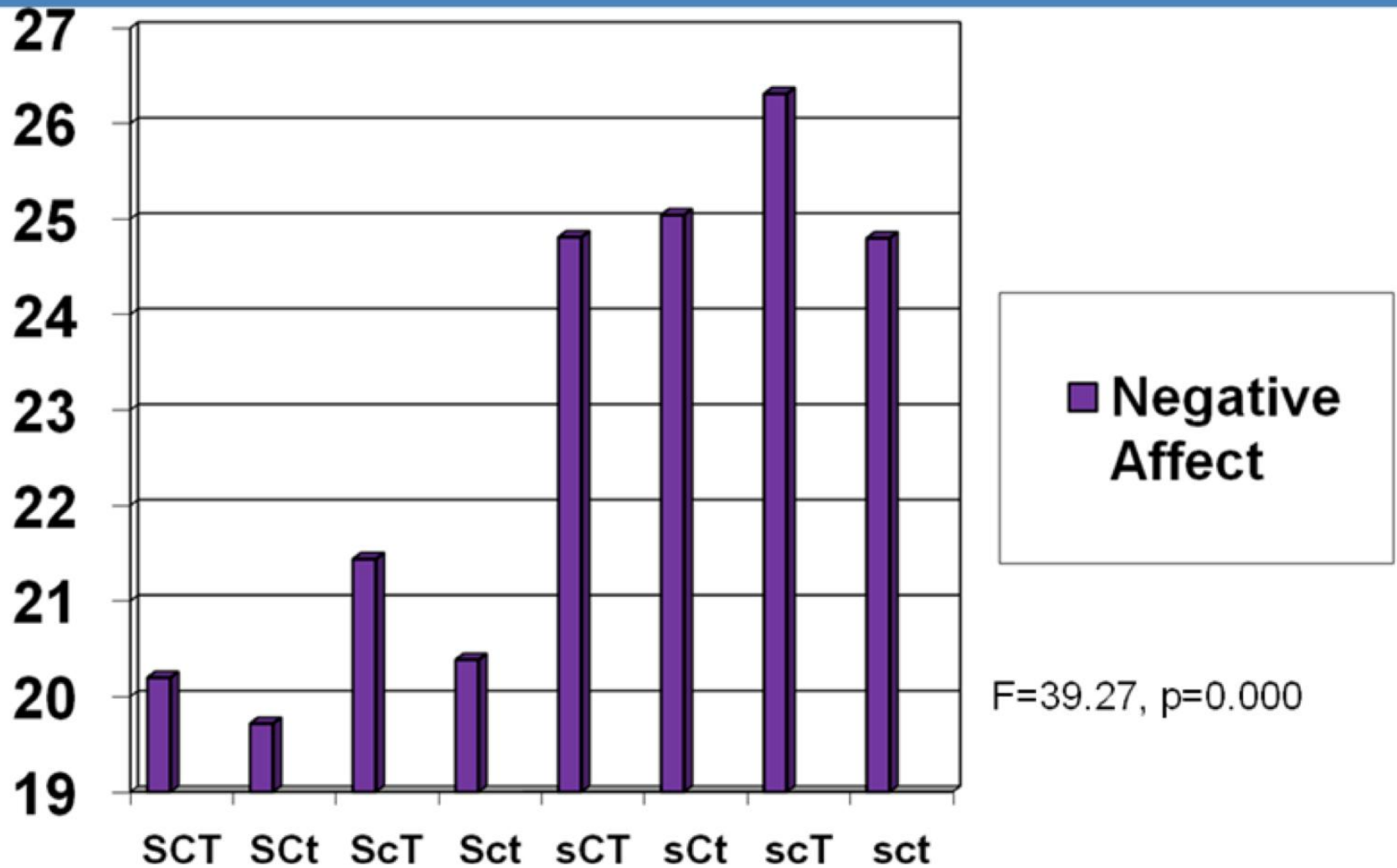
Cloninger & Zohar, JAD 2011

Positive Affect as a Function of Character Profile

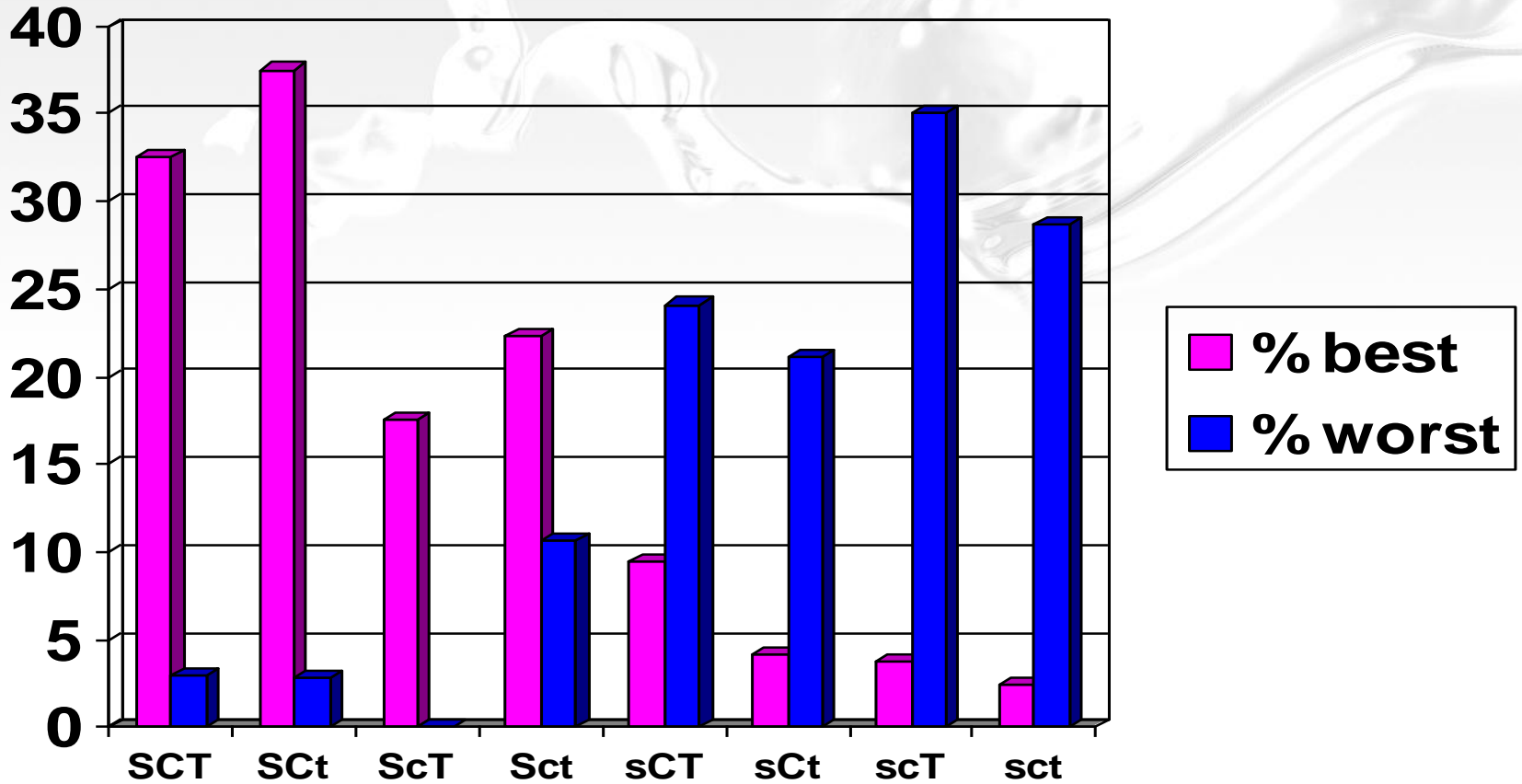


Cloninger & Zohar, JAD 2010

Negative Affect as a Function of Character Profile



Percentage of people with best and worst health by character type, (1047 people in Israel)



Cloninger & Zohar, JAD 2010

Ten-year prospective study of TCI personality change

- Cardiovascular Risk in Young Finns Study (Liisa Keltikangas Jarvinen, Psychology PI) with 3560 people in 6 birth cohorts aged 3 to 18 at baseline in 1980
