How do the cultures of developing and developed countries relate when one considers chemical sensitivities and relations to their belief systems?

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**Abstract**

One might argue that chemicals and brain functions have little or nothing to do with one’s personal faith and culture. Perhaps, everyone has a different reaction due to a different set of chemicals found in which all aspects of chemicals, religion, and culture are all connected. However, when chemical relations are looked into through connection to religion or cultures, such information may be found online or in magazines and educational articles. Many individuals have come to realize through such research just what society as a whole exposes each individual to in daily life that causes alterations in chemical body build and affects the thoughts and responses of most everyone. People respond to situations based on emotional and physical welfare, which are both changed and affected by the other due to chemicals within the body reacting with external chemicals. Religion is perceived in different lights based upon chemical and cultural development and can be slightly altered due to exposure to different and new chemicals and ideas, which also depend upon the initial chemical build of the individual.

1. **Introduction**

 The word ‘chemicals’ is common in my home. I live with my parents and five younger siblings, and we each experience different reactions to different exposures of various chemicals, all but my father. My father’s only symptom of any chemical sensitivity is his reaction to paint fumes. My mother’s family was diagnosed with “Chemical Sensitivities” in the mid to late 80’s after their church placed new carpet and they each had various reactions unusual to their daily lives. My aunt would break into seizures, my uncles breaking into nosebleeds and temper tantrums, and my mother with migraines and hives upon direct contact. Even my grandmother and grandfather would be out of sorts and irritable after days where a few hours were spent in another building.

 When exposed to chemicals I experience things such as eye twitching, “spontaneous shivers”, as my family calls them, rashes, hyperventilation, hives, or numbness are all also symptoms I have shown from direct exposure. It is also common to experience daily migraines at school due to exposure. At times I have been known to white out from some scents that were stronger than my body could sort oxygen out of, if only for a moment or so. From early on, my mother and I experienced different reactions to the same issue, which are all different from my aunt’s reactions or my uncles’ reactions. Each individual shows unique responses.

What about these “Chemical Sensitivities” causes different reactions for different people? Does it have any effect on the individual’s thoughts about their beliefs and morals? One may argue that chemicals have nothing to do with such ideas as faith. It could also be true that everyone has a different reaction because they were born with different chemicals in their body, or have different chemicals based on their diet.

 This is something that directly relates to me as well as others I have met. I am noticing in my interaction with those around me that most individuals seem to have a form of a Chemical Sensitivity, just that some react more violently than others. This caused me to wonder what effect this has on the brain directly, because it seems apparent that it does. If it did not, there would be no emotional or physical strain when the exposure was experienced. This also leads to the wondering of reaction to religious experiences upon an individual based upon the different chemicals they have been exposed to. For example, when I am sitting at church with my family, in a building with different chemicals than my body is accommodated to, I find difficulties in understanding entire concepts, and only understand portions of what is being said. However, at home where there are chemicals that I am used to, I am able to separate parts from the whole as well as understand the whole itself.

If chemical exposure does alter one’s perspective on religion as a whole, it seems logical to conclude that it would also alter one’s cultural perspective. Different chemicals are found in different parts of the world, due to differences in soil, plants, temperatures and debris exposure. Therefore, there are different reactions to differing chemicals in various regions worldwide. So many countries relate in more ways than they realize, specifically with chemical sensitivities in relation to their beliefs and practices. In order to alter chemical reactions for the benefit of the individual they affect, one may attempt to simply avoid contact with chemicals that are harmful to their health.

