DECOLONIZING SOCIAL WORK: “USING THE MEDICINE WHEEL TO TRANSFORM INDIGENOUS PEOPLES HEALTH THROUGH SELF-DIRECTED NEUROPLASTICITY, HEALTHY MICROBES, GENETIC EXPLORATIONS, AND NEURODECOLONIZATION.”

25th Annual ICWA Conference
Weaving Traditions to Defend, Protect, and Honor Indian Children, Families and Tribes
Graton Rancheria
Rohnert Park, CA

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• **Colonization**: the action or process of settling among and establishing control over the Indigenous People of an area. The action of appropriating a place or domain for one's own use.

• **Decolonization** is defined as the act of getting rid of colonization, or freeing a country from being dependent on another country.
Colonized Social Work: based upon domination (and exploitation) of the Capitalist/Patriarchal/Imperial Western Metropolis over the rest of the world.” In other words, ‘the west to the rest.’

Decolonizing Social Work: recognizes that social work is a colonized discipline and colonized system of helping and healing. Embraces social work practice through the lenses, philosophies, and ethics of Indigenous Peoples.
Decolonization theory: Colonization is traumatic, invasive, generational, and affects Indigenous Peoples at an historical, social, and molecular levels. Understanding and eradicating colonization creates greater well being among Indigenous Peoples.

Decolonization Practice: includes privileging and engaging in Indigenous philosophies, beliefs, practices, and values that counter colonialism and restore well being.
Stripping away the harmful, invasive thoughts, practices, beliefs, and values that have been imposed by colonizing structures, processes, and evolutionary mismatches*

“...the restoration of cultural practices, thinking, beliefs, and values that were taken away or abandoned (during colonization) but are relevant and necessary for survival and well being.

It is the birth and use of new ideas, thinking, technologies and lifestyles that contribute to the advancement and empowerment of Indigenous Peoples.”

*a concept in evolutionary biology that refers to evolved traits that were once advantageous but became maladaptive due to changes in the environment

In order to heal and transform from the cancers of colonialism, the plasticity of the brain, the human microbiome, and genetic inheritance must be balanced with a return to traditional practices. Indigenous Peoples cultures and Identity are centered upon a holistic model called the Medicine Wheel.

Culture, traumatic colonization experiences and perceptions shape our brain’s plasticity; affect our DNA, our microbiome, the expression of our genes; Changes brain waves and shapes specialized brain cells; and alter our neurotransmitters and modulators.
Arikara brain on happiness, joy, optimism, feelings of well being

Neuroplasticity is a concept referring to the idea that the brain is capable of changing its function in response to your environment, thinking, emotions, behavior, as well as injury.

“Self-directed neuroplasticity” is a concept that allows us to consciously control how we want our brains to work. (Jeffery M. Schwartz and Sharon Begley, 2003).
NEUROPLASTIC CHANGES HAPPEN FAST: 11 HOURS OF MINDFULNESS TRAINING (EVIDENCE-BASE OF CHANGE)

After only 11 hours of practice (30 minute sessions) positive structural changes took place in the white matter of the brain, which boosted brain connectivity (Posner, et al, 2010)
45 minutes of practice per day for 8 weeks changes brain structures associated with memory, sense of self, empathy, and stress (Sarah Lazar, et al, 2011)

Reduction in Stress – decreased gray matter in amygdala
Mindfulness meditation activates the “insula, which is associated with interoception, the sum of visceral and “gut” feelings that we experience at any given moment (internal body sensations).

It is key region involved in scanning the physiological state of the entire body and then generates subjective feelings.

- It controls mental emotions and regulation of body’s homeostasis.
- It increases gray matter which enables one to control negative emotions.

(Hölzel et al., 2011)
Temporal parietal junction

Becomes activated during meditation.

This area is associated with the ability to perceive the emotional and mental state of others.

This brain area is more active in meditators than non-meditators, even when they are not meditating.