- TCI administered in 1997, 2001, and 2007
- Cohorts in 1997 were aged 20, 23, 26, 29, 32, and 35
- So observed intervals of change extend from 20 to 45 years
- Complete TCI data in all years on 1314 subjects (858 women and 456 men)

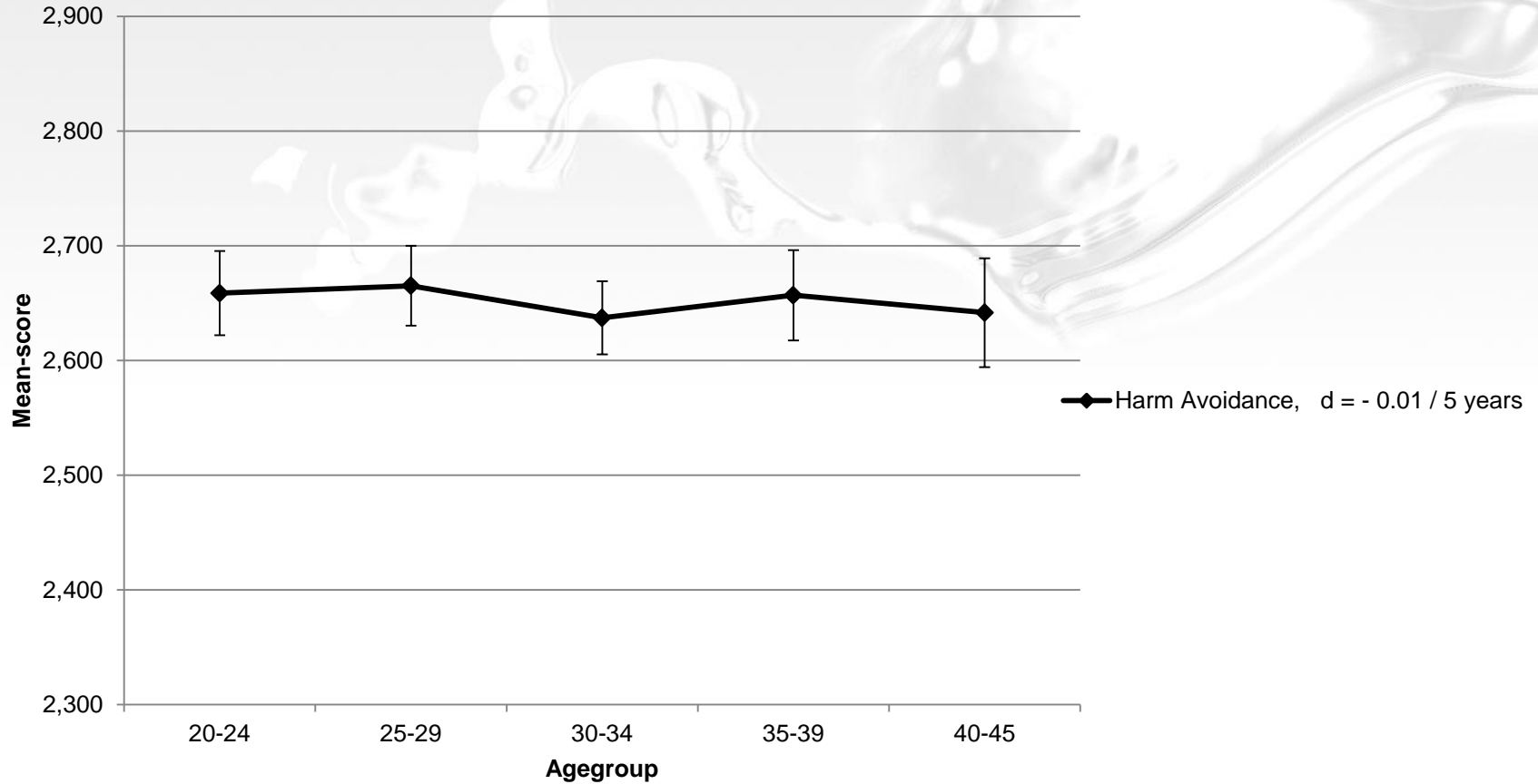
Individual reliable change in TCI traits 1997-2001

TCI Trait	Decrease %	No change %	Increase %
Novelty Seeking	6.8	88.7	4.5
Harm Avoidance	11.9	78.9	9.2
Reward Dependence	2.1	92.6	5.3
Persistence	2.3	94.7	3.0
Self-directedness	4.0	79.3	16.7
Cooperativeness	7.4	76.9	15.7
Self-Transcendence	16.1	78.6	5.3

