# Indigenous Diet Changes: **History & Impacts**

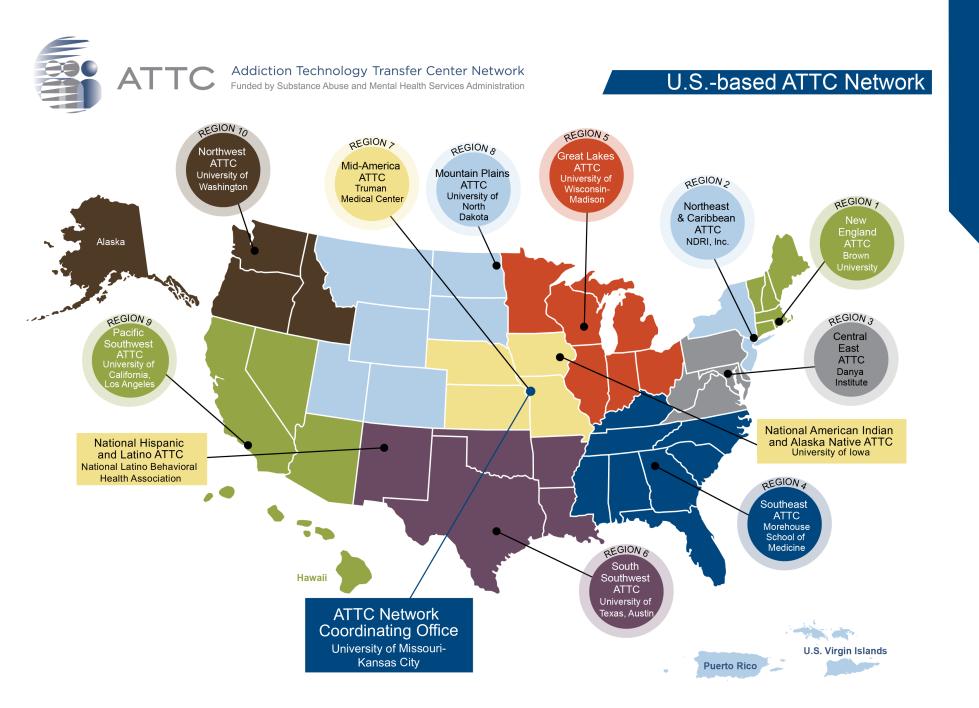
**Theresa Sault Brill FVTC** 

**Aniishinabek and Menominee** 

June 15, 2022

National American Indian & Alaska Native





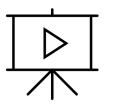
American Indian & Alaska Native Addiction Technology Transfer Center **SAAAAASA** Substance Abuse and Mental Health Services Administration

The National American Indian and Alaska Native Addiction Technology Transfer Center is supported by a grant from the Substance Abuse and Mental Health Services Administration (SAMHSA).

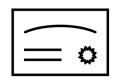
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# Follow-up

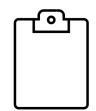
Following today's event, you will receive a follow up email, which will include:



Links to the presentation slides and recording, if applicable



Information about how to request and receive CEUs



Link to our evaluation survey (GPRA)

# Land Acknowledgement

We would like to take this time to acknowledge the land and pay respect to the Indigenous Nations whose homelands were forcibly taken over and inhabited.

Past and present, we want to honor the land itself and the people who have stewarded it throughout the generations.

This calls us to commit to forever learn how to be better stewards of these lands through action, advocacy, support, and education.

We acknowledge the painful history of genocide and forced occupation of Native American territories, and we respect the many diverse indigenous people connected to this land on which we gather from time immemorial.

While injustices are still being committed against Indigenous people on Turtle Island, today we say thank you to those that stand with Indigenous peoples and acknowledge that land reparations must be made to allow healing for our Indigenous peoples and to mother earth, herself.

Dekibaota, Elleh Driscoll, Meskwaki and Winnebago Nations Ttakimaweakwe, Keely Driscoll, Meskwaki and Winnebago Nations Ki-o-kuk, Sean A. Bear, 1<sup>st.</sup> Meskwaki



# **Today's Speakers**

Theresa Sault-Brill I have a vast background due to Traditional Elder's coming to me for various needs, concerns and issues over the span of my adult life. I did not seek to make careers in the Criminal Justice Field or Psychology fields. As a Spiritual and Cultural Woman, I have learned that our solutions are in our culture. I only was seeking to gain the educations, training and experiences to obtain understandings in all aspects that impact my people and other Indigenous peoples; though this so I could be able to truly help in education, empowerment and healings. Upon dealing with the gambit of sufferings throughout Indigenous Communities I learned that any and all portions of the systemized ways are rapidly and progressively failing Indigenous Communities across the board (as seen in our reporting percentage rates). Through my life experiences, educations and trainings we can show how our ways of learning, going about counseling etc. is the most effective, and as Traditional Sovereign People we can prove and justify our cultural ways to implement our real and needed solutions.

