Signature Assignment: Dichotomy Paper

Aynoa G. Rincon Rondon

Salt Lake Community College

Throughout the creation of the world, there has always existed the idea that we are all created by a superior figure. Many people have opposed this idea, but this idea has also been followed by many more people. In addition to this concept, hypothesis about the relation between sex and gender and the difference between race and ethnicity have also emerged.

As a result, scientists are working to discover human differences and relations within race, ethnicity, gender and sex. produce hypothesis and experiments about human differences and relations. In this paper we are required to read two research papers. One, is called “Genes and Hormones: What Make up an Individual’s Sex” by Daniela Crocetti, and the second paper is titled “Climate-related Morphological Variation and Physiological Adaptations in Homo Sapiens” written by Gary D. James. This two papers are basically about Human Biological function within reproduction and adaptation with the influence of culture, also how environment can affect our biological development.

To begin with, it is important to mention how different humans are (biologically and culturally);. Even though we all share common links or connections, we all have something that make us unique and special. Specialist have drawn lines to differentiate us in categories or groups depending on our phenotypical variations. The most common one is gender and sex, wh9ich has been separated over time but in reality one is just the gene code of the other. Crocetti also talks about gender identity in her article *Genes and Hormones: What Make Up an Individual’s Sex* “Gender identity is related to the concept of gender role, but whereas gender role often represents culturally specific stereotypes and activities, gender identity refers to which of the gender categories one self-identifies with, regardless of stereotype behavior” (2013). Basically, according to how culture shapes society we all have a role depending on our sex.

We are taught in school that sex comes from chromosomes (in some cases). XX chromosomes indicate a female and XY chromosomes indicates a male. These genes are transmitted by parents to their offspring, as a result when this genes combine they produce a new female or male with the correspondent expression of their genes (sexual structures).But, sometimes variations occur, and sadly most of the times they are not welcomed by society and culture. During meiosis, the cell could make a mistake in the reordering of molecular information and there is a variation in the genetic information, which will express later as the phenotype. These spectrums arte known as DSD (Disorder of sex development),

This, is the foundation of all individuals to define who they are and where do they belong to. Most of the times these diseases are really complex, and they are not easily accepted by society and culture. For example, Gender dysphoria, which is “a medicalized term for transgenderism, this means that individuals live a different gender role that the one assigned them at birth, usually because of the appearance of their genital” (2013). It is not common in society, but if someone Latino has this spectrum, he or she would be seen as a “monster” or they would be called by nick names or offensive words.

How body looks is important in this scenes but, also how it function is important too. DSDs are not considered bodies with functional problems, but bodies that look different physically and genetically. It basically has to do more with hormone codification and less with genitals. Hormones doesn’t have a gender, we all have both types of hormones but, each of them are necessary for different processes. For transgender people “hormones help them to adjust their body to fit their identities” (2013). But it is not adapted equal by all cultures. In some places treatments for DSDs patients is not available or they are made follow what society says it is okay, when it not what is medical correct.

Sex and Gender really variate depending on the individual, but we are mostly classified by women and men, even though there are different groups which nowadays have raised up their voices to define different limits in this categories. But, this classifications does not occur only with sexes and gender. It also occurs in Races and Ethnics. Around the globe we can find different morphologies among people; different height, weight, skin color, face shape, etc. But, according to the evolution theories we all evolved from one group, which immigrated to many different parts in the world. Throughout years they changed their manners and also, their physical appearance because climate and environment. So, as we can see, environment will make us evolve and change to adapt and survive to generate new generations who can also survive and repeat the sequence,

Theorist have shown us that we all come from Homo sapiens who evolved and their population spread around the world, reaching places where is difficult to go into even today. A common question today is: Why are we so different? Well, what most people don’t know (or they try to not believe) is the idea that environmental factors shaped us after thousands of years, just to make us able to survive. It is registered that “the first human” came from Africa. A common miss understanding (and I consider disrespectful too) idea about Africans is that because they are black they evolved from monkeys. Primates and humans are in the same lineage, but we are not close relatives. So because of this, people have been segregated and separated by their physical appearance (skin color, eye color and morphology). As a result the word “race” was created, it refers to human categorization in groups that share similar physical traits. It is often used to share cultural similarities among individuals. This differences, as I mention before, does not make human races any less or more than other. Is just the capacity of the human organism to adapt itself to the environment, generation variation within individuals to make the specie prevails.

