

The Significance of Race in American Forensic Anthropology

An essay submitted in partial fulfillment of

the requirements for graduation from the

Honors College at the College of Charleston

with a Bachelor of Science in

Anthropology

Willa Midgette

May 2016

Advisor: Suzanne Abel

Introduction:

Race is a topic which has been at the forefront of academic discussion recently in many fields, and for good reason. Race's applications to life seem to be infinite, and its many forms have had an unquantifiable effect on the shaping of societies throughout the world. Race has recently been especially applicable to anthropology. Anthropology is the study of humans, and "race" is a uniquely human condition, necessarily making it an integral aspect of anthropology. There is a divide between cultural and forensic anthropology when it comes to the subject of race, and this divide is especially visible in the United States. It is important to note and identify the difference because even in the 21st century, race continues to be a hot-bed issue, and is at the root of many social, political, and economical problems in America. Anthropology is largely steeped in the social and cultural aspects of life, so it makes sense that the "race issue" would carry over and be fundamental to having a firm grasp of anthropology.

The four field approach to anthropology originally created by Franz Boas exists to increase specialization and focus within anthropology, and naturally along with this specialization comes a difference in opinion on certain issues due to the different experiences had by members of each of the four fields and the distinctive methods they employ in their anthropological research. It is not necessarily imperative that the four fields of anthropology fall into complete agreement on what "race" is and whether or not it should be used as a term to categorize groups of people, but it is necessary that there be a dialogue between them for the purpose of not only anthropology, but for the betterment of the United States as well.

The United States was founded on a colonial model which very quickly adopted slavery for its economic benefit. Europeans brought Africans to North America against their will, viewing them as subhuman. They separated themselves from African men and women using a socially and culturally constructed view of superiority based on a meritless phenotypic variation; skin color. This prejudice was an incredibly useful means to justifying slavery (Carter 2013). Hierarchically stratified groups based on “race” have therefore always been a part of American history. Due to the longevity of socially constructed race in the United States “race” remains an inescapable construct which carries with it not only phenotypic connotations but cultural, behavioral, and intellectual ones as well.

Even with the abolition of slavery and the advent of civil rights laws, legal equality has not been matched by social equality. The association of certain behavioral traits with socially identified racial groups has made the concept of discrete racial groups detrimental. These connotations have caused deeply rooted social issues and have denigrated groups of people, affecting their opportunities for access to education, healthcare, and housing to name a few. The reason that forensic anthropologists have such trouble legitimizing their definition of race is that there is a much larger problem with race at stake within the United States.

Because of the incorrect use of phenotypically defined race (i.e. skin color) as a factor in the causes of negative behaviors and lesser levels of intelligence, there is a growing trend to discontinue the use of the term “race” to differentiate between groups of people in the United States. Cultural anthropologists have widely discontinued the use of the word race to describe people, stating that race is by and large a social construct, as there is not enough difference genetically or morphologically between “races” to separate them into discrete groups (Wade 2002). Scientific evidence lends support to the idea that there is more genetic variation within

“racial” groups than between them (American Anthropological Association 2015). For this and many other reasons, there has been a pushback against forensic anthropology, to which “race” is an important factor in the identification of remains (Ousley 2005).

The use of “race” as a term to categorize humans is highly outdated. Its use is so inconsistent and so varying that what race is in academia is unclear. The widely used social connotation of race is not based in any scientific fact, and relies on people’s perception of others based on visible phenotypic traits, such as color of the skin, hair and eyes. These racial categories are then used as discrete groupings to which people erroneously attribute unrelated traits (Carter 2013).

Forensic anthropology acknowledges the morphological overlap between racial groups, and does not categorize them as being totally distinct from one another. Forensic anthropology looks at biological ‘race,’ more commonly denoted as ancestry, usually by grouping people into clines, or ranges of variation which place a person’s ancestry within a certain geographic origin (Andreasen 2000). Therefore, most of the fault lies in the terminology, not in the practices of forensic anthropologists. Human variation is continuous and therefore does not fit into neat categories, but rather in ranges of ancestry that can be identified with high rates of accuracy by certain morphological traits which vary by geographic region of origin (Phillips 2015). Race in the United States in its cultural connotation is most definitely a social construct and a method of political and social grouping that is often times a tool to promote injustice (Pierce 2014), whereas ‘race’, or ancestry in forensic anthropology does not distinguish between these groups in a stratified or hierarchical manner and is an invaluable tool in identifying and categorizing remains.

Although there is a general belief within the United States that race is biologically differentiable, cultural anthropologists have begun to take issue with this due to the propensity of people to relate this biological difference to innate differences in cultural behaviors, causing forensic anthropology's use of race to be questioned as a legitimate science. This study uses survey data from both cultural and forensic anthropologists within the United States in order to garner how both parties view race and what similarities and differences exist between them.

Literature Review:

How the History of the United States Factors into "Race":

An important factor in the divide between cultural and forensic anthropology of the United States is the history of the United States itself. Greg Carter's "United States of the United Races" (2013) provides a detailed look at the history of race in the United States. Carter states that legal institutions and government practices have played a pivotal role in the creation of the American definition of race, and notes that even early on, at the time the United States was founded, multiple definitions of race were already in existence, none of which were agreed upon by all parties (2013). The British colonial model brought with it a penchant for white supremacy with the advent of slavery. In order for slavery to function correctly and to be economically efficient, it was necessary to think of Africans as a subhuman race (Carter 2013). Carter believes that after centuries of race as an important factor in identification and subjugation, it is ingrained in American society in many ways and is therefore exceptionally difficult to break away from. It has long been used to differentiate between people both biologically and culturally, and this is a major factor in the divide between socially defined racial groups in the United States today (Carter 2013).

Commented [1]: Are these Carter's thoughts? Choppy. Provide exact citation for the elements in the Constitution since you directly refer to them.

While in the past the law was used to place people into racial categories that were separate and unequal, “our nation’s laws have moved from using explicit racial categories in an oppressive manner toward using these explicit categories to ameliorate racial discrimination.” (Haney-Lopez 2006:78). With the passing of the various Civil Rights laws in the 1960s, African Americans were made legally equal to whites. However, Haney-Lopez states that the way “whiteness” is currently constructed in the United States works to perpetuate racial injustice, and really not much has changed since the abolition of slavery. White supremacy exists even without laws in place to secure it because American society was originally constructed that way and societies tend to react conservatively to change, attempting to keep most of the status quo. (2006). Selcer’s article (2012) on the reception of the United Nations Educational, Scientific, and Cultural Organization’s (UNESCO) statements on race in 1950 states that all “races” of people have equal aptitude for intelligence, and that no one race is more intelligent than another. These statements were widely received as the end of an era of scientific racism. Previous ideas of differences in intelligence based on the deceptive and racially manipulated cephalic index were eradicated by scientific study, denoting that “race” is not formed by nature but by culture, and behavioral traits are not directly associated with or caused by race (Selcer 2012).

While this new information did shed light on a racist pseudoscience, and “separate but equal” has long been declared unconstitutional, the ideology behind the science has not faded away. There still remains a conspicuous discrepancy between white and non-white identity in many aspects of American life. Selcer (2012) argues that UNESCO’s statements in 1950 did not mark the end of racism at all, but left it as a contested concept, still very relevant today especially in the United States.

Commented [2]: Correct the parenthetical citation formatting throughout the paper.

Commented [3]: Why capitalized? Maybe use parentheses instead?

Commented [4]: You go from Haney-Lopez to UNESCO to Selcer, then back to Haney-Lopez. This is choppy.