- the RIFG is recruited when important cues are detected, regardless of whether that detection is followed by the inhibition of a motor response, the generation of a motor response, or no external response at all (Hampshire et al., 2010, NeuroImage).
ARUNDHATI AND SOLANA, ARCATA, CALIFORNIA, 2013: PRACTICING HEART RESONANCE; PAACIPIRIINU’U AND HER FRUIT MEDITATION
ARUNDHATI YELLOW BIRD PRACTICING MINDFULNESS MEDITATION, FARGO, ND, SUMMER 2015
Singing to the Sacred Cedar

Singing to the Cedar Tree
Fasting and Intermittent fasting;

Mark Mattson, Chief, Laboratory of Neurosciences at the National Institute on Aging

Valter Longo, Director of the USC Longevity Institute;

Krista Varady, Associate Professor of Nutrition at the University of Illinois, Chicago.

https://www.the-scientist.com/?articles.view/articleNo/49462/title/Running-on-Empty/
“Every other day fasting alters the gut microbiome composition to promote an increase in the number of mitochondria in the fat tissue of mice.

“Researchers from the National Cancer Institute at the NIH describe a "microbiota-fat axis" linking fasting-induced microbial shifts to a phenomenon called beiging in white fat tissue.

“Beiging is an intermediate step in the browning of fat that leads to a higher number of mitochondria in the tissue and increases the number of calories burned off as heat through thermogenesis.

“Compared to a control group of mice fed regularly, the fasted mice had a reduced amount of white fat and increased brown fat mass. Indicators of thermogenesis, like core temperature and energy expenditure, were elevated in the fasted group.

“There was also a massive increase in expression of the Ucp1 gene, which indicates active browning of fat, after just a few days of alternate-day fasting and evidence of beiging in the white fat tissue of mice.”

(Goulin Li et al., Cell Metabolism, 2017)
“Resides in the intestinal lining *A. muciniphila*, uses this mucin as its source of energy, protecting the gut from pathogens.

“*A. muciniphila*, does not rely on the host for its nutrition, unlike many other microbes.

“By utilizing the mucin reserves, they thrive even in the absence of nutrients in the gut (especially during fasting).

“A low concentration of this species in your gut could indicate a thin mucous layer, thereby resulting in a weakened gut barrier function, besides increased translocation of bacterial toxins. Patients suffering from Inflammatory Bowel Disease (IBD), obesity and Type II diabetes (T2D) tend to have lower concentrations of *A. muciniphila*.”

A common theory is that they possess fat-hoarding "thrifty genes" left over from their ancestors — genes that were required for survival during ancient cycles of feast and famine, but that now contribute to the disease in a modern world of more fatty and sugary diets.

This "thrifty gene" may not have developed because of how often ancient Natives ate. Instead, researchers said, the connection may have come from precisely what they ate.

Hunter-gatherer civilizations of the Southwest lived on a diet very high in fiber, very low in fat and dominated by foods extremely low on the glycemic index, a measure of effects food has on blood sugar levels. This diet, researchers said, could have been sufficient to give rise to the fat-storing "thrifty genes.

By volume, about three-quarters of the Antelope Cave coprolites were made up of insoluble fiber. The foods also were low on the glycemic index; some research suggests that high-GI foods may increase risk of obesity and diabetes.

"These were not just famine foods," the authors wrote. "These were the foods eaten on a day-by-day basis during all seasons in both feast and famine. They continued to be eaten even after agriculture was developed. Antelope Cave coprolites show that this high-fiber diet was eaten during the warmer seasons of food abundance."
MY BACTERIA

• https://explorer.ubiome.com/explore
HEART HEALTH IN MODERN DAY NATIVE AMERICAN HUNTER GATHERS – Tsimane Indians

• https://www.telegraph.co.uk/news/2017/03/18/south-american-tribe-found-have-healthiest-hearts-ever-studied/

• “Their lifestyle suggests that a diet low in saturated fats and high in non-processed fibre-rich carbohydrates, along with wild game and fish, not smoking and being active throughout the day could help prevent hardening in the arteries of the heart.” (Professor Hillard Kaplan, 2017)
A telomere is a region of repetitive nucleotide sequences at each end of a chromosome, which protects the end of the chromosome from deterioration or from fusion with neighboring chromosomes.

Telomeres protect our genetic data, make it possible for cells to divide, and hold some secrets to how we age and get cancer.