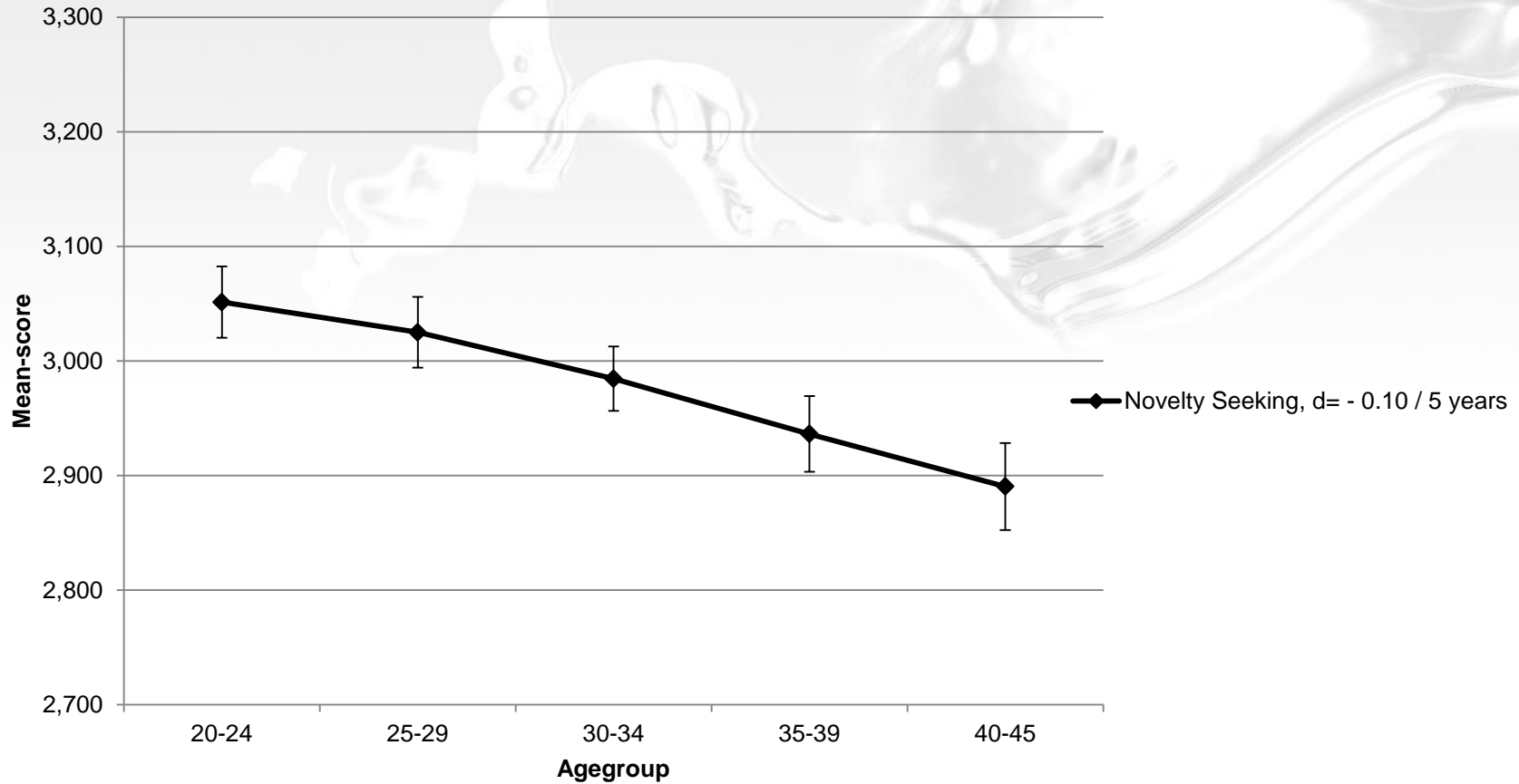
N = 1314, change based on reliable change index

Kim Josefsson et al., in review 2011

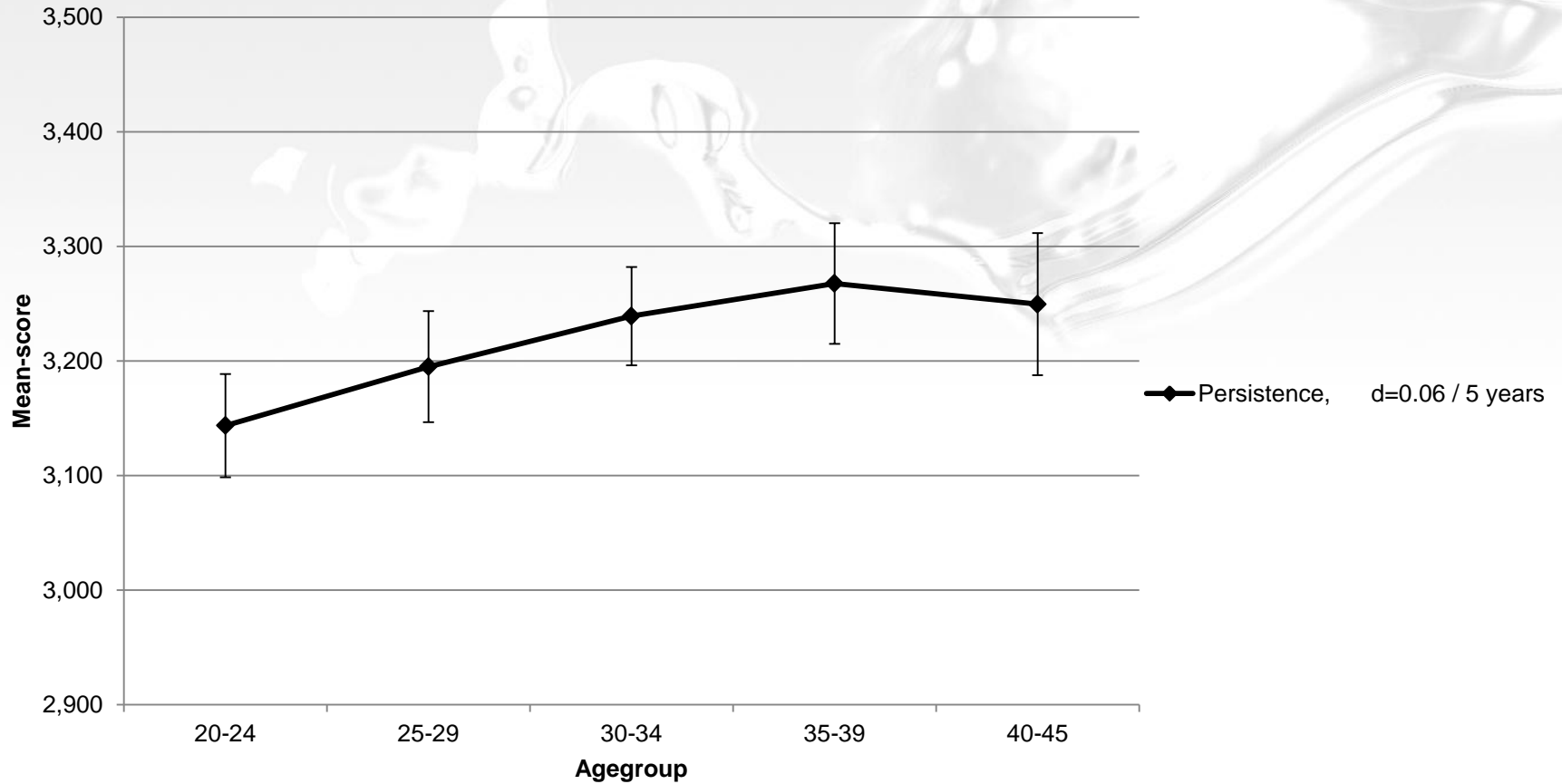
Average Harm Avoidance levels, ages 20-45 years