As previously stated by Carter (2013) and the American Anthropological Association (1998), race in North America was originally constructed as a method of creating exclusive groups; hierarchies to limit the rights and abilities of people whose skin was a different color than one's own. This early version of race stressed innateness. Race was presented as something you could not escape or change (Smedley 2011). The argument began that Africans were somehow naturally inferior to Europeans in order to justify enslavement of Africans by Europeans who had colonized the United States and needed them for economic profit. Carl Linnaeus, a botanist and physician, was one of the first to separate people into groups based on both physical and character traits. He applied to humans the binomial nomenclature which he had previously applied to plant and animal species. The four groups he developed were Americanus, Asiaticus, Africanus, and Europeaeus (Smedley 2011).

While the census has diversified when it comes to self-identified race and now provides a plethora of options, these were four of the five major groups first listed on the US Census (Humes 2015). Michael Banton notes that in the early 19th century, before Darwin published his theory on natural selection which made it clear that humans were much too young of a species to have divided into distinct subgroups, much less distinct species, people were divided into five distinct racial groups based solely on phenotype. It was still to be determined if these were subspecies or different species altogether. Scientific information has come a long way in figuring out race, but has been unsuccessful in removing the stigmas associated with it (2013).

American Definitions of Race:

It is necessary to look at the way in which various organizations define race in order to gain a better understanding of the way in which race is generally understood by anthropologists. For example, the AAPA passed a document in 1996 entitled "Statement on Biological Aspects of

Race” that is especially important to forensic anthropology, as it notes that there are indeed biological differences between populations from different geographic regions. “Clinal variation” and “ancestry” have begun to replace the term “race” as they are more cognizant of the geographical and environmental contributions to human variation. The American Academy of Forensic Sciences follows this lead and does not use the word race in its definition at all, instead using “ancestry” to differentiate between groups. The American Anthropological Association “Statement on Race” (1994) highlights that there is more genetic variation within previously defined “racial” groups than there is between them, and that there is no clear divide between “racial” groups. This has become a hallmark fact of anthropology. It also notes that “race” is a classification common to people in a colonial situation where hierarchy was necessary to maintain social order, and its continued use as a method of classification echoes these sentiments.

Commented [5]: Probably better to devote an individual paragraph to how organizations like AAPA/AAFS/AAA define race, rather than an abrupt sentence like this.

This confusion about what race actually constitutes has left it open to wide interpretation from multiple groups. Cultural anthropology remains largely on the side of race as a cultural construct. Peter Wade shares a cultural definition of race, stating that “race is a way people think about some aspects of human difference which has no basis in biological reality, but which, interweaving with inequalities of colonialism, class and gender, generates its own very potent social reality of racism, discrimination, racial identities and so on” (2002:2). Even from the few definitions listed above, which all come from anthropological organizations, it can be seen that each definition varies slightly, and there is most definitely not a consensus on what race really means.

Forensic anthropology has long been pushed to the wayside for considering race to have biological distinction because to some this appears to give merit to social oppression. This is not,

however, the connotation used by forensic anthropologists in the identification of human remains. The definition used by forensic anthropologists is more akin to ancestry or human variation than the American connotation of race, and does not attribute social or behavioral traits to biology, as many of the forensic-based articles point out (Ousley 2009). Ousley (2009) argues that a form of biological race does exist. Biological race, as Brues describes it, is “a division of a species which differs from other divisions by the frequency with which certain hereditary traits appear among its members” (Ousley 2009:68).

Biogeographical Ancestry and DNA:

Biogeographical ancestry, also known as cladism, is a theory that has recently come to the forefront of the race debate. Cladism was founded in 1950 by German entomologist William Hennig. “Clades” are groups of people who share a common ancestry, usually associated with geographic location. A journal by Andreasen entitled “Race: Biological Reality or Social Construct?” states that clades are made up of breeding populations, which are “a set of local populations that exchange genetic material through reproduction and are reasonably reproductively isolated from other such sets” (2000:659). Over time, due to isolation, these groups became genetically different. Although populations are widespread today and populate almost all of the planet, they can still be traced back to their original clades and places of geographic origins due to genetic material associated with location and environment (Andreasen 2000).

The article by Guo et al. (2014) entitled “Genetic Bio-Ancestry and Social Construction of Racial Classification in Social Surveys in the Contemporary United States” supports Andreasen’s conclusions, synthesizing the information provided by self-reported race and genetic bio-ancestry in order to understand racial classification in the United States. It draws on

information from the United States Census, which is used to provide details of human social and societal classification. Data from the United States Census is self-reported, meaning that it is gathered from an emic perspective rather than etic, and people report the social and racial identity that they self-identify with (Guo et al. 2014). Guo states that “A general match between genetic bio-ancestry and race has been shown using worldwide populations” (2014:143). This trend shows a link between the social construct of race and race determined bio-archaeologically, giving some merit to both the idea that race is socially constructed as well as biologically differentiable. Guo notes that bio-ancestrally determined race may coincide with social race due to the underlying phenotypic features and family history associated with bio-ancestry (Guo et al. 2014).

Ruiz-Linares et al. (2014) in “Admixture in Latin America” provide a study performed in Latin America that also shows how ancestry is shaped by self-perception, perception of others and genetics. Latin America has an extensive history of admixture between African, European, and Native American groups, providing an advantageous setting for a study of race. This study also finds self-perception of race to be relatively correlated to genetically and geographically estimated ancestry, as people tend to be pretty aware of their own ancestral background. The data shows that some traits are more closely linked with self-identification of ancestry and perception of ancestry by others. These traits include hair, both color and type, eye color, and of course, skin pigmentation. The study also indicates a correlation between height, perceived ancestry and socioeconomic status. Native Americans tend to be the shortest group in Latin America. While height is controlled by many other factors such as environment and nutrition, it still plays a part in racial identification within Latin America, and decreased height is shown to be associated with lower economic status (Ruiz-Linares et al. 2014).

Because the human species is so young, all people share 99.9% of DNA, with the only differences being in the specific alleles that are inherited. Within this minute 0.1% difference in biology lies human genetic variation that contains the material for differing morphological expressions of traits (Ossorio 2006). Because of the ability to extract viable DNA from skeletal remains, genetic tests can be done that take into account variability of DNA that tends to fall into clines, or ancestral groups that relate to the area in which a person's ancestors originated. This is known as biogeographical ancestry, or BGA.

Kopec's article "A New Use of 'Race'" takes a more in-depth look at DNA ancestry profiling, providing information on how it works, why it works and also gives a detailed description of the ethical issues surrounding it. It is useful in the sense that it provides an ancestry and self-identification based definition of race rather than one that attempts to place people into discrete biological groups (Kopec 2014). He also acknowledges that there is still work to be done in finalizing DNA ancestry as a viable resource. Kopec states that the use of DNA to determine race or ethnicity has led to concerns from bioethicists that DNA may provide a biological justification for racism. Despite this, Kopec argues that forensic scientists should be able to use DNA to determine ancestry because it can help to identify perpetrators. He also believes that DNA ancestry profiling will not hurt minority racial groups but instead has prospects for improving racial justice (Kopec 2014).

Andreasen's article entitled "Race: Biological Reality or Social Construct" (2013), as was stated previously, strongly supports the existence of clines and makes a compelling argument for biological race in the form of ancestral DNA. He argues as Ruiz-Linares et al. (2014) and Guo (2014) that the biological realism of race and the social construction can coexist and be compatible with one another.

There are many methods that have been developed and are in development for detecting ancestry genetically. Wollstein and Lao (2015) detail the methods that are used for detecting genetic ancestry, making it more accessible and easier to understand in the context of its importance to profiling. In this article they discuss specific ancestry methods which describe the relationships of individuals in terms of genetic ancestry. Wollstein and Lao detail it as “identifying hidden population substructure in the genome of an individual” (2015:9). From their research they have found that ancestry derived from DNA tends to be geographically based, aligning with the theory of cladism. While DNA has not been proven to be a perfect method for determining ancestry, its methods are constantly under construction in order to improve their accuracy (2015).