# Indigenous Diet Changes: History & Impacts

By: Theresa Sault-Brill

Aniishinabek & Menominee

tesault@gmail.com

# <u>Topic</u> Points

History on Indigenous Diet Changes

How Indigenous Diets Encompassed Our Whole Aspect of Life

Some of the Tolls to Indigenous Life Due to Diet Changes

Decolonizing Diets is Healing to the Whole of the Indigenous

Through Taking Indigenous Diets Back – Reconnecting to Spirit and to Cultural Ways

# "The control of the food supply and distribution of unhealthy foods is a spirit crushing event to indigenous peoples."



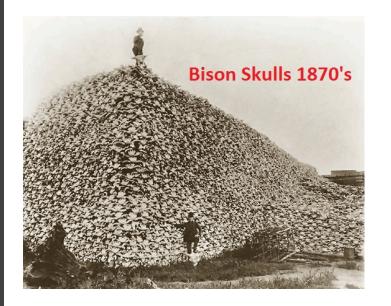
"Indian Ration Card"

(Rations for all., 2014)

"Native women most likely from the Hoopa Nation bring their traditional food baskets to carry a new foreign food that would eventually contribute to the public health epidemic among their posterity."



"Culinary Imperialism and Violent Appropriation of Food-ways."



"The brutal decimation of the American Bison, the Plains Indians and the imposition of non-Native foods and the deliberate creation of dependency is evidence of Culinary Warfare in our culinary history."

# Health Disparities Impact Mental Health

• "Rations typically included flour, tea, coffee, salt, beans, and other staples, as well as dry goods like blankets. Beef replaced buffalo as a meat source, and Native Americans learned to cook new foods which were drastically different and of inferior nutritive value to their traditional foods. Poor nutrition inevitably led to poorer health and a worsened quality of life. These forced changes undoubtedly left many psychological scars on the adults who saw their entire way of life change." (JOINSON, n.d.)

 Disconnect from land, culture & food as cultural connection – impacts mental & spiritual wellbeing

# Culturally **Our Lives** Centered Food

# Food As Medicine

"More research is finding that a nutritious diet isn't just good for the body; it's great for the brain, too. The knowledge is giving rise to a concept called "nutritional (or food) psychiatry."

"Traditionally, we haven't been trained to ask about food and nutrition," says psychiatrist Drew Ramsey, MD, an assistant clinical professor at Columbia University. "But diet is potentially the most powerful intervention we have. By helping people shape their diets, we can improve their mental health and decrease their risk of psychiatric disorders."

"A very large body of evidence now exists that suggests diet is as important to mental health as it is to physical health," says Felice Jacka, president of the International Society for Nutritional Psychiatry Research. "A healthy diet is protective and an unhealthy diet is a risk factor for depression and anxiety." (Miller, n.d.) (Traditional Foods of California Indians | Native American Civilizations, n.d.)

(DANOVICH, 2019

(Joinson, n.d.)



## TRADITIONAL FOOD PRINCIPLES

At longbouse patherings, which and an and annually seen a Water Waterpar total annuality, they do not about the operation of alter load This to first with a large start to optic first, and the leading of two to gather proper and was then. This when and which buildeds around first tasks or a performance of the set promotion age. We call from Training of Feed Principles They address the physical and permit health of mitradeal and communities in conjunction with the call look of the local

#### Cultivate Food Sovereignty

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#### Promote Generosity

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#### Cook and Eat with Good Intention

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#### Honor the Food Web

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Wild & Organic Foods

are Better for Health

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Training provided to Traine Reportment of Agriculture, and include communities in theory by Reput Training, Assumpting From Work & 2011 Reviewed Testing Communities

