

RECLAIMING
Youth at Risk

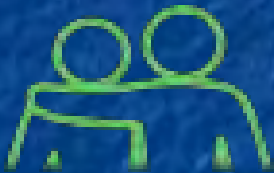
ReclaimingYouthAtRisk.org

The Resilient Brain

Larry K. Brendtro, PhD

Augustana University

October 31, 2017



RECLAIMING
Youth at Risk

The Resilient Brain visuals will be available to download for 30 days at:
ReclaimingYouthAtRisk.org/handouts



**25th Annual
Black Hills Seminars**

July 2018



The Resilient Brain

The Brain Rules

Designer Genes

Raising Resilient Kids



The Resilient Brain

The Brain Rules

Designer Genes

Raising Resilient Kids

DEEP BRAIN LEARNING

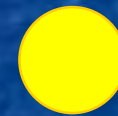
Larry K. Brendtro Martin L. Mitchell



evidence-based essentials
in education, treatment, and youth development

The Triune Brain

Paul MacLean



Logic/Reasoning



Social/Emotional



Survival/Reptilian



Survival Brain

The brain stem operates our life support systems and executes automatic defensive reactions.



If a threat is perceived, this triggers the reptilian brain's defensive reactions.

-

Primitive coping defenses of Fight, Flight, or Freeze



Emotional Brain



The Amygdala is the Greek word for Almond. It is the brains sentry and spots events that might be:



threatening



interesting





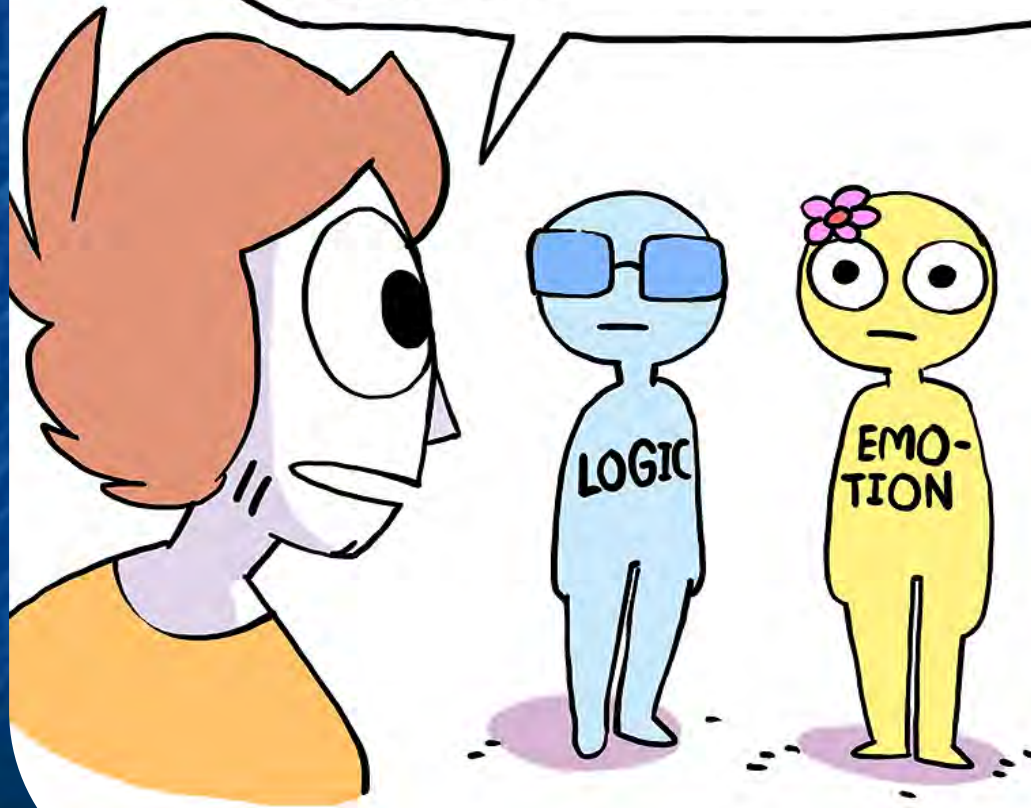
By age 3, children spot racially different faces in 50 milliseconds. Depending on learned experience, this triggers curiosity or threat.



Logical Brain

Frontal lobes don't mature until the mid-twenties.

HEY LOGIC, EMOTION.
WHICH ONE OF
YOU IS SMARTER?



Sometimes the Logical Brain isn't Logical.

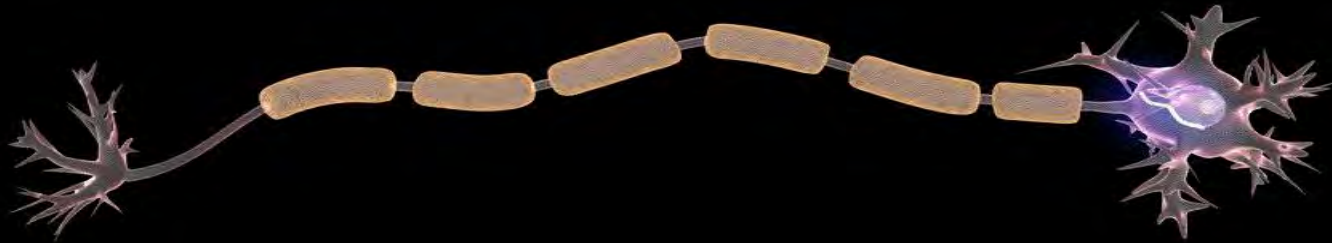


When people hold a strong core belief, they experience **COGNITIVE DISSONANCE** when facing other views.

To protect core beliefs, they embrace false ideas and deny anything that does not fit with the core belief.

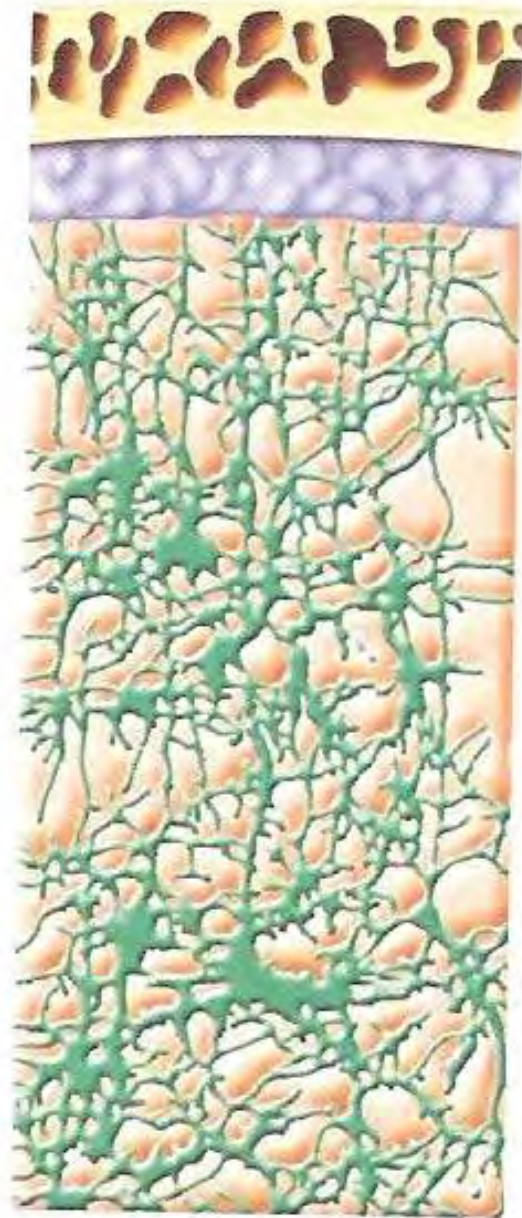
Absence of empathy interferes with understanding others.

Neurons

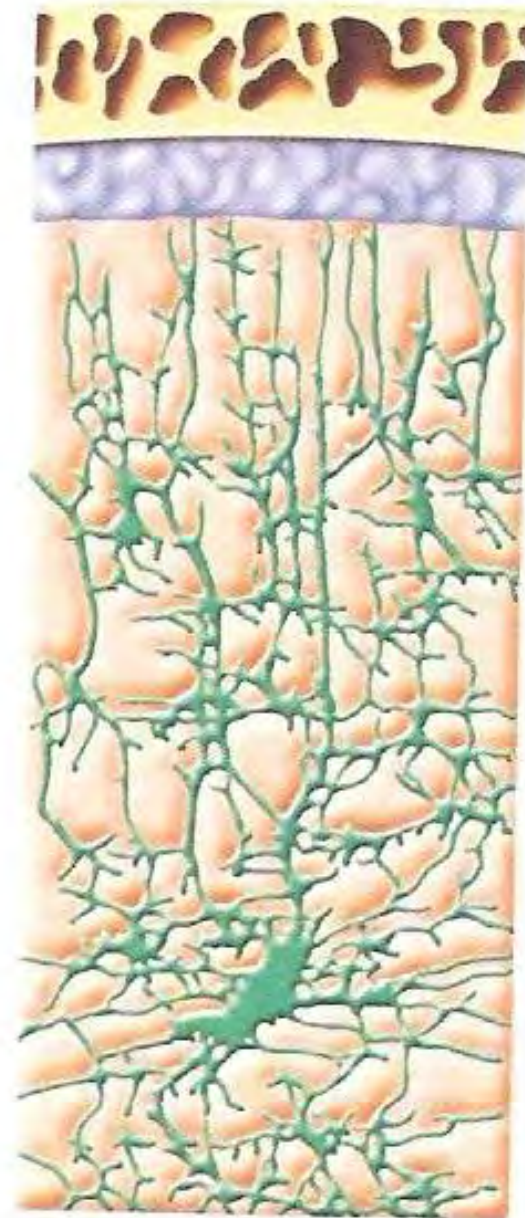




9 months



2 years



4 years

Neuroplasticity



Experience Expectant

The child needs certain experiences in order to thrive, e.g., stimulation, love, and language.



Experience Dependent

The brain is adaptive and custom-wires new circuits to learn a culture, meet needs, and overcome risks.



If we take a million years ago as the beginning of human history, then for 99% of that history, we were all hunter gatherers.

Peter Gray

In all primates but humans,
a few dominate the many.



But egalitarian generosity
has insured human survival.



Survival of the Fittest Most Generous



Our common human history shaped the evolution of our **social brains** and **cultural values**.



Vast knowledge of human nature predates Western science.

Herbert Vilakazi, Zululand University



Indigenous Science

The old African men and women, particularly the old women, were consummate child psychologists.

HERBERT VILAKAZI
Zululand University

A white teepee stands in a grassy field in the foreground. The background features a valley with a river and rolling hills under a bright sunset sky. The sun is low on the horizon, creating a strong lens flare effect that illuminates the scene with a warm, golden light. The overall mood is peaceful and serene.

Indigenous Wisdom

Children and elders are held in great respect.

The village is involved in rearing all children.

Resources are shared to meet needs of all.

Leaders must be servants of the people.