Commented [6]: I really like this focus on DNA here. Isolate into a paragraph of its own. Do this throughout the lit review! Focus only on one particular argument, viewpoint, or issue per paragraph and then go into the literature that is concerned with that particular item.

The Social Importance of “Racial” Identification:

Stemming from the use of DNA to identify remains is the ability to return the deceased to their respective families or tribes, such as in the case of the Maori. In Cox’s article (2006) she discusses how the use of race in forensics does a service to the Maori by acknowledging their religious belief that physical remains retain the spirit after death. While there are many examples of the negative consequences of applying a racial category to a person or a group, there are also positive ones. Cox highlights the importance of determining “race,” or ancestry, out of respect to the Maori people, and that it is necessary and helpful rather than detrimental in this sense.

The Maori are one of many groups who place a high importance on proper respect of the remains of family members, and DNA has allowed them to gain legal access to these remains (2006) Also pertinent is the ability to identify specific groups, such as the growing population of Southwest Hispanics as detailed by Hurst (2012), using forensics. Hispanics are now the fastest growing group in the United States, but are widely underrepresented in forensic literature (Hurst

2012). For this reason it is important societally and especially to the people themselves that their remains be properly identified.

An even more interesting prospect is the possible use of mitochondrial DNA to determine ancestry bio-geographically at a continental level (Chaitanya et al. 2014). In cases where autosomal DNA is found to be inefficient, mitochondrial DNA can be used to divulge matrilineal biogeographic ancestry. A developmental study has been done that targeted 62 ancestry-informative mitochondrial single nucleotide polymorphisms (Chaitanya et al. 2014). This allows detection of the major haplogroups present in Africa, America, Western Eurasia, Eastern Eurasia, Australia and Oceania, and from this, a broad geographic region of origin can be inferred. The successful reproduction of results in this study suggests that it is in fact a scientifically viable method of determining ancestry (Chaitanya et al. 2014).

Lisa Gannett argues that biogeographical ancestry (BGA) is in no way a replacement for race, and does not function as such. She acknowledges the existing controversy of using race to categorize people and the hierarchical view it may present and says that it is not objective or scientific enough to be considered a viable replacement for race, as it imports many of the same assumptions as race (2014). Gannett states that, “BGA is not a global category of biological and anthropological classification but a local category shaped by the U.S. context of its production” (2014:173) which is much like the US construction of race.

There are many who disagree with her, however. Chris Phillips (2015) argues that there are certain genetic markers that can inform ancestry. Allele frequency differences have been shown to increase with geographic distance, and while they may overlap, it is enough to place people into relatively sound ancestral groups (Phillips 2015). These genetic markers have been used successfully multiple times to identify suspects when eyewitness testimony fails (2015).

Skeletal Morphology:

Differences in morphological traits between ancestral groups have long been used by forensic anthropologists to determine ancestry. The following articles detail the practices of forensic anthropologists and their methods in determining ancestry of a skeleton. Hefner's article on "Statistical Classification Methods for Estimating Ancestry" (2014) focuses on the differences in morphoscopic traits, specifically those of the skull.

Facial traits tend to vary by ancestral groups, with the three main groups being white, black, and Asian. For example, the skulls of white remains tend to have narrow nasal apertures, while blacks have apertures that are wide, and Asians tend to fall in the intermediate category. Another notable trait is the presence of a nasal sill or absence of a sill, which presents itself as a nasal sulcus. A nasal sill is a raised edge at the floor of the nasal aperture, whereas a sulcus is a depression that presents itself laterally to the midline of the face on either side of the nasal spine. A typical trait of Asians which differs from other groups is flared zygomatics, or cheekbones. People of white or black ancestry tend to have zygomatics which recede rather than flare outwards (Hefner 2014).

Heather Edgar's article titled "Estimation of Ancestry Using Dental Morphological Characteristics" (2013) emphasizes that although dental morphological characteristics are not statistically testable and cannot usually be used by themselves to identify the ancestry of a person, when combined with other traits, such as facial features, they are an incredibly helpful indicator. There tends to be a difference in the appearance of molars of black and white remains. Molars of those identified as black tend to be crenelated, while molars of whites tend to take the

Y5 and Plus 4 patterns. A common Asian ancestral trait is shoveled incisors. While the incisors of black and white ancestral groups tend to take a spatulate shape, Asians have incisors which resemble a shovel. This trait also presents itself in Native Americans who tend to be grouped morphologically with Asian populations (Edgar 2013).

Kenyhercz et al. (2013) strengthens the argument for the use of teeth in determining ancestry by identifying specific parts of the tooth structure that are the most distinct and therefore the most useful to forensic anthropologists. Teeth experience low environmental wear and have high robusticity. Teeth are the strongest and most durable element in the body, and are therefore often preserved better than the rest of the skeleton. (Kenyhercz et al 2013).

The Hughes et al. article “A Simulation for Exploring the Effects of the ‘Trait List’ Method’s Subjectivity on Consistency and Accuracy of Ancestry Estimations” (2013) takes into account the variability possible due to the subjective nature of non-metric ancestral traits. There is concern that morphology is too subjective to provide valid statistical forensic data. Forensic anthropologists understand that the traits they use to classify remains are subjective, and they go into a case keeping that in mind. The trait list is not perfect and traits vary widely even within the designated ancestral groups. There is however, a general appearance that each morphological trait assumes for each ancestry. There is always overlap, and expression of ancestral traits is often intermediate. That is why the traits list tends to be so long.

Not every person will display the hallmark traits of their associated ancestry, and increased intermixing of ancestral groups due to increased travel and acceptance has made identifying people based on ancestry more difficult. Occasionally, social identity in life may conflict with or challenge biological data. A person may have been half white and half African American, but have identified socially as African American because that is considered the

minority. Information like this is important for forensic anthropologists to know so that they can make a correct identification.

In another article by Ossorio entitled “Controversies in Biomedical, Behavioral, and Forensic Sciences” (2005) he provides an in depth look at all the facets of the race argument and why it is important not only to anthropology but to other fields of study as well. Biomedicine tends to work from a strictly biological perspective, sometimes overlooking the social and environmental aspects that contribute to race. The behavioral sciences take issue with the biomedical view of race, and focus more on the psychological effects race has on different populations (Ossorio 2005). The view commonly assumed in medical anthropology, which will be explained later, tends to align with that of the behavioral sciences, highlighting the contributions of racism and racial hierarchy to health disparities between socially defined racial groups.

Forensic anthropology tends to take pieces from multiple other fields to form their definition, as it focuses on the biological but also acknowledges that self-identification with a racial group during life is important in identification of remains because it helps to narrow down the pool of possible people. Ossorio (2005) works to show that the problem with race in the United States will not be easily solved, and will require participation from both sides of the anthropological spectrum, but still fails to acknowledge the major difference in definitions of “race” between the three groups he discusses.

M’charek (2013) acknowledges that there may be a difference between what cultural and forensic anthropologists identify as race, and in his article “Beyond Fact or Fiction” discusses the idea that race necessarily contains both elements of biology and social construction, congruent with the opinions of other authors previously mentioned. In academia, they can be separated into

their respective groups. Race can be biological, and race can be social. It is possible to discuss one and not the other in the vacuum of academia. However, in practice, race cannot be stated as purely biological or purely social because the two are interwoven to create the American idea of race (M'Charek 2013).

“Race” in Medical Anthropology:

While medical anthropology is not one of the four main specializations within anthropology, it provides a unique approach to the race debate. The social and biological intertwinement of race is especially visible within medical anthropology research and ethnography. One of the reasons that cultural as well as medical anthropologists are so concerned with the proliferation of the idea that there are discrete biological races is the negative “contributions” of the social construction of race to American society. In the medical health sector, people of color experience constant inequality. Clarence Gravlee and Elizabeth Sweet (2008) discuss the implications of applying race to medicine in the United States and how conceptions of race have shaped care for different racial groups. They argue that race is an issue because in its socially constructed form it is incredibly detrimental to non-white groups. “Race” and “ethnicity” are commonly used terms in medical research. They are often applied as variables when testing the efficacy of new medicines, and according to the study done by Gravlee and Sweet (2008) the use of these variables is on the rise.

