



IMAGE AWARENESS WELLNESS INSTITUTE

FOOD AND MOOD

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INTRODUCTION

Man's awareness of the relationship between food and mood is as old as man himself. The land of Israel was referred to as a land flowing with milk and honey. We are told in I Samuel 14:25 that the exhausted Jonathan's eyes lit up when he ate some honey suggesting the stimulatory effect of sugars when blood sugars are low. Proverbs warns that excess honey can make an individual sick. (Proverbs 25:16) Today we know that excess sugars can cause diabetes. Crystallized sugar was discovered around the 5th century A.D. which greatly increased the addictive properties of this condiment.

Coffee and tea also have an early history. There is a legend that Kaldi, a 9th-century Ethiopian goatherd discovered coffee when he noticed how excited his goats became after eating the beans. People have been consuming caffeinated beverages for their stimulatory properties ever since.

Toxic food additives also can alter mood. The Romans flavored their wines with a grape syrup brewed in lead pots creating a risk of lead poisoning. Dr. Jerome Nriagu, a Canadian scientist, found that two-thirds of the Roman emperors from 30 B.C. to 220 A.D. had a predilection to lead-tainted diets and suffered with gout and other symptoms of lead poisoning including mood disorders. These em-

perors included notorious individuals like Claudius, Caligula, and Nero.

Mercury is even more toxic to the brain than is lead. Mercury was used in the manufacture of hats in the 18th and 19th centuries in England. Workers in the hat factories developed dementia and the expression "mad as a hatter" became popular. The University of Calgary produced a video a number of years ago which illustrates just how toxic mercury is to brain cells. The link is below.

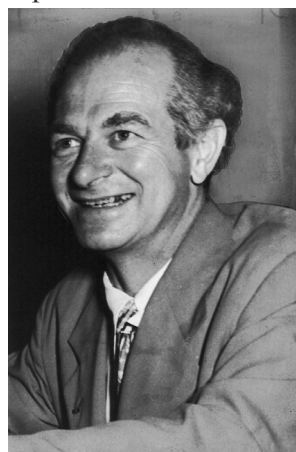
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ORTHOMOLECULAR PSYCHIATRY

The term "orthomolecular psychiatry" was coined by Linus Pauling in 1967. Pauling believed that mental problems should be addressed



by the utilization of chemicals which were natural to the body rather than by synthetic psychiatric drugs. Abram Hoffer would be the first individual to offer a biochemical theory to explain schizophrenia and a nutritional treatment for the disease. Hoffer founded the *Journal of Schizophrenia* in 1967 which would become the *Journal of Orthomolecular Psychiatry* in 1972 and then the *Journal of Orthomolecular Medicine* in 1986.

It is a little known fact that half of the individuals in mental hospitals in the United States became well and went home when vitamin B3 was used to fortify white flour. Hoffer felt that this nutrient offered promise as a treatment for mental disorders at higher dosages since it had obviously benefited those with mental problems at the low doses used in food fortification.

Hoffer was also instrumental in introducing vitamin B3 to Bill Wilson, the founder of Alcoholics Anonymous. Wilson had suffered for years with fatigue and depression even after breaking his alcohol addiction. Niacin so transformed his life in a few weeks that he encouraged 30 close friends to try it. Within two months two-thirds of these individuals had been relieved of anxiety, tension, and depression. Wilson went on to publish thousands of copies of "The Vitamin B3 Therapy" urging the use of the nutrient by physicians to treat mental disorders



associated with alcoholism.

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DIET AND CRIME

Sir Robert McCarrison conducted one of the earliest experiments which demonstrated that diet could result in violent behavior. He fed rats the diets of the various people groups of India. In one of these studies he decided to feed the rats the typical British diet. The rats began to kill and eat one another after 60 days on the British diet and he had to separate the animals in order to complete his experiment.

Dr. Francis Pottenger later fed cats all raw food or 2/3 of the diet cooked. He wrote, "Cooked meat fed cats show much more irritability. Some females are even dangerous to handle and three are named Tiger, Cobra and Rattlesnake because of their proclivity for biting and scratching."