Cahokia on the Mississippi River, 600-1200 AD
Population of 20,000 rivaled London and Paris



Good Earth on the Sioux River, 1300-1700 AD

Population of 10,000 exceeded Boston and New York



The Great Law of Peace: The Iroquois Confederacy
Oral History of Democratic Principles, 1451 AD or Earlier

THE CHALICE & THE BLADE

OUR HISTORY. OUR FUTURE



MORE
THAN
300,000
COPIES
SOLD

"The most important book since
Darwin's *Origin of Species*."
—ASHLEY MONTAGU

RIANE EISLER

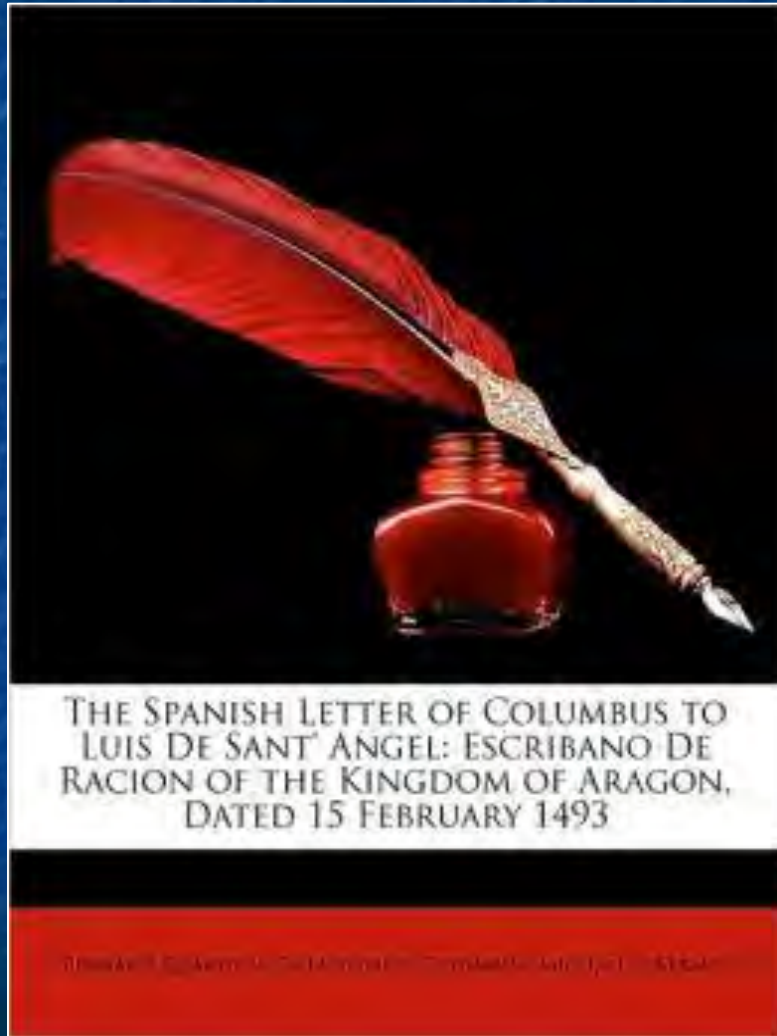
Author of *Sacred Pleasure*

There are two contrasting systems for governing human societies—cultures of respect and cultures of domination.

Then Columbus Brought a Dominator Culture



The Fatal Letter



Columbus Described Natives

Generous, kind, loving, ingenious, commanding in stature, without weapons of war, carrying on inter-island commerce in canoes longer and faster than Spanish eighteen-oared galleys.

Then, he declared them and their lands to be owned by Spain and took hostages for display in Europe.

Papal Bull 1493



Pope Alexander VI decreed that any land not inhabited by Christians was available to be “discovered” by Catholic rulers so that “barbarous nations be overthrown and brought to the faith itself.” This became the legal basis of European claims over indigenous peoples world-wide.



Dominating Native Americans

The Doctrine of Discovery also justified the western conquest to Native peoples. The US Supreme Court in 1823 unanimously reaffirmed this doctrine withholding from American Indians any rights to the land they occupied.



Many Trails of Tears

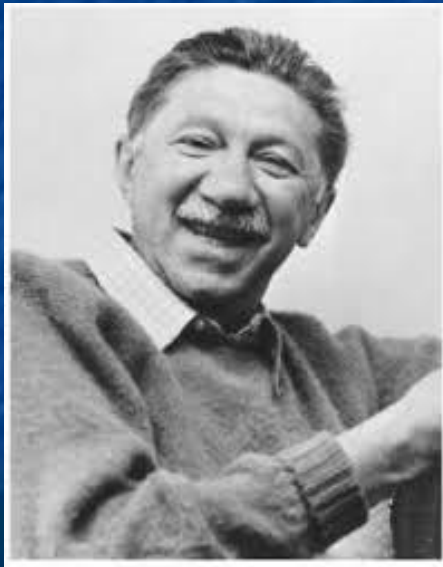
Cultural Trauma



Kill the Indian to save the man.

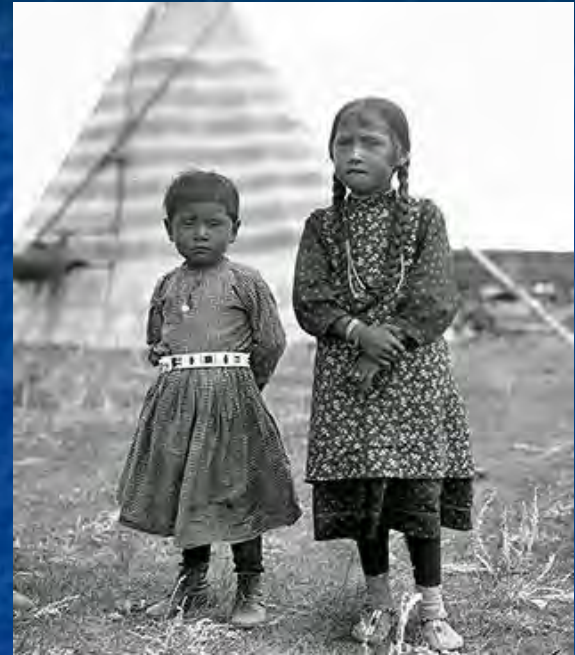


Reclaiming Native Wisdom



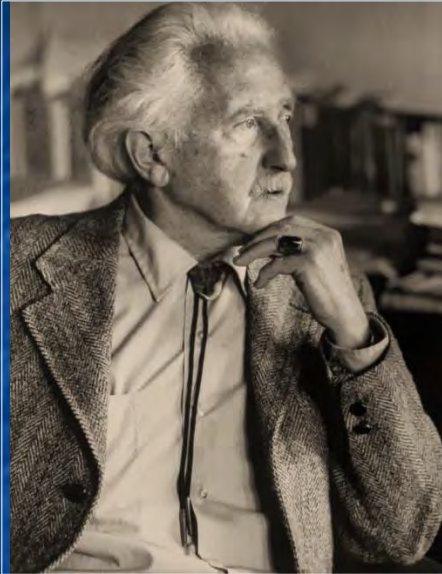
ABRAHAM MASLOW

Northern Blackfoot
Calgary, Alberta, 1938



Eighty to ninety percent of the population must be rated about as high in ego security as the most secure individuals in our society, who compromise perhaps five to ten percent at most.

Sioux Indian Child Rearing Pine Ridge Reservation, 1938



Children love and want to be loved, and they very much prefer the joy of accomplishment to the triumph of hateful failure.

ERIK ERIKSON



Erikson described the Sioux as trusting and generous, though boarding schools attempted to strip away their culture.