The main issue with using “race” or “ethnicity” as variables in medical or health research is that they are seldom defined, if they are defined it is done poorly or vaguely, and the two terms are often conflated. Race was often used interchangeably with ethnicity and geographic variation, three completely different concepts (Gravlee and Sweet 2008). Of the ninety three studies Gravlee and Sweet examined that used race as a variable, only two provided explicit

definitions of race, and only about five percent explain how these racial categories were applied or how they contributed to the analysis of data (2008).

To leave out a definition of race is to assume that there is only one way to define it, which is clearly untrue as race has many different and conflicting definitions. Gravlee and Sweet state “Race and ethnicity are typically used as proxies for some unspecified combination of genetic, sociocultural, or behavioral influences on health. The result is an endless collection of descriptive differences that test neither genetic nor environmental mechanisms and serve mainly to reinforce racial thinking” (2008:31). This is problematic because scientists and healthcare professionals have a lot of control over the general health of the American population.

Denoting a genetic difference between groups without operationalizing variables is a highly uncritical use of race that ultimately fosters justification for racial oppression. One of the most interesting facts from the Gravlee and Sweet (2008) study is that almost five times as many medical articles in the United States use both race and ethnicity as variables than places elsewhere in the world. This fact is of high importance because it denotes the popularity of race within the United States, and that Americans are obsessed with race as a predictor of social and medical outcomes. This stark contrast between the United States and other countries is not shocking, as the United States has a unique history with race that other countries have not experienced.

The study also highlights that the discussion of race within biomedicine could potentially be useful, but its nonspecific use is where the fault lies. Health disparities and inequalities have existed in the United States since its inception. Slavery made healthcare almost nonexistent for people who were not white and the health disparities caused by slavery have continued as has racial prejudice. In another article by Gravlee published in 2009 entitled “How Race Becomes

Biology,” he explains how social pressures from racial discrimination can lead to biological consequences. He illustrates that while people vary phenotypically both on the surface and skeletally like forensic anthropologists suggest, there is also a discrepancy when it comes to prevalence of disease and other negative health characteristics between socially defined racial groups. According to Gravlee (2009), the relationship between race and health is cyclical. Racial oppression contributes to negative health, which in turn provides justification for that oppression because the consequences seem to be genetic.

Race Outside of Anthropology:

The effects of “race” are not only visible within anthropological study. Racial grouping affects all aspects of life in the United States, especially for minority groups. Affected areas include opportunities for employment, availability of housing, and others. Additionally, and possibly most importantly, racial grouping can have a tremendous effect on the overall health of minority populations. One field in which it holds extra importance is the American medical system.

“In medical research, whether a given variable should be measured and analyzed should depend on its importance to the outcome, its ability to help explain variation in the outcome, and the plausibility of the assumption that it may be linked in some way to the outcome. While in many cases race does not meet these criteria, race or ethnicity have been treated as explanatory variables for so long that the question of whether race is truly relevant has been lost” (Winker 2006:520).

Using race as a factor in medical research is not necessarily a problem. Sometimes it is a necessary factor, especially in the case of social research. Where the problem lies is in using

racial groups as the end-all-be-all factor in what causes disease or leads to health problems. In 1993, the Centers for Disease Control (CDC) stated that “the reason for analyzing race and/or ethnicity should be given, approaches to measurement of race and ethnicity should be specified, and findings should be interpreted...the limitations of race and ethnicity data should be clearly stated and communicated to persons and organizations using the data” (Winker 2006:522). Twenty three years later, this has clearly not been done as countless medical journals continue to use race as a proxy without providing valid information as to its importance within their studies.

However, including race as a factor in medical studies can be important in particular instances. These include creating an accurate representation of the population being studied, to ensure that the customarily unstudied non-white populations are included, and to ascertain if risk factors for certain diseases align with disparities between racial groups. Race is a factor which contains many factors within itself. Race tends to be an influential factor in various aspects of quality of life, including socioeconomic status, access to healthcare, quality of healthcare received, and the list could go on and on (Winker 2006).

Medical Issues Stemming from Systemic Racial Inequality:

Because of the notable social inequalities in the United States which have been confirmed to vary by racial group, race is a necessary variable in studies which seek to understand how race is affecting health. Since there is a considerably higher rate of African Americans living below the poverty line than there are whites, African Americans are disproportionately affected concerning access to suitable healthcare, or access to healthcare at all. An inability to seek access to healthcare promotes a cycle of substandard health among the African American population. Racial health disparities have also been shown to exist even after controlling for socioeconomic status (SES). This is partly because African Americans, even if they are not living below the

poverty line, may experience differential care at a health facility due to preconceived notions about African American patients (Winker 2006).

Chronic stress has long been associated with adverse health effects, but it is only recently has racism been included in studies as a possibly significant contributing factor. Due to the distrust of the medical system by African Americans, which will be discussed later, it is difficult to find African Americans who are willing to participate in scientific studies. From the studies that have been done, however, much unpleasant data has been found. In an article by Peters (2006) entitled “The Relationship of Racism, Chronic Stress Emotions, and Blood Pressure,” Peters discusses the implications of racial discrimination on stress levels of minority groups and how this added stress may affect the body. The United States Department of Health and Human Services stated in the 2001 Surgeon General’s report that, “Repeated exposure to stressful, racist experiences may result in negative psychological responses including anger, anxiety, and depression” (Peters 2006:234). Chronic, or long term high stress levels can lead to psychological and mental issues, but over time, chronic stress can also manifest itself within the body physically.

Hypertension, or high blood pressure (HBP) is a medical issue that has been shown to disproportionately affect African Americans. One in three African Americans suffer from high blood pressure as adults. Hypertension also occurs earlier on in the lives of African Americans than in whites, and tends to have more severe consequences over time. There is also a high incidence of African Americans who suffer from anxiety and depression disorders which may be linked to chronic stress. Since many African Americans are of low socioeconomic status, they subsequently have less access to resources to assist them in coping with stress, making it difficult for them to treat their illnesses (Peters 2006).

Obesity is an additional health problem faced by a countless number of people in the United States, and it has become a widespread and dangerous epidemic. However, it disproportionately affects African Americans. The lack of access to healthy foods and ease, convenience and price of fast food has been shown to be a major contributor to obesity for all people in the United States. High costs of fruits and vegetables and other healthy foods make it difficult for people of a lower socioeconomic standing to afford them. Instead they focus on processed foods which are significantly more affordable and readily available. Igor Ryabov (2016) conducted a study to find if income, ethnicity, and residential segregation had an effect on the amount of fruits and vegetables purchased by consumers.

Racial Residential Segregation:

Minority groups tend to be clustered into neighborhoods, separated from the middle class majority. Ryabov states that living in a predominantly minority neighborhood usually means living in poverty, or at least increases the chances (2016). This is because minority groups are disproportionately represented in the numbers of those living below the poverty line. Due to a lack of funds within these communities, the people living within them also have less access to other public services, or they have access to public services that are inferior to those in non-minority neighborhoods. Minority neighborhoods have a high concentration of cheap, fast food restaurants, and also tend to have issues with safety due to a lack of funding for police and security forces. This prevents people from traveling very far from their homes in search of food (Ryabov 2016).