Each time a cell divides, the telomeres get shorter. When they get too short, the cell can no longer divide; it becomes inactive or "senescent" or it dies. This shortening process is associated with aging, cancer, and a higher risk of death. So telomeres also have been compared with a bomb fuse.
In one study, “Middle-aged people who were physically active not only had higher aerobic capacities, but also longer telomeres than those who were sedentary. They had telomere lengths that were similar to people much younger than they were.”

In another study, “Telomere lengths were shortest for both depressed and healthy participants who were showing chronic stress. Many of the depressed participants exhibited disturbed cortisol regulation, which may explain why they had a higher overall probability of having shorter telomere lengths.” (Norrback, et al., 2015).
“Telomere length in children is associated with a stressful home environment, and genes that encode certain neurotransmitters may heighten the effect of that stress.”

In a study of family stability, “Children living in the most stressful environments had telomeres that were on average 40 percent shorter than those of the children studied who were living in the most nurturing settings.”

MOTHER’S PASS ON SHORTER TELOMERES TO THEIR CHILDREN

- Overweight mothers give birth to biologically older babies

- “Mothers that are exposed to life factors that shorten her telomeres, she can pass on those shortened telomeres directly to her baby.” (Elizabeth Blackburn, 2017, The Telomere Effect)

- Obesity is a major issue among Indigenous Peoples. A great deal of it related to eating the standard American Diet rather than a traditional, ancestral diet that would have come from the traditional territory
BDNF is part of a cascade of proteins, produced in the brain that promotes neuron growth and stops neurons from dying.
“Stress has been called the “health epidemic of the 21st century” by the World Health Organization and is estimated to cost American businesses up to $300 billion a year.” – businessnewsdaily.com

“The higher a mom's prenatal anxiety, the shorter the baby's telomere length, This scenario is setting the stage for an accelerated trajectory of aging. It may, in fact, be one of the most critical periods in time for impacting cellular aging. Transgenerational transmission of risks has to be taken into account for understanding and improving public health.”

(Sonja Entringer, PhD, Pathik Wadhwa, PhD, et al.)
Bigger, aggressive white mice bullied smaller brown mice created social stress for smaller brown mice. The prolonged stress of being bullied created an increase of BDNF in the brain. This activated genes in the front part of the brain which produced high levels of social anxiety, withdrawal, depression. (University of Texas, Southwestern Medical Center, 2006)

“Studies suggest the possibility that BDNF and its mediated signaling may participate in the pathophysiology of depression and suicidal behavior” (Yogesh Dwivedi, 2009).
'CULTURE OF WE' BUFFERS GENETIC TENDENCY TO DEPRESSION


In other words, because of our past history we may have developed genes that make us susceptible to certain illnesses, behaviors, ways of thinking, and what we believe and value. Collectivist cultures/tribal cultures seem to have a greater genetic tendency to depression and mood disorders. However, it seems the at living in cooperation, valuing the group over the individual, and “endorse behaviors that increase group cohesion and interdependence,”

- "People from highly individualistic cultures like the United States and Western Europe are more likely to value uniqueness over harmony, expression over agreement, and to define themselves as unique or different from the group,

- “Our genetic heritage and cultural environment affect human behavior and well-being”
• The ADRA2b deletion variant influences the hormone and neurotransmitter norepinephrine.

• Plays a role in the formation of emotional memories. A study shows that it also plays a role in real-time perception “Individuals with this gene are more likely to focus on the negative. For instance, they may be more likely to pick out angry faces in a crowd of people... Outdoors, they might notice potential hazards – places you could slip, loose rocks that might fall – instead of seeing the natural beauty.”

• The gene can cause individuals to perceive emotional events—especially negative ones – more vividly than others (trauma, residential school experience, racism, violence. (emotionally enhanced vividness or EEV).

• It may help explain why some people are more susceptible to PTSD and intrusive memories following trauma (Todd, 2013).
The reason why some people can’t stop laughing while others can barely smile at jokes may be down to DNA differences, research suggests.

A study found that people with short alleles of the gene 5-HTTLPR smiled or laughed more while watching cartoons or subtly amusing film clips than people with long alleles.

“People with short alleles may flourish in a positive environment and suffer in a negative one, while people with long alleles are less sensitive to environmental conditions.”

We found evidence that collectivistic cultures were significantly more likely to comprise individuals carrying the short (S) allele of the 5-HTTLPR across 29 nations (Chiao, 2009).