#### Traditional Foods are Whole Foods

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#### Eat with the Seasons

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#### Eat a Variety of Foods

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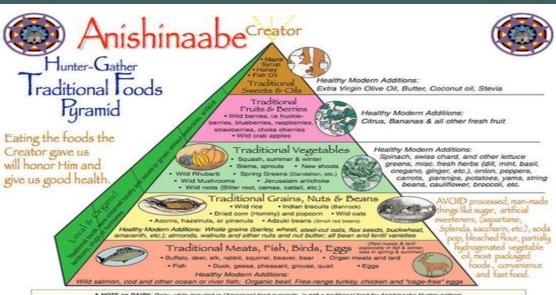
#### Eat Local Foods

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ATTUMAT

have do having of the last in some I have go





A NOTE on DAIRY. Dairy, while included in "American" food pyramids, is not a traditional food for Anishinaabe Hunter-gathers Traditional Calcium and Mineral Sources Included:
\*Bone soup or broth 
\*Fish head soup
\*Canned fish with the bones
\*Vegetables and greens · Breast milk for babies and children under two years Processed homogenized dairy products have been found to increase risk of Type 2 diabetes, while only raw milk from healthy cows is a healthy and beneficial addition to a traditional diet. Cultured diary (yogurt, kelir, buttermilk, etc.) from raw milk is digestible for those who are otherwise lactose intolerant.

### Eat According to the Seasons & the Land

Colder Weather increases the need for heavier foods such as meat (venison, buffalo), it's naturally occuring fat (like lard) and starches found in potatoes, winter squash and wild rice (and other foods which can be stored over the winter months). This might also include dried jerky (pemmican), dried berries, corn (hominy), canned goods, etc.

#### ENTER

Fall or Autumn is a time to enjoy the harvest and to prepare for the winter months. Cooler weather brings hunting season, ome which is dried or smoked to save for winter. Squash, tubers (like potatoes, yams and carrots), corn, apples and other fall harvested fruits and vegetables and nuts (acorns, etc.) are collected and many are stored for winter use.

#### Spring Time is a time of renwal. Fish, eggs, fresh shoots (such as horsetail and cattail sprouts) and tender greens (such as lambs quarters which is also known as wild spinach, dandelion, plantain, perslane, mint, wintergreen, nettles, wood ferns, and creeping snowberry leaves) help us to cleanse our systems from the heavy

#### PRING

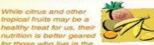
winter foods.

In the Summer Time we tend to be more active and need more high energy foods like berries, nettles and fish. An abundance of fresh greens and vegetables from gardens are available now to be enjoyed. ome are canned for winter use. Summer is not a good time to hunt game because of ticks, bacteria and it's too warm to hang the animal. In late summer wild rice is / harvested and prepared for winter use.

#### FOCUS on LOCAL

Eating the foods that are grown in the soil and climate that you live in is very important. These STAPLE foods provide the specific nutrients your body needs. The Creator has given us everything we need literally within walking distance from where you live (wild rice, fish, deer, corn, various greens, and the other traditional foods mentioned above.) How else could people have survived without modern transportation? ... and they did so for thousands of years.

While citrus and other



for those who live in the regions they are grown in. If the Creato would have thought we needed bananas or pineapple or coconut he would have had them grow here, but they cannot. This does not mean we cannot ever enjoy them, they simply should not be the STAPLES of our diet.

#### 2006 Created for the DEFEAT DIABETES PROGRAM, Anishin able Center Detroit Lokes, MN 218-846-9463

#### (Brisbanelocalfood, n.d.)

### (Native American (Anishinaabe) Traditional Foods Pyramid, n.d.)

WINCOM

"Traditional Foods Principles," which address the physical and spiritual health of individuals and communities in conjunction with the wellbeing of the land."



(8 Native American Traditional Food Principles (With Video), n.d.)

#### (ELIZABETHMHOOVER, 2014)



"As a result of a decline in farming, the elders present noted a decline in social health in their communities—drug, alcohol, and domestic abuse, as well as health problems like diabetes and obesity that they did not see when they were younger and everyone was involved in food production."

## **Genetic or DNA Coding & Sensory In Food Power**



Science notes the impacts that sensory & elements have huge impact on one's being from a variety of body, mind to life changing to potentially wholly: Music or sound vibration & the resonation with genetic or innate cultural programming can awaken & connect neurons or ancestorial connectivity – thus helping one spiritually as well: Find music from before your peoples impacts of total change in original ways of life.