Revised Edition

RECLAIMING YOUTH AT RISK

Our Hope for the Future



Larry K. Brendtro | Martin Brokenleg | Steve Van Bockern

Foreword by Archbishop Desmond Tutu



Circle of Courage Values



generosity

independence



belonging



mastery



Spirit of Belonging



Spirit of Mastery



Spirit of Independence

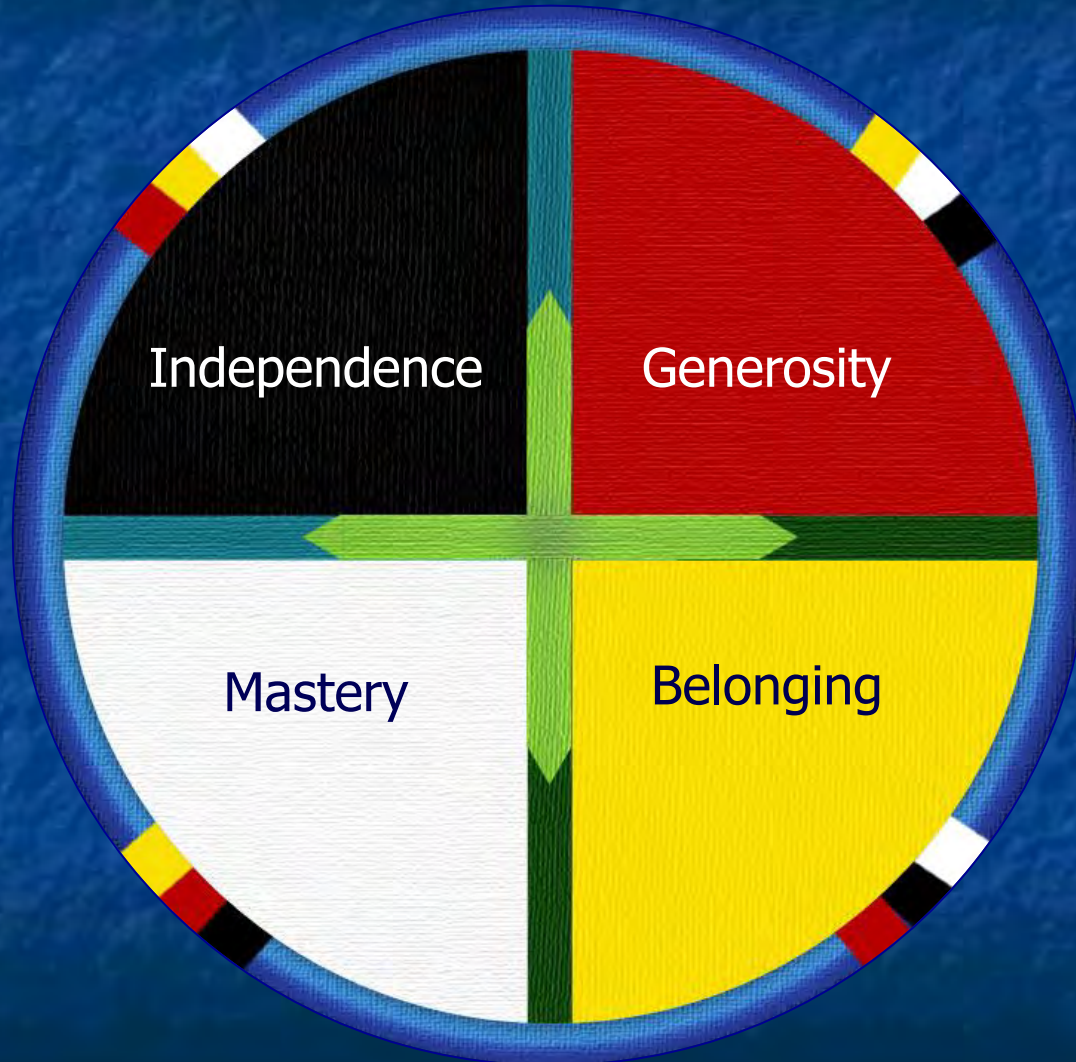


Spirit of Generosity

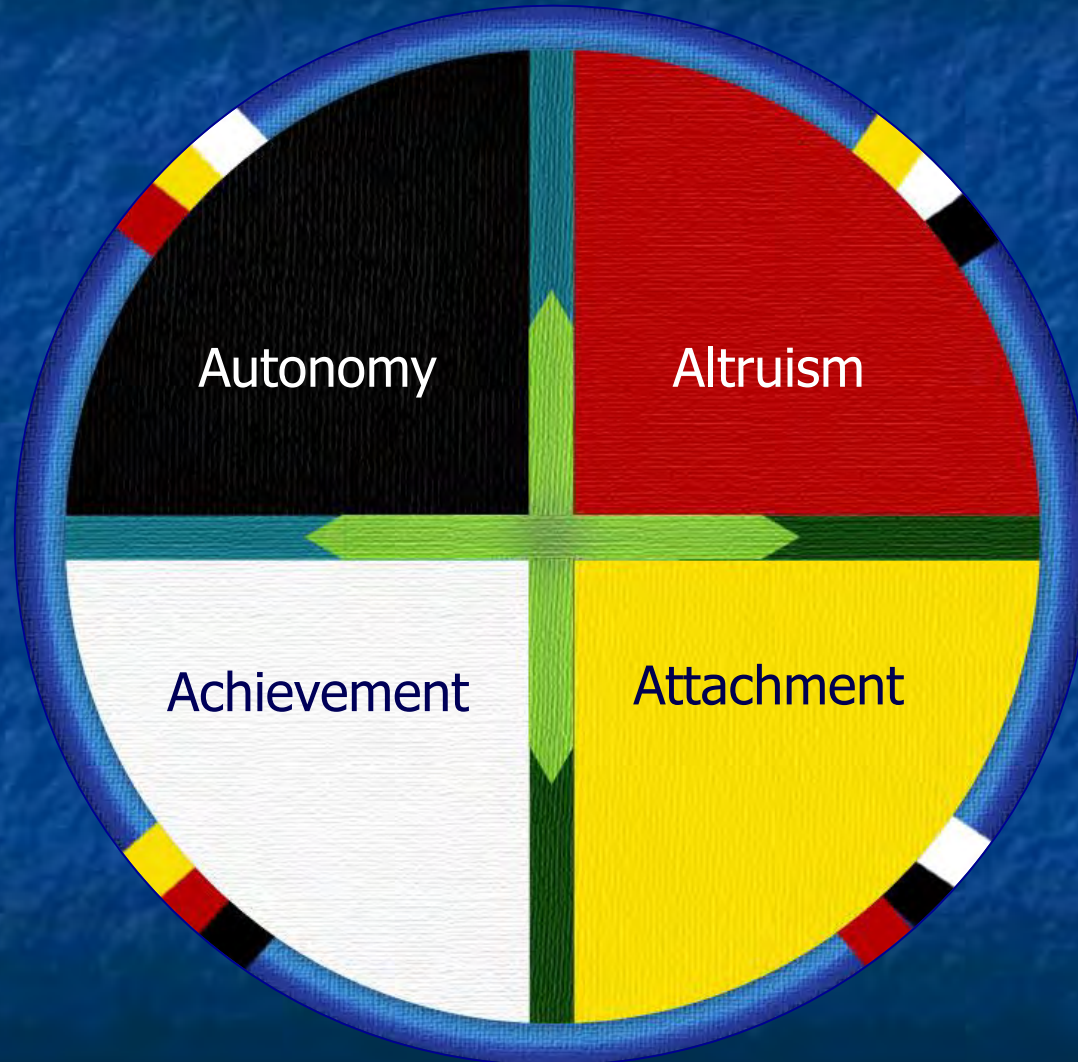


Circle of Courage Values

George Bluebird



Brain-Based Biosocial Drives



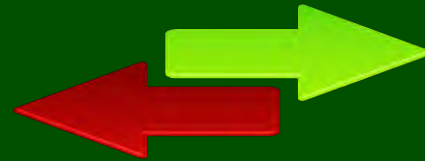
Consilience: Universal Developmental Needs

1

Four Biosocial Growth Needs	Attachment	Achievement	Autonomy	Altruism
Hierarchy of Human Needs (Maslow, 1943)	Belongingness	Esteem	Self-Actualization	Self-Transcendence
Foundations of Self Worth (Coopersmith, 1967)	Significance	Competence	Power	Virtue
Circle of Courage Cultural Values (Brokenleg, 1990)	Belonging	Mastery	Independence	Generosity
Resilience Research (Benard, 2004)	Social Competence	Problem Solving	Autonomy	Purpose
Leadership and Service (CF Learning, 2008)	Belonging	Achievement	Power	Purpose
Brain Systems (Masten, 2014)	Attachment	Mastery Motivation	Self-Efficacy	Spirituality & Purpose

Biosocial Drives are linked to Survival Drives

Avoidance
prevent pain



Approach
seek pleasure

HANDBOOK OF
APPROACH
AND
AVOIDANCE
MOTIVATION

Cultures of Respect

Safety



Adventure

Cultures of Dominance

Reward



Punish

Brain-Based Drives Developmental Needs

Attachment

Achievement

Autonomy

Altruism



Belonging

Mastery

Power

Generosity

Social Brain

Avoidance

Approach

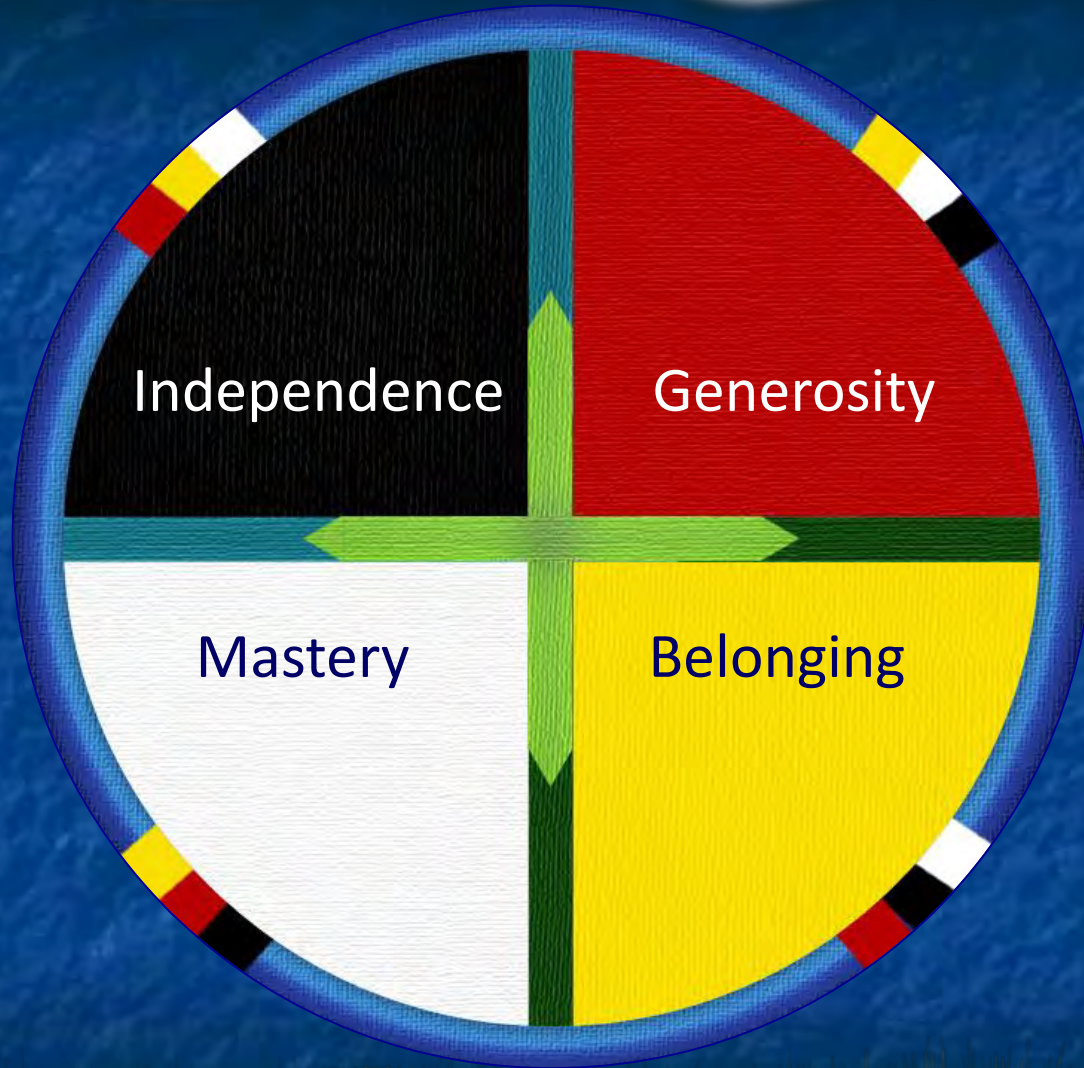


Safety

Adventure

Survival Brain

Adventure



Safety

Humans are endowed with a remarkable social brain.



Universal Brain-Based Social Emotions

JAAK PANKSEPP



Bonding

Seeking

Playing

Caring



BONDING: Trust, Attachment, Belonging



SEEKING: Curiosity, Creativity, Mastery



PLAYING: Self Regulation, Teamwork, Independence



CARING: Empathy, Altruism, Generosity

*Growing Up in a
Culture of Respect*

CHILD REARING IN HIGHLAND PERU

Inge Bolin



*From the moment I entered
their village, I was captivated
by their respectful behavior,
self-confident demeanor, and
astonishing creativity.*

INGE BOLIN
VANCOUVER ISLAND
UNIVERSITY



Safety:
Young people have close respectful bonds with adults and peers and all protect one another.



Belonging:
Loneliness is seen as the saddest experience so all are included in circles of respect.



Mastery: Children are eager to learn and master but never flaunt their superiority.



Independence: Children are never harshly punished but take responsibility caring for small children who idolize them.



Generosity: Teens are assigned important roles in the community like caring for and protecting the Alpaca herds.



Adventure: Children joyfully engage in games, music, cultural ceremonies, exploring nature, and enjoying simple pleasures with peers and elders.



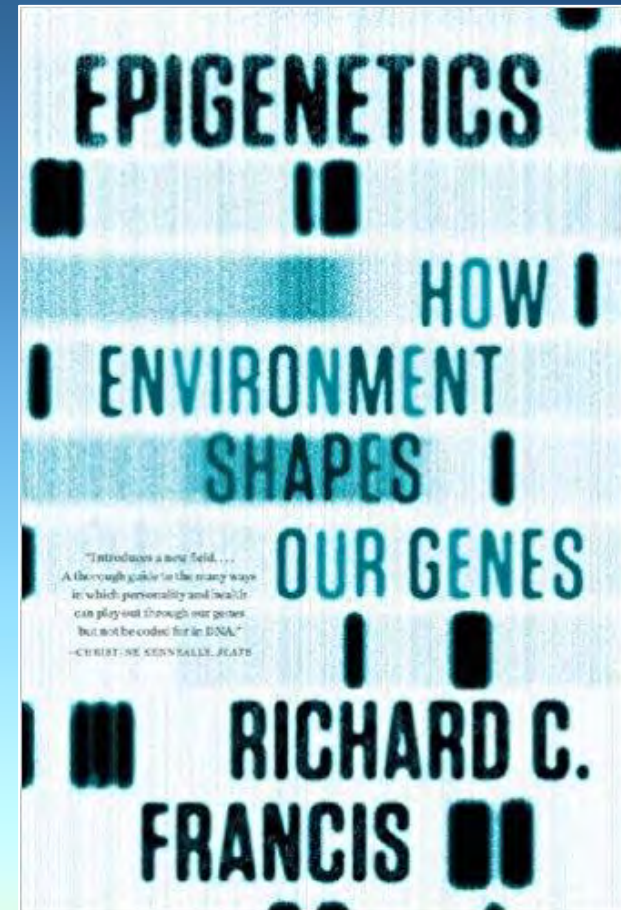
The Resilient Brain

The Brain Rules

Designer Genes

Raising Resilient Kids

Epi is Greek
for *on top of*.