**II. Chemicals**

The philosopher and neuroscientist, Patricia Churchland, believed that ethics and beliefs were solely a conscious decision based on the individual and had no connection to biology whatsoever. However, after some research was done between biologists, Churchland would be amazed as to the differences chemicals such as oxytocin, a chemical known to cause the muscles to smoothen and act as though they are releasing milk for feeding an infant[[1]](#footnote-1), make when it comes to morals and ethics. Studies were mostly shown through working with voles. A vole is a small rodent resembling a mouse but with a stouter body, a shorter hairy tail, a slightly rounder head, smaller ears and eyes, and differently formed molars. Normally, the male are independent and the female care for all of the young with no assistance. Yet, when the male voles were given a dose of oxytocin, they began to show usage of parts of the brain that were previously inactive because of the presence of other chemicals, as well as a sense of caring for the offspring of the young around them, even those that were not their own. Interestingly enough, those exposed to specific chemicals counteract normal body production of most chemicals, which could account for differences in cultures based on different environments. [[2]](#footnote-2)

Toddlers are a prime example of how different individuals can each behave differently. They have long been known as handfuls when it comes to discipline, but research shows that women who are exposed to large amounts of BPA while pregnant cause their daughters specifically to misbehave. BPA is short for Bisphenol A, which is an industrial chemical which has been used in the making of plastics.[[3]](#footnote-3) The BPA found in these water bottles causes these girls to respond in fits and tantrums more frequently than those of even a normal toddler. Chemicals like this remain in the system for years and cause issues as these girls mature and become pregnant themselves.[[4]](#footnote-4)

Many, especially mothers, seem to have chemical issues with their children, in many different places. The chemical issues may, or may not be recognized as such because of their similar symptoms to other illnesses or diagnoses. Due to dry fires that are very common in states along the western coast, there is a great demand for fireproof or fire safe products. Chemicals that are produced to prevent fires are most commonly found among homes in California, causing an increase of women with chemical issues during and after pregnancies. These chemicals are causing issues within the systems of women and their infants. This is likely to alter their chemical compositions, leading to different thoughts and beliefs.[[5]](#footnote-5)

These types of chemicals are found in many places, many of which we fail to recognize their presence. In our daily lives we might eat out a few times a week, yet most of us don’t stop to ask ourselves just how many chemicals have gone into preparing the food we are eating. There are many toxic chemicals found within fast foods, most of which are used for other purposes on a daily basis. For example, titanium dioxide is in the salad dressings at Wendy’s, which is also used to manufacture paint, sunscreen, semiconductors, and food coloring. As these companies begin to expand, using the same chemicals for flavoring that they have, they will reach third world countries that are not exposed to such chemicals regularly. Depending upon the individual, the majority will more than likely suffer from a chemical overload within their immune system. Their white blood cells are likely to become overwhelmed with the amounts of chemicals and begin to attack their own kind. The reaction this will cause many to either question their own belief system, or become stronger and more dependent upon that.[[6]](#footnote-6)

Many in the U.S., who take vaccinations like they take their daily vitamins, are appalled when they learn of others who do not. Within third world countries however, these vaccinations are not as common, because what can have a positive effect on an already healthy immune system can be very negative on a poor immune system.[[7]](#footnote-7) Perhaps, if those who are so keen on sanitation were to allow their immune system to function as it should, there would be less need for sanitation chemicals and products.

Many of these products with chemicals cause the body to store the chemicals in excess, creating a Body Burden, which is the buildup of chemicals within the human body due to exposure. This specifically affects mothers and infants. In turn, this affects everyone as a whole, as we are all exposed to chemicals on a daily basis through commonplace items. Chemical build up will cause extreme body burden, leading to fatigue and irritation, affecting everyone. This will also cause an imbalance within the body for what the body is naturally supposed to produce chemically, as the white blood cells become accustomed to attacking any chemicals, good or bad that is new to the system. This will alter one’s mindset and therefore moral thoughts and actions simply based on the chemical influences.[[8]](#footnote-8)

The FDA in the U.S. attempts to protect U.S. citizens from harmful chemicals found in products. Products within American society are made so they are ‘sanitary’ and ‘safe’, just as other cultures strive to do worldwide. However, the more the chemicals are looked into for these “safety precautions”, the less safety is being guaranteed. The many items containing harmful chemicals that can do potential harm to an individual, especially one with as weak an immune system as infants, are found to be baby’s products. These chemicals can permanently alter the thought processes and chemical compositions of one’s brain function.[[9]](#footnote-9) In turn, the chemicals may alter the infant for life.