Food is not only a taste sensory, but also an element or chemistry factor that can be recognized by one's entire system or being. It can awaken old neuro programming through DNA, help to heal one's body & connect one to spirit or ancestorial genetics aiding in innate cultural programming. Note: If the individual(s) change or alter the "recipe" i.e., add dairy to their wild rice, or fry their fish or fiddle head ferns or use butter etc. It changes the dynamic or spirit of the food's natural positive potentials.

# Not All Diets Are Good For Indigenous People

• <u>The Association between Dairy Intake, Simple Sugars and Body Mass Index with</u> <u>Expression and Extent of Anger in Female Students</u> - <u>PMC (nih.gov)</u> This study shows the positive impacts of dairy on reducing anger in female students with a specific BMI.

• MEANWHILE: If you have an intolerance to dairy or rather the lactose in dairy, it can induce depressive symptoms or and a "short fuse" or quick to anger. It also can cause irritation to the gastrointestinal or gut, this creating issues in nutritional absorption issues. For children can become mental illness in the long term or a high risk for.

• Food intolerances can cause hyperactivity, mood swings and depression | Extra Happiness "Food intolerance can cause many symptoms including hyperactivity, lack of energy, mood swings, depression, aggression, migraines, headaches, fatigue, itchy skin, recurrent mouth ulcers, joint pain, vomiting, nausea, stomach aches, stomach ulcers, duodenal ulcers, diarrhea, irritable bowel syndrome, constipation, wind, bloating and edema (water retention)." (Stats & Links to in article.)

Major Depressive, Bipolar, Schizophrenia, Obsessive-Compulsive And Other Disorders

 "Few people are aware of the connection between nutrition and depression while they easily understand the connection between nutritional deficiencies and physical illness. Depression is more typically thought of as strictly biochemical-based or emotionally-rooted. On the contrary, nutrition can play a key role in the onset as well as severity and duration of depression. Many of the easily noticeable food patterns that precede depression are the same as those that occur during depression. These may include poor appetite, skipping meals, and a dominant desire for sweet foods.
Nutritional neuroscience is an emerging discipline shedding light on the fact that nutritional factors are intertwined with human cognition, behavior, and emotions." Understanding nutrition, depression and mental illnesses - PMC (nih.gov)

• "Found that a healthful dietary pattern — characterized by high intakes of fruit, vegetables, whole grains, olive oil, fish, low fat dairy, and antioxidants, as well as low intakes of animal foods — was associated with a reduced risk of depression.

 Conversely, a Western-style diet — involving a high intake of red and processed meats, refined grains, sweets, high fat dairy products, butter, and potatoes, as well as a low intake of fruit and vegetables — was linked with a significantly increased risk of depression." <u>Nutrition and</u> <u>mental health: What's the link? (medicalnewstoday.com)</u>

## Addiction & Nutrition

• "The misuse of alcohol and drugs takes a severe toll on the human body. Healing is a slow process, and detoxification is incredibly taxing to the body; thus, nutrition is a crucial area of addiction recovery.

• Every drug has its own set of health impacts, and the side effects are different for everybody. Despite the drug of choice, all drug abuse will impact a person's ability to receive and maintain the nutrients required for a healthy lifestyle." <u>Getting Over</u> <u>Addiction with Nutrition - Opus Health (opustreatment.com)</u>

• "recent studies have shown that diet and mental health are more closely linked than we realize. we do know that a healthy diet affects brain health by:

- Boosting brain development.
- Changing brain proteins and enzymes to increase neural transmitters, which are the connections between brain cells.

• Increasing good gut bacteria. This promotes a healthy gut biome, which decreases inflammation. Inflammation is known to affect both cognition and mood.

• Raising serotonin levels through various food enzymes, which improves mood.

• We know that a nutrient-rich diet produces changes in brain proteins that improve the connections between brain cells. But diets that are high in saturated fats and refined sugars have been shown to have a "very potent negative impact on brain proteins," Jacka says."

• <u>The Connection Between Diet And Mental Health - The Center for Treatment of Anxiety and Mood Disorders</u> (centerforanxietydisorders.com)

# Addiction & Nutrition

• "The same reward and pleasure centers of the <u>brain</u> that are triggered by addictive drugs like <u>cocaine</u> and <u>heroin</u> are also activated by food, especially highly palatable foods. Highly palatable foods are foods rich in:

• Sugar

• Fat

• Salt

• Like addictive drugs, highly palatable foods trigger feel-good <u>brain</u> chemicals such as dopamine. Once people experience pleasure associated with increased dopamine transmission in the brain's reward pathway from eating certain foods, they quickly feel the need to eat again."

