

Sacred Wisdom: The Path to Healing from the Devastating Legacy of American Indian Historical Trauma

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Tommy K. Begay, PhD, MPH

**Research Assistant Professor
Department of Psychiatry, College of Medicine
University of Arizona**

**Sleep and Health Research Program
Department of Psychiatry**

**Social, Cognitive, and Affective Neuroscience (SCAN) Laboratory
Department of Psychiatry**

tommyb@email.arizona.edu



Academic Experience

PhD – Cultural Psychology

Cultural-historical Psychology (Vygotsky and M. Cole)

Neuropsychology:

Brain Morphology and Physiology - BIOLOGY



ADAPTATION (Analogy: lifting weights)

Behavior, Cognition and Culture - ENVIRONMENT

MPH – International Health

Biochemistry Graduate Student → Medical School

Lymphokine Activated Killer (LAK) Cell Cytotoxicity

Skills utilized today in the laboratory

BS – Animal Health Science/Animal Science

**Window Rock High School – Ft. Defiance, Navajo Nation
Hometown - Sawmill, AZ**

Research Focus:

Psychopathology: mental distress & abnormal maladaptive behavior

- **Adverse Childhood Experiences** – Impact of Fear, Pain, and Shame on DEVELOPMENT
- **PTSD** – Implicit Memory (emotional and procedural memory)

Toxic Stress

When a child experiences strong, frequent, and/or prolonged adversity –

such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence, and/or the accumulated burdens of family economic hardship - **without adequate adult support**. This kind of prolonged activation of the **stress response systems can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, well into the adult years.**

National Scientific Council on the Developing Child (2005)

A dark silhouette of a mountain range is visible at the bottom of the slide, spanning the width of the image.

Academic and Professional Interests:

My Focus – 2 sides of the same coin:

1. **The neurophysiological impact of Adverse Childhood Experiences (abuse, neglect, and witnessing violence).**
 - a. Environmental and cultural stimulation changes physiology (adaptation). The brain and body adapts (like the concept of lifting weights).
 - b. These changes have the potential:
 1. To **cause disease** (chronic inflammation → chronic diseases), and diabetes (cortisol → blood sugar) – **HPA axis**, and
 2. To **affect behavior** – **Sympathetic Nervous System (fight or flight)**
 - **hypervigilance and hyperarousal → anger & violence** (hyper = excessive; vigilance = alert to possible danger)
 - **Self-medication** with substances, food, and maladaptive behaviors.
2. **The body's potential for wellness, healing and resilience, utilizing Sacred Wisdom (Indigenous philosophies), and Psychosocial Health (relationships and interactions with the environment, beliefs, and behavior).**



Health Disparities of the American Indian and Alaska Native

The leading cause of death for **AIAN men** is coronary heart disease, followed by accidents, chronic liver disease, suicide, diabetes mellitus, cerebrovascular disease. (Rhoades, 2003)

For **AIAN women**, increased incidence and prevalence of cardiovascular disease, accidents, diabetes, and cancer. (IHS, 2001)

Hypothesis:

BEHAVIOR

OUTCOME

Historical Trauma → **Cultural Changes** → **Chronic Stress** → **1) Chronic**

- community massacres
- genocidal policies
- forced relocation
- prohibition of cultural practices
- forced removal of children through Indian boarding schools

Intergenerational Trauma

(learned responses to fear and pain)

Adverse
Childhood
Experiences

Brain Changes

- 1) HPA-axis
- 2) Sympathetic Nervous System
- 3) PTSD

Diseases

2) Hyperarousal Hypervigilance
(agitation, anger, violence)

3) Behavioral Health Issues

HUMAN BRAIN

Prefrontal Cortex:

Executive Functions

Limbic System

Orbitofrontal Cortex

Anterior Cingulate

Thalamus

Hypothalamus

Hippocampus

Amygdala

Basal Ganglia

Caudate

Putamen

Globus Pallidus

Substantia Nigra

Subthalamic Nucleus

Brain Stem

Autonomic Nervous System

PRIMITIVE – “REPTILIAN” BRAIN

*Reacts to Environment

*Survival: Fear, Food, and Sex

Sympatho-adreno-Medullary System

Release of **adrenaline** (epinephrine) into bloodstream.

Activates the Sympathetic Nervous System:

Increased:

- Heart rate
- Blood pressure

PROBLEM

Hyperarousal
Hypervigilance

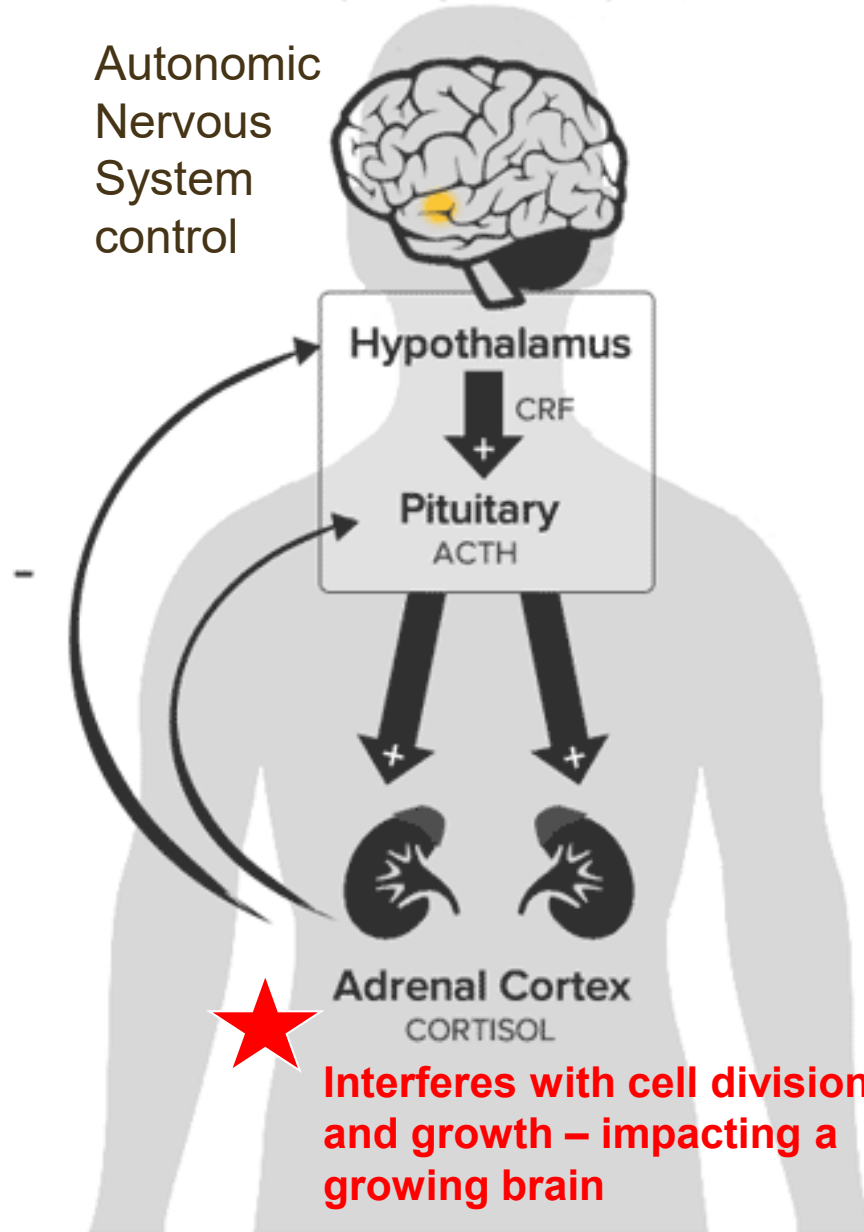


Anger/Violence

The Brain Changes as a result of chronic STRESS

(Psychological and Physical)

