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## Futuristic Thinking about Engineering “Geneospirituality” to Help Prevent Relapse of Reward Deficiency Syndrome (RDS) Behaviors

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## Abstract

It is with a saddened heart that we are dedicating this article to the loving memory of our dear departed friend and associate B. William Downs. Bill was well known in the nutritional space worldwide for his major contributions to the health and welfare of millions around the globe. The founder of Victory Nutrition International (VNI) in conjunction with Kim Downs, as well as so many contributions to scientific literature, to those that knew him personally will forever be touched. Bill was a highly spirited human with a never ending love for caring and helping so many individuals. To know Bill is to walk in the face of a music lover playing drums, trained as a martial artist, and riding through the winds of a Beamer driven by an iconic man driven to victory. Our hearts may be saddened but Bills spirit to those that know him will be forever. In this article we discuss and review some potential futuristic concepts and technological advancements in terms of geneospirituality engineering to help prevent relapse and or even protect against an unwanted predisposition to RDS behaviors. Futuristic development may contribute to an attenuation of both DNA antecedents as well as epigenetic reward system insults leading to unwanted substance and non-substance addictive behaviors.

## Keywords

Futuristic Thinking; Geneospirituality; Reward Deficiency Syndrome (RDS)

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## Introduction

Spirituality is an important aspect of one's behavior, which relates to the construct of medical genetic engineering. *Homo sapiens* are involved with growing catastrophes mostly due to climate change, international and domestic terrorism, unrest, and war, which causes major population relocation, secluded/confined for contagious virus outbreak and spreading, hate groups, and racism. These catastrophes cause major problems to survive and leads to challenge to find happiness, joy and peace in daily life [1]. These catastrophes lead to

consideration of applying genetic engineering in increasing human devotion and various religious worship - (gene-spirituality) with futuristic out of the box thinking in terms of finding novel genes that enhance ones ability to potentially help accept spiritual thinking and practice [2,3]. Currently, the process of developing intelligence to developing superhero bodies relies on medical genetic engineering. In fact, Tucker., *et al.* conceptualized the probability of gene editing to modify motor activity, enhance metabolism and reduce body weight, adiposity and increase healthy lifespan in animals [4]. Furthermore, the novel discovery of CRISPA (clustered regularly interspaced short palindromic repeats), segments of prokaryotic DNA, which received a Nobel Prize, is in our opinion not as important as transplicing is for neurological disorders. So potentially the resultant transplicing molecules to be found would not affect the DNA or future germ-cell lines. This is important because indeed, if scientists are capable of developing appropriate spiritual -accepting genetic constructs initially they should just encode specific RNAs.

Understandably, gene expression alterations are modulated by ribonucleic acid (RNA) that alter human genes during evolution, as well as modifications in gene variant frequencies. The functional products of encoded genes need location- and time-specific triggers, which certain gene polymorphisms are incapable of ergo gene editing, which may be required. Knowingly, genes are abundant in all the cells during a person's life. The time-specific triggers are necessary in that they do not affect DNA specifically and may encode for increasing mRNA transcription via trans-splicing techniques. Which can either induce internal developmental events and circumstances or external environmental factors and conditions. Thereupon, learned traits have no interrelation with genes but may, as for any characteristic, impact evolution over a number of generations especially via epigenetic mechanisms. Socially learned traits, viz., organic traits in general, can be chosen positively or negatively, because these impact survival and reproduction [5].

Current technologies such as gene modification viz. CRISPR [6] or even better transplicing technology are capable of altering human religiosity or spiritual sensitivity [3]. Moreover, in near future, modifying the target gene or modulating it to alter/encode any gene of interest can be a process to engineer genetic spiritual and religious behaviors provided a faulty spirituality gene can be detected earlier.

## Spirituality genes

Previously, the dopaminergic gene function which enhances pleasure and reduces stress [7], Blum., *et al.* [8] indicated by Hamer's [9] findings that the ability of dopaminergic genes to generate innate optimism drives their responsibility for spirituality. Certainly, and specifically, some investigations have demonstrated that maximum "feel-good" sense usually lead to the feeling of living and propagation, despite death's inevitability. While grief is overwhelming when faced with a loved one and loss, spirituality both religious and non-religious provides some degree of relief. In the latter scenario, optimal promotion to the positive value for improved health and fast recovery from illness (e.g. RDS) [10].