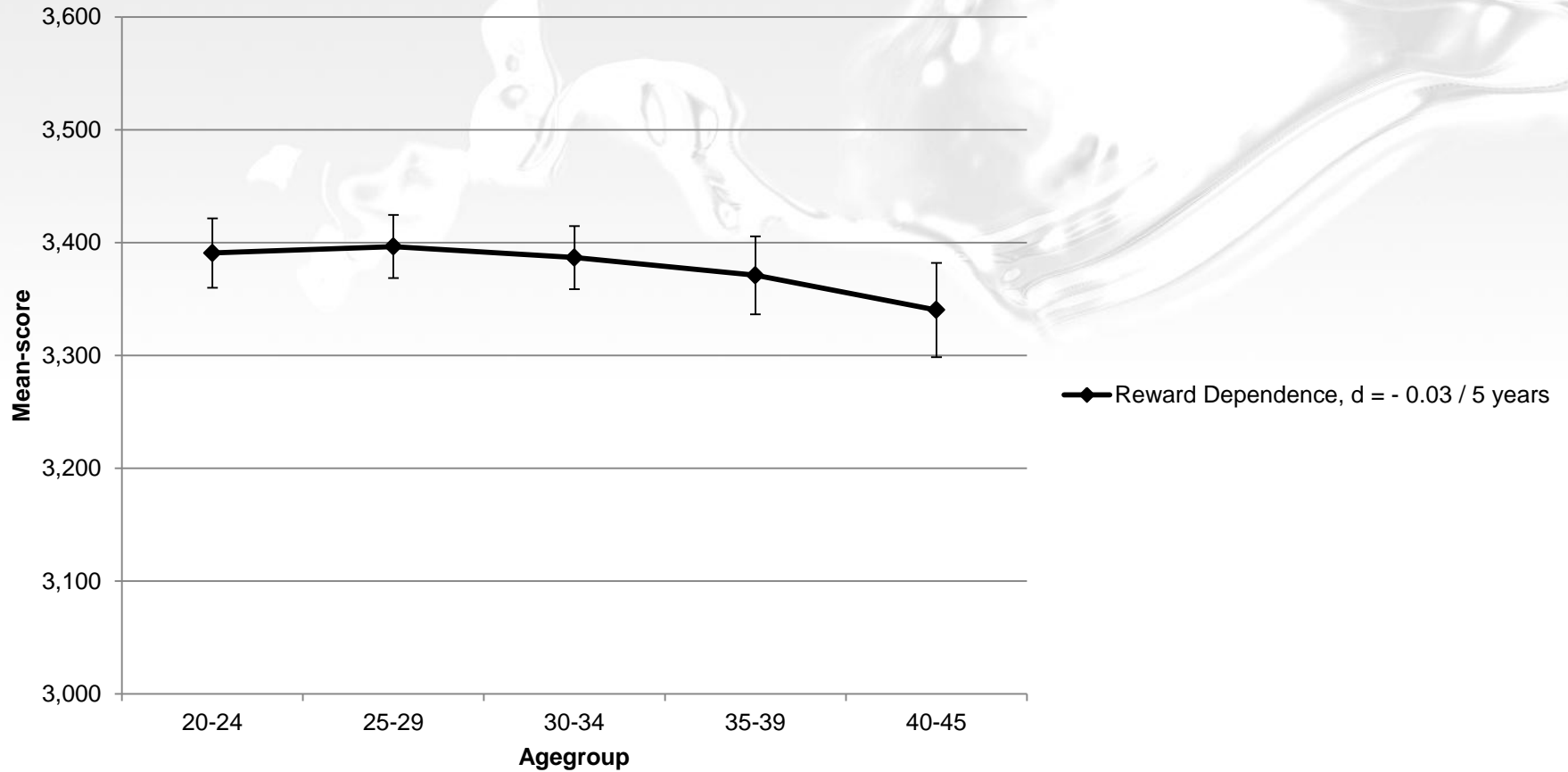
Average Novelty Seeking levels, ages 20-45 years



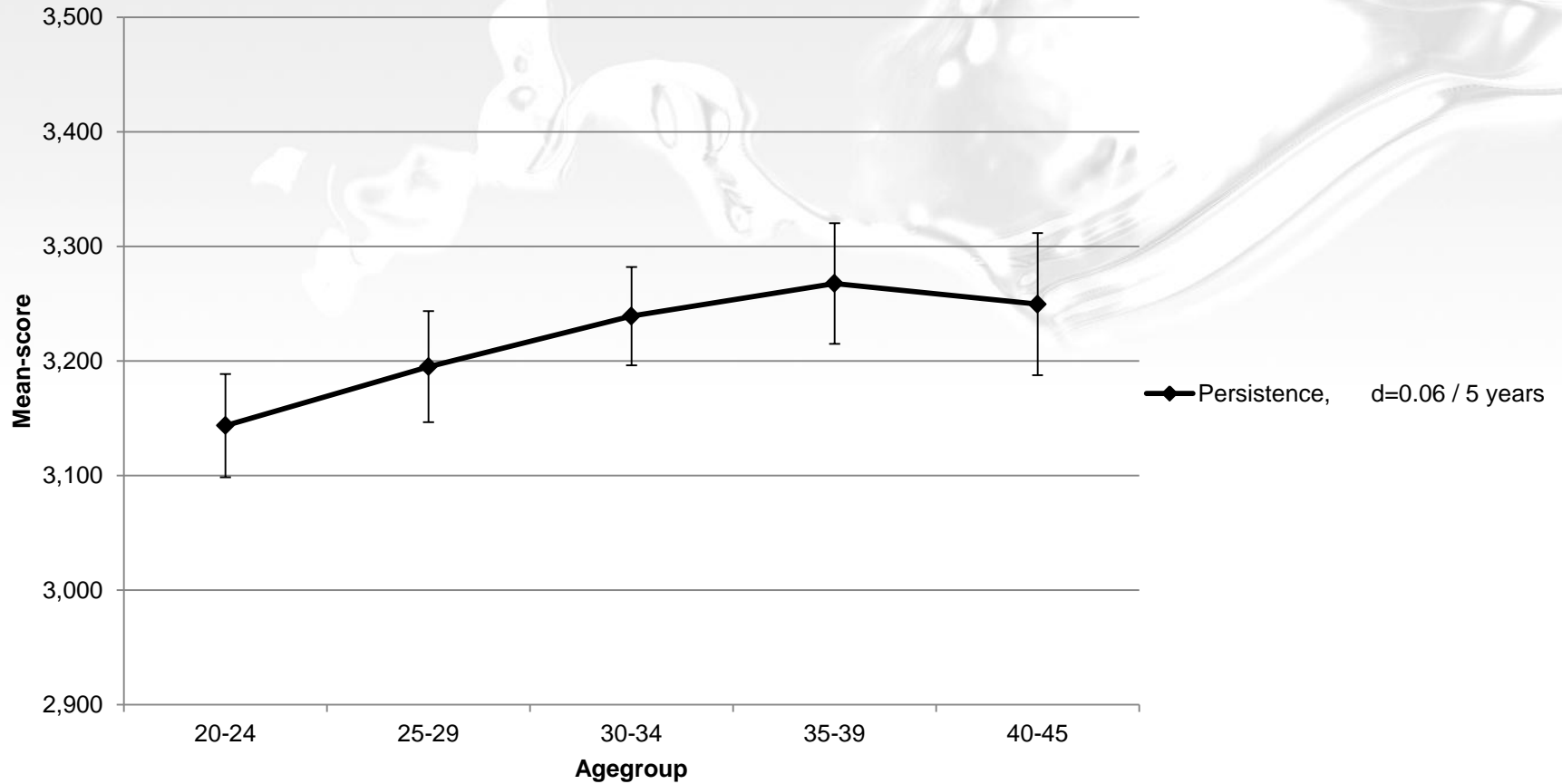
Average Persistence levels, ages 20-45 years