Food Addiction Signs and Treatments (webmd.com)

• "Proper diet can reverse depletion of key nutrients, and can heal and nourish the body and brain; certain foods, or lack of certain foods, may make you more likely to experience mood imbalances; certain foods can stabilize mood and reduce stress, improve sleep, and significantly improve one's experience in recovery; the right foods can address medical conditions that are co-occurring or have resulted from mental health issues or addiction; and with respect to substance abuse, proper nutrition can reduce urges and cravings, reduce post-acute withdrawal, and promote physiological and psychological healing."

• Why Nutrition is Important for Mental Health and Addiction Recovery: Family Addiction Specialist: Addiction Counselor

• "Food addiction was associated with <u>disordered eating</u>, depressive and anxiety symptoms, and a poorer quality of life and self-esteem. These associations have important implications for the assessment and management of eating behaviours and mental health in adolescents." <u>Food addiction and mental health in adolescents: a systematic review - ScienceDirect</u>

# **Addiction & Nutrition**

• "The metabolic and nutritional changes seen with SUDs often result in inadequate food intake and poor absorption of nutrients. As a result, the majority of participants receiving SUD treatment show signs of nutritional deficiency. Nutrition influences the body at a gut level, regulating metabolism, reducing inflammation, reducing cell death, and promoting brain growth (Mörkl, et al., 2020). Adequate nutrition can help reverse some of the damage caused by chronic exposure to stress hormones (Du, et al., 2016). Offering adequate nutrition tools in the recovery process has been shown to support behavior change during the recovery process (Cowan & Devine, 2012; Jeynes & Gibson, 2017). Furthermore, with adequate nutrition to power the brain, a person in SUD recovery may experience fewer cravings and prolonged abstinence (Jeynes & Gibson, 2017; Martinotti et al., 2010)." Diet, Nutrition, and Substance Use Disorder | USU

## **CONTROL YOUR CRAVINGS**

Your Craving	What You Need	What to Eat Instead		
Chocolate	Magnesium	Nuts, seeds, legumes, fruit		
Sugary foods, sweets	Chromium	Broccoli, grapes, cheese, chicken		
	Carbon	Fresh fruit		
	Phosphorous	Chicken, beef, fish, eggs, dairy, nuts, legumes, grains		
	Sulphur	Cranberries, horseradish, cauliflower, broccoli, cabbage		
	Tryptophan	Cheese, lamb, liver, raisins, sweet potato, spinach		
Bread, toast, pasta, other carbs	Nitrogen	High protein foods: meat, fish, nuts, beans		
Oily/fatty foods	Calcium	Milk, cheese, yoghurt, legumes, broccoli, green leafy vegetables		
Salty foods	Chloride	Fish, goats milk		
General overeating	Silicon	Nuts, seeds; avoid unrefined starches, like white bread, pasta, rice		
	Tryptophan	Cheese, liver, lamb, raisins, sweet potato, spinach		
	Tyrosine	Orange, green or red fruits and vegetables, Vitamin C supplement		