Autonomic Nervous System control



Hypothalamic Pituitary Adrenal Axis (HPA-axis)

The bodies “Fight-or-Flight Mechanism

Gets activated Every time we Experience

Stress: fear, pain & shame

PROBLEM

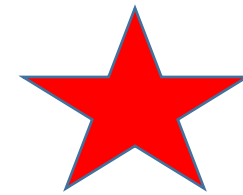
Cortisol

Neurodevelopment
Cognition (Thinking)
Chronic Inflammation
Chronic Diseases

Peace
Calm
Relax



Autonomic Nervous System

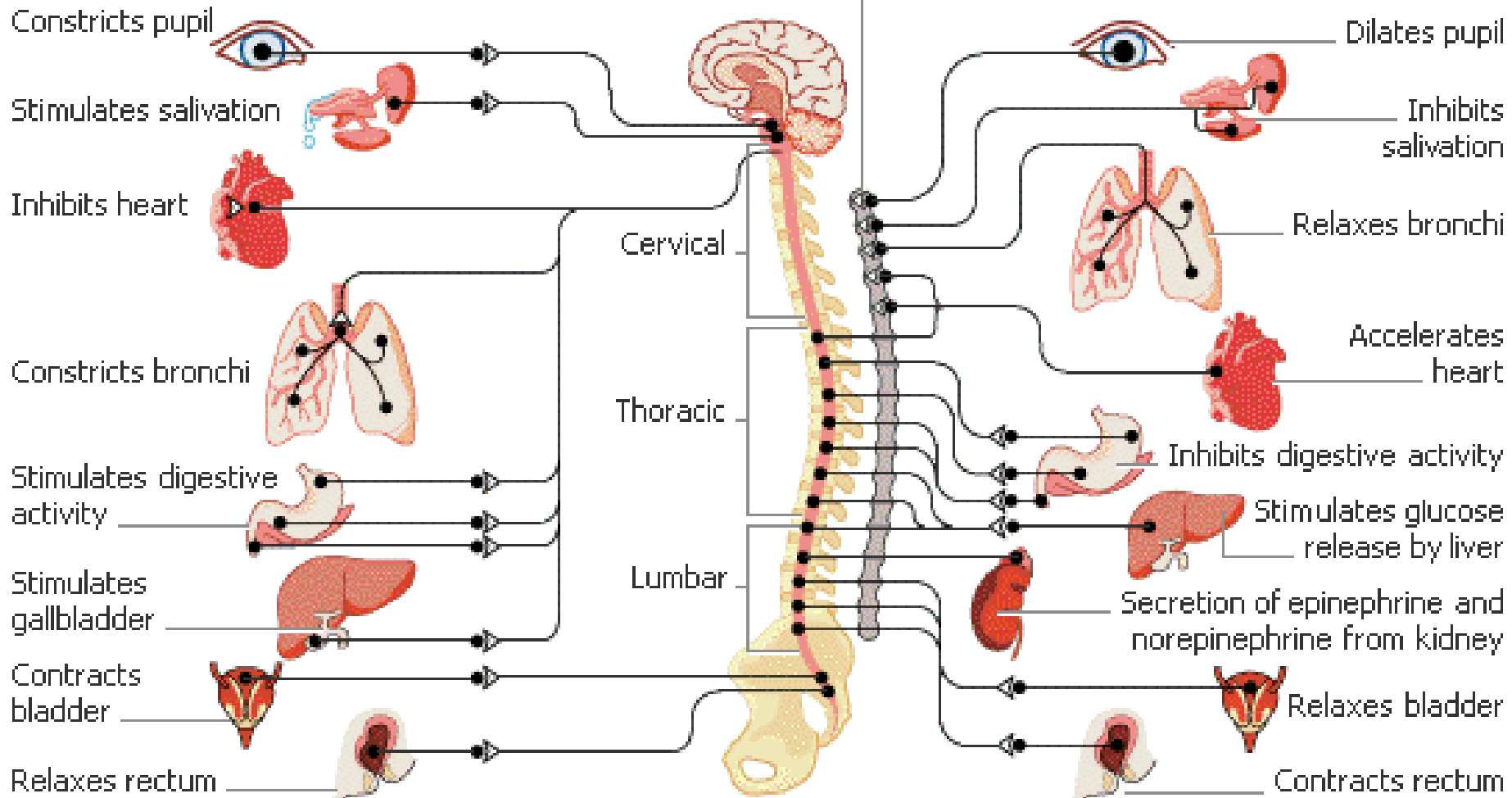


Flight
Fight

Parasympathetic

Sympathetic ganglia

Sympathetic



***Chronic, toxic stress = hyperarousal and hypervigilance**

Chronic Stress may be associated with patterns of behavior established during childhood:

A. The combination of **toxic stress, fear and pain** (physical, emotional, spiritual) **contribute to behaviors** associated with **self-medication, anger, violence, depression, and other psychiatric outcomes.**

B. On the Navajo Nation:

Mortality rates (deaths) for AI/AN (IHS, 2010):

- Accidents 3 times higher than the general US population
- Diabetes 3 times higher...
- Chronic Liver Disease 5 times higher...
- Drug Induced death 2 times higher...
- Suicide 2 times higher...
- Assault 2 times higher...



Physiological Impact

Adverse
Childhood
Experience



Intergenerational
Maladaptive
Behaviors

CHRONIC STRESS

HPA axis → Cortisol → GC receptor dysregul. → **INFLAMMATION**
SAM axis → Adrenaline → **HYPERAROUSAL & HYPERVIGILANCE**

AFFECTING SLEEP (short sleep)
INCREASING AGITATION & ANGER
ANXIETY

SLEEP HEALTH

Decreased Leptin
Increased Ghrelin

**INCREASED
APPETITE**

OBESITY

REM sleep

MEMORY – academic achievement

Slow Wave Sleep affected

REMOVAL WASTE and TOXINS → **ALZHEIMER'S & OTHER COGNITIVE
DEGENERATIVE DISEASES**

CARDIOMETABOLIC DISEASES

Cardiovascular Disease

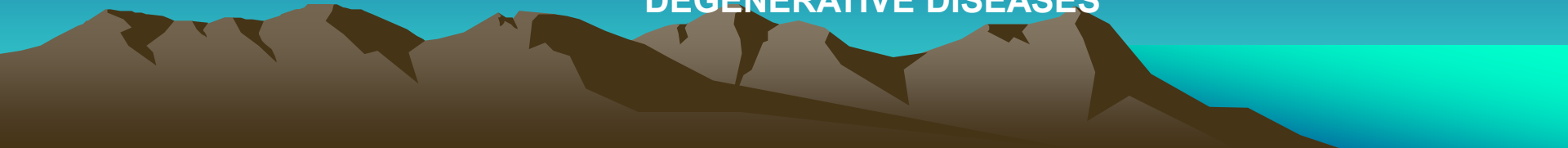
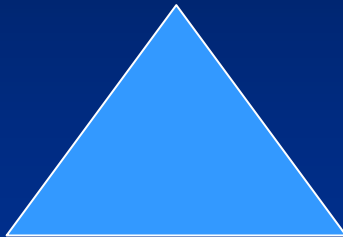
Metabolic Diseases