People in minority neighborhoods also have reduced opportunity for social mobility, meaning that if they are living in an area with little access to healthy foods, they will most likely continue to live in that area despite the unhealthy conditions. Areas such as these have come to be known as “food deserts.” These food deserts are characterized by high levels of poverty and low levels of security, where hunger and obesity tend to exist side-by-side due to impoverished conditions coupled with access to high fat and high carbohydrate foods. Food deserts are also known contributors to type II diabetes, another health issue excessively affecting African Americans. In his study, Ryabov found that blacks spent an average of 36% less on fresh fruits than whites, and some never bought fresh fruits or vegetables at all. African Americans also spend a considerably smaller amount on processed fruits and vegetables than whites, meaning that their intake of fruits and vegetables of any kind is incredibly low (Ryabov 2016).

Racially segregated neighborhoods are another way in which the social and health mobility of African Americans is limited in the United States. Looking uncritically from the outside, it is easy to say that African Americans are lazy and therefore are not taking action to create better lives for themselves. When it is examined critically, however, the confinements of social inequality are highly visible. It is incredibly important to study the effects of social inequality and its factors in order to find ways in which to combat them and provide real equality for minority groups.

“Race” as a Necessary Variable:

Another reason for using race as a variable in medical research is to combat medical research which has used race incorrectly or neglectfully. For example, BiDil is a drug marketed to prevent and treat congestive heart failure. When tested, it was shown to be effective across all populations, but more so in African Americans. However, the reason as to why it is

more effective in African Americans has yet to be studied. Without doing any further research, the FDA approved it to be marketed in the United States, but to black patients only. Doing this removes the incentive for pharmaceutical companies to do any further research on why it is more effective on black patients and what genes may contribute to this because it has already been sanctioned by a federal governmental organization. This greatly reduces the number of patients who will benefit from this drug and it is further complicated by the problem of what exactly constitutes “black.” Doctors are then faced with the issue of whether they should allow patients access to the drug based on self-identification of race or by some other, doctor provided method (Winker 2006).

A government organization such as the FDA making a racially based blanket statement about the effectiveness of a potentially lifesaving drug without providing genetic data to validate their reasoning reveals a fundamental issue within the American government system. It shows that race is not an important issue to be studied because it has already been determined, although the means by which it has been determined are unclear. This only opens the door for other organizations and scientists to do the same. A nonchalant use of race in medical research echoes the sentiments of scientific racism, provides ammunition for racial inequality, and fosters a distrust of the American medical system by these minority groups.

Tuskegee Syphilis Experiments:

African Americans are also less likely to visit a hospital even when they are in need of medical treatment due to distrust of the American medical system. The United States was founded on racism, and even in the twentieth century incredibly sickening experiments were being performed on African Americans. In 1932, the Tuskegee Syphilis Study was begun by the U.S. Public Health Service. The experiments enrolled three hundred and ninety nine African

American sharecroppers from Macon County Alabama who were infected with syphilis, and 201 men who were not. The physicians claimed that they would provide the men with free experimental treatments for syphilis (Crenner 2012).

However, the men were being lied to, and no treatment was provided to the men at all, even after penicillin was developed and found to be a viable treatment for syphilis. Instead, the physicians who conducted the study continued to use the men for almost another thirty years to test the long term effects of the disease. The men were not allowed to seek treatment elsewhere. The experimenters were driven by the idea that African Americans were less adept at dealing with disease than whites, and that African Americans had underdeveloped nervous system capacity. Human beings were being let die for the “advancement of science.” While the study began in 1932, it continued for almost forty years with little publicity until it was found out in 1972. Bill Clinton issued a formal apology for the Tuskegee Syphilis Study in 1997 during his term as president. (Crenner 2012). While public acknowledgement of the study is a step in the right direction, it does not change the fact that less than fifty years ago, African Americans were still being mistreated by a government organization and nothing was done about it until they were found out.

Why the social factors of race are important for forensic anthropologists:

Forensic anthropologists tend to come into contact with the remains of people who are of lower socioeconomic status because these are the groups usually involved in the most violent, and fatal crimes. Race, as a considerable contributing element to socioeconomic status in the United States, is therefore a critical factor for forensic anthropologists to take note of. Stemming from social inequality by race is the prevalence of violence within African American communities, especially violence which leads to fatalities.

Gun violence has been an important topic in recent news as incidence of gun violence in the United States has been on the rise. Shootings such as that at Sandy Hook Elementary School in Connecticut and the murder of nine people at AME Emanuel Church in Charleston, South Carolina have shed much light on America's problem with guns. Mass shootings such as these have not surprisingly taken much of the news focus because they are shocking. While these previously mentioned mass shootings are horrific and abominable, they make up about only one percent of gun homicides in the United States.

Much of the blame for gun violence within the African American community has been placed on "black culture." Levels of violence have consistently been higher in black communities, leading many to the idea that African Americans are innately violent. This "culture of violence" idea has negatively affected those who socially self-identify as black and live in prominently black neighborhoods. Over the past few years, many African American males have been killed by police officers. Many of these men were unarmed, but were considered a "threat" to the police officers and were therefore shot and killed (Sampson et al. 2005).

Homicide in the African American Community:

A study by Sampson et al. (2005) examines racial and ethnic disparities in violence. The study looks at individual, family, and neighborhood factors to assess what exactly contributes to violent crime. The study observed 180 Chicago neighborhoods, as Chicago is a city known for high rates of violent crime. The majority of shooting deaths come from African American males. It is often stated in gun control statistics that more than thirty people are murdered with guns each day in the United States. On average, half of these are African American men. This is startling information when one considers that African American males make up only about six percent of the American population (Sampson et al. 2005).

Homicide is the leading cause of death among young African Americans. African Americans are also six times more likely to be victims of homicide than whites, and it is a crime that is distinctly intraracial in nature, meaning most of the homicides are black-on-black. Police statistics show that rates of crime are highest in disadvantaged communities, but official crime numbers do not tend to match up. This may be due to biases in the way that criminal institutions treat different ethnic and racial groups (Sampson et al. 2005).

The results of the Sampson et al. study showed that the odds of coming into contact with or perpetrating violence are 85% higher for African Americans than for whites. There were also large disparities in makeup of communities. The average African American lives in a community that is 78% black, while whites and Mexican Americans live in communities that are predominantly non-black. The study also reports that the gigantic disparity in violence can be mostly explained by a limited number of factors. Over 60% of the gap between white and African American rates of violence in the study can be explained by marital status of parents, immigrant generation, and neighborhood characteristics associated with racial segregation (Sampson et al. 2005).

African American Incarceration Rates in the United States:

The differential treatment of groups by race in the American justice system has also perpetuated a cycle of an underclass of black American citizens. An article from the Center for American Progress (2012) by Sophia Kerby details just how detrimental violence and the American justice system have been to African Americans. The article states that although African Americans make up only about thirty percent of the population of the United States, they account for over sixty percent of Americans in prisons. One in every fifteen African American men and one in every 36 Hispanic men are incarcerated, compared to one in 106 for white men.

A third of African American men can expect to spend time in prison during their lifetime.

However, this does not begin at adulthood.

African Americans and Hispanics experience harsher punishment for school misconduct than their white peers, leading to a higher rate of these minority groups incarcerated. According to the group Human Rights Watch, African Americans are equally as likely to use or sell illegal drugs as whites, yet they make up a significantly larger portion of arrests and convictions. African Americans make up about fourteen percent of drug users but 37 percent of drug-related arrests. Black offenders also receive longer sentences than their white counterparts for the same offenses. The U.S. Sentencing Commission stated that in the federal prison system, black offenders receive sentences that are 10 percent longer despite committing the same exact crime (Kerby 2012).

This disproportionate representation of African Americans in United States prisons, especially African American males, leads to a breakdown of African American family structure. It leads to many single parent households, reducing possibility for income, and therefore leading to more crime in order to make ends meet. Voter laws that prohibit convicted felons from voting also disproportionately affect African American men. Felony disenfranchisement currently applies to thirteen percent of African American males in the United States, an alarming number which leads to vast underrepresentation of the African American voice in the American legal system (Kerby 2012).