To show this idea, we can see how humans in different latitudes can develop different morphologies. According to Gary D. James in his research paper Climate-related Morphological Variation and Physiological Adaptations in Homo Sapiens “Bergmann’s rule states that, within a wide-ranging homoeothermic species, body mass increases with latitude and with decreasing ambient temperature” This means “that animals with greater mass have a lower ratio surface area … which in the cold, will radiate less body heat and stay warmer”. This is the same in warmer places, smaller animals with less body surface will stay cooler. We can see this theory in humans too, for example if we go to Africa we can see individuals with longer limbs who have greater heat dissipation. On the other hand, If we take a detailed look the north pole or maybe the east part of Russia there are groups of people that we call “Esquimalt” and they tend to have a wider radio of surface (more mass) so, they have shorter limbs and they don’t lose heat so easy; on the contrary they can keep themselves warm. But what about if we take someone from a warm country to a cold country. What might happen to this individual? Well, he/she might not get adapted to this weather, as a result it can damage their health.

Temperatures also shapes human morphology, “Cold and dry air holds little water vapor, but the respiratory system must remain warm and moist in order to function properly. It is postulated that a narrow, beak-like nose improves the turbulence of cool dry air when this is inspired, heating and moistening it so that it will not damage lung tissues” These body acclimatization improve abilities to survive. For example when Africans migrated to Asia wind was a barrier for them, so thought time their eyes shape changed and they became longer in the edges and narrower, which does not let the air come inside their eyes when they are opened.

Adaptation to the Sun radiation has been really important and necessary through human development. UVR (ultra violet radiation) can change the skin color, it is also determined by the presence of melanin too. According to Gary D. James Melanin is a pigment in the epidermis (2010). This, makes you more or less vulnerable to UV exposure. As I said before, it has been scientific proof that the first population that immigrate4d was African, and they were dark skinned because of the exposure to UVR in Africa, natural selection made them develop a darker skin which protected them and also they didn’t have as much vitamin D as other groups with lighter skin. We can see skin color variation all around the world. Another important factor is closeness to the equator line. As a personal example I can see now why my grandfather (who was from Spain) had a longer, and bigger nose, than my grandmother who is from the coast of Venezuela. Also, most of South American countries which are closer to the equator tend to have darker skinned population much larger than lighter skinned populations.

Lastly, Health has also has been influenced by Climate too. Some groups of individuals are less vulnerable to retain salt than other who does retain salt. “Recently, Young and their colleagues (2005) have reported a geographic cline form the equator to the higher latitudes, of “heat adapted” alleles from five functional genes that affect salt retention and blood vessel tone” On context, we can say that if some of this individuals recently moved to somewhere where the dietary salt intake is higher, it would be a major risk factor in hypertension. Other example could be Africans living in cold and freezing temperatures in the Antarctic, this situation could cause them chronic cold stress, because”…blood pressure in Africans is much more sensitive to change… (2010)”Also, the migration of dark skinned people to cold places will cause and increase in vitamin D production, on the contrary people with lighter skin to equatorial regions will lead to an increment in skin cancer (2010).

Therefore, all we have mentioned before will lead society to divide each one in groups depending their locations and morphology. Each of them will “sub-classified” each one as a “specie” which, is basically a race. Sex and gender -as I said before, are very different because one will be on your genetic code, while another is the expression of it. In some cases, variations will occur and there will be an anomaly in the individual which, can or cannot be accepted in society leading this individual to be isolated or maybe, group with someone with the same characteristics, basically creating a new ethnic or race. By the same way, race will be influenced by cultural beliefs and physical characteristics. In addition, ethnicity will also get together with race because a group of people with the same traits will also share cultural, religious and linguistic background. The most important thing is that we could establish a common ground or foundation where we all define each other as equal or at least similar individuals, even though we are different, so we can all cohabit and live together. Because we all belong.

REFERENCES CITED

Crocetti, D. (2013). Genes and Hormones: What Make Up an Individual’s Sex. In M. Ah-King (Ed.), Challenging Popular Myths of Sex, Gender and Biology (pp. 23-32). Switzerland: Springer International.

James, G. D. (2010). Climate-Related Morphological Variation and Physiological Adaptations in

Homo sapiens. In C.S. Larsen (Ed.), A Companion to Biological Anthropology (pp. 153-166). Oxford: Wiley-Blackwell