Epigenetics



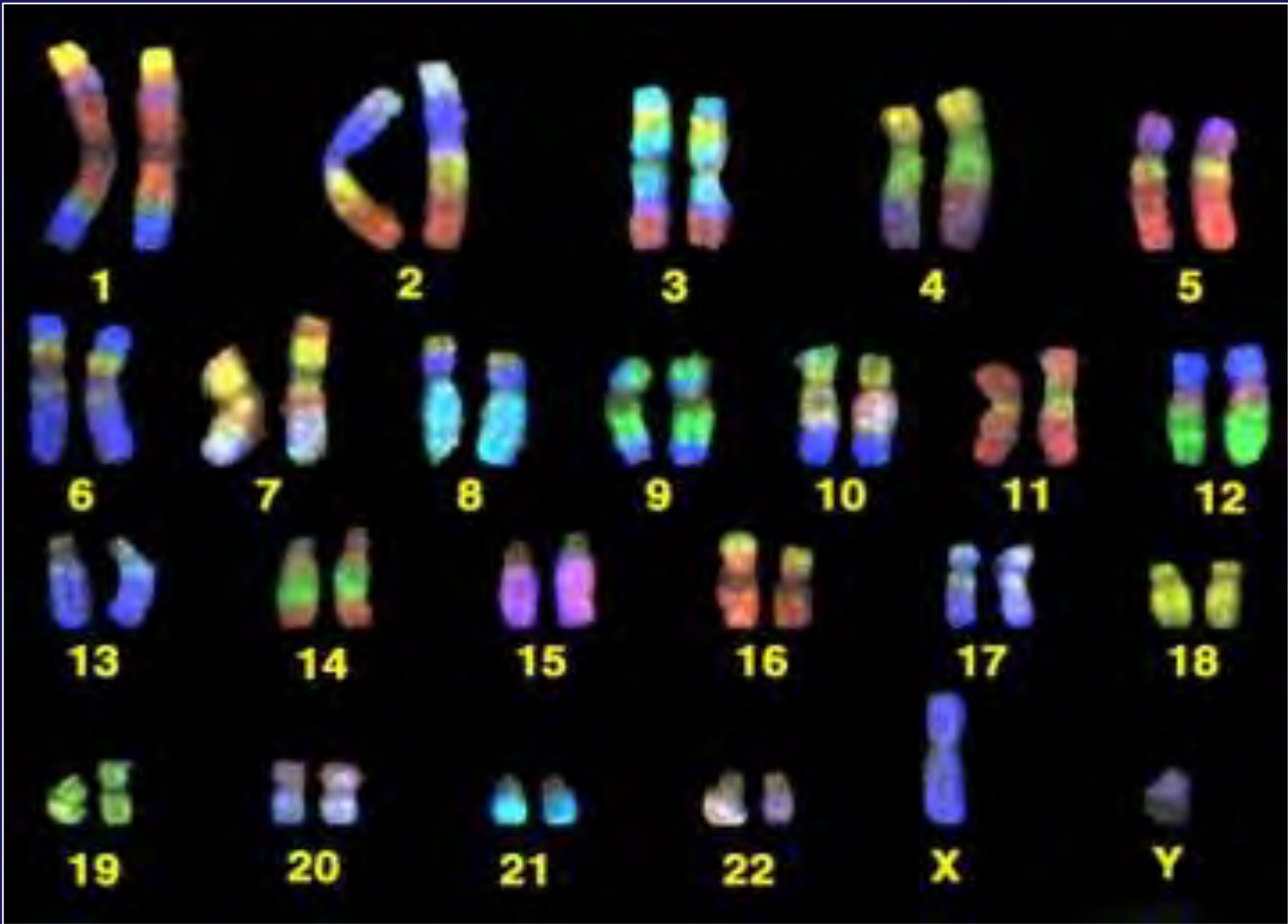
If genes were fixed, humans would be locked in one way of responding. Instead, life experiences turn genes off or on to adapt to the environment.

BRUCE PERRY

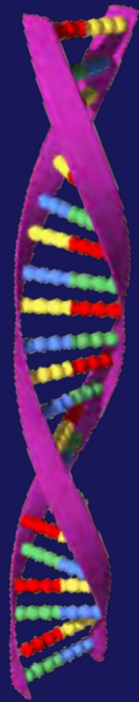


Humans have highly resilient brains.

And 84% of our genes affect the brain.



Twenty-three pairs of chromosomes are packed in the nucleus of virtually all of our 20 trillion body cells.



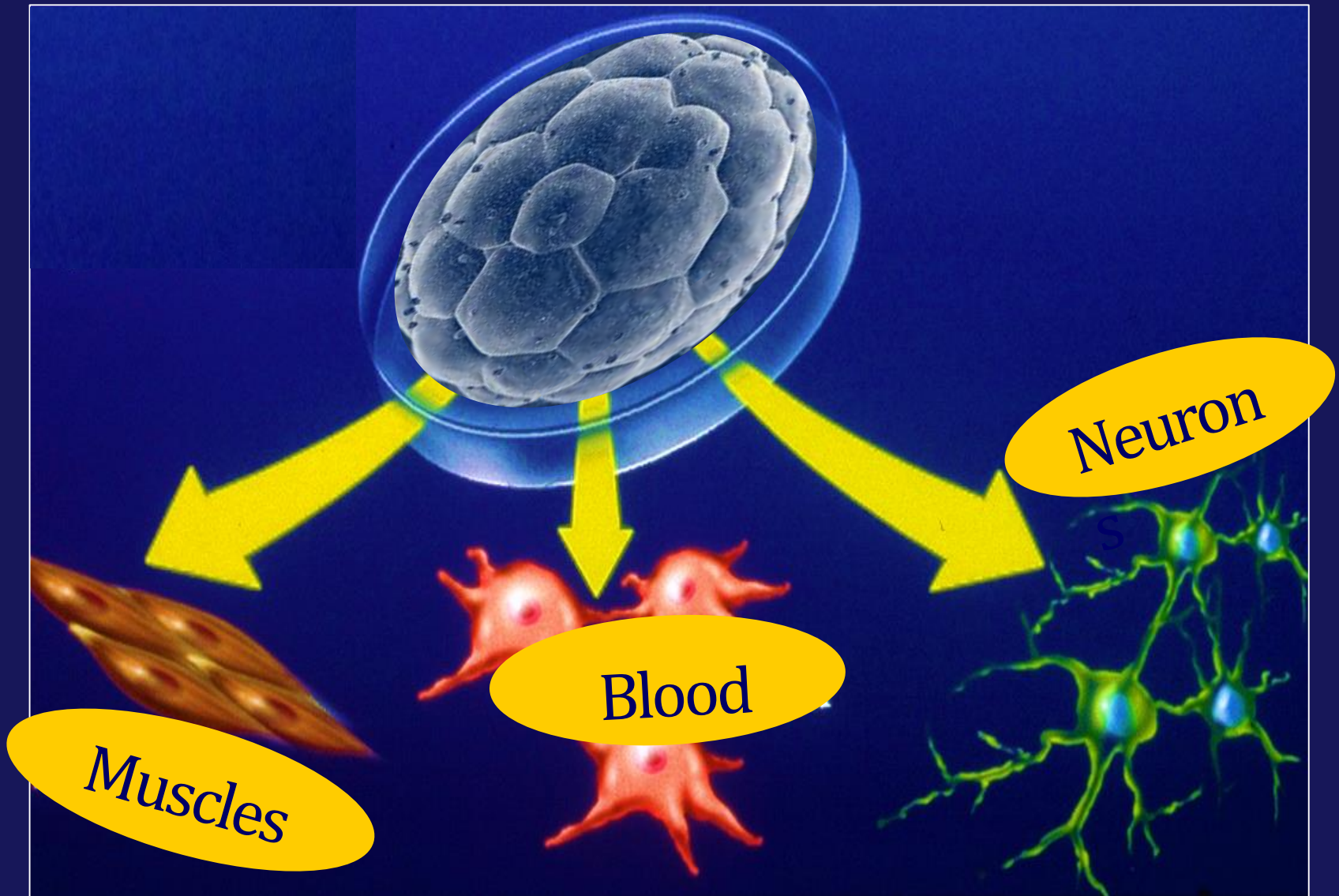
Watson and Crick first described the double helix chromosome in 1953.

But genes only make up 5% of the DNA. Crick called the rest “Junk DNA.”



So-called “Junk DNA” actually contains four million *epigenetic switches* that can turn genes on and off.

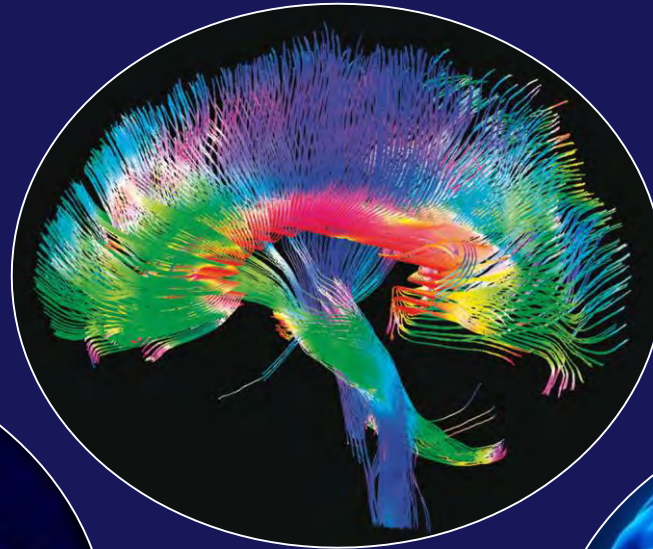
Embryonic Stem Cells Specialize into over 200 Types of Cells



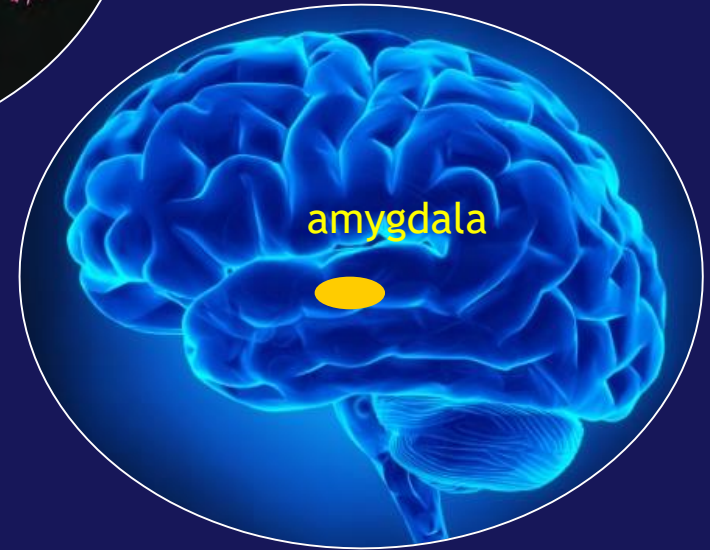
Epigenetic effects can be brief or long term.



Resetting your circadian clock in a new time zone



Connecting neurons for long-term learning

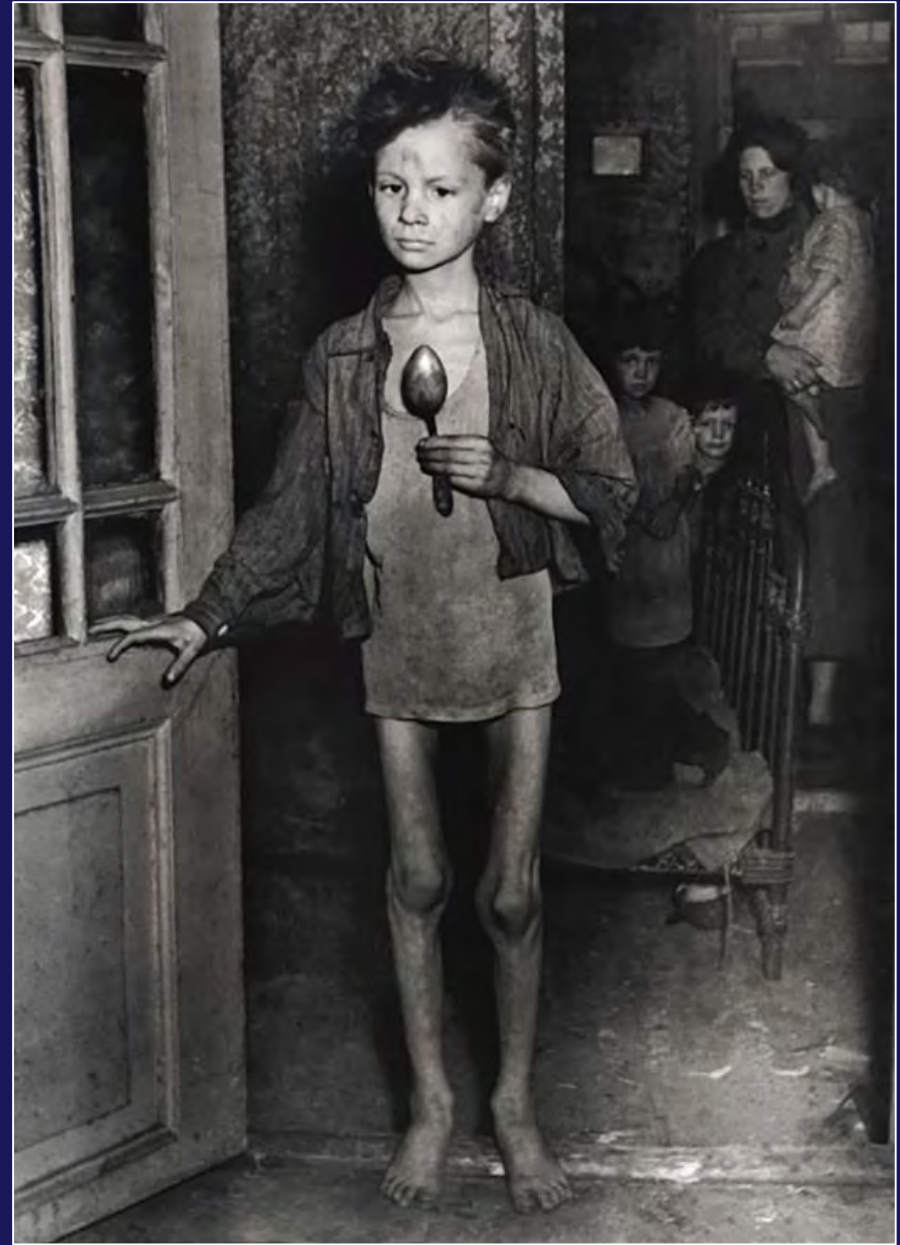


Passing trauma effects to future generations

The Dutch Hunger Winter (1944-45)

Children conceived in this famine were tiny but stored fat to survive. Following the war, they became obese.