The Importance of Social Factors to Forensic Anthropology:

These social and health factors are extraordinarily important for forensic anthropologists, and all anthropologists for that matter, to take note of. As an American forensic anthropologist, it

is important to know that African Americans in the United States are disproportionately living below the poverty line, that they receive substandard healthcare, are more likely to be affected by chronic stress and therefore chronic diseases, have less access to ways in which to treat these diseases, are more likely to be obese due to the presence of food deserts in low income areas, experience the highest rates of incarceration, and are the group with the highest rates of homicide. It is even more important to know why. All of these factors are connected, and are intricately woven into the American systems of government, health, and society.

In looking at the definitions of race provided throughout this review, it is easy to see that there is great variation between definitions, and no two are exactly the same. Race as cultural anthropologists define it is more or less “a malleable social category created through the state, law, science, and/or social interaction in particular historical times and places” (Pierce 2014:259) and therefore a social construct. What they do not acknowledge, however, is that there is a definite difference between what they as cultural anthropologists define as race and what a forensic anthropologist does.

No sources could be found featuring American anthropologists who accepted or demonstrated knowledge of a difference in connotation between what cultural anthropologists and forensic anthropologists categorize as “race.” There is plenty of disagreement over the biological and social constructions of race, but no evidence from either side that both of these constructions may exist to a certain extent. Overall, these sources point to a great divide between what cultural and forensic anthropologists identify as “race,” yet demonstrate that both parties fail to recognize them as different definitions. Time and time again these sources try to force them into the same box even though they are largely incompatible, or deny the existence of the opposing construction altogether.

The literature undoubtedly demonstrates that African Americans and other minority groups are at a serious disadvantage to whites in the United States. Racial discrimination manifests itself both socially and biologically, and this is especially visible within minority populations as they are the groups who suffer the most from racial intolerance. While it is not necessarily the job of the forensic anthropologist to promote social justice, as an anthropologist it should be encouraged.

Analysis of these sources has led to a hypothesis that the way in which cultural anthropologists in the United States think about race differs significantly from that of forensic anthropologists in the United States, and that the conversation being had between the two fields about “race” is minimal. It does not acknowledge that there is a difference in connotation which makes the definitions from both sides incompatible when compared.

Methods:

Participants:

A stratified random sample of anthropology professors is taken from North America, specifically the United States, and Europe. The sampling is stratified in order to represent both cultural and forensic anthropologists as these two groups are necessary independent variables for the hypothesis. A total of 44 professors participated. For better analysis of data, the 44 participants have been divided into four groups, based on location and type of anthropology practiced. Location groups are separated into United States and Europe, while type of anthropology is divided into cultural and biological. This separation allows one to see whether geographic location and place of instruction in the field of anthropology has any effect on how

one views race. It will also demonstrate whether the branch of anthropology practiced by each participant of the survey has an effect on opinions surrounding race.

Apparatus and Materials:

The study uses a qualitative survey. The survey contains seven questions and is sent to participants via email. Emails of professors were found by selecting colleges and universities from a list at random, and then using their anthropology department webpages to locate email addresses.

The survey questions are as follows:

1. Race is purely a social construct. True or false?
2. Cultural behaviors are learned, not innate. True or false?
3. Race is an outdated term and should not be used to classify groups of people. True or false?
4. Race can be accurately determined from human skeletal remains. Yes or no?
5. It would be beneficial to use a term such as “ancestry” instead of race to differentiate between groups of people. Yes or no?
6. Should schools in the United States change the way in which they teach about race?
7. I feel that cultural anthropology is in conflict with forensic anthropology over the validity of biologically differentiable race. Yes or no?

Procedure:

The survey is sent to each of the fifty anthropologists electronically for ease and convenience of response. Each professor was given two weeks to respond, and then a reminder was sent if a response was not received. Each of the eight survey questions is designed in a binary fashion, allowing for simplification of data which could otherwise become quite complicated and difficult to analyze. Race is no way binary, and treating it in a binary manner has been shown to be incredibly detrimental in the past and still continues in present day. The goal of this paper is to start a conversation about race in a way which is not binary, but is all encompassing. Unfortunately, statistical data is most easily handled and understandable when it works in a binary fashion, and therefore, a binary system is used. A comments section was provided for a few questions in the survey, and notable or widely mentioned comments will be included in the discussion. Each of the eight questions was analyzed as stated above, stratified by both location of the person surveyed and branch of anthropology he or she practices. To better display the difference in opinion geographically, further results were gained by combining the data for cultural and biological anthropology in each location.

There are two independent variables in this study. The first independent variable is the type of anthropology practiced by the participant, as the point of the study is to see whether the type of anthropology practiced by the participant has an effect on his or her definition of and view of the term “race” and its associated connotations. The two types of anthropologists questioned are cultural and biological. The other independent variable is geographic location of each participant. The dependent variable is each participant’s view of race, which can be gathered through his or her answers to the survey questions.

Commented [SA7]: How do you get their email addresses? How do you choose which 50 to solicit? What do you do when only 10 or so respond? How much time do you give them to respond?

Data was analyzed using a general look at percentages in order to see an overall representation and distribution among the four groups. A Chi square was also used for each survey question as a test of independence for the independent and dependent variables. The null hypothesis of the Chi square test is that there is no statistical significance and the independent and dependent variables are unrelated. The degree of freedom for the Chi square test is 3, as there are four groups for the independent variable and two for the dependent variable. The significance level used is 0.05, or alpha.

Results: The results are as follows:

Race is purely a social construct	European, Cultural	European, Biological	United States, Cultural	United States, Biological
<i>True</i>	33.3%	28.6%	87.5%	30.4%
<i>False</i>	66.7%	71.4%	12.5%	69.6%

Chi square value = 8.818

Degrees of freedom = 3

Probability = 0.032, null hypothesis is rejected

Cultural behaviors are learned, not innate	European, Cultural	European, Biological	United States, Cultural	United States, Biological
<i>True</i>	100%	100%	100%	100%
<i>False</i>	0%	0%	0%	0%

Chi square value cannot be calculated for this question due to agreement of all groups across the board.

<i>"Race" is an outdated term</i>	European, Cultural	European, Biological	United States, Cultural	United States, Biological
-----------------------------------	--------------------	----------------------	-------------------------	---------------------------

*and should not
be used to
classify people*

<i>True</i>	100%	85.7%	100%	82.6%
<i>False</i>	0%	14.3%	0%	17.4%

Chi square value = 2.50

Degrees of freedom (DoF) = 3

Probability = 0.475, accept the null hypothesis

Race can be accurately determined from human skeletal remains	European, Cultural	European, Biological	United States, Cultural	United States, Biological
<i>Yes</i>	66.7%	78.3%	12.5%	87.0%
<i>No</i>	33.3%	21.7%	87.5%	13.0%

Chi square value = 15.2

DoF = 3

Probability = 0.002, reject the null hypothesis

<i>It would be beneficial to use a term such as "ancestry" instead of race to differentiate between groups of people</i>	European, Cultural	European, Biological	United States, Cultural	United States, Biological
<i>Yes</i>	100%	100%	37.5%	91.3%
<i>No</i>	0%	0%	62.5%	8.7%

Chi square value = 16.3

DoF = 3

Probability = 0.001, reject the null hypothesis

Should schools in the United States change	European, Cultural	European, Biological	United States, Cultural	United States, Biological
--	--------------------	----------------------	-------------------------	---------------------------

the way in which
they teach about
race?