INCREASED BLOOD SUGAR

INSULIN RESISTANCE

DIABETES MELLITUS II

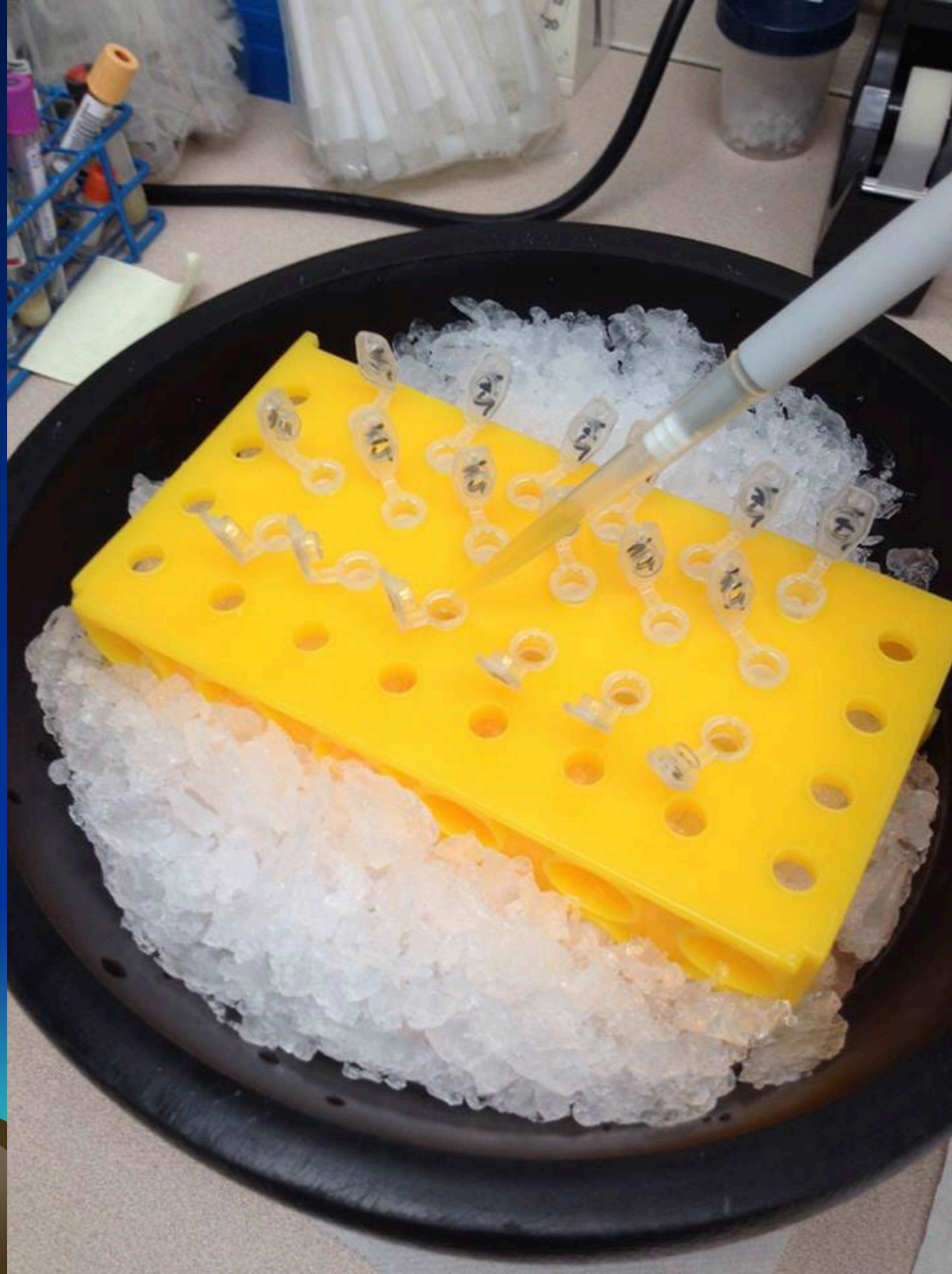
INCREASED BLOOD PRESSURE











Alternative Treatment for Major Depression Using Whole-body Hyperthermia

Procedure that takes **2-hours**, laying in a special device that delivers infrared heating to the body to **38.5°C (100°F)**

Study looks at the effects on depression, stress, the immune system and sleep

Eligibility:

Between age 18-65

Currently experiencing depression for at least four weeks

Not taking antidepressants

Medically healthy

Effective Treatment:

Heating the skin activates serotonin producing an antidepressant effect on same neural circuits as Selective Serotonin Reuptake Inhibitors (SSRIs)



JAMA Psychiatry

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Original Investigation | May 12, 2016

Whole-Body Hyperthermia for the Treatment of Major Depressive Disorder

A Randomized Clinical Trial **ONLINE FIRST**

Clemens W. Janssen, PhD^{1,2}; Christopher A. Lowry, PhD³; Matthias R. Mehl, PhD⁴; John J. B. Allen, PhD⁴; Kimberly L. Kelly, MPA^{5,6}; Danielle E. Gartner, BA^{5,7}; Angelica Medrano, BA^{2,8}; **Tommy K. Begay, PhD^{1,4,5}**; Kelly Rentscher, MA⁴; Joshua J. White, BS^{5,8}; Andrew Fridman, BS⁵; Levi J. Roberts, BA⁹; Megan L. Robbins, PhD⁹; Kay-u Hanusch, MSc¹⁰; Steven P. Cole, PhD¹¹; Charles L. Raison, MD^{1,2,5,12}

[\[+\] Author Affiliations](#)

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Text Size: [A](#) [A](#) [A](#)

Article

Figures

Tables

Supplemental Content

References

Comments

ABSTRACT

Ceremony – reconnection to Sacred Wisdom, Universe and Earth
Sweat Lodge Ceremony (Inipi, Ta'chéé) – Purification rite





My Research Interests are Personal:

A. Where I come from (Navajo Nation)

Mortality rates for AI/AN (IHS, 2010):

Accidents 3 times higher than the general US population

Diabetes 3 times higher...

Chronic Liver Disease 5 times higher...

Drug Induced death 2 times higher...

Suicide 2 times higher...

Assault 2 times higher...

B. Great grandmother – Bah Tsosie (Healer/Medicine Woman/Herbalist)

Diné be' liná – In this tradition, there is just “Life”, not reduced to culture, spirituality, etc.