Children and grandchildren in later generations were small at birth and likely to become obese and diabetic.



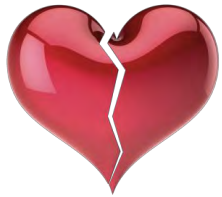
Neglectful Mothering



Nurturing Mothering



Michael Meaney, McGill University



REACTIVE

Fearful

Avoidant

Dysregulated

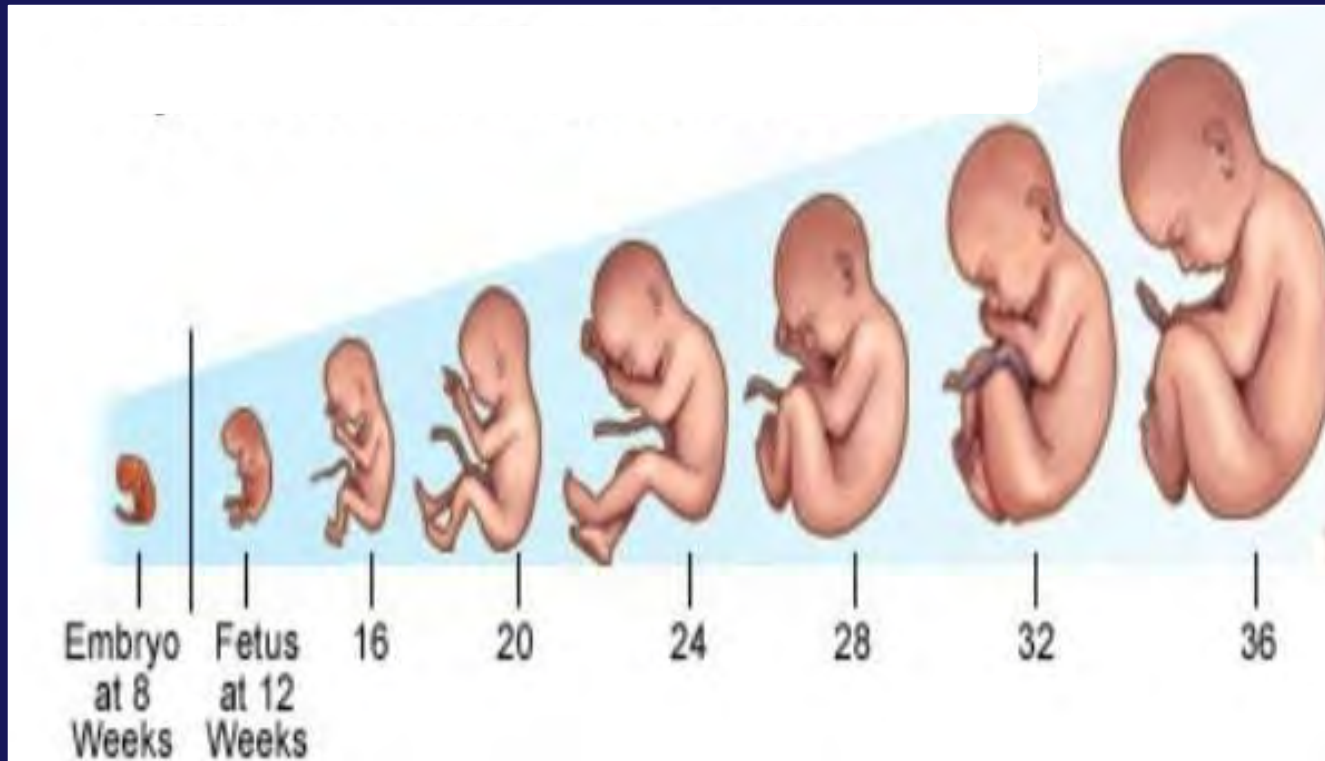


RESILIENT

Social

Curious

Intelligent



Epigenetics is most potent during the fetal stage when an average of 250,000 new neurons are created each minute throughout pregnancy.



Fetal Epigenetics

Diet

Drugs

Alcohol

Poverty

Smoking

Pollution

Cultural Trauma

Epigenetics has Potent Parental Effects



Stress System
Personality

Neuroplasticity
Intelligence

Immune System
Health

Metabolism
Growth

Bisphenol A



Mother and daughter—which is which?



Boys who smoke before puberty can produce harmful epigenetic changes in male offspring.



Cultural and racial trauma can
affect up to four generations.

Kuzawa & Sweet



Epigenetics and Social Class

Obesity

Diabetes

Heart Problems

Mental Illness

Early Death



Technology has produced 83,000 substances not natural in human history. Exposure can affect health and growth and is related to autism, aggressiveness, and learning problems.

GRANDJEAN & LANDRIGAN

Each capsule contains your medication plus a treatment for each of its side effects.



“Side Effects” is a marketing term for changes in genes from what can be toxic chemicals.

MICHAEL MEANEY



Telomeres: Our Human Aging Clock

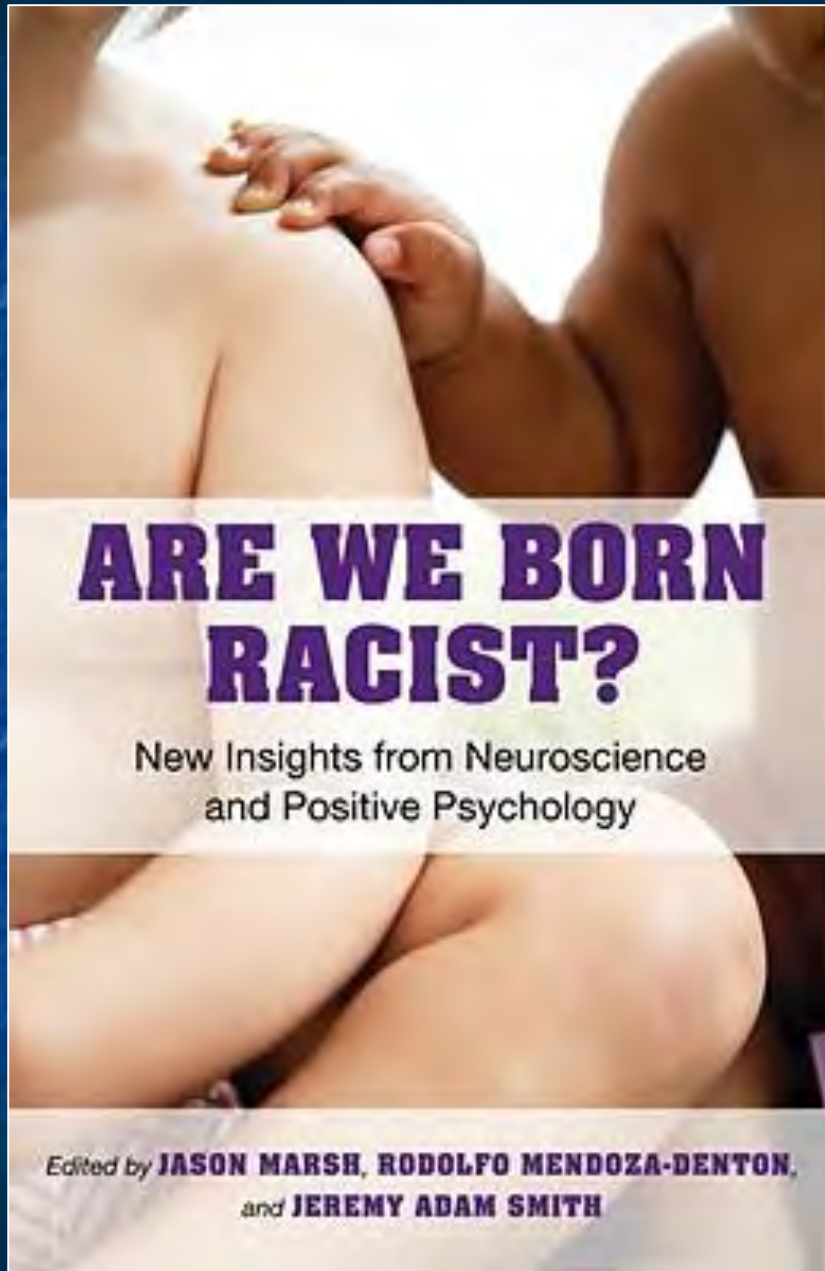
These are protective caps on chromosomes which shorten with age.

When telomeres wear away, the cell becomes cancerous or dies.



Extreme Stress Erodes Telomeres

Children exposed to domestic violence, physical abuse, or frequent bullying show significantly more telomere loss between ages 5 and 10.



Racism and Epigenetics

Persons of any race who are threatened by our highly diverse society are in perpetual distress. This disrupts gene expression producing health and emotional problems.

“Building friendships with people of other races seems to eliminate unhealthy stress responses so that each new interaction can be greeted as a challenge instead of a threat.”

(Page-Gold, 2010, p. 44)

Throughout life, the human brain changes its structure to cope with new challenges.

(Doidge, 2016)

Neuroplasticity

Both positive and negative experiences redesign the brain, for better or worse.

(Champaigne, 2010)





But supportive relationships can heal trauma.

The Good News



Meeting growth needs builds resilient brains.
Epigenetic problems are potentially reversible.



The Resilient Brain

The Brain Rules

Designer Genes

Raising Resilient Kids

EGO
Selfishness

EMPATHY
Caring for Others

Humans Balance Two Brain Algorithms



GERALD CORY, JR.

HARMONY

For a million years,
humans adapted to
live in egalitarian
democratic groups

Cultures of Respect

Belonging—trusting bonds

Mastery—motivated to learn

Independence—all have power

Generosity—care and concern

DISCORD

For 10,000 years,
coercive cultures
have disrupted this
human harmony.

Cultures of Domination

Alienation—distrust others

Superiority—be better than others

Intimidation—dominate others

Privilege—greed and materialism

Power Leveling in Cultures of Respect



Consensus: Extended discussion insuring all are heard.

Teaching: Encouraging generosity and devaluing dominance.

Teasing: Joking and ridicule to make fun of arrogant behavior.

Ignoring: Withholding attention or avoiding those abusing power.

Ostracizing: Removing from the group, a rare but extreme method.

Agriculture Spawned Hierarchical Cultures



No longer nomadic, people could accumulate possessions. Traditions for sharing of resources were disrupted by greed. Alpha males with wealth and weapons grabbed power. Slavery, abuse, and conquest became commonplace.