Nutrition pioneer Weston Price studied a wide variety of cultures which had not yet been introduced to modern refined foods. He wrote, "After one has lived among the primitive racial stocks in different parts of the world and studied them in their isolation, few impressions can be more vivid than that of the absence of prisons and asylums. Few, if any, of the problems which confront modern civilization are more serious and disturbing than the progressive increase in the percentage of individuals with unsocial traits and a lack of responsibility."

One of the earliest popular works

suggesting a link between criminal behavior and diet was *Natural Health, Sugar and the Criminal Mind* by J. I. Rodale in 1968. Rodale noted that Adolph Hitler was such a sugar addict that he added sugar to his wine. He was so fond of sweets that he lost most of his teeth and suffered with periodontal disease. Rodale felt much of his behavior was associated with low blood sugar.

Rodale's pioneering insights were followed by Alexander Schauss's much more detailed *Diet, Crime and Delinquency* in 1980. Schauss went into great detail on the links between low blood sugar, heavy metal poisoning, and allergies and criminal behavior.

In 1983 Barbara Reed, a probation officer, published *Food, Teens & Behavior* in which she reported a dramatic drop in repeat visits to prison when the nutrition problems of inmates were addressed. The recidivism rate dropped from 70% to 20% among the probationers Reed worked with using orthomolecular nutrition. She wrote, "A malnourished central nervous system will inevitably lead to serious physical and behavioral problems, problems which no amount of medication or psychiatry can touch."

In 1985 Everett L. "Red" Hodges founded the Violence Research Foundation. He was motivated by trying to deal with a troubled teen son. Hodges concluded that 20-30% of violent behavior was caused by inadequate or faulty nutrition.

Psychiatrist Michael Lesser, with whom I lectured years ago, played a major role in popularizing the early work with orthomolecular medicine. He was the founder and the first President of the Orthomolecular Medical Society in 1979 in San Diego. Lesser collected the work of various researchers in the field and shared it in the United States Senate from 1977-1980.

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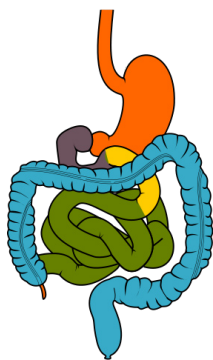
MOLECULES OF EMOTION

The biochemistry of emotion was first elucidated by Candace Pert in her 1973 publication of a paper in which she described the functioning of one of the body's opiate receptors. Her book on the topic *Molecules of Emotion* would be published many years later.

Large scale addiction to morphine began during the Civil War when the drug was used to treat wounded soldiers. Heroin was introduced in 1890 and legal opiate clinics were operated from 1912-1924 to try and stem the tide of crime associated with the drugs. The clinics were abandoned as a dismal failure in 1924 with no replacement until the methadone program was introduced in the 1950's.

Food-derived proteins (peptides) with opioid activity were first discovered in the late 1970's. They were





called exorphins to contrast them with the endorphins produced within the human body which were discovered by Pert and others. Dairy and wheat products are particularly rich in exorphins.

In the mid-1980's Dr. Elliott Blass demonstrated that sugar, like opiate drugs, stimulated the opiate receptor. Blass demonstrated that an 11.5% sugar solution blunted the pain a mouse experienced when its paw was on a hot plate. The effect was negated when the mice were given the opiate antagonist naltrexone.

Sugar is so close to vitamin C in molecular structure that it is not very surprising that the latter also has an affinity for the opiate receptor. Vitamin C has been used rather successfully in the treatment of addictions.

In 1977 Libby and Stone introduced a pilot program to treat addicts with large quantities of protein and vitamin C in addition to increased intake of a wide variety of nutrients.

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THE SECOND BRAIN

Michael Gershon wrote *The Second Brain* in 1998 in which he describes the mass of nerve tissues involved in the functioning of the digestive tract. The nervous system that guides the functioning of the digestive tract involves some 100 million neurons and boasts a direct conduit, the vagus nerve, which carries information from the gut to the brain.