Natural Order – Balance, Duality, Unity, Purpose, and Beauty

Stimulus → Response, Habits, Behavior, and Culture

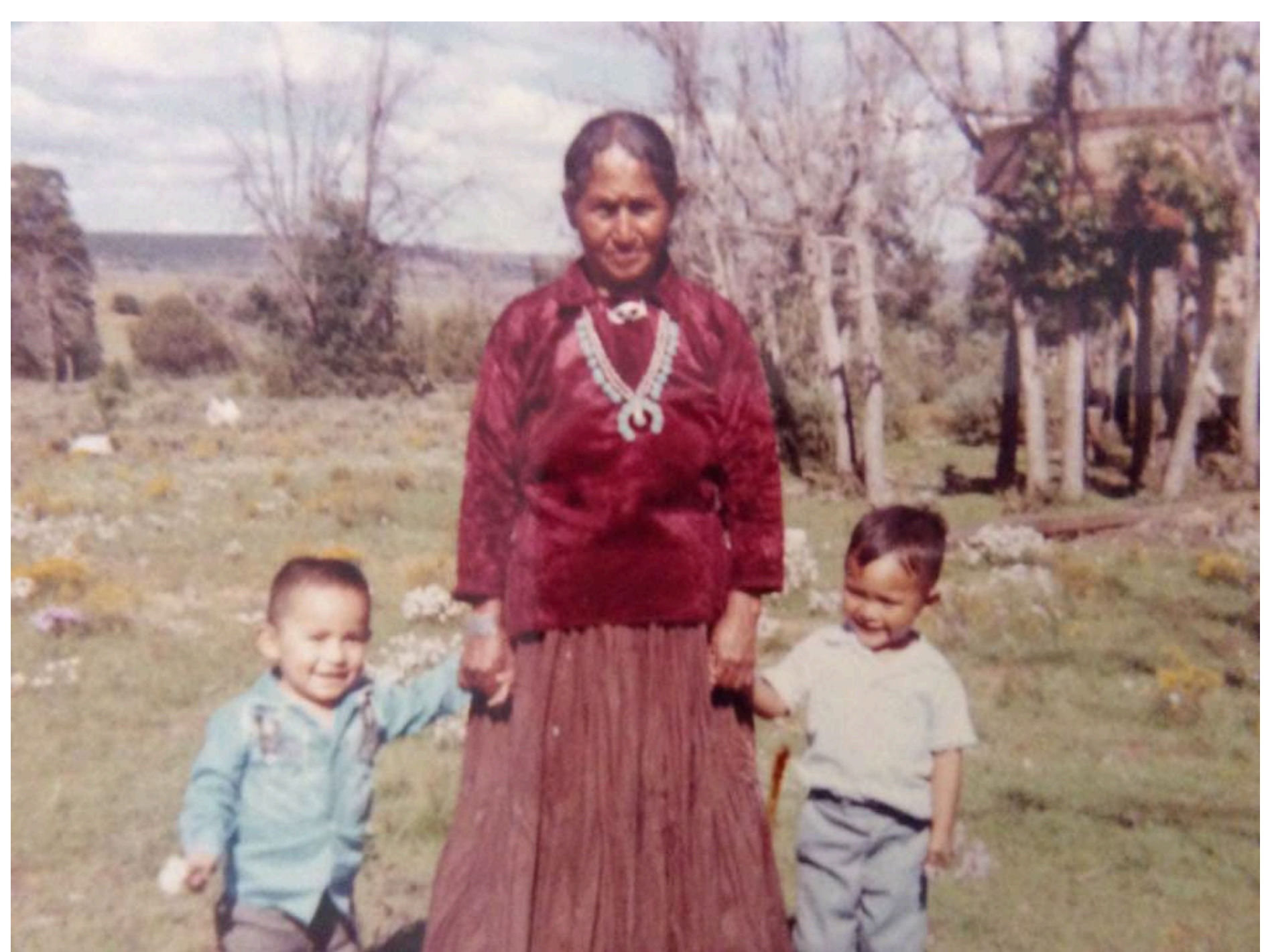
C. Culture: Two sides of the same coin

One Side: disorder, dysfunction, disease, addiction, violence, & abuse

The other Side: Hózhó, order, wellness, healing, self-identity, self-esteem

D. Personal Experience – My own DARKNESS and RECOVERY



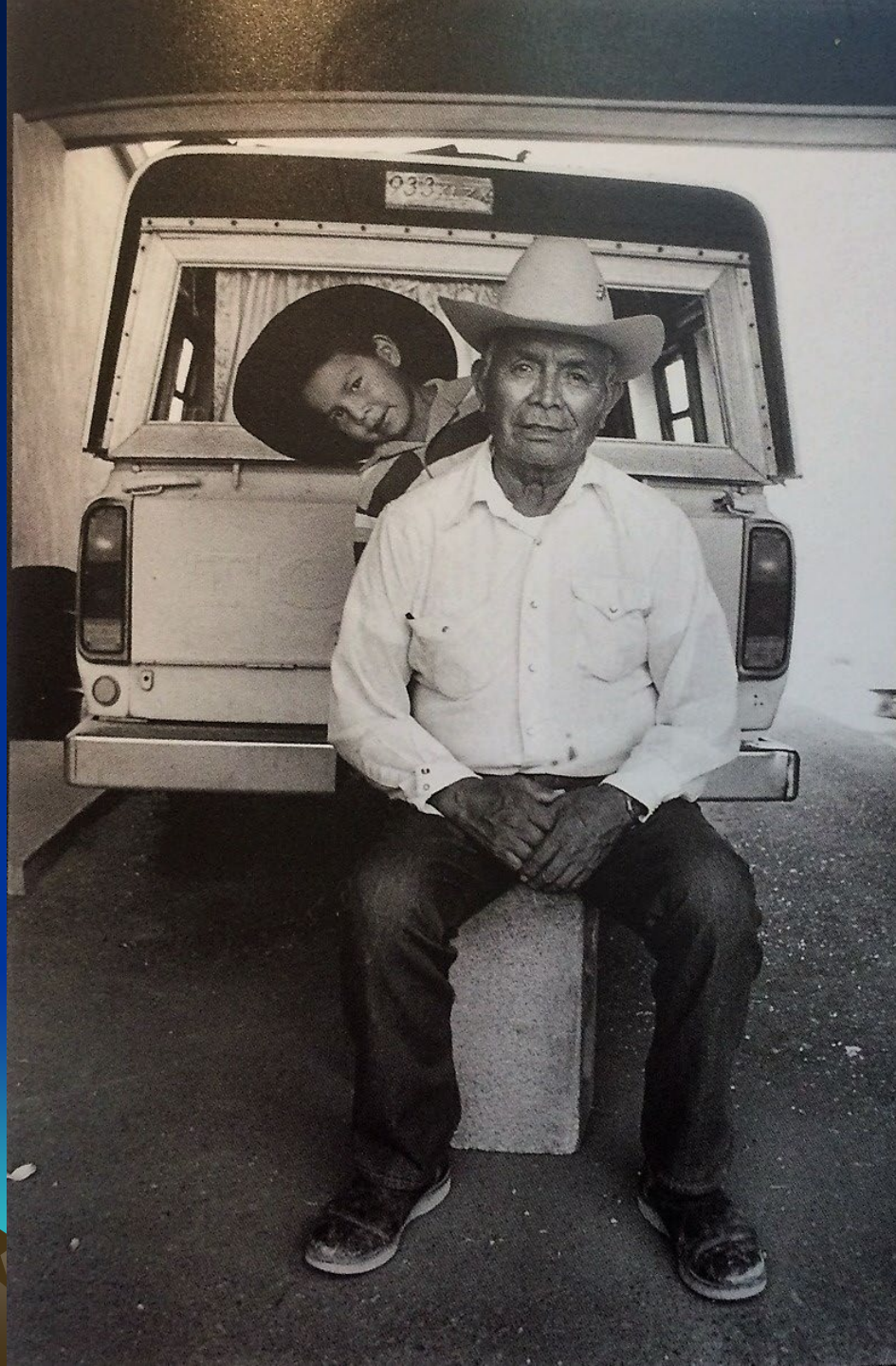


My Uncle and
Navajo Code
Talker:

Frank C. Todacheenie

Photo courtesy of
Kenji Kawano

From the book:
**Warriors: Navajo
Code Talkers**
(1990)



*"I remember most my visit
to the Great Wall of China;
I thought at the time
'I can't believe I'm here.'"*

Frank Carl Todacheenie and his grandson
Lederrick Max Smith, four.

FRANK CARL TODECHEENIE

*Todich'iinii and
Hashk'aaba'zohi' Clans*

4th, 6th Marine Divisions

GUAM
PEARL HARBOR
NORTH CHINA
OKINAWA

Sacred Wisdom - Personal Philosophy

Sa'ah Naghail Bik'eh Hózhóón = Everlasting and beautiful living.