Cultures of Dominance Destroy Social Trust



Women and children as chattel instead of revered and protected
Massive disparities of wealth between rulers and peasants
Violence, crime, and warfare at extreme levels
Health problems decimate populations

Greed and Polarized Social Status Disrupt Well-being



The Spirit Level

Why Equality
is Better for Everyone

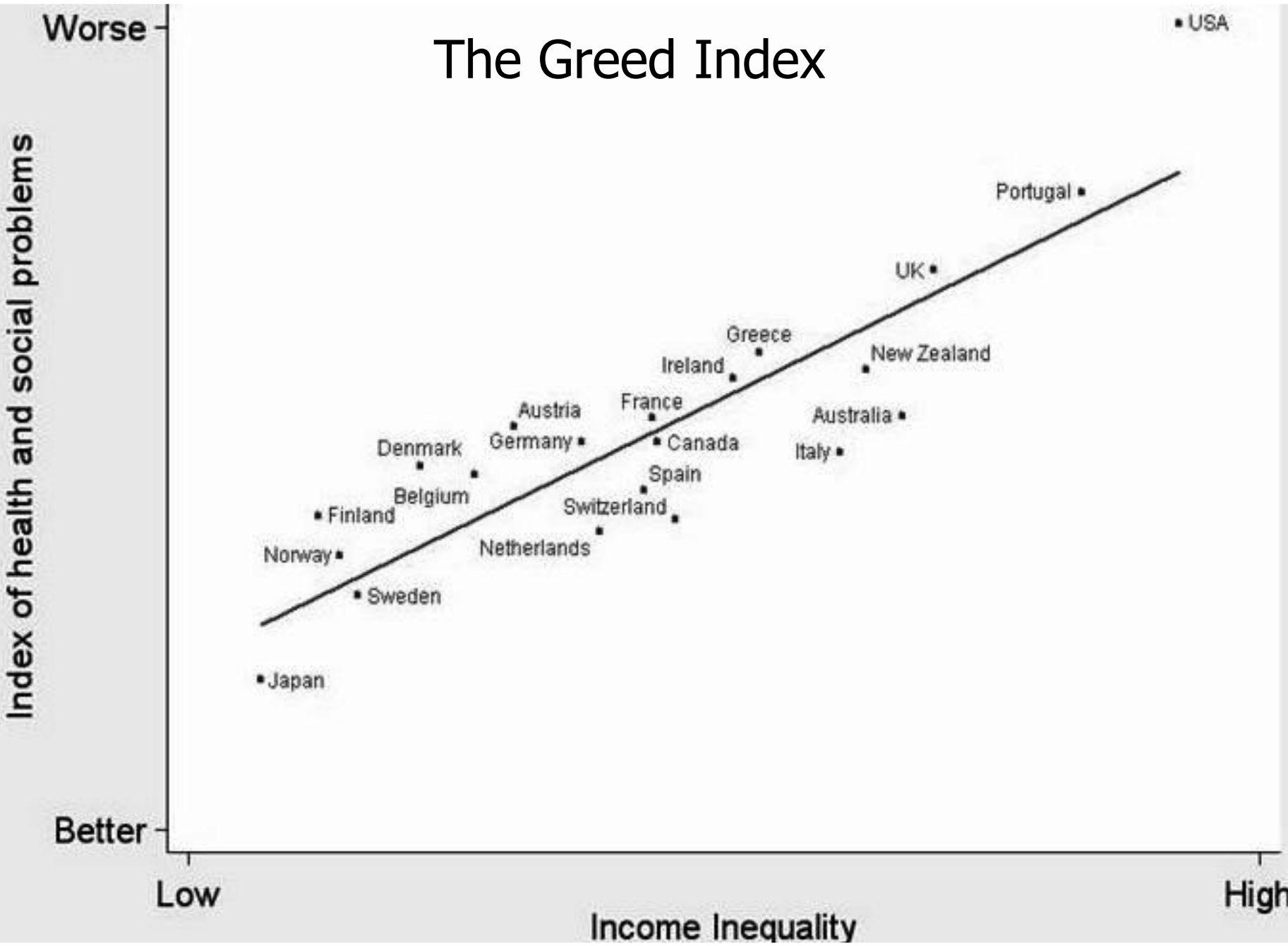
Richard Wilkinson and Kate Pickett

'A big idea, big enough to change political thinking'
Sunday Times

'A sweeping theory of everything' *Guardian*



The Greed Index





Powerlessness is the most robust trigger of stress and cortisol release.

DACHER KELTNER

Power corrupts by high-jacking the brain.



Brainstem dominance programs stifle empathy.

Power spikes dopamine fueling impulsive pleasure seeking.

The Many Forms of Bullying



Most bully prevention programs do not work because they target bullying behaviors but do not change the values of the students and the culture of the school.



The Power of Bullies and the Plight of Victims

Jaana Juvonen and Sandra Graham

U.S. research focuses on the traits of bullies and victims.

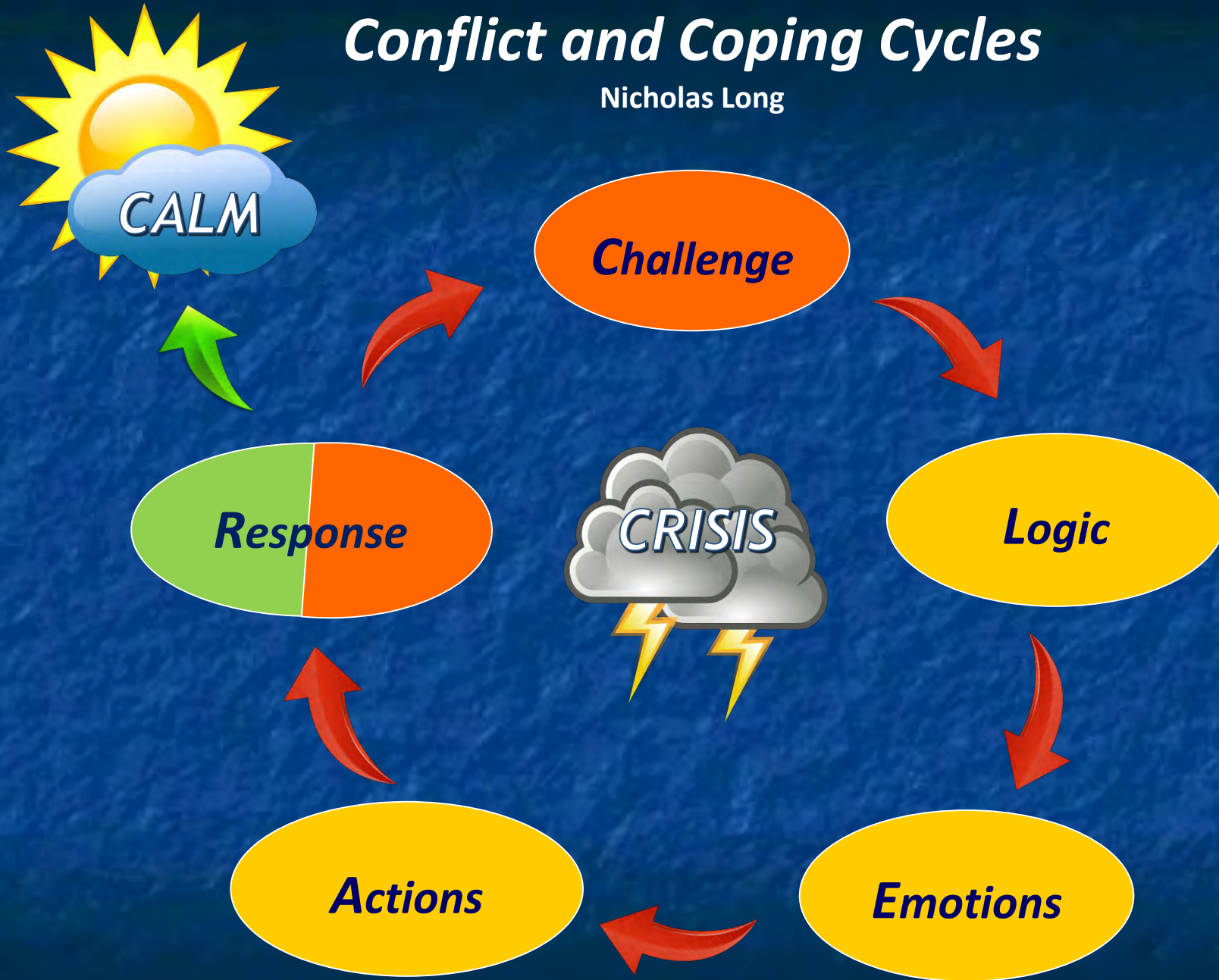
Norwegian research focuses on the dynamics of groups.



Dan Olweus

Conflict and Coping Cycles

Nicholas Long



Overcoming Abuses of Power

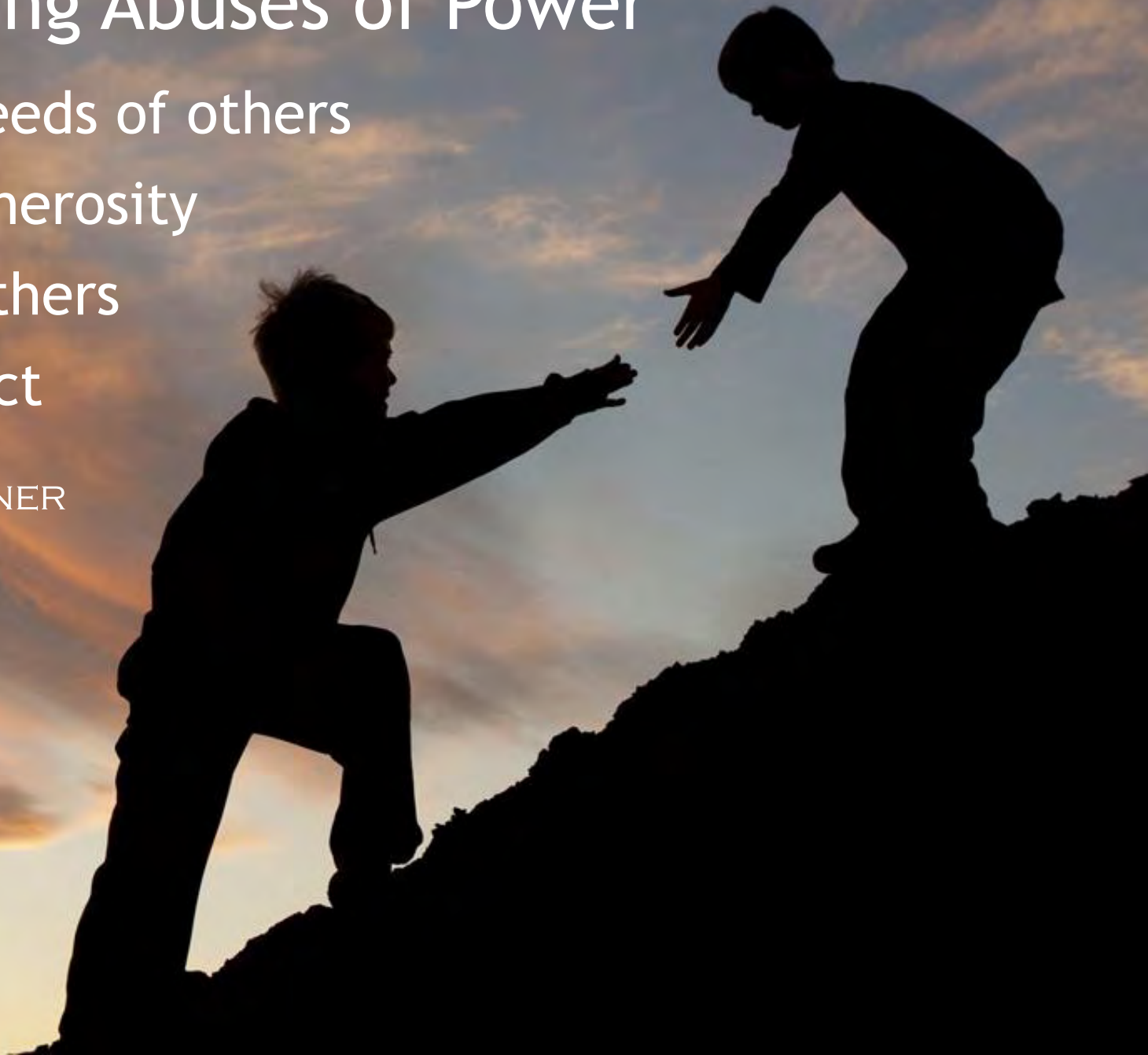
Meet the needs of others

Practice generosity

Empower others

Show respect

DACHER KELTNER





Happiness

Power

Wealth

VULNERABLE BUT INVINCIBLE

A Study of Resilient Children



EMMY E. WERNER • RUTH S. SMITH
FOREWORD BY NORMAN GARMEZY

Kauai Resilience Study

With positive connections,
a majority of persons will
be able to surmount almost
any risk condition.