The brain in the gut also uses 30 neurotransmitters so any manipulation of the emotions with drugs like SSRI's impacts both the brain and the functioning of the digestive tract. As a matter of fact about 95% of the body's serotonin is produced in the digestive tract.

Gershon suggests that many of what are called psychoneuroses may be directly linked to gut problems. He writes of gut pain, "The fact that doctors do not yet always know why it occurs is no reason either to dismiss its severity or to attribute the pain to what substitutes in the modern world for a supernatural cause, psychoneurosis."

At least 70% of the immune system is also targeted at the gut. Bacteria in the digestive tract can impact both neurotransmitters and also immune functioning. Intolerance to foods can also have profound effects upon both gut functioning and brain functioning.

Philpott tells the story of how Dr. Walter Alvarez, a prominent physician of his day, came to realize the importance of food intolerance to mental functioning. Alvarez took a trip into the mountains and upon his return was very hungry. He ate an en-

tire boiled chicken. A few hours later he developed severe diarrhea, experienced mental dullness, and suffered visual hallucinations of a strange new world of many colors. The condition persisted for four days.

One of Philpott's early psychiatric cases was a young man named Henry whose paranoid psychosis disappeared when he was fasted on water for four days. The psychosis returned when wheat was returned to the diet and disappeared again when wheat was avoided.

No one has done a better job of documenting the powerful effect of food and chemical intolerances upon mood than has Dr. Doris Rapp. Her video productions are convincing and document the ability of food and chemical intolerance to trigger irritability, hostility, withdrawal, depression, hyperactivity, fatigue, mental confusion, vulgarity, and pain.

Dr. Rapp has identified the "Big Five" hallmarks which indicate intolerance to foods and chemicals. These are 1) Changes in how an individual feels, behaves, and thinks, 2) Changes in appearance, 3) Changes in writing and drawing, 4) Changes in breathing, and 5) Changes in the pulse rate.

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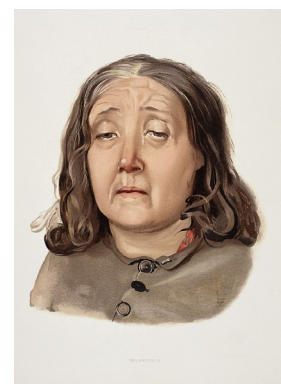




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GUT BACTERIA & MOOD

There is a great deal of evidence that the brain and the immune system have close functional interactions in both directions. The chemical signaling systems of the immune system appear to have particular relevance to the relationship between food and mood. These chemical signaling systems can be triggered by both the foods we eat and also by the bacterial populations in the gut which these foods nourish.

Pro-inflammatory immune chemicals (or cytokines) are known to elicit depressive symptoms, loss of enjoyment of life, and black moods. A leaky gut and absorption of harmful bacteria which activate inflammatory pathways may be the mechanism involved. Elevated lipopolysaccharides (LPS) appear to be a key contributor to the condition.

Smythies suggests that factors involved in creating depression include “psychosocial stressors, diets with high levels of refined carbohydrates and saturated fatty acids, low physical activity, smoking, obesity and vi-

tamin D deficiency.”

Anxiety-like behavior in animals is triggered by infection with disease causing bacteria, even if levels of infection are below those normally associated with disease. Inflammation of the gut has also been associated with anxiety.

Gut bacteria have the ability to alter perception as well. Cat urine normally triggers fear in rats. Rats infected with *Toxoplasma gondii*, on the other hand, find cat urine sexually stimulating. This is to the great detriment of the rats, but to the benefit of the bacteria which then take up residence in the cat.

In conclusion, a wide variety of factors can contribute to mood disorders and anti-social behavior. Those working with these individuals should consider nutrient deficiencies, toxicities, food intolerances, and gut problems including bacterial overgrowth.

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WEB RESOURCES

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