Represents “balance” in living:

Harmony and balance within, and inter-connection with the physical and spiritual world lead to health and wellness

Sa'ah Naghail = “in old age walking”

Bik'eh Hózhóón = “on this beautiful trail”

WALK IN BEAUTY

Hozho'ji – Navajo Blessingway

Foundation of Diné Philosophy – and the basis for Human Integrity

All ceremonies open and close with Blessingway Prayer

Opening Prayer – Protection Way

Corn pollen and the arrowhead

BELIEF → THOUGHTS → BEHAVIOR

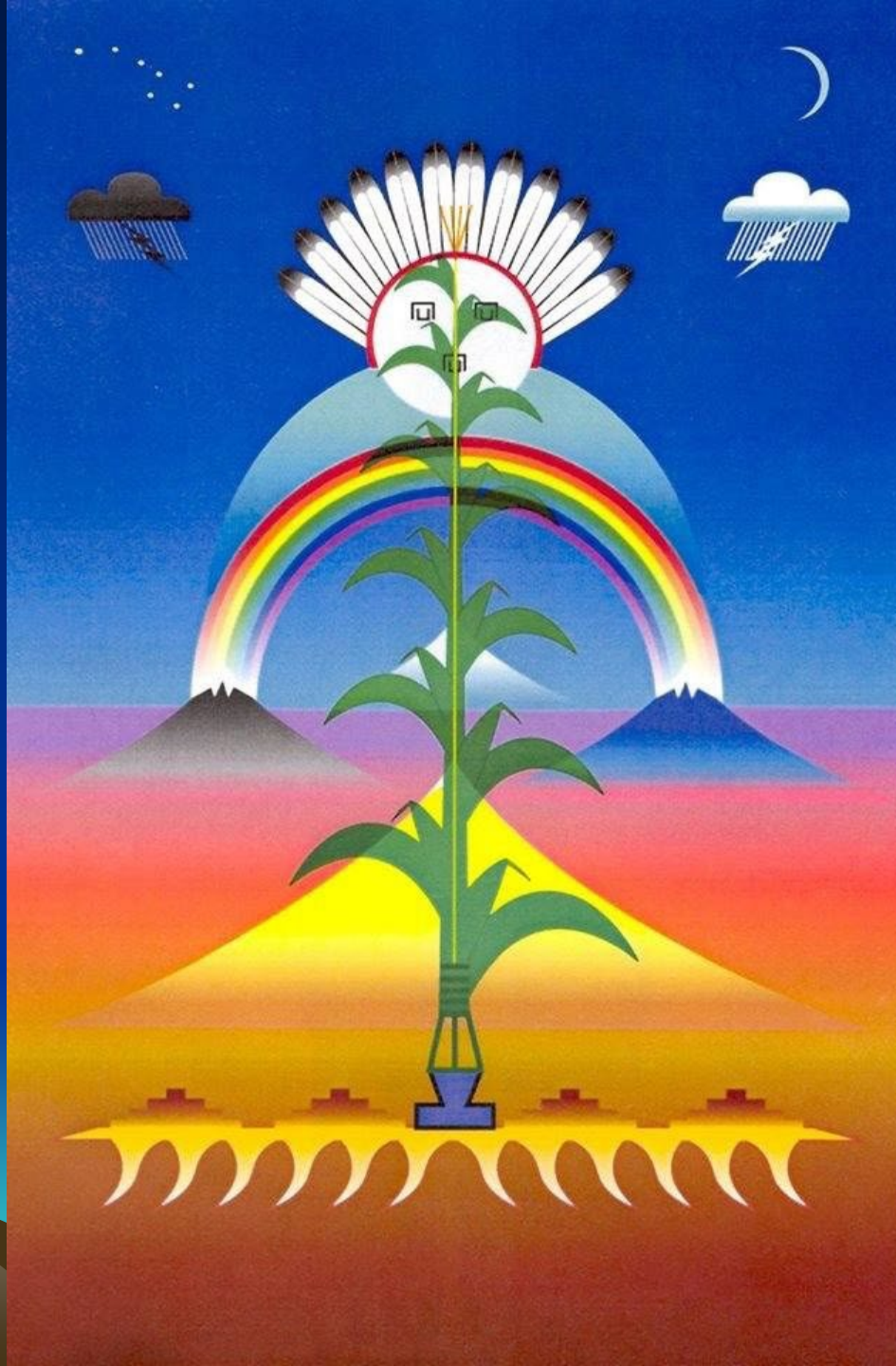


Image courtesy of
Southern Navajo
Nation News

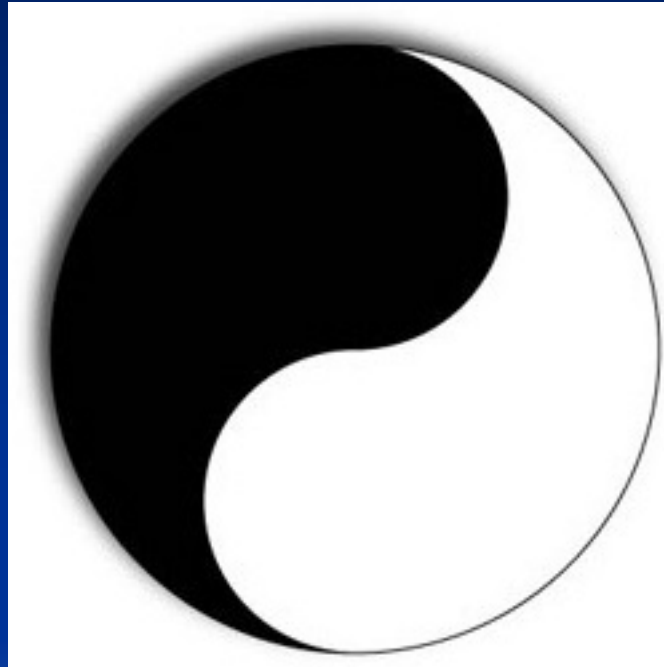
Hozho'ji = Blessingway - the core of human existence (the action of *Sa'ah Naghail Bikeh Hozhoon*)

Protection Way

Male
Assertive
Tools/Weapons
Higher
Education

Sympathetic
NS

Science



Beauty Way

Female
Gentleness
Sacredness
Symbiotic
Environmental
Application
in the way of
Hozho