<i>Yes</i>	83.3%	57.1% %	75%	65.2%
<i>No</i>	16.7%	42.9%	25%	34.8%

Chi square value = 15.7

DoF = 3

Probability = 0.001, reject the null hypothesis

I feel that cultural anthropology is in conflict with forensic anthropology over the validity of biologically differentiable race.	European, Cultural	European, Biological	United States, Cultural	United States, Biological
<i>Yes</i>	0%	0%	75.0%	86.4%
<i>No</i>	100%	100%	25.0%	13.6%

Chi square value = 26.2

DoF = 3

Probability = 0, reject the null hypothesis

Race is purely a social construct.	Europe Combined	United States Combined
<i>True</i>	31.0%	59.0%
<i>False</i>	69.0%	41.0%

Analysis of Survey Data:

Almost all questions were found to be statistically significant through Chi square analysis. The Chi square test was useful because it provided information that supports the

hypothesis that there is a divide between cultural and forensic anthropologists, as well as a discrepancy between anthropologists who have been taught and worked mainly in the United States and those who gained their experience elsewhere. The null hypothesis was rejected for all questions except “‘Race’ is an outdated term and should not be used to classify people,” for which the alternative hypothesis was accepted, and “Cultural behaviors are learned, not innate,” for which a Chi square analysis could not be performed due to one hundred percent agreement that cultural behaviors are in fact learned.

Discussion:

The results of the survey lend support to the hypothesis that there is a divide between cultural and forensic anthropologists in the United States on the existence of biologically differentiable race, what connotations “race” carries with it, if any. Most noticeably it shows that cultural and forensic anthropologists are not in touch with one another about race, because the survey shows that both sides have similar idea when it comes to the ultimate social goals they wish to accomplish surrounding race.

There was agreement across the board that cultural behaviors are learned, not genetic, and therefore not based on a person’s “race” or ancestry. A major concern for many cultural anthropologists and other groups is that when forensic anthropologists categorize a person based on visible skeletal morphology and then place him or her into the corresponding social group which he or she would have most likely been a part of during his or her lifetime, this also somehow involves the attribution of behavioral characteristics which may cause one group to seem superior to another. As can be seen from the results, however, this is not the case. With the majority of participants agreeing that “race” is an outdated term and should be replaced with something such as “ancestry” which more accurately reflects the clinal variation of humans,

Commented [S8]: Add explanatory sentence corroborating this statement.

combined with agreement that all cultural behaviors are learned, this denotes that anthropologists are not thinking about people in discrete racial groups but in a more fluid manner.

Looking at the survey results, when asked if ancestry was a better term to use in classifying groups of people, about 86% of all people surveyed stated yes. Among those who stated yes, the most common reason was that race is simply an outdated term of classification, is colonialist in its nature, and has been used throughout history to deny basic human rights to large groups of people. Another reason stated is that due to scientific advances which have negated the correlation between intelligence and racial groups as well as the correlation of any behavioral traits with “race,” that the use of a different word may ease some of the tension it has caused for forensic anthropologists who regularly use it in identification of remains. Because the cultural definition and forensic definition differ so greatly, it may be useful to have separate terms for the two for purposes of clarification and avoidance of complete disregard of forensic anthropology’s ability to classify remains. Surprisingly, the group with the largest percentage of negative responses was cultural anthropologists in the United States. However, the most common reason for stating no was that switching out one term for another does not alter the connotations it imbues because it is still being used to divide people into “race like” categories. While changing the name is not necessarily going to solve the problem at hand, it is a step towards using a term that more appropriately describes the complexity of human variation.

When asked if race should be approached and taught differently within schools, over half of each group voted yes. This shows awareness in all disciplines of anthropology that there is issue with the way in which race is being addressed. Schools are one of the most important places for constructing opinions, and they shape the minds of many young people.

Anthropologists have access to a unique perspective on race that is not readily available to all

disciplines. More research should be done to find out what exactly each group takes issue with in order to start a conversation among anthropologists and school organizations to reach a consensus on the relevance and importance of the race concept to education.

In both the question on whether race is purely a social construct and whether race can be accurately determined from human skeletal remains, cultural anthropologists in the United States had the most drastically different responses, while the other three groups tended to be in agreement with one another. When the two locations are compared, almost seventy percent of Europeans believe that race is more than just a social construction, while only forty one percent of Americans believe so. This begs the question as to why cultural anthropologists in the United States have opinions which differ so greatly from cultural anthropologists elsewhere. Why do you think they differ?

Overall, the hypothesis that cultural anthropologists and forensic anthropologists in the United States are in disagreement over what constitutes “race” has been supported by the data. The data have also supported that professors in the United States have opinions regarding race which differ from professors outside of the US.

Conclusion:

“Race” is in no way a binary, easily defined term. It has held many diverse definitions over the course of human history, especially within the United States. As the data show, opinions on race differ due to different interactions with race as a concept and its applied use in each anthropological field. Cultural anthropologists do not generally study human remains, and instead are presented with the way in which race, in its socially constructed form, affects and has affected society. Biological and forensic anthropologists on the other hand work with “race” in

Commented [S9]: awkward

Commented [S10]: Again, data is plural.

its tangible form, using human variation as a tool to identify remains. For this reason, there is no answering the question as to whether race exists without some form of context, because whether or not it does depends on which definition of race is used and who is asked. As has been supported by the data, race exists as a social construct, but its social construction does not negate its biological reality. These two things are not mutually exclusive (Ossorio et. al. 2005). Where they differ is in the definition, and they differ greatly, if not completely. This research has reinforced that while cultural and forensic anthropologists in the United States are generally in disagreement over race, what they are arguing over are two different things entirely. Good point.

While historically race has been touted as a useful tool for social injustice, its scientific and forensic use does not attribute behavioral or social traits to genetics or morphometric data. Ascription of these traits is not done by the forensic anthropologist him or herself, but by those who choose to see a social hierarchy in morphometric data where none exists. Biological determination of ancestry does not support or perpetuate racism or racist ideologies because it does not discriminate.

What has been shown by the results is that it is incredibly important to educate the people of the United States on the difference between socially constructed, cultural race and biological “race,” or ancestry, obtained through scientific measurement of morphological skeletal traits on human remains. Human variation undoubtedly exists, and can be roughly portioned into clinal and ancestral groups which tend to vary geographically and are influenced by environmental factors. While a single survey hardly even begins to address the problems involving race in anthropology, it does lend support to the hypothesis that there is a disconnect between forensic and cultural anthropology within the United States, and that these two groups of anthropologists

could be having a conversation that is much more beneficial to race than the one they are having currently.

The Role of the United States:

In recent years, the United States has tried exceptionally hard to convince its citizens that they are living in a post-racial era. Systemic and institutionalized racism are still highly visible, as can be seen in incarceration rates and duration of incarceration, disparities in occupational wages, availability of home loans, access to healthcare, rates of homicide, and killings of unarmed citizens by police officers (Gao 2015).

While the United States government has provided equal rights to all of its citizens, these rights are still impeded by the social confinements of racism. Therefore, it is not unwarranted that there is concern among cultural anthropologists and other groups surrounding a practice which separates people into groups based on “race,” which the United States has spent years trying to combat. Racial inequality is a problem that is very real and has seemingly gained momentum in recent years despite the efforts of many, especially in the United States. This is why it is becoming progressively more important to increase awareness that forensic anthropology is not a racist pseudoscience, and is instead a valid discipline.

Further Research:

Clearly, further research should be done on what has shaped the general opinion on race within each discipline. It is important to discover what exactly has created the divide between cultural and biological anthropology when it comes to race, and how and if the divide is being supported by mechanisms specific to the United States. Race is a necessary variable in both biomedical and anthropological research and it needs to be discussed; especially in the United

States and especially now. It is obvious that there is a difference between social and biological race, but these dissimilarities are not made evident in the majority of American anthropological research, or in American research of other disciplines, specifically in medicine and public health.

Race is in dire need of clarification because continuing conflation of the biological and social constructions or a negligence in providing a clear definition will maintain barriers to creating any real social progress for human equality. Anthropologists are in a position to be at the forefront of the conversation about race, as they have a unique insight into human populations. Anthropology can provide a holistic and humanist approach to clinical research.