#### **HEALTHY HIGH FIBER FOO** S

	Source	Amount	Calories	Fiber (	g)
and a	Navy Beans	1 cup	254.8	19.11	-
- Maria	Raspberries	1 cup	64.0	7.99	EXCELLENT
	Collard Greens	1 cup	62.7	7.60	- 11
The state	Turnip Greens	1 cup	28.8	5.04	司
2	Beet Greens	1 cup	38.9	4.18	X
	Cinnamon	2 tsp	12.8	2.76	Ē
and the second	Dried Peas	1 cup	231.3	16.27	
	Lentils	1 cup	229.7	15.64	
A CON	Pinto Beans	1 cup	244.5	15.39	
	Black Beans	1 cup	227.0	14.96	
and the state	Lima Beans	1 cup	216.2	13.16	
	Tempeh	4 oz	222.3	12.00	
: State	Kidney Beans	1 cup	224.8	11.33	
10 march	Barley	.33 cup	217.1	10.61	
STALL S	Green Peas	1 cup	115.7	7.58	
	Winter Squash	1 cup	75.8	5.74	
	Pear	1 med	101.5	5.52	
Cart a	Broccoli	1 cup	54.6	5.15	
	Cranberries	1 cup	46.0	4.60	
The star	Spinach	1 cup	41.4	4.32	
	Brussels Sprouts	1 cup	56.2	4.06	0
-	Green Beans	1 cup	43.8	4.00	VERY GOOD
	Cabbage	1 cup	43.5	3.90	G
	Flaxseeds	2 tbsp	74.8	3.82	2
- Maria	Swiss Chard	1 cup	35.0	3.67	Li Li
	Asparagus	1 cup	39.6	3.60	>
	Carrots	1 cup	50.0	3.42	
Care C	Oranges	1 med	61.6	3.14	
	Strawberries	1 cup	46.1	2.88	
and the second s	Mustard Greens	1 cup	36.4	2.80	
	Fennel	1 cup	27.0	2.70	
6	Cauliflower	1 cup	28.5	2.68	
87.95	Kale	1 cup	36.4	2.60	
and hat	Summer Squash	1 cup	36.0	2.52	
	Eggplant	1 cup	34.6	2.47	
	Tomatoes	1 cup	32.4	2.16	
(20)	Kiwifruit	1 kiwi	42.1	2.07	
The second second	Romaine Lettuce	2 cups	16.0	1.97	
	Chili Peppers	2 tsp	15.2	1.88	
	Bell Peppers	1 cup	28.5	1.85	
	Bok Choy	1 cup	20.4	1.65	
	Black Pepper	2 tsp	14.6	1.47	
Contraction of	Cloves	2 tsp	11.5	1.42	
	Celery	1 cup	16.2	1.40	
NaturalHealth	c	Source: The Coo	rge Matelian Found	ation LM/LEase	

NaturalHealthyConcepts.com

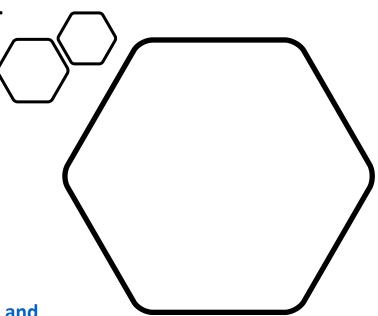
NaturalHealthyConcepts.com

## (Female Health Motivation , n.d.)

## (Natural Healthy Concepts, n.d.)

# **There's Always Ways**

- Seed Banks & Exchanges, Gathering Seeds, Roots etc. From The Woods, Marshes etc.
- Gardens & Traditional Gardens
- Budgeting & Transitioning
- Trade or Gas Money to those gathering.
- Food Preservation
- <u>Preserving Food | Indians, Insanity, and American History Blog</u> (cantonasylumforinsaneindians.com)
- Portion Control Handouts:
- (My Native Plate)
- <u>Education Materials and Resources (Online Catalog)</u> | <u>Division of Diabetes Treatment and</u> <u>Prevention (DDTP) (ihs.gov)</u>
- 7 Portion Control Handouts to Put on Your Fridge Health Beet
- Food portion size chart | A for Athlete | Fandom
- <u>MyPlate Guide to Portion Sizes Super Healthy Kids</u>
- Educational:
- Food Is Medicine: Native Health and Cultural Foodscapes Part 2 The Native Seed Pod
- <u>Native American (Anishinaabe) Traditional Foods Pyramid (recipesforlifewithdrbeth.com)</u>
- Working with Your Food Shelf, Commod Shed, Youth & Elder Programs etc.



## **Resources 1:**

#### Foods That Help Or Hinder Happiness, From A Neuroscientist (mindbodygreen.com)

"I will also break down targeted recommendations for each of the <u>five primary brain types</u>. (Based on our brain-imaging work at <u>Amen Clinics</u>, we have identified five brain types related to personality: Balanced, Spontaneous, Persistent, Sensitive, and Cautious.) Not all diets are right for all brain types. Knowing how to eat for your brain is one of the keys to feeling happier. The real happy foods are the ones that make you feel good in the moment but also enhance your mood, energy, and physical wellbeing in the long run.

A growing body of research shows that the SAD diet increases your risk for depression, anxiety disorders, <u>ADHD</u>, and dementia, as well as diabetes, hypertension, heart disease, and cancer."

<u>What Does Your Brain Type Have to Do With Happiness? (mindbodygreen.com)</u> Catering diet for personality type.