Parasympathetic NS

**Responsible,
ethical, ecological
application of
Science - Hózhó**

Hózhó: Sacred Wisdom

Diné Philosophy – Model for Psychosocial Health

BALANCE = NATURAL ORDER

liná = LIFE

**LIGHT
WARMTH**



1) THE SACRED Universal Energy

Potential Energy

2) PHILOSOPHY = HUMAN BELIEFS INTEGRITY



**LIGHT
WARMTH**

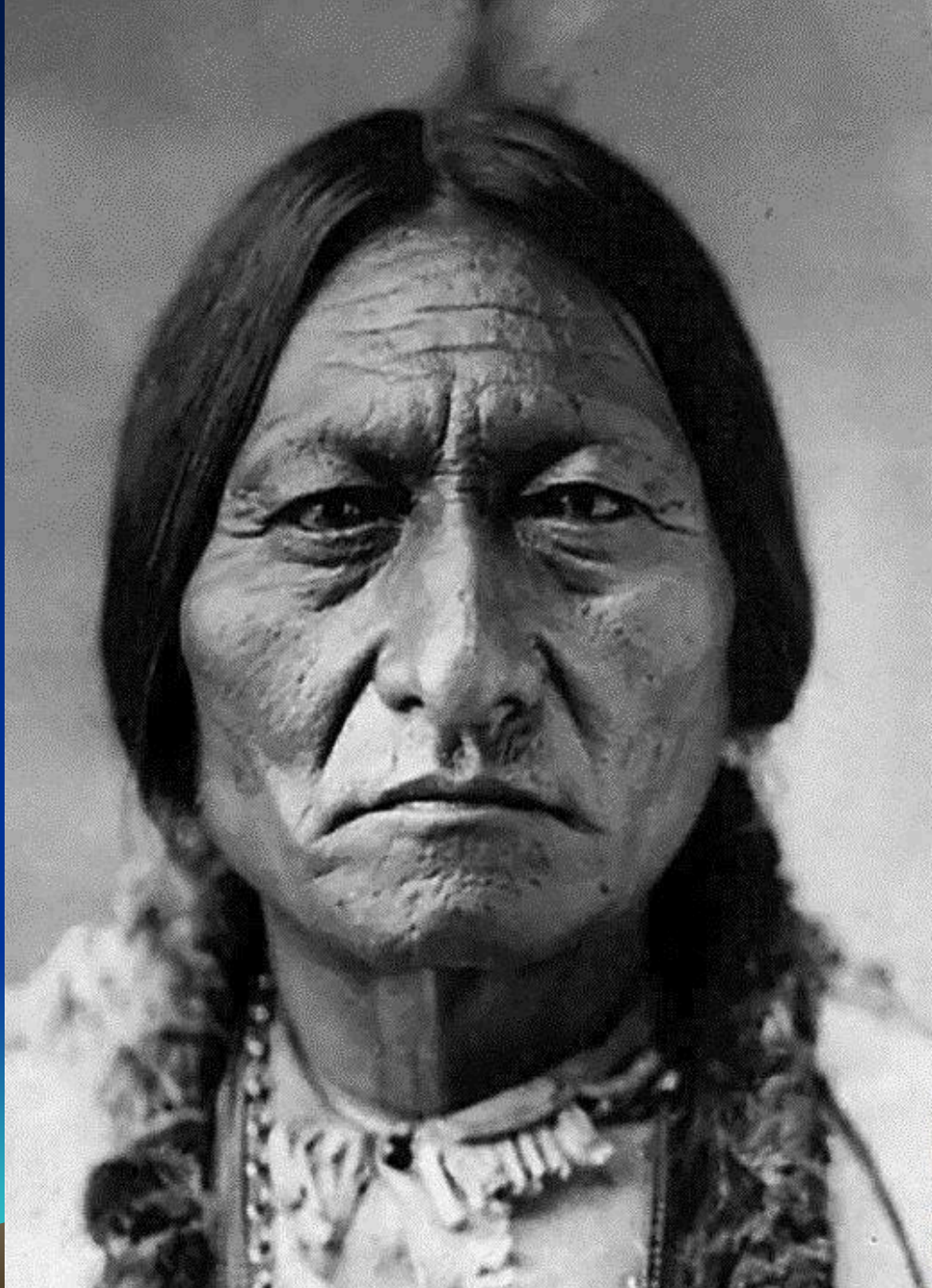
5) BEHAVIOR



Earth = Changing Woman

The Diné people believe they are the children of the female deity, Changing Woman

Tommy K. Begay, PhD, MPH
Research Assistant Professor
Department of Psychiatry
College of Medicine
University of Arizona
American Indian Medicine &
Wellness



“Warriors are not what you think of as warriors. The warrior is not someone who fights, because no one has the right to take another life. The warrior, for us, is one who sacrifices himself for the good of others.

His task is to take care of the elderly, the defenseless, those who can not provide for themselves, and above all, the children, the future of humanity.”

~Sitting Bull

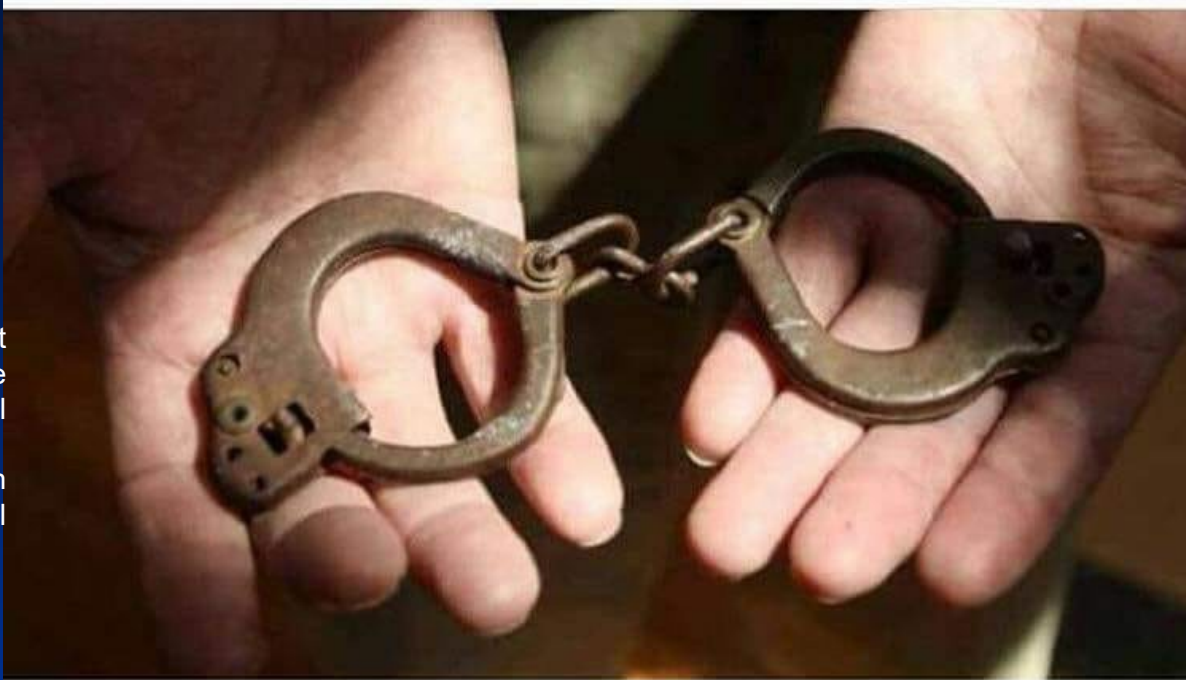


Kill The Indian... Save the Man.

Capt. Richard Henry Pratt
Founder of the Carlisle
Indian Industrial School

The first non-reservation
Indian boarding school

In an attempt
To “civilize” &
“Americanize”
the American
Indian...



These are actual tiny child handcuffs used by the U.S. government to restrain captured Native American children and drag them away from their families to send them to the Indian boarding schools where their identities, cultures and their rights to speak their Native languages were forcefully stripped away from them.

Source:
Haskell Indian Nations
University - Cultural
Center and Museum

Historical trauma

Historical trauma refers to the collective complex trauma inflicted on a group people who share specific identity, affiliation, ethnicity, nationality or religious affiliation. It is the legacy of numerous traumatic events a community experiences over generations and encompasses the psychological and social responses to such events (Brave Heart, 1999, 2000; Brave Heart & DeBruyn, 1998).

The cumulative emotional and psychological wounding over the lifespan and across generations, emanating from massive group trauma. Historical unresolved grief is the grief that accompanies the trauma .

(Brave Heart, 1995, 1998, 1999, 2000)



Historical Trauma and Chronic Disease

Over successive generations, Native American people have experienced a history of **Ethnic and Cultural Genocide** (Smith, 2003) as defined by a series of traumatic assaults which include:

- community massacres
- genocidal policies
- forced relocation
- prohibition of spiritual and cultural practices
- the forced removal of children through Indian boarding school policies (Stannard, 1992; Thornton, 1987).



Historical Trauma and Chronic Disease

Contemporary Native American communities suffer from some of the highest rates of lifetime traumatic events, including:

- **Interpersonal violence** (Greenfield & Smith, 1999)
- **Child abuse and neglect** (T.A. Cross, Earle & Simmons, 2000)
- **Poor health** (Walters, Simoni & Evans-Campbell, 2002)
- **Poor academic achievement**, and
- **An ongoing barrage of negative stereotypes** that disparage and undermine Native American societies and identity.