**III. Religion and Chemicals**

In focus on the brain’s reaction to faith and spirituality, there are specifics as to what occurs within different areas of the brain given specific events. Many believe faith to have health benefits. According to some studies, it has been shown that faith can be correlated with health benefits. Faith, prayer, and meditation allow the mind to relax and release different chemicals and areas of the brain depending upon what specifically the individual is focusing on. This can strengthen the brain and the emotional stability of the individual by exercising the lobes and chemicals as they are relaxed and released.[[10]](#footnote-10)

Others would argue that point saying that there are multiple parts of the brain which act to affect spiritual experiences for the individual. Professor Jordan Grafman, from the US National Institute of Neurological Disorders and Stroke in Bethesda, relates her research saying, "Our results are unique in demonstrating that specific components of religious belief are mediated by well-known brain networks, and they support contemporary psychological theories that ground religious belief within evolutionary-adaptive cognitive functions."[[11]](#footnote-11) Many scientists and neurologist still believe that religion and gods are both manifested from the human mind in times of dependencies. Though others believe the opposite is true.

Regardless to where faith first developed, there are certainly differences in the effects it has on different individuals around the globe. Some cultures and areas around the globe are more susceptible to health risks from chemical exposure than others. This is spoken of by a tribal member in Alaska, who said, "Indigenous Arctic peoples are among the most highly exposed people on earth to toxic chemicals, because these chemicals—DDT, PCBs, brominated flame retardants, and perflourinated compounds, to name a few—are persistent, and drift hundreds and thousands of miles north on wind and ocean currents from where they are manufactured from more southern latitudes. These chemicals contaminate our traditional foods and affect our health and the health of our children."[[12]](#footnote-12) There are many factors that go into these chemical exposures to both the environment and the human body, as the tribal member has said. These health concerns cause many to turn to a source of comfort from a higher being of one kind or another.

**IV. America- U.S.**

American values were founded upon the basic principles of freedom and pursuit of these freedoms. The different groups who were under the British rule each responded differently to the powers residing over them based upon the chemicals found in their diets and what they allowed into their religious practices. Those who found the British monarchy more overwhelming and restrictive than they thought best, travelled in search of a new land, winding up on the coast of current day Virginia. The pilgrims who made the journey became ill quickly and had a very difficult time adjusting to the new environment. This environment also consisted of different foods than the pilgrims’ bodies were not accustomed to, causing different chemicals to be introduced into their bodies.

Many in the U.S. expose themselves and their families to harmful chemicals in their daily lives without the knowledge of what is truly causing such harm. Mothers continue to experience miscarriages and cannot figure out what is causing the issue. Molly Grey is one such unfortunate mother. Grey miscarried twice before becoming pregnant with her son Paxton. This experience encouraged Grey to participate in a study of chemical buildup within her body and the cord for the fetus’ blood. Grey was among others who orchestrated the study, of which all of the results showed amounts of toxins found in car fumes and household cleaning products for each participant.[[13]](#footnote-13) These chemicals alter thoughts and ideals of those that are exposed due to chemical interactions occurring within the brain, including the counteraction of some chemicals commonly created by the human body. No wonder the youth of today have little respect for or simple awareness of the values that America was founded upon, their heads and bodies are literally filled with fumes.

The newly arriving pilgrims brought with them a completely foreign system of belief to the natives of the new world. The Christian ways of the pilgrims greatly contrasted with the beliefs of a “Great Spirit”, in which most Native Americans believed.[[14]](#footnote-14) Today there are more religions that are spread throughout the United States. Buddhism, Taoism, Hinduism, Wicca, Judaism, and Christianity are some such religions that are currently practiced within North America as a whole.