It is noteworthy, Comings., *et al.* had discovered the particular role of the DA D4 receptor (DRD4) gene in spirituality [10]. The DRD4 gene is linked to Novelty-Seeking (NS)

[11]. Furthermore, these researchers exhibited a correlation of the DRD4 gene with Self-Transcendence, the association with NS was not found in their sample of SUD [12]. Moreover, Comings reported that patients who received high score on Self-Transcendence were motivated not to use alcohol or drugs [13].

In fact, Nilsson., *et al.* [14] demonstrated Self-Transcendence and its subscale in accepting a spiritual journey in 200 people matched for age, gender, and risk behaviors. Interestingly, serotonin transporter polymorphism 5-HTTLPR (serotonin-transporter-linked promoter region) in the blood samples of young boys demonstrated Self-Transcendence and Spiritual Acceptance, which were inversely correlated with the short 5-HTTLPR genotype and positively correlated with the short AP2beta genotype. Predominant interactive effects between 5-HTTLPR and AP-2beta genotypes regarding self-transcendence indicators and spiritual acceptance were demonstrated in both boys and girls. Moreover, the homozygosity for the long AP-2beta genotype together with the short 5-HTTLPR scored remarkably decreased on self-transcendence and spiritual acceptance [14].

In fact, Borg., *et al.* observed a remarkable involvement of the serotonin1A receptor gene with self-transcendence scale scores with the substance of spiritual acceptance. These authors reported that reduced ethanol binding and higher serotonin levels in the individuals with highest self-transcendence scores [15]. Melman [16] suggested that serotonergic neurotransmission in certain human investigations seem to mediate human religious and spiritual experiences.

Most importantly, Comings rationalized that the “feel-good” nature of dopaminergic neurochemistry may explain why most people derive happiness and comfort from belief in a God and why spirituality has a powerful troupe in the human condition [13], in spite of his insistence that “man created God” not the other way. Understanding epigenetic mechanisms whereby  $P = G + E$  whereby P is the phenotype (believers of God) and G is the genotype (Geneospirituality) and E is environmental impact via epigenetic mechanisms (acceptance of a higher power). Keeping this in mind accordingly [10], it is the scientific consensus that in essence it is well-established that in terms of RDS behaviors, both a DNA pre-addiction risk at birth as well as environmental or epigenetic impact, which is passed on from grandparents to parents to children [17]. may impact one;s future romance with psychoactive drugs and or even gambling and aberrant overeating.

While the jury is still out, regarding the exact causes of RDS, the etiology may involve may involve not only genes, but also psychological factors [18]. And, possibly, spirituality (known as “Geneo Spirituality”). The most common discussed role for genetic engineering is its role in medicine [9]. However, one unidentified area is the theoretical incorporation of genetic engineering to enhance human spiritual and religious experience - or geneo-spirituality. In terms of engineering genes which assist ones acceptance of spiritual and religious behaviors, Homo-sapiens may be able to choose their degree of religiosity or spiritual sensitivity [3]. One interesting caveat is related to the idea of “determinism” vs “free choice” whereby inside influences define what we might believe in or not.

For example, it may become feasible to enhance the likelihood of direct religious experience - i.e. 'revelation': the subjective not objective way of communication from the deity [20]. Or people may be able to engineer 'animistic' thinking, a mode of cognition in which the predominant features of the world - such as large animals, trees, or distinctive landscape - are regarded as sentient and intentional beings, so that the individual experiences a personal relationship with the world or possibly with GOD. Another plausible popular spiritual ability would probably be shamanism; in which states of altered consciousness (e.g. trances, delirium or dreams) are induced and the shaman may undergo the experience of transformations, 'soul journeys' and contact with a spirit realm. Ideally, shamanistic consciousness could be modulated such that trances were self-induced only when wanted and when it was safe and convenient; and then switched-off again fully when complete alertness and concentration are necessary [21].

It appears that there will be trade-offs for augmented spirituality, such as individuals becoming less 'driven' to seek status and monetary rewards - because of being more spiritually fulfilled. *Homo sapiens* could also work less hard and increase their leisure time. Potentially it is also likely that highly altruistic, moral, peaceable, and principled behaviors might become more prevalent; and the energy and joyousness of the best houses of worship could spread and be an overall force in society [3]. While there have been many anti-religious groups and even retorting, there is some evidence that belief in a higher power has anti-drug abuse relapse events [22]. Generally, geneo spirituality is most probably utilized by people who were incapable of having the kind of spiritual or religious experiences which they wanted (or perhaps even required) to lead the kind of life to which they desired. However, for some religiosity is not akin to many people's lifestyle [23].