Linking Historical Trauma to the Contemporary Health of American Indians and Alaska Natives – Intergenerational Trauma

Trauma **SHOCKS** the brain; **STUNS** the mind; and **FREEZES** the body (Levine, 2017)

Acts of
Genocide



Historically
Traumatic
Events



Cultural Disconnect
from Wellness and
Healing Practices

PTSD
HPA-axis Dysfunction
Prenatal Effects
Epigenetics/Genetics

1) Initial
Traumatic
Experience
SHOCK

2) Inter-generational dysfunctional
coping behaviors: neglect, abuse,
violence, addictions → **TOXIC STRESS** →
**chronic diseases, addiction, affecting
academic achievement, self-identity and
self-esteem**

1) Brain: ANS ↔
neocortex
2) Neurodevelopment
3) Endocrine System

Biology
↔
Culture

Inter-generationally Learned Behaviors
(Vygotsky/Cole):
Violence learned in the home, carried
into adulthood (Egeland, 1993)

Health & Wellness

*Tribal
Sovereignty*

Self-Determination

Inter-generational,
self-perpetuating,
self-inflicting coping
behaviors coupled
with poverty

Cultural Crisis

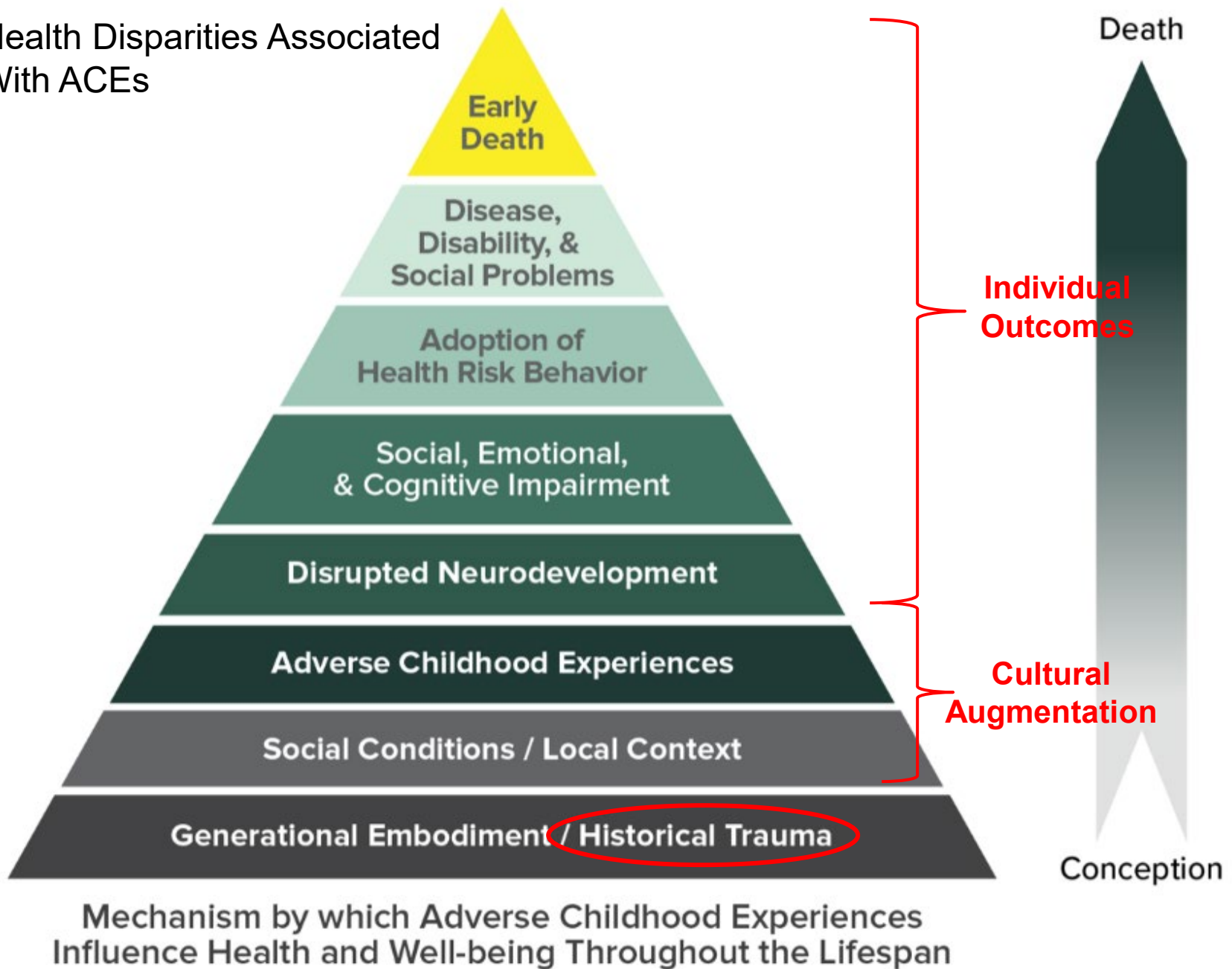
Self-Esteem

Self-Identity

Self-Empowerment

Tommy K. Bagay, PhD, MPH
Department of Psychiatry
College of Medicine
University of Arizona
tommyb@email.arizona.edu

Health Disparities Associated With ACEs





Return to **BALANCE** and **NATURAL ORDER**

Healing the nervous system - Autonomic Nervous System

Sympathetic NS – **calm**: fight flight, freeze – and self-medication

Parasympathetic NS – **FOCUS on peace and calm**

Meditation – mindfulness – changes brain structure

Therapeutic Talking Circle – Cognitive Behavioral Therapy

Breathing – vagal nerve

Gratitude/Prayer

Learning (Re-learning) Appropriate Coping Skills

Focus on OBJECTIVITY (only the facts: assess → plan → action)

Exercise new areas of the brain

Calm the “Primitive Animal Brain” (fear, anger, & anxiety)

Allow “Human Brain” to work and resolve problems

Exercise Body: psychoactive properties (endorphins & enkephalins – natural opioid molecules in brain, pain relief)

Action and Activity – Resiliency and Recovery

Everything we do has neurophysiological consequences.

It's good to listen, it's good to watch – BUT NEED ACTION.

Stimulus → Response → Consequences



Behavior Modification – ACTIVE PROCESS (it doesn't happen to you – you do it)

1. **Mindfulness** – focus: balance, pedaling, etc. (Pre-Frontal Cortex)
2. **Repetition** – habit development (Basal Ganglia)
3. **New Habit is Formed** – don't even think about it, becomes reaction (focus A → B)



Sports Camps

Apply mechanics and form (best practices → efficiency and success)

Repetition → Train the Brain → Reaction (no time to “think”) – basil ganglia

Example of Behavior Modification

- Develop new habits/responses to external stimuli



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Gary Leffew Bull Riding School – California