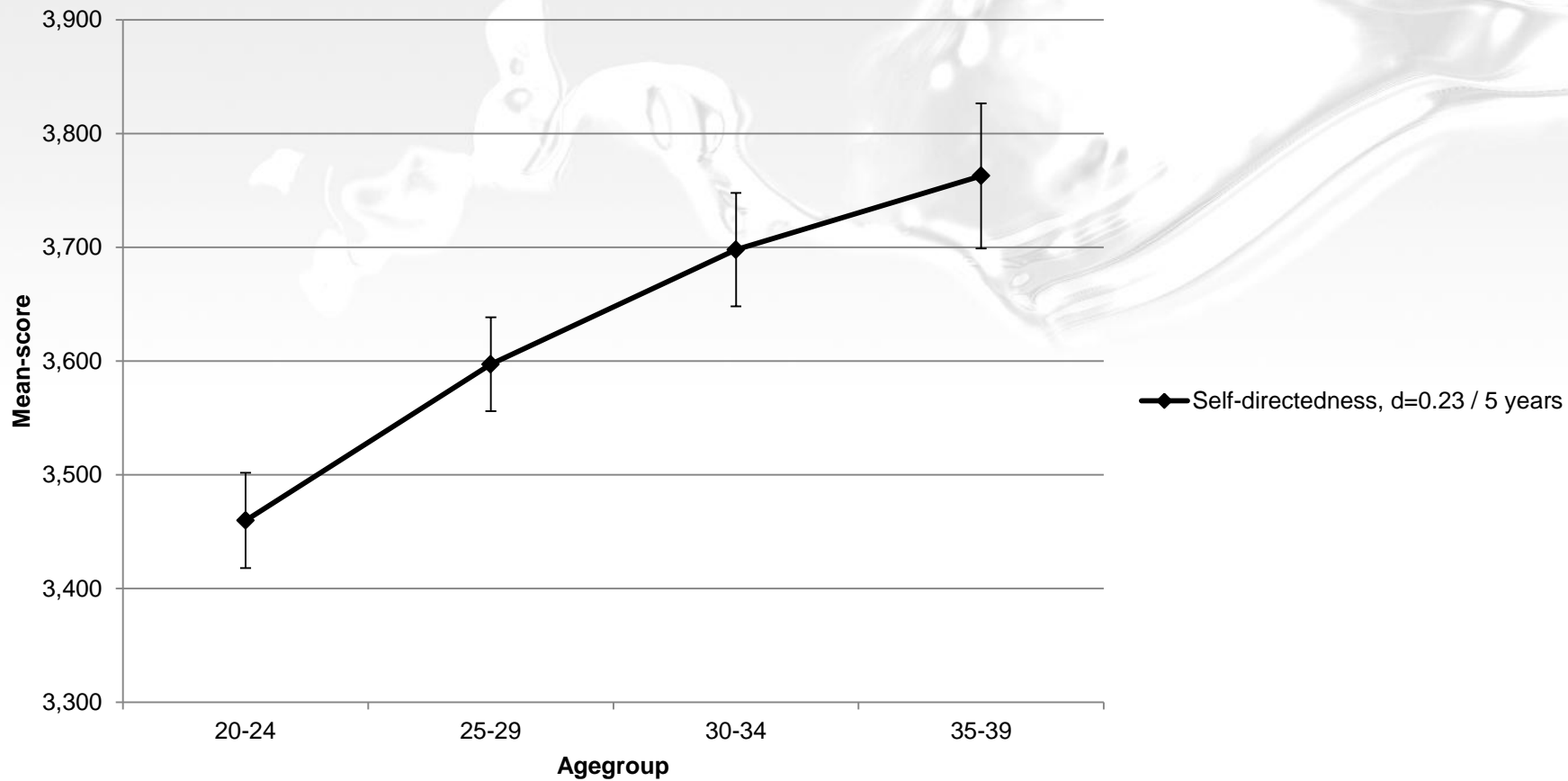
Average Reward Dependence levels, ages 20-45 years