Moreover, addictions to smoking, alcohol, illicit drugs, and certain behaviors like gambling, overeating, and sex, are prevalent worldwide and continues to increase especially regarding opioid induced overdoses[24]. Unfortunately, these behaviors are very destructive and costly to many individuals and society, due to health consequences, criminality, and lost productivity. The genetic vulnerability, epigenetic/environmental exposures, and individual selective non-productive behaviors that contribute to brain dysfunction and compulsivity, as one type of behavior, that can induce, or mark addiction make it one of the most complicated diseases to evaluate and treat.

While much has already been gleaned and learned about the genetic/epigenetic basis of and biochemical imbalances associated with addictions, there is indeed a paucity of research linked to clinically effective treatments. RDS and associated substance and non-substance addictions are often accompanied by an inner sense of disintegration, enslavement and meaninglessness that can be thought of in terms of a spiritual craving for wholeness, freedom, and transformation [25]. Since it is well-established that for example SUD is multi-faceted and includes physiological, psychological and spiritual aspects, certain progress in regard to effective treatment has been retarded by insufficient attention being paid to understanding the role of spirituality in helping to heal dependent individuals caught up in the negativity of RDS [26].

If the brain mediates all conscious and unconscious experiences- including spiritual experiences-healing, like addictions, it seems to be related to the processes by which the human brain is organized for controlling pleasure and pain [27]. With these thoughts presented herein, we theorize that a healthy spirituality may come more naturally to some individuals, because of the unique interaction of their genes and their environmental induced positive epigenetic impact (possibly via belief in GOD) but negative (bad parenting) that can occur up to three generations without an effect on the DNA [28].

In our view a major area for genetic engineering is linked to its impact related to the fields of psychology and psychiatry. Most notably, one neglected area is the theoretical but important utilization of genetic engineering to enhance human spiritual and religious experience - or genospirituality. If specific technologies are developed which can conveniently and safely engineer genes causal of spiritual and religious behaviors, then individuals could become able to choose their degree of religiosity or spiritual sensitivity. Importantly, even if there were engineered genes linked to acceptance of spirituality many would not opt to have these genes planted in future germ cell -lines and remain atheistic [29]. In fact, approximately 3% of Americans declare to have had a near-death experience. These experiences classically involve the feeling that one's soul has left the body, approached a bright light and went to another reality, where love and bliss are all encompassing. Contrary to popular belief, research suggests that there is nothing paranormal about these experiences. While some believe that this experience mirrors future heaven, near-death experiences are the manifestation of normal brain function gone awry, during a traumatic, and sometimes harmless, event.

Nevertheless, we now have a message of hope, with our government research bodies supporting highly sophisticated research, across multiple disciplines and possibly even research directed to finding novel genes that could impact one;s religiosity or spirituality. As Dr. Nora Volkow, Director of the National Institute of Drug Abuse, has espoused, we need: "All Hands on Deck".

Every day, several million people are increasingly unable to combat their frustrating and, even, fatal romance with getting high to experience "normal" feelings of well-being. What price should they pay to experience this innate, natural experience? Why not slush down a few martinis at lunch or smoke a joint, before going to school. On the heels of decriminalizing and even legalizing cannabis without understanding all the toxic evidence with high dose THC (Tetrahydrocannabinol) [30,34] may not be prudent. It is parsimonious to point out that previously people have been thrown into jail in Texas and other states for just smoking weed. However, many are seeing the day of light, because of pardons.

However, the most fundamental question is: Is there a "cure" for this unwanted hypodopaminergia molecular genetic rearrangement , which is present, at birth, and has been impacted by the environment for, at least, two generations via epigenetic effects. A resulting, induced, impaired, brain dopamine responsivity is the essence of RDS.

## Conclusion

Hopefully, in the not-too-distant future, through the dedication of a worldwide scientific effort, it is our hope that the earth's inhabitants will be free of pain, disease, and addiction, and eventually find that Paradise, which is described in "The Garden of Eden!"

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