EMMY WERNER



Children who often got negative responses from others were vulnerable.

Children who often got positive responses from others were stress-resistant.

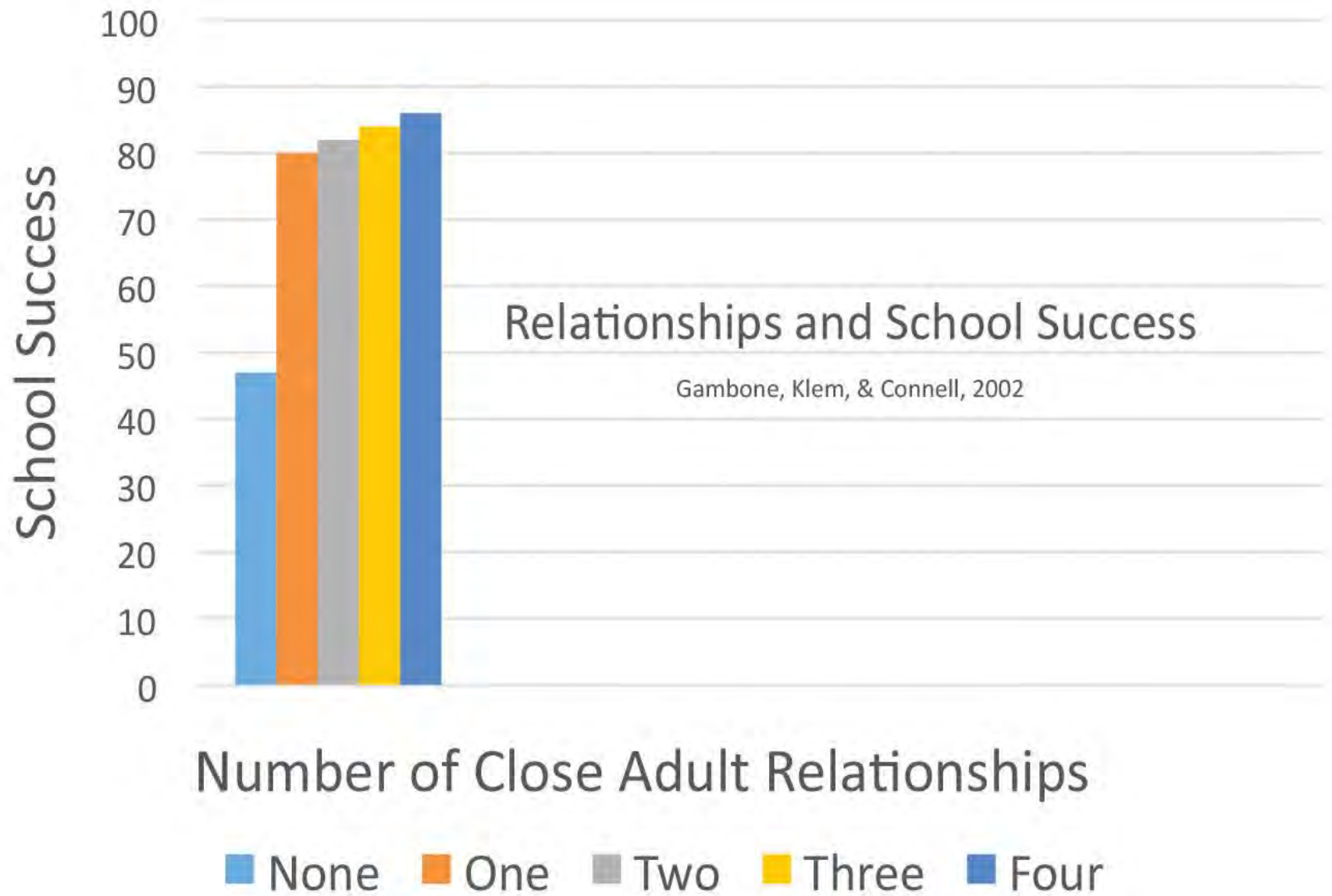


Resilience is not Rare
but the ordinary magic
of the adaptive minds,
brains, and bodies of
children in families,
relationships, and
communities.

ANN MASTEN
University of Minnesota



Five Decades of Research:
Resilience rests fundamentally on relationships.
SUNIYA LUTHAR



Humans have two chemicals for bonding



OXYTOCIN tames aggression and fear. Females have more oxytocin for use in *nurturing*.

VASOPRESSIN can enhance aggression. Males have more vasopressin for *protecting*.

Trust and
Bonding



Oxytocin
Moments

EROS



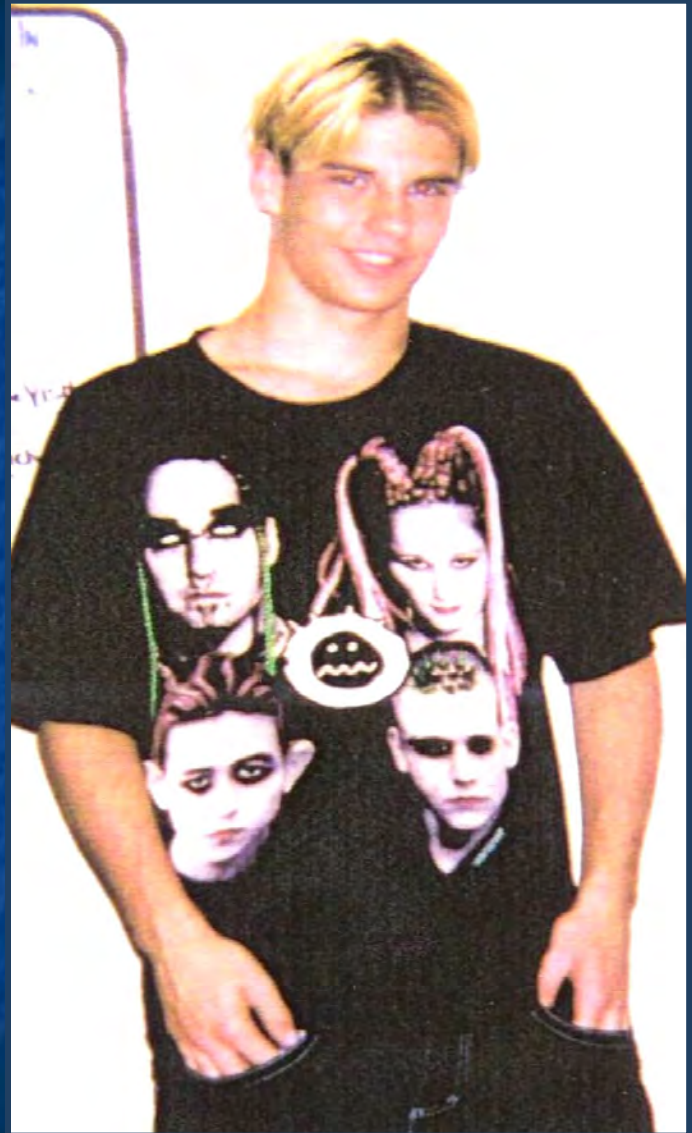
PHILIA



AGAPE

Bids to Connect







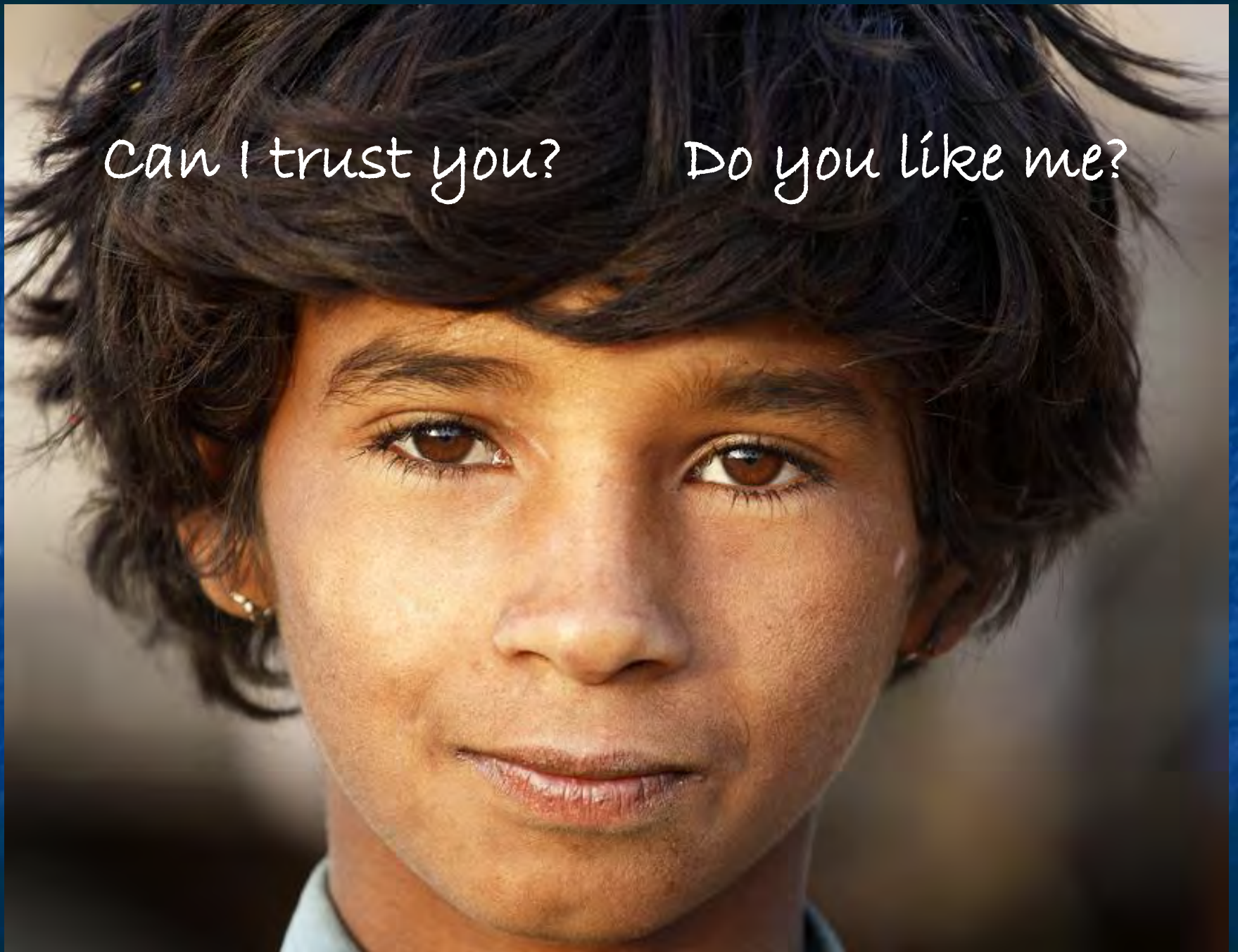
EXCLUSION
triggers
SHAME



BELONGING
triggers
PRIDE

Can I trust you?

Do you like me?





