

## Neuropsychiatric Genetics of Happiness, Friendships and Politics: A New Era in Understanding Social Interface

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In the most recent paper published in this issue of the *Journal of Genetic Syndromes & Gene Therapy*, by our group [1] concerning the evolutionary theory related to the principles of the entire field known as Omics, spiritual, social and political behavior, we pointed out that inheritable reward gene polymorphisms predict liberalism and conservatism as well as friendships and happiness. While the aims and scope of this journal are to promote an understanding of genes and genetic syndromes and the application of gene therapy our paper may seem inconsistent with the journal's primary scientific purview. Indeed unlike medical conditions where therapeutic targets from genetic information lead to the development of pharmacogenomic agents to treat, understanding the neuropsychiatric genetic make-up of liberals compared to conservatives can be described as a genetic syndrome but does not constitute any treatment paradigm.

In his book *Moral Politics* [2], the first full-scale application of cognitive science to politics, George Lakoff analyzes the unconscious world views of liberals and conservatives, explaining why they are at odds over so many seemingly unrelated issues –like taxes, abortion, regulation and social programs. The differences, Lakoff argues, are not mere matters of partisanship, but arise from radically different conceptions of morality and ideal family life-suggesting that family and morality are at the heart of American politics, in ways that are far from obvious. This unobvious difference may reside in an individual's genome and could be expressed through social interface whereby the environment impacts our DNA and related mRNA transcription.

Certainly, it is of great interest that both drinking (alcohol) and obesity seem to cluster in large social networks and are influenced by friends having the same genotype in particular the DRD2 A1 allele. Moreover, it is equally remarkable that voting, voting turnout and attachment to a particular political ideology is differentially related to various reward genes (e.g. 5HTT, MOA, DRD2 and DRD4).

It seems parsimonious that in light of the relationship of genes and politics especially as a new discipline in human nature [3] to briefly discuss perceived differences between liberals and conservatives. To liberals especially as it relates to family values the conservative view seems quite contradictory. Conservatives are largely against abortion, saying that they want to save lives of unborn fetuses. The United States has an extremely high infant mortality rate, largely due to the lack of adequate prenatal care for low-income mothers. Yet conservatives are not in favor of government programs providing such prenatal care and have voted to eliminate existing programs that have succeeded in lowering the infant mortality rate. Liberals find this illogical. It appears to liberals that “pro-life” conservatives do want to prevent the death of those fetuses whose mothers do not want them (through stopping abortion), but do not want to prevent the deaths of fetuses

whose mothers do want them (through providing adequate prenatal care programs). Conservatives see no contradiction. Liberals also find it illogical that right-to-life advocates are mostly in favor of capital punishment. This seems natural to conservatives “a life for a life”.

Conservatives are willing to increase the budgets for the military and for prisons on the grounds that they provide protection. But they want to eliminate regulatory agencies whose job is to protect the public, especially workers and consumers. Conservatives do not conceptualize regulation as a form of protection, only as a form of interference.

In these cases and others, what is irrational, mysterious, or just plain evil or corrupt to liberals is natural, straightforward and moral to conservatives.

Furthermore, the term “nurture” has two related senses, one having to do with nurturance and the other with environmentally determine rather than genetically determined factors in human development, as in the opposition of between “nature and nurture”. Nurture is certainly an environmentally determined factor, and it tends to lead liberals to look almost exclusively at environmentally determined factors in social and political explanations. However, conservatism uses both nature and nurture as a means of explanation for social problems. Accordingly, unsuccessful people are that way for one of two reasons: because they lack either a) character (which is environmentally determined) or (b) talent (which is genetically determined). This is why conservatives tend to like books like *The Bell Curve* [4] which provides the second explanation for the economic failure of blacks- lack of talent.

It is easy to apply common sense to the reasons for the differences between Liberals and Conservatives without taking into account ones genome. In that sense there is black pride, and gay pride but no liberal pride. Conservatives on the other hand have developed strong clear messages concerning morality and ideas relate to reward and punishment. Conservatives have taken the term “morality” for

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themselves and liberals have let them have it. According to Lakoff [2] “The great issues are not policy issues but moral issues. Wonderful words and expressions like Freedom, Liberty, Integrity, the Rule of law, and the American way of life have come to have a conservative connotation. Right now conservatives own these words and it is time to [liberals] take them back, to give them proper meanings again with nurturantmorality”

The real question Blum et al. raise [1] is not a political one instead it illustrates the power of our genes in face of social interface and as such the fate of America may not be as obvious to our political leaders as it is to knowledgeable gene sleuths and neuropsychiatric geneticists.

While it would appear that understanding human nature and genetic impact may not have direct relevance to illness and or disorders, findings related the concept of “Birds of a Feather Flock Together” – and common genotypes definitely impact health and disease. This is underscored with the knowledge from studies in our laboratory [5] that families showing many “Reward Deficiency” behaviors (e.g. alcoholism, psychostimulant abuse, smoking, gambling, food bingeing,

sexual addiction etc) marry mates with the same DRD2 - A1 genotype and as such influence an individual’s quality of life having a high risk for reward dependence behaviors which will impact not only how we behave politically but how we feel.

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