<u>Can Gastric Disorders Contribute to Anxiety and Depression? - List Of Medical Disorders And Resources (mentalhelp.net)</u> "stomach problems can cause a lot more than just physical discomfort. Research has suggested that gastrointestinal troubles may be linked with anxiety and depression as well. a person's stress levels can be exacerbated by the condition of their gut. gastric upset during the beginning of life appear to cause the brain to shift into a permanently depressed and anxious state. "

The Carb-Sane Asylum: Ancestral Diet Dishonesty ~ AHS14 Edition ~ Derectumfying Paleoism ~ Part II (carbsanity.blogspot.com)

Commonly Used Drugs Charts | National Institute on Drug Abuse (NIDA) (nih.gov)

A Bidirectional Link Between Inflammatory Bowel Disease and Depression - Neuroscience News

## **Resources 2:**

### Gold, Native Americans, and the "Beef Issue" (nebraskastudies.org)

(Around 1887 – Less than 150 years ago) "On the reservations, sugar, flour, coffee, bacon, dried beans, and other staples (often referred to as "domestic rations") were given to Native Americans. Sometimes, the government would provide live cattle at events called "beef issues". Herds of around 100 to 150 head of cattle were driven to the reservation agency where families would gather for the distribution."

## Commod Bods and Frybread Power: Government Food Aid in American Indian Culture on JSTOR

"Many Indians consider foods like frybread, cheese, and canned meats as traditional or characteristic Indian foods, even though they did not exist in North America before Europeans introduced them." (The elders referred to these foods as "soldier fort rations".)

### Scientists find microplastics in blood for first time (phys.org)

"Where is it going in your body? Can it be eliminated? Excreted? Or is it retained in certain organs, accumulating maybe, or is it even able to pass the <u>blood-brain barrier</u>?" (Now more than ever, we must be diligent with our best cultural diets & exercise.)

### Quantum dots shine bright to help scientists see inflammatory cells in fat (phys.org)

"When our bodies need to gobble up pathogens or clean up cellular debris, macrophages go to work. One of their jobs is to initiate inflammation, making the environment inhospitable to harmful microbes. But sometimes they do that job too well. Depending on the tissue they're in, chronic inflammation due to macrophage activity can lead to diabetes, cardiovascular issues, cancers, and more."

Large-Scale Study Reveals Strange Link Between Antibiotics And Cognitive Decline (sciencealert.com) (Impacts the gut. Therefore diet is utmost important & cognitive therapy.)

## **Resources 3:**

## IJMS | Free Full-Text | The Effects of Stress and Diet on the "Brain–Gut" and

"Gut–Brain" Pathways in Animal Models of Stress and Depression | HTML (mdpi.com)

"Compelling evidence is building for the involvement of the complex, bidirectional communication axis between the gastrointestinal tract and the brain in neuropsychiatric disorders such as depression. the latest research on the effects of stress on the bidirectional connections between the brain and the gut across the most widely used animal models of stress and depression is summarised, followed by comparisons of the diversity and composition of the gut microbiota across animal models of stress and depression with possible implications for the gut—brain axis and the impact of dietary changes on these. Chronic stressors appeared to have negative effects on both brain and gut health, while supplementation with prebiotics and/or probiotics show promise in alleviating depression pathophysiology."

### Brand-New Brain Pathway to Fear Discovered - Neuroscience News

"long-term threat memory in the olfactory cortex could take many forms and these different neural mechanisms were all consistently hyperfunctioning in anxiety. found that the human sensory cortex, not the amygdala, is responsible for storing our memories of frightening events from the past. identifies a link between two key parts of the brain that play significant roles in conditions such as Alzheimer's disease, post-traumatic stress disorder, schizophrenia and depression." (Sensory: Taste, smell etc. has impact. Use a healthy diet to help control & heal self.)

The #1 Worst Eating Habit for Dementia, Suggests New Study — Eat This Not That

Study shows connection between vitamin deficiency and dementia (clickondetroit.com)

Study shows strong influence of external environment on fungal communities in the primate gut (phys.org)

## **Resources 4:**

### Copper Benefits and Foods High in Copper | Well+Good (wellandgood.com)

American Indian Health - Health (ku.edu) American Indian Health and Diet Project - Lactose Intolerance

Lactase deficiency: a common genetic trait of the American Indian - PubMed (nih.gov)

#### Stress Breaks Hearts (webmd.com)

"Intense <u>grief</u>, acute anger, and sudden fear can have direct -- sometimes fatal -- effects on the human <u>heart</u>. And long-term emotional stress shortens lives by increasing the risk of heart disease. They are more likely to develop conditions that increase heart risk, such as <u>obesity</u>, diabetes, high blood pressure, and impaired heart rate."