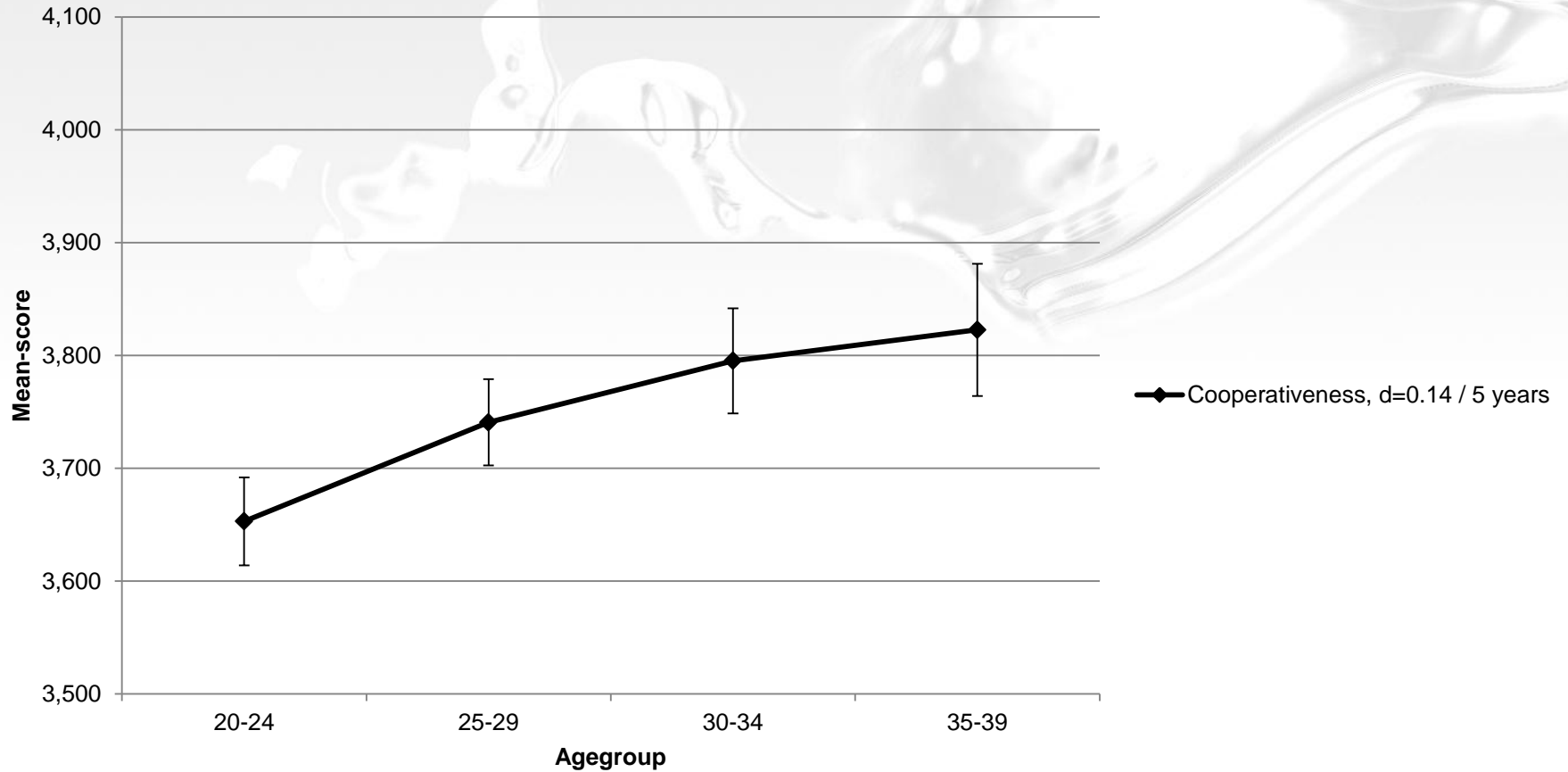
Average Persistence levels, ages 20-45 years



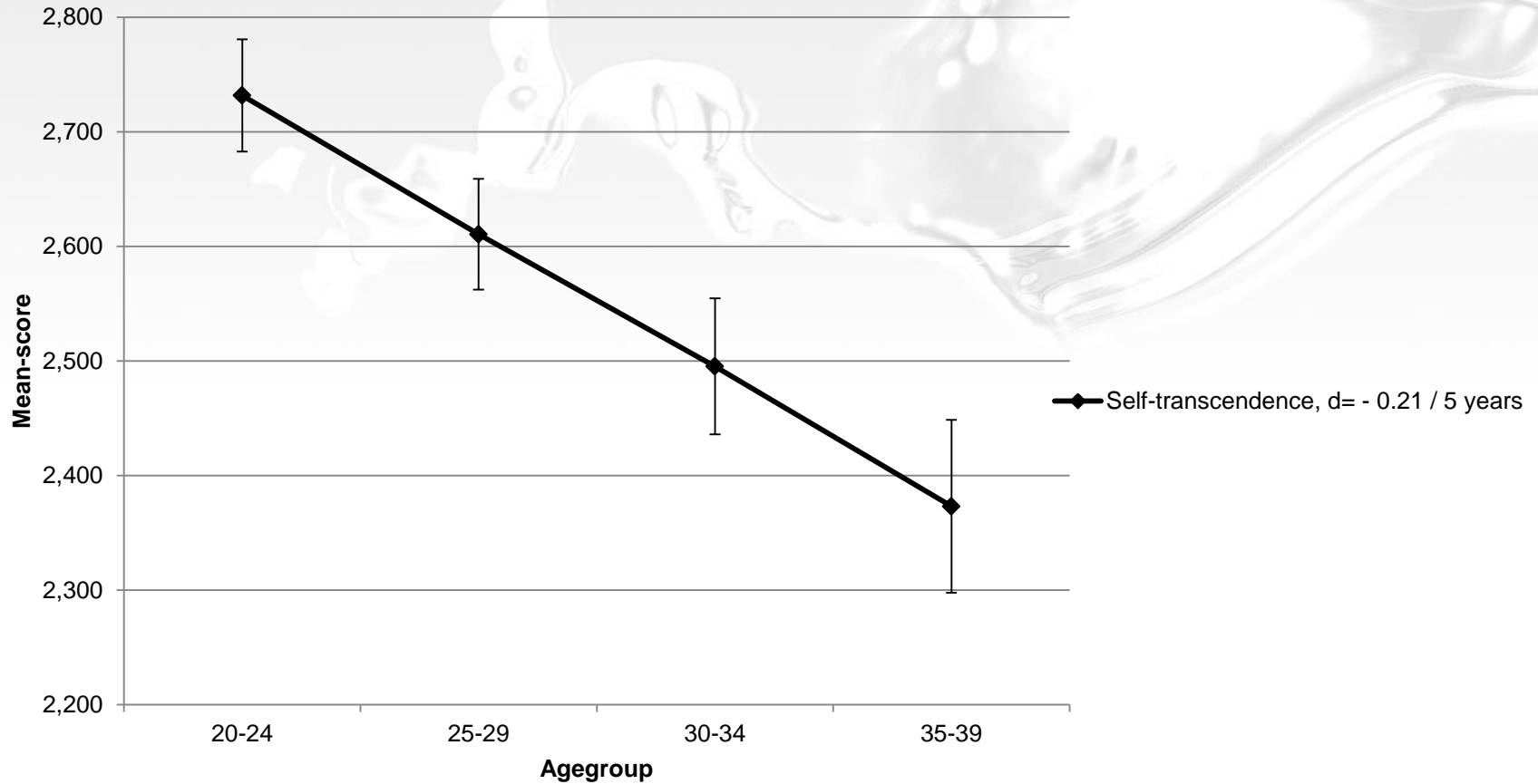
Average Self-directedness levels, ages 20-45 years