Adversarial Encounters

Distrust

Conflict

Alienation



Positive Alliances

Trust

Cooperation

Attachment

PUNISHMENT

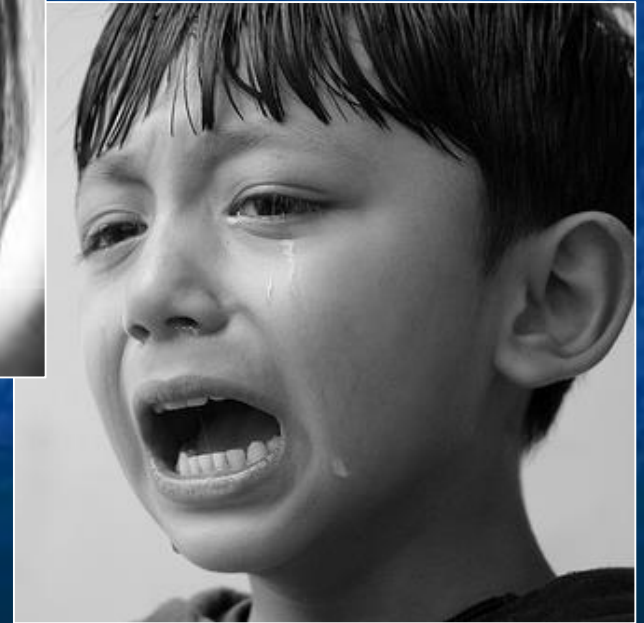
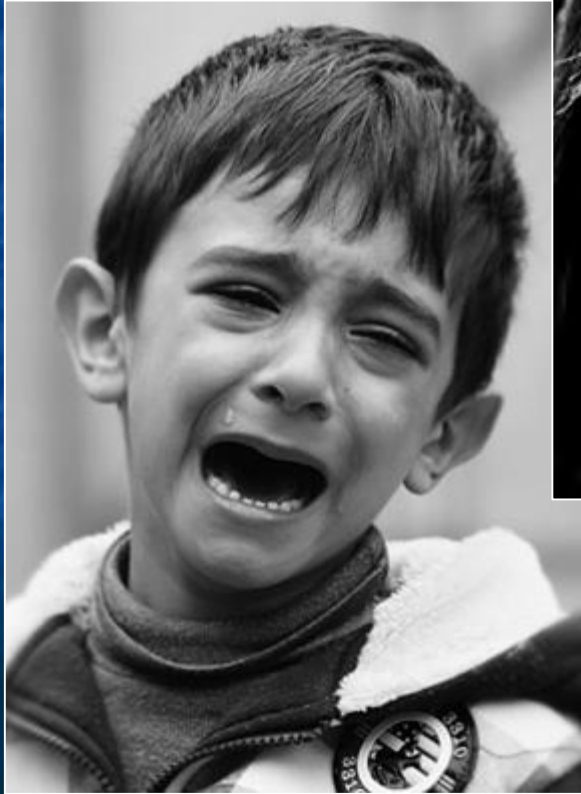
comes from the Latin word *poena*
which means **PAIN.**

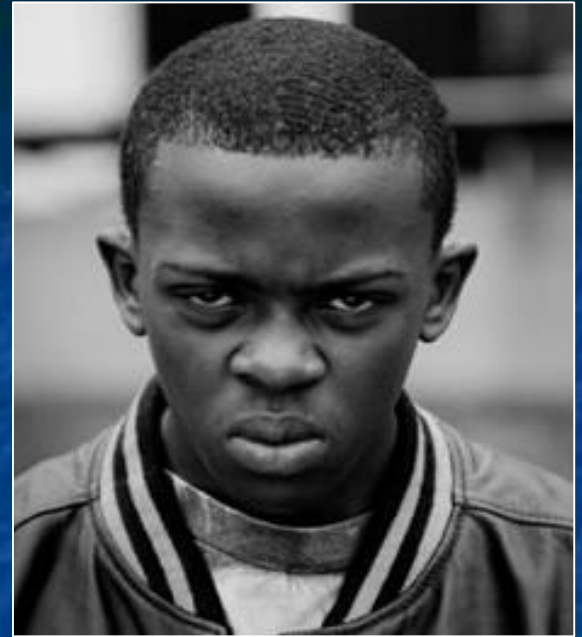




But discipline problems
are *pain-based*
behavior

James Anglin







The kids who need the most love
will ask for it in the most unloving of ways.

Russell Barkley



John Seita ~

Angry and
Adult Wary



Dr. John Seita
and Family

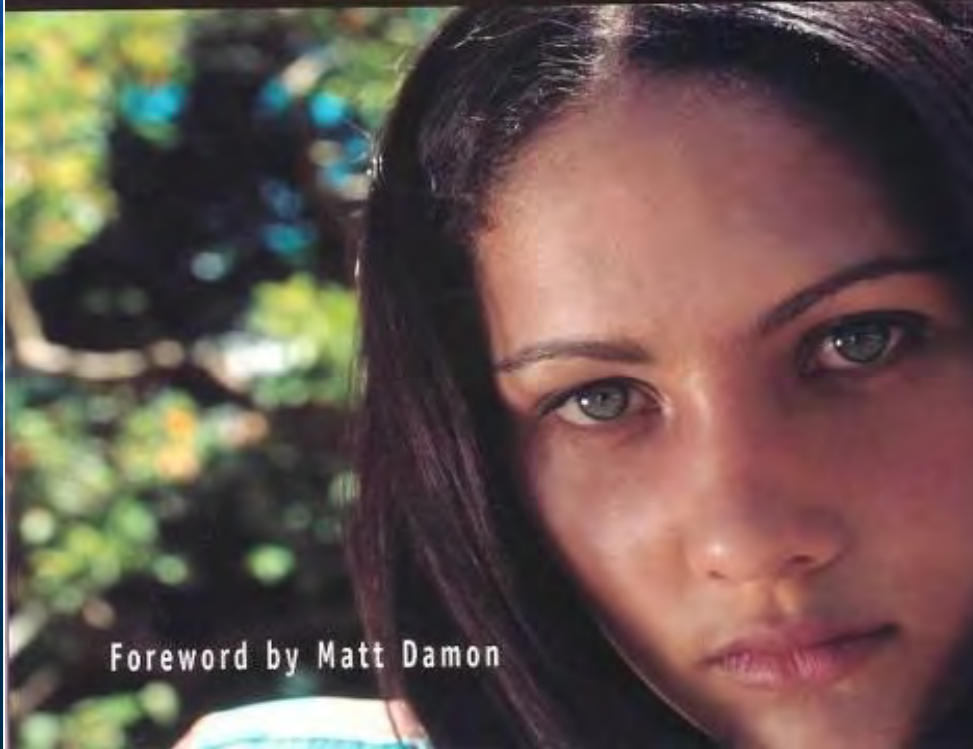


John R. Seita

Larry K. Brendtro

KIDS

WHO OUTWIT ADULTS



Foreword by Matt Damon

FIGHT

FLIGHT

FOOL

FOLLOW

FIGHT *Hurt or be Hurt*



FLIGHT *Hide or be Hurt*



FOOL *Outsmart the enemy*



FOLLOW *Strength in numbers*





Service Learning



Altruism and Empathy are Evolved, Inborn Universal Needs

(Warneken & Tomasello, 2006)



True or False?

Aggression in
young children ...

predicts antisocial
outcomes in
adolescence.

(Rhee et al., 2013; Caprara et
al., 2000)

Research on compassion in small children.





True or False?

Helping, sharing,
and consoling in
third grade ...



Predicts achieving
in eighth grade

(Caprara, Barbaranelli, Pastorelli,
Bandura, & Zimbardo, 2000)



Being Mean is Not in Genes

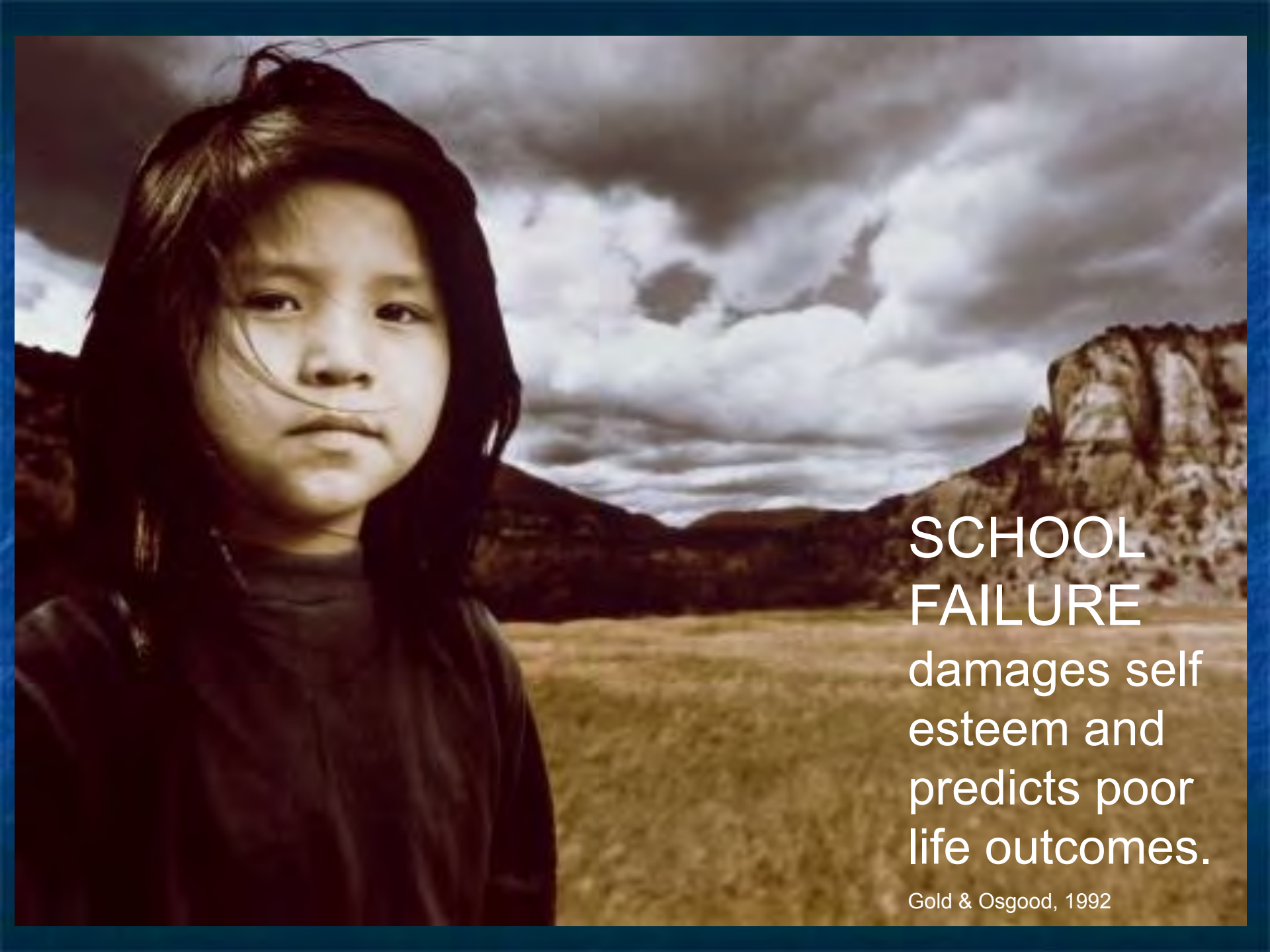
Both identical twins
and fraternal twins
are similar in showing
compassion or disregard
to a person showing
distress.

(Rhee et al., 2013)





Helping gives
proof of one's
worth – being of
value to others.



**SCHOOL
FAILURE**
damages self
esteem and
predicts poor
life outcomes.

Gold & Osgood, 1992

School Success
has a lasting effect on
life adjustment in spite
of other problems.

Gold & Osgood



Creating Egalitarian Cultures in Schools



Creating a More Egalitarian Society



MARTIN LUTHER

Spoke truth to power 500 years ago.

All should be able to read and learn.

Education for all including girls.

Libraries in every community.

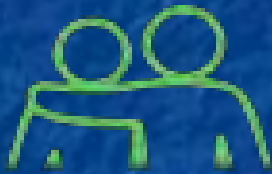
Be subject to no one.

Be servant to all.



Let us build a country in which our children and youth
can learn to care for and respect others.

NELSON MANDELA



RECLAIMING
Youth at Risk

ReclaimingYouthAtRisk.org

The Resilient Brain

Larry K. Brendtro, PhD

Augustana University

October 31, 2017