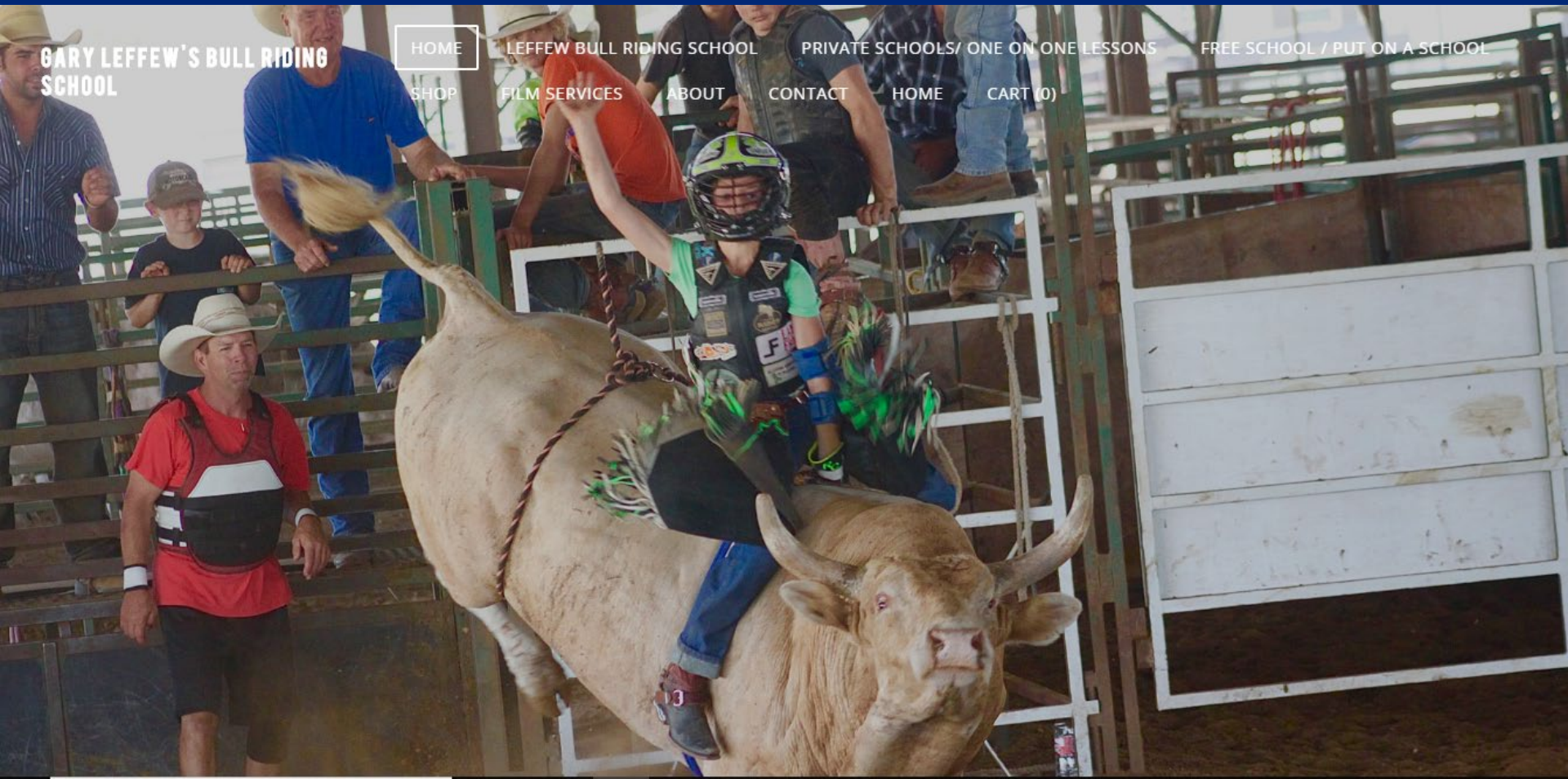
Understand the foundations for being successful

Work on mechanics and form – body movements (physics: balance forces)

Repetition – train the brain to respond to movement

Performance – subconscious response – habitual response

- Don't "think" about – learned response acquired through repetition.
- This is behavior modification



SPIRIT = LOVE

- Warmth
- Light

**CONNECT
THROUGH
PRAYER**

**WE ARE SACRED
BEINGS TO TAKE
LIGHT + WARMTH
TO PLACES THAT
ARE DARK AND
COLD**

**The Way of the
Warrior**

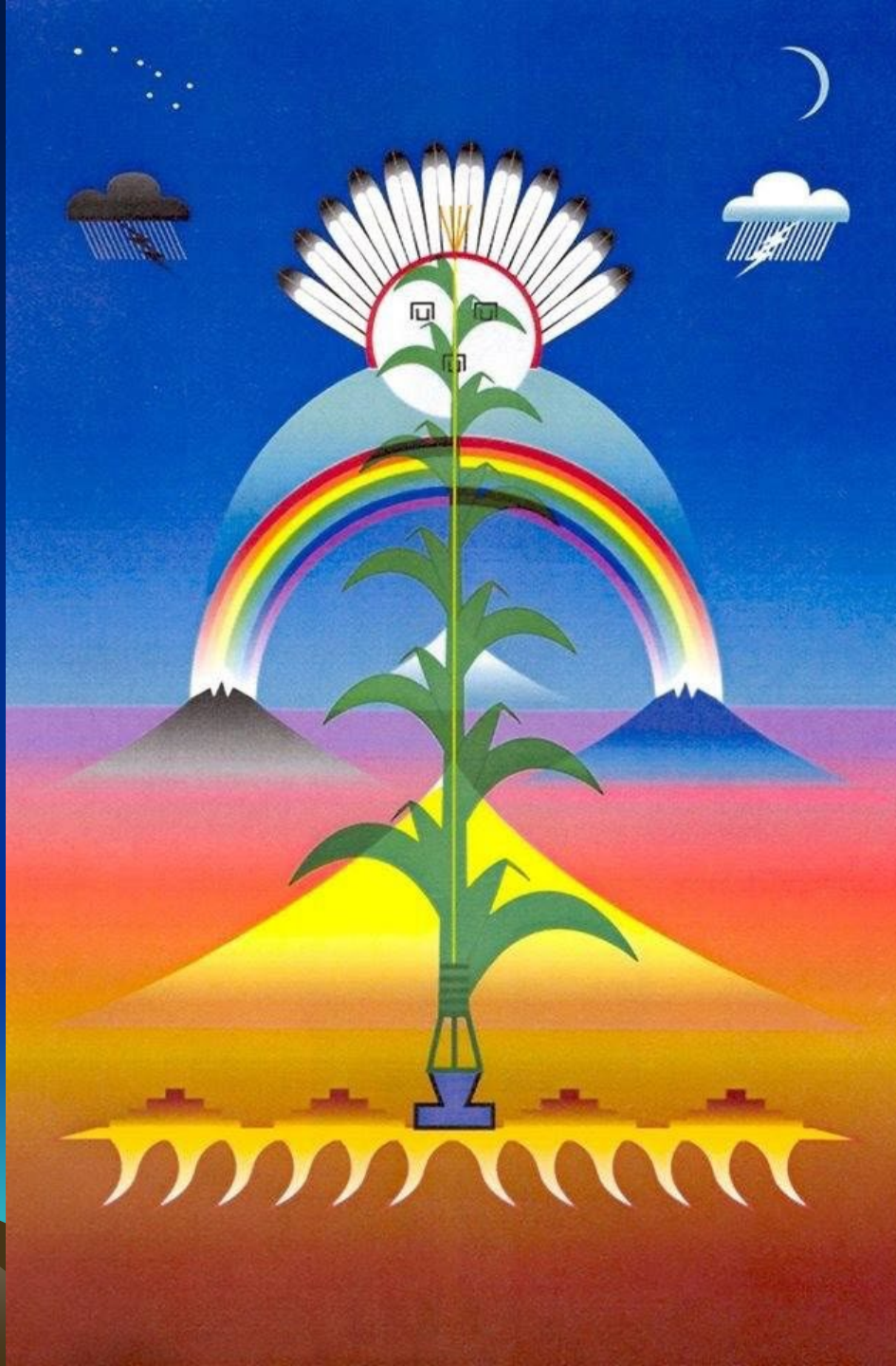




Photo Credit: Shash Diné Eco-Retreat

Talking Circle: Similar to Cognitive Behavior Therapy (CBT) The Power of Empathy