#### Psychosocial stress and liver disease status - PMC (nih.gov)

"Once an individual is subjected to such a stressor, specific pathways within the brain lead to the activation of the hypothalamic-pituitary-adrenal (HPA) axis as well as the central sympathetic outflow. This constitutes the stress response, releasing key peripheral mediators-glucocorticoids and catecholamines[<u>3</u>]."

### Stress and the Digestive System - Consumer Health News | HealthDay

"complex connection between the brain and the digestive system. The entire system is extremely sensitive to our moods."

Stress and the gut: pathophysiology, clinical consequences, diagnostic approach and treatment options - PubMed (nih.gov)

Stress and Your Thyroid: What's the Connection? (healthline.com)

## **Resources 5:**

Can Stress Cause Thyroid Problems? The Science | imaware™

Stress effects on the body (apa.org)

The impact of stress on body function: A review - PMC (nih.gov)

<u>Neurobiological and Systemic Effects of Chronic Stress - PMC (nih.gov)</u>

Understanding the stress response - Harvard Health

Stress symptoms: Effects on your body and behavior - Mayo Clinic

What are emotions? Neuroscientific research on animals may finally settle the debate - Big Think

L-Tyrosine Benefits for Boosting Your Mood and Memory | Well+Good (wellandgood.com)

Breakthrough Discovery Sheds Light on the Mysteries of Memory - Neuroscience News

Microplastics Have Now Been Found in The Deepest Part of The Human Lungs (sciencealert.com)

5 Ways To Regulate Your Nervous System, According to a Neuroscientist | Well+Good (wellandgood.com)

## **Resources: 6**

## Food Woes | Indians, Insanity, and American History Blog (cantonasylumforinsaneindians.com)

"They, like most Native Americans, had already lost a basic underpinning of life-their traditional foods. This loss led to nutritional deficiencies and diseases that had never affected them before encountering the white man's culture."

## How Foods and Nutrients Control Our Moods | Huberman Lab Podcast #11 – YouTube

## Controlling Sugar Cravings & Metabolism with Science-Based Tools | Huberman Lab Podcast #64 – YouTube

### The Effect of Diet on Mental Health (news-medical.net)

"These are known to produce increased anxiety, hunger and irritability. Moreover, they induce inflammatory and oxidative stress. This has been linked to an exacerbation of symptoms of depression and other mood disorders. These findings have led to the emerging field of nutritional <u>psychiatry</u> that traces relationships between food, feelings, gut microbiota, and human behavior."

### Tips to Improve Mental Health with Nutrition (massgeneral.org)

"However, when unhealthy foods are introduced, they break down into negative substances that overcome the good bacteria and create inflammation in the gut—which, in research, has been shown to be the basis of several mental health conditions, including depression and anxiety."

### The link between food and mental health (apa.org)

## How Your Diet Affects Your Ability to Beat Addiction (madisonmedicalassociates.com)

## **Resources: 7**

Nutritional status and eating habits of people who use drugs and/or are undergoing treatment for recovery: a narrative review - PMC (nih.gov)

<u>Cravings | The Nutrition Source | Harvard T.H. Chan School of Public Health</u> Has some suggestions.

What's the connection between the gut and brain health? - Harvard Health

## Nutrient Metabolism, Human | Learn Science at Scitable (nature.com)

"Researchers have observed that the prevalence of mental health disorders has increased in developed countries in correlation with the deterioration of the Western diet [7]. Previous research has shown nutritional deficiencies that correlate with some mental disorders [8, 9]. The most common nutritional deficiencies seen in mental disorder patients are of omega-3 fatty acids, B vitamins, minerals, and amino acids that are precursors to neurotransmitters [10-16]. Compelling population studies link high fish consumption to a low incidence of mental disorders; this lower incidence rate has proven to be a direct result of omega-3 fatty acid intake [10, 17, 18]. One to two grams of omega-3 fatty acids taken daily is the generally accepted dose for healthy individuals, but for patients with mental disorders, up to 9.6 g has been shown to be safe and efficacious [19-21]. Western diets are usually also lacking in fruits and vegetables, which further contributes to vitamin and mineral deficiencies."

Researchers Find That Eating a Certain Protein Is Related to Developing Depression (scitechdaily.com)

## **Resources: 8**

How Foods and Nutrients Control Our Moods | Huberman Lab Podcast #11 – YouTube

<u>Apaches in the Kitchen: Rations for all.</u>

NAMI Ask the Expert: Eating for Better Mental Health | NAMI: National Alliance on Mental Illness

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