**V. India**

After discussing this topic in such a diverse country as the United States, it is interesting to compare these chemical effects to those of a less ethnically and culturally diverse country such as India. Many of the chemicals found in India are those that many other countries are cautious of due to an unknown effect on those who are exposed. These chemicals include some who allow products to be considered “green” or environmentally friendly.[[15]](#footnote-15) As one may think, this may not indicate health friendliness.

India’s main beliefs include in order of vastly Hindu, Muslim, Christian, Sikh and others.[[16]](#footnote-16) Generally the core beliefs of India are more focused upon personal wealth and gain more so than the growth and prosperity of the whole.[[17]](#footnote-17) Reasoning behind this is the majority of the population has a belief in reincarnation. The core principles of reincarnation involve the individual to focus on how well one does in this life and morally so that once their next life is reached they may increase in social status and become closer to their idea of heaven or Nirvana.

Looking at similarities between the U.S. and India, such as size and age variation of the populous and both were once British colonies, one might think that the two countries prior referenced are nearly sister-like in quality. Though one is the second largest in the world’s population and the other the third, this little relation shows the extent of the relation between these two countries.[[18]](#footnote-18)[[19]](#footnote-19) Due to the choice of chemical use in the fertilization of crops and manufacturing of products, India has far different chemical exposures than America. Perhaps this difference in chemical exposures can account for the differences between the belief systems and what is considered rude or perhaps what might be proper etiquette. Such as when India would not be using things like fertilizers or bathed in the river with the cows because of their Hindi faith.

**VI. Conclusion**

Chemical exposures are both harmful and beneficial in different areas depending on the levels of influence they have upon a society. In India, the chemicals assist in their economy with the “green” factor. However, these same chemicals may also show harmful for those working to build and farm with the chemicals directly. The chemicals are directly related to responses both physically and emotionally to spiritual matters.

Throughout the course of one’s life, they are continuously exposed to many chemicals and different religious beliefs. Simply walking through the mall in America exposes one to more chemicals than people in most countries are exposed to in a lifetime. Each family will have a very different set of values through their traditions and methods of raising their children, which can be reflection of their religious beliefs as well.

Chemicals can and do alter the brain in a way in which we each allow different thoughts to dwell in the forefront of our mind. Different chemical exposures change our individual emotional phases and, therefore, our overall outlook on our daily lives. From this one can conclude that chemicals can and do shape who we are as individuals.

Each individual differs in personality, beliefs, and passions. Chemicals can be positive and cause the individual to present a positive outlook, to focus and work towards a specific goal, to be firm in who they are. On the flipside, they can also cause mood swings, which are common among women and adolescents. This is due to the change in chemicals occurring within the life of a pre-teen or young teenager, and the constant fluctuating of chemicals occurring for women.

People respond based on their emotions and physical welfare, which both are changed and affected by the other due to chemicals within the human body. Those with stronger opposition toward a specific subject are those who are probably also more passionate about the subjects they hold to.

So it would seem that chemicals do make a difference when it comes to religious experiences, as they have an emotional effect on those who are exposed to those and have Chemical Sensitivities. Serotonin is one of such chemicals that affect the spiritual relations and experiences.[[20]](#footnote-20) The lower the levels of Serotonin, the more likely and more extreme the religious experience and views one is likely to have. For example, say there is a man who is a very devout Jew. His parents were Jews; his grandparents were Jews, back and back the man’s family claims to follow the Jewish faith. So the man has the chemicals from the traditionally kosher foods as well as from genetics. The man then goes on a business trip later in his life. He travels to America from his home country in the Middle East. The man goes to a small meeting with a friend and becomes introduced to Christianity and, despite his years of devout Jewish practices, he feels compelled that this is truth and converts. However, the Hindu man who was his friend traveling with him becomes infuriated with the lack of logic he views his friend to have.

Though chemicals alter and allow thoughts to lean one way or another, the mind is complicated and has many parts of the whole. Religion is perceived in different lights based upon chemical presence, and can be slightly altered based upon exposure different and new chemicals and ideas, which also depend upon the initial chemical buildup of the individual.

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