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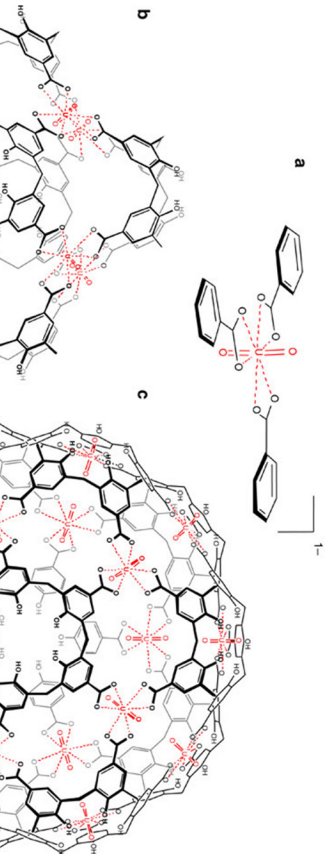

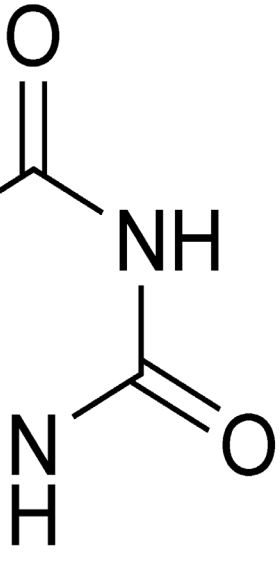

Recently, researchers for the Psychiatric Genomics Consortium discovered overlap in the genetic factors for several human psychological diseases. They analyzed many different research articles to identify strong links between genes and behavior. In other words, looking at a large number of individuals' records, they have found that schizophrenia, bipolar disorder, and major depressive disorder share genetic risk factors. The implication for improvements in therapy and psychiatric medicine is enormous.

Let me give an introduction to genes. During a process called meiosis, alleles, which are one of two or more alternative forms of a gene and are found at the same place on a chromosome, are rearranged. Each of us inherit an allele, one from our genetic mother and father. While alleles confer characteristics such as eye color or hair color, there are also other more subtle variations called single nucleotide polymorphisms (SNPs). SNPs are variations in a single base pair in a DNA sequence, the building blocks of genes.

Effective therapy arises from understanding the origin of a particular disorder. But we know that disorders often arise from both genetic and environmental input. Despite this research and previous knowledge, relatively little is known about the causes of certain psychiatric disorders.This 2013 study of SNPs, published in *Nature Genetics*, revealed considerable overlap of genetic risk factors among 5 diagnostic groups.

In an article published in the journal *Neuron* in 2010 describing genome-wide association studies, Patrick Sullivan, a member of Department of Genetics at the University of North Carolina wrote that "genetic risk factors are at the beginning of the causal chain that leads to disease." Sullivan goes on to say that"the synergy between genetics and biology will pave the path to true understanding of how genotype confers risk for phenotype and gives us the best chance of really understanding these disorders and paving the way for more effective therapies." To successfully treat individuals, psychologists and psychiatrists must have an understanding of potential genetic causes.

If schizophrenia, bipolar disorder, and major depressive disorder arise from similar combinations of many genes, maybe they require similar treatment. This research promises better therapy for psychiatric illness.

The number of people who stand to benefit from this research is considerable. According to the National Institute of Mental Health, bipolar disorder affects approximately 5.7 million American adults each year.