Average Cooperativeness levels, ages 20-45 years



Average Self-transcendence levels, ages 20-45 years

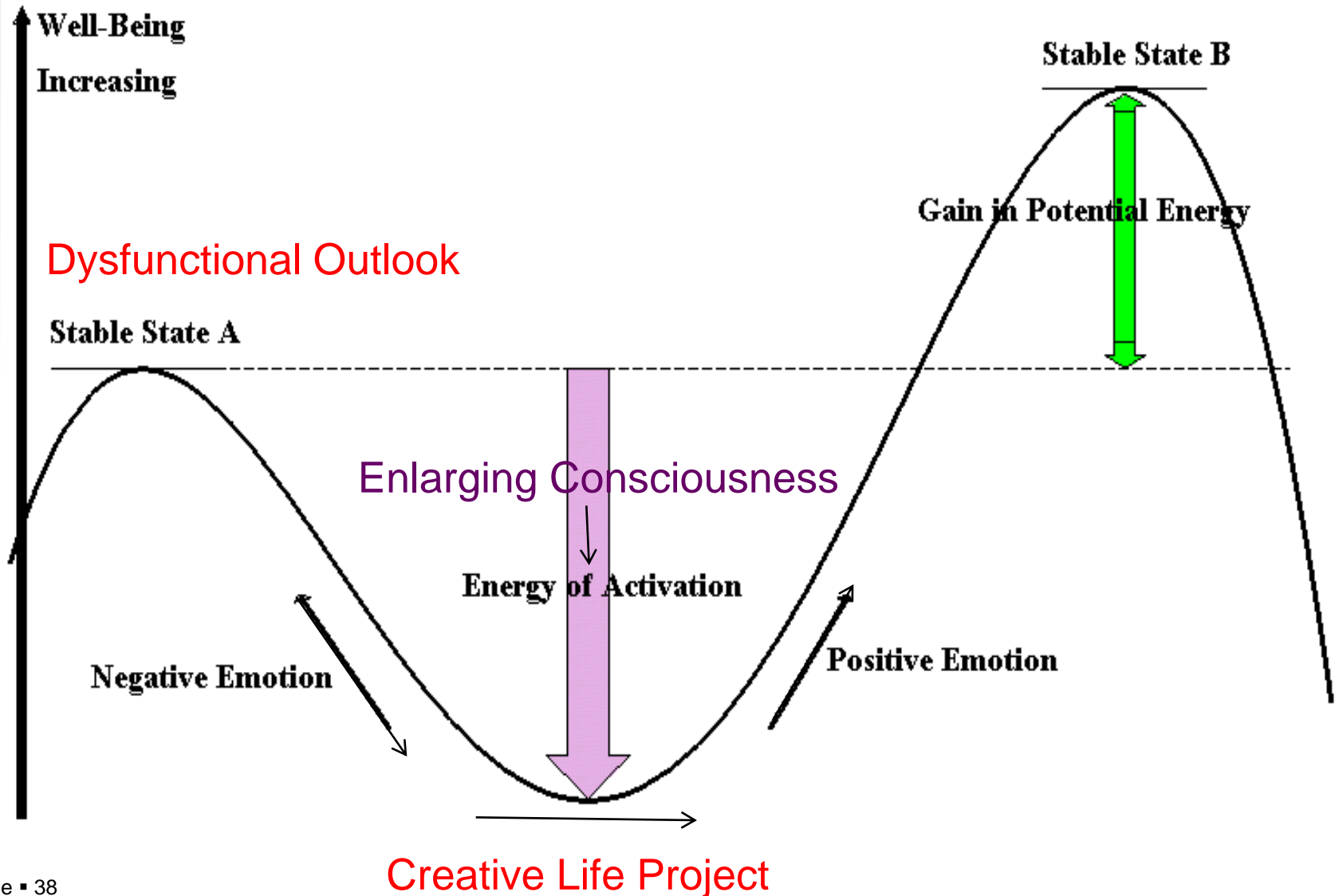


Components of Healthy Lifestyle

- 
- Sexual behaviors
 - Nutrition
 - Physical activity and exercise
 - Interpersonal relations/support
 - Safe use of medications & alcohol
 - Self-responsibility for health
 - Stress management, rest, & sleep
 - Smoking avoidance or cessation
 - Accident or injury prevention
 - Spiritual growth, fulfillment of potential

The Dynamics of Well-Being

Broadened Outlook on Life



Well-Being depends on combining 3 attitudes to life

▪ The 3 principles of coherent living in well-being:

