

The Human Race and Genetics  
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Bio 110  
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Fall 2020

## **Race and Genetics**

The definition of race has evolved over generations and caused pivotal changes throughout history. How does one define the human race? Webster's dictionary defines human race as: "human beings in general; humankind". This is interpreted as every human at their core, is akin to one another, despite the physical differences. At what point in human history did physical appearance such as a person's skin, hair, or eye color become enough for another person to ostracize them? A question that many inquire about is whether race is biological, or a social construct created by those who want to adapt a hierarchy to justify their judgments and oppression within society. Genetic research, medical studies and experiments have proven race isn't biological. Research of human evolution and evaluation found that these genetic differences vary within the population depending on environmental and adaptive changes that could affect one's skin, hair, and eye color that would be generalized in a particular racial group.

### **Race Vs. Human Genetics: Hair**

One of the first features a person notices on someone else is their hair; between color, style, or the different textures it comes in. It has been known that the type of hair on an individual has been linked with their ethnicity or where they come from, recent studies disprove that accepted myth. A biologist from Harvard stated every person has similar genetic coding for hair, but there are alleles that lead to people having different hair characteristics. In addition, the results from a study conducted by Stanford University showed that more than 92% of alleles were found in multiple regions of the world; a majority of the alleles were found in all of the main and most populous areas of the world

(Chou, 2017). This study shows that a type of hair isn't specific to one race and can be found anywhere in the planet.

### **Genetic Variation Vs. Race**

Humans have a great deal of genetic variation; this variability is gene individuality, not race. Characteristics such as skin color have been used to describe an individual's ethnicity. These adaptive traits, however, represent the underlying environmental conditions to which the body has adapted to genetically rather than an idea of race. In various evolutionary tree divisions, the recent research literature on human evaluation portrays that there is no reasonable criteria for the selection of an adaptive tree to characterize a race. Adaptive traits should not define human races. (Templeton, 2013).

### **Genetics and Race in Medicine Research**

Human race is a social construct that has caused many controversies globally for thousands of years. Physical traits that have adapted over a millennial such as, eye color, skin color, and hair texture have been used to categorize and generalize groups of people, but these traits do not define a person's race. In 1972, a Harvard biologist named Richard Lewontin created an experiment to test the genetic variations between people of different races. He found that there was about six percent of genetic variation that could be associated with race. This was deemed not enough to claim that race is influenced by genetics (Goodman, 2020).

There are studies that follow the connection between race and genetics. These studies show that the idea of race contributed to many disparities in medicine. For example, there has been a history of black women being turned away for medical attention due to the

misconception that because they are black they are not susceptible to osteoporosis (Goodman, 2020). This is simply not true. Although it is true that African American women whose family ancestry dates back to Africa have a higher bone density; appearing black does that exclude them from the disease (Hamrick, Cao, Dorothy, & Cummings, 2012). Studies have shown that this misconception have led to dangerous health risk for this population of people. (Cauley, 2011).

### **The Truth About Stories**

In the book “The Truth About Stories”, Thomas talks about taking a trip to New Mexico to photograph Native American Indians with his brother. Along the way they stop by a popular Will Rogers museum tourist site off the highway. They assume most of the tourists think Rogers is a famous cowboy because of the way he looks, when he is in fact a Cherokee Indian. Wanting to get shots of “real” Indians, his brother got worried while looking at the Rogers statue and asked, “What if they all look like Rogers? I know he’s Indian, said my brother, and you know he’s Indian, but how is anyone else going to be able to tell?” (“The Truth About Stories” 2010, page 42) Although Rogers was Cherokee, he looked the part of a western cowboy and Thomas’ brother was worried because he wanted people to be able to look at his photography and see a specific group of people.

### **Summary**

Outwardly we are all unique but we share similar qualities such as skin color, hair texture or eye color; Biologically speaking, however, we are overwhelmingly alike. Race embraces a complexity we are still learning to understand scientifically and socially, it is also continuously being challenged. We all are part of the same

species containing 26,000 genes. It is important we embrace our differences on the outside optimistically and remember, on the inside, we are all humans.

**References:**

- Cauley, J. A. (2011, July). *Defining ethnic and racial differences in osteoporosis and fragility fractures*. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/21431462/>
- Chou, V. (2017, April 17). *How Science and Genetics are Reshaping the Race Debate of the 21st Century*. Retrieved from <http://sitn.hms.harvard.edu/flash/2017/science-genetics-reshaping-race-debate-21st-century/>
- Goodman, A. (2020, March 13). *Race is Real, But It's Not Genetic*. Retrieved from <https://www.sapiens.org/biology/is-race-real/>
- Hamrick, I., Cao, Q., Dorothy, A.-M., & Cummings, D. M. (2012, Nov 9). *Osteoporosis healthcare disparities in postmenopausal women*. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/23140203/>
- Templeton, A. R. (2013, May 16). *Biological Races in Humans*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3737365/>