Whether it be by formal instruction in American high schools and universities, or a result of centuries of racial oppression which have led some to want to deny the existence of any form of race in order to protect those who suffer discrimination. What this study has indicated is changes may need to occur in places of formal instruction on anthropology in order to encompass both the cultural and biological definition of race, and make it known that these two definitions differ completely but can also in some ways be related to one another.

Further study should be done to provide a new definition of race in forensic anthropology, possibly doing away with the term race altogether and using ancestry or human variation permanently in its place, or another term which more appropriately encompasses the aspects of human variation used to identify human remains. What forensic anthropologists are describing are not discrete, non-overlapping groups, but genetic variation due to geographical, social, and environmental factors. Therefore the term used should reflect that. This needs to be made clear in order to address the larger social issues that revolve around a long history of racial hierarchy and disparity in the United States.

References

- AAPA Statement on Biological Aspects of Race. *American Anthropologist* 1998;100(3):714-15.
- The American Academy of Forensic Sciences on Race 2015.
- The American Anthropological Association Statement on Race and Intelligence 1994.
- Andreasen R. Race: Biological Reality or Social Construct?. *Philosophy of Science* 2000:S653.
- Banton M. The Naming of Social Categories. *Theoria: A Journal Of Social & Political Theory* September 2013;60(136):1-14.
- Carter G. *The United States Of The United Races: A Utopian History Of Racial Mixing*. New York: NYU Press, 2013.
- Chaitanya L, van Oven M, Weiler N, Hartevelde J, Wirken L, Sijen T, de Knijff P, Kayser M. Developmental validation of mitochondrial DNA genotyping assays for adept matrilineal inference of biogeographic ancestry at a continental level. *Forensic Science International: Genetics* 2014;11:39-51.
- Cox K, Tayles N, Buckley H. Forensic Identification of "Race". *Current Anthropology* 2006;47(5):869-874.
- Crenner C.. The Tuskegee Syphilis Study and the Scientific Concept of Racial Nervous Resistance. *Journal Of The History Of Medicine And Allied Sciences* 2012;(2):244.
- Edgar H. Estimation of Ancestry Using Dental Morphological Characteristics. *Journal of Forensic Sciences* 2013;58:3-8.
- Gannett L. Biogeographical Ancestry and Race. *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 2014;47:173-84.
- Gravlee C. C.. How Race Becomes Biology: Embodiment of Social Inequality. *Am. J. Phys. Anthropol. American Journal of Physical Anthropology* 2009;139(1):47-57.
- Gravlee, Clarence C., and Elizabeth Sweet. "Race, Ethnicity, and Racism in Medical Anthropology, 1977–2002." *Medical Anthropology Quarterly* 2008;22(1):27-51.
- Gross P. R.. Race: no such thing. *New Criterion* 2004;22(8):86-89.
- Guo G, Fu Y, Lee H, Cai T, Mullan Harris K, Li Y. Genetic Bio-Ancestry and Social Construction of Racial Classification in Social Surveys in the Contemporary United States. *Demography* February 2014;51(1):141-172.

- Haney-López I. *White By Law : The Legal Construction Of Race* [e-book]. New York: NYU Press; 2006.
- Hefner J, Ousley S. Statistical Classification Methods for Estimating Ancestry Using Morphoscopic Traits. *Journal Of Forensic Sciences* (Wiley-Blackwell) July 2014;59(4):883-890.
- Hughes C, Juarez C, Hughes T, Galloway A, Fowler G, Chacon S. A Simulation for Exploring the Effects of the 'Trait List' Method's Subjectivity on Consistency and Accuracy of Ancestry Estimations. *Journal Of Forensic Sciences* (Wiley-Blackwell) 2011;56(5):1094-1106.
- Humes K, Hogan H. Do Current Race and Ethnicity Concepts Reflect a Changing America?. *Race & Social Problems: Restructuring Inequality* January 2015:15.
- Hurst C. Morphoscopic Trait Expressions Used to Identify Southwest Hispanics. *Journal Of Forensic Sciences* July 2012;57(4):859-865.
- Kerby S. (n.d.). The Top 10 Most Startling Facts About People of Color and Criminal Justice in the United States. Retrieved March 2, 2016, from <https://www.americanprogress.org/issues/race/news/2012/03/13/11351/the-top-10-most-startling-facts-about-people-of-color-and-criminal-justice-in-the-united-states/>
- Kenyhercz M, Klales A, Kenyhercz W. Molar size and shape in the estimation of biological ancestry: a comparison of relative cusp location using geometric morphometrics and interlandmark distances. *American Journal Of Physical Anthropology* 2014;(2):269.
- Kopec M. A New Use of 'Race': The Evidence and Ethics of Forensic DNA Ancestry Profiling. *Journal Of Applied Philosophy* August 2014;31(3):237-253.
- M'Charek A. BEYOND FACT OR FICTION: On the Materiality of Race in Practice. *Cultural Anthropology* (Wiley-Blackwell) [serial online]. August 2013;28(3):420-442.
- Miele F, Sarich V. *Race: The Reality of Human Differences*. Boulder, CO: Alexander Street Press, 2004.
- Mncube Z. (2015). Are human races cladistic subspecies?. *South African Journal Of Philosophy*, 34(2):163-174.
- Peters R. M.. The Relationship of Racism, Chronic Stress Emotions, and Blood Pressure. *Journal Of Nursing Scholarship* 2006;38(3):234-240.
- Ossorio P, and Duster T. Race and Genetics: Controversies in Biomedical, Behavioral, and Forensic Sciences. *American Psychologist* 2005;60(1):115-28.
- Ossorio P. About Face: Forensic Genetic Testing for Race and Visible Traits. *The Journal of Law, Medicine Ethics* 2006;34(2):277-92.
- Ousley S, Jantz R, Freid D. Understanding race and human variation: why forensic anthropologists are good at identifying race. *American Journal Of Physical Anthropology* 2009;(1):68.

Pierce J. Why Teaching About Race as a Social Construct Still Matters. *Sociological Forum* March 2014;29(1):259-264.

Phillips C. Forensic genetic analysis of bio-geographical ancestry. *New Trends in Forensic Science Genetics, Forensic Science International: Genetics*. 2015;18:49-65

Ruiz-Linares A, Adhikari K, Rubio-Codina M, et al. Admixture in Latin America: Geographic Structure, Phenotypic Diversity and Self-Perception of Ancestry Based on 7,342 Individuals. *Plos Genetics* September 2014;10(9):1-13.

Ryabov I. Examining the role of residential segregation in explaining racial/ethnic gaps in spending on fruit and vegetables. *Appetite* 2016;98:74-79.

Santos C, Phillips C, Lareu M, et al. Forensic population genetics – original research: Completion of a worldwide reference panel of samples for an ancestry informative Indel assay. *Forensic Science International: Genetics* [serial online]. July 1, 2015;17:75-80.

Selcer P. Beyond The Cephalic Index. *Current Anthropology*. 2012:53.

Smedley A and Smedley D. *Race In North America : Origin And Evolution Of A Worldview*. Boulder, CO: Westview Press, 2011.

Štrkalj G. *Teaching Human Variation: Issues, Trends and Challenges*. New York: Nova Science Publishers, Inc, 2010.

Teslow, Tracy. *Constructing Race*. West Nyack, US: Cambridge University Press, 2014. ProQuest ebrary. Web. 13 February 2016.

Thompson E. Racial Realities: Social Constructs and the Stuff of Which They Are Made. *Global Dialogue* 2010;12:1-8.

Wade P. *Race, Nature And Culture: An Anthropological Perspective*. London: Pluto Press; 2002.

Winker, Margaret A. "Race and Ethnicity in Medical Research: Requirements Meet Reality." *Journal of Law, Medicine and Ethics*, 2006, 520-25.

Wollstein A, Lao O. Detecting individual ancestry in the human genome. *Investigative Genetics* May 2015;6(1):1-12.

Midgette 44