1. Working in service of others

- Enjoy giving of yourself
- Be respectful & kind

2. Letting go

- Don't fight or worry
- Be empathic & reflective

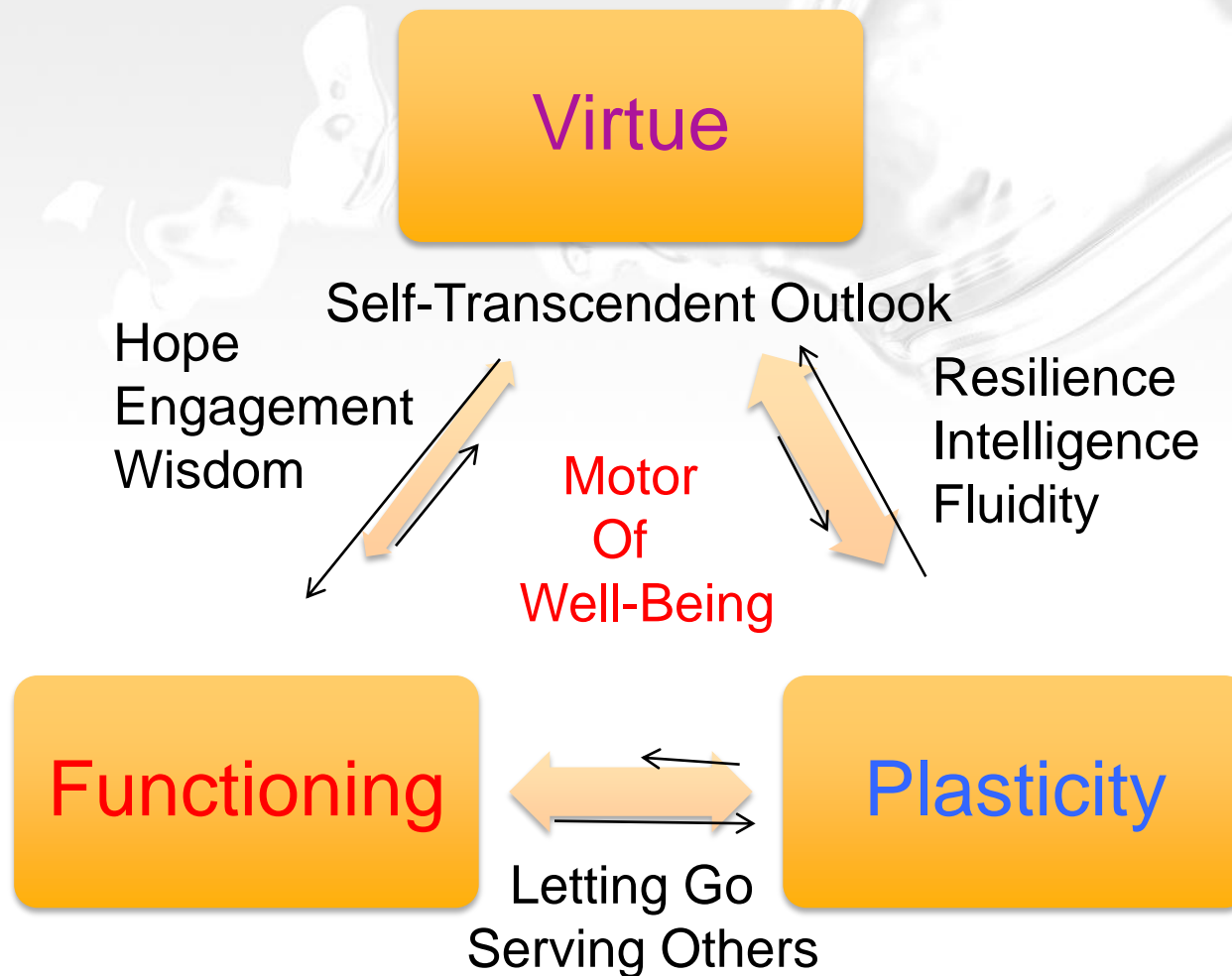
3. Growing in awareness

- Be happy to adapt and to learn constantly
- Be genuine & humble

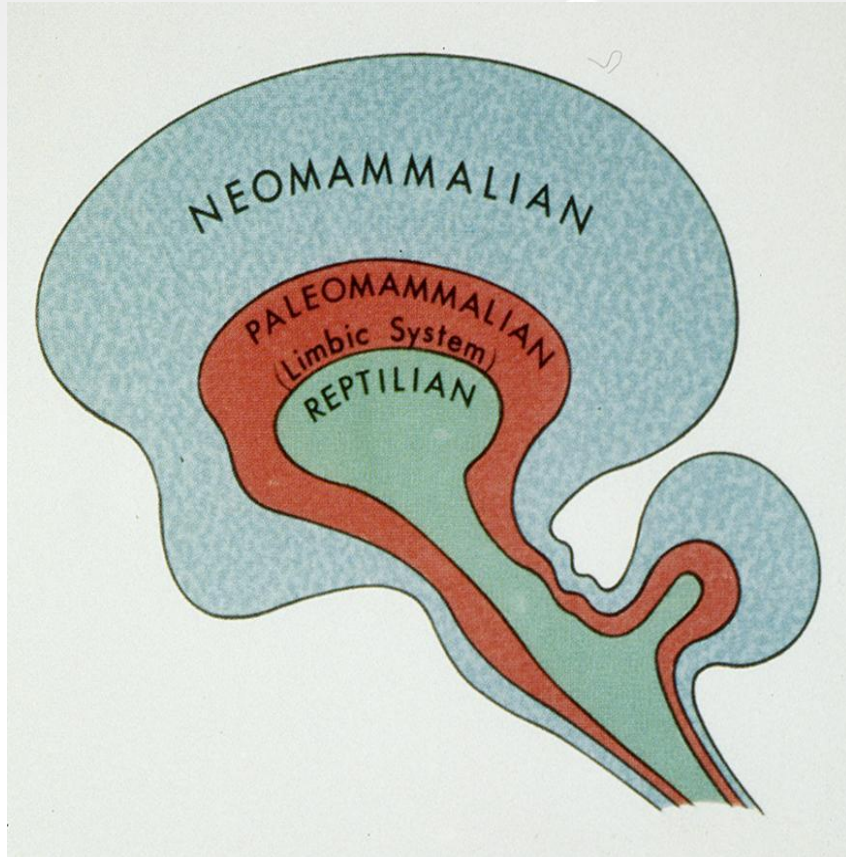


Diver of Paestum

The Virtuous Circle leading to Well-Being



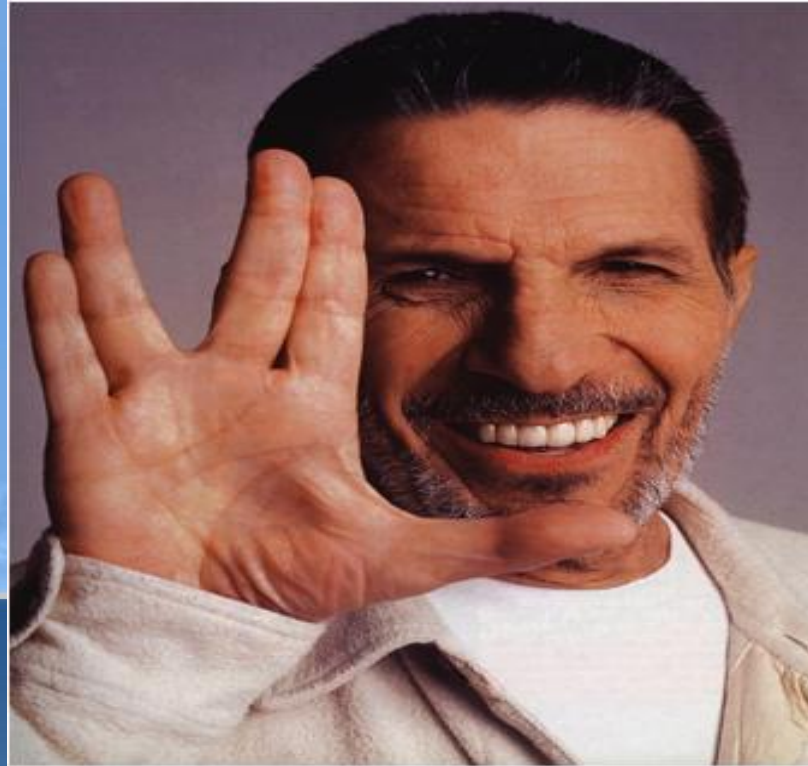
Well-Being is built upon a stool with 3 legs



What happens if you remove even one leg of the stool?

Summary of Conclusions

- **Personality development is a non-linear dynamic process**
- **Temperament** traits have **no consistent direction of change** with age, increasing and decreasing in different people in equal numbers so that their average does not change (except for reduction in NS with age)
- **Self-directedness and Cooperativeness increase** steadily from 20 to 45 years while **Self-transcendence falls** to 45 (**later Self-transcendence increases again** as people face morbidity and mortality)
- Health care requires a **psychobiological approach** in which a virtuous circle of increasing well-being is activated by a hopeful and encouraging **therapeutic relationship, an outlook of unity or connectedness, and exercises** that enhance self-aware **functioning, plasticity, and virtue.**
- In contrast, **traumatic events** that promote an **outlook of separateness** lead to a downward cycle toward ill-being with fear, excessive desire, and shame or excessive pride.



Any Questions?

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