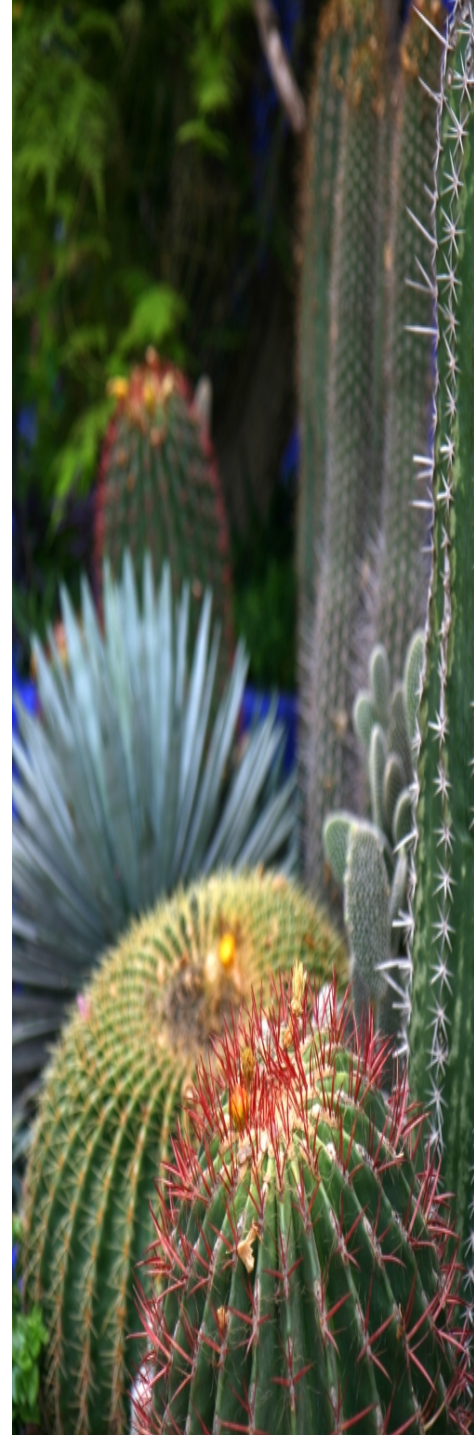


Understanding the power of ethnicity in explaining health disparities

**Kathryn Coe, PhD
University of Arizona**

**Craig Palmer, PhD
University of Missouri-Columbia**



Outline of Presentation

- **In this paper we draw on the assumptions of modern Darwinian Theory and Biological and Cultural Anthropology in an attempt to clarify the terms race and ethnicity and outline their potential usefulness.**
 - **Specifically we will look at such things as mating patterns (widespread clan exogamy, tribal endogamy), assortative mating, xenophobia...**
- **We begin with definitions of health disparities and population and a short historical account of the usage of the terms race and ethnicity. We then talk about the organization of human societies.**
- **We end by focusing on how Darwinian Theory might help clarify the meaning of race and ethnicity and the relationship between these factors and health disparities.**

What is a disparity?

According to most dictionary definitions, the root of the word disparity is Middle English *desparate*, meaning to separate.

A current definition of health disparity specifies that it is an unfavorable, but modifiable, difference in health status of a subpopulation (Swanson, 2008). To the extent a disparity is modifiable, it is not genetic. However, many discussions of race and ethnicity, and even disparity, assume a biological/genetic basis.

What is a population?

In human biology, a population consists of the total number of residents who occupy a particular geographic area, or sometimes “a group of interbreeding individuals [or], more precisely . . . the group within which one is most likely to find a mate.”

Epidemiologists, however, when talking about populations are often talking about groups of individuals who presumably share at least one common characteristic.

Who experiences disparities?

Populations reported to experience health disparities include the rural, poor, medically underserved and racial and ethnic minorities, including American Indians, African Americans, Asian/Pacific Islanders, and Hispanic/Latinos.

However, when we read in one paper that African Americans are a race (Schenck, Klabunde et al., 2006), in another that they are an ethnic group (Consedine, Morgenstern et al., 2006) and in another that they are a racial/ethnic group (Berkel et al., 2006), clearly there are problems with the terms.

Causal factors or factors correlated with disparities

Factors said to be correlated with these disparities, and that thus may be responsible for them, fall into three rough categories:

Prejudice, including institutional racism

Social Factors

Biological Factors

Prejudice, Politics, & Social Factors

- **Prejudice**: Because of the prejudice directed against them, either informally or as institutional policy, individuals who are members of certain racial and ethnic minorities are more likely to experience stress related to being regularly confronted by prejudice and receive poor service or to lack access to adequate health screenings and health services.
- **Social Determinants**: The second category includes the social determinants of health: geographic location, income, recent immigration, SES, culture, overall quality of life, and other as yet unknown lifestyle differences.

Clearly, there is some overlap between these two categories.

Prejudice, politics & social factors (continued)

- **Many researchers claim that these two factors when combined can account for the majority of health disparities. As Williams, Lavizzo-Mourey, and Warren argued in 1994,**
 - **Racial or ethnic variations in health status result primarily from variations among races in exposure or vulnerability to behavioral, psychosocial, material, and environmental risk factors and resources (p. 26).**
- **However, even when controlling for these social and political variables, disparities associated with race and ethnicity, continue to be identified.**

Biological Factors

- **Biological factors do play a role in disease risk. Inheritance of certain genes, such as the BRCA 1 and 2 genes, can increase one's risk for getting a particular disease or even dying of that disease.**

Biological Factors (continued)

- **Hunt and Megyesi (2008) argue, based on a study of geneticists, that in genetic studies focusing on race/ethnicity:**
 - **Definitions of racial and ethnic variables are often lacking or unclear.**
 - **The specific categories used are inconsistent and context specific.**
 - **The classification practices are often implicit and unexamined.**
 - **They concluded that the categories of race and ethnicity lack sufficient rigor to be used as key variables in biological research and that it is unacceptable to persist in constructing scientific arguments based on these highly ambiguous variables.**

Similar statements by others

- The President’s Cancer Panel argued in 1998 that the biological concept of race is untenable and has no legitimate place in biological science.**
- Over a decade ago, Kato wrote that “the...use of ethnicity as a grouping variable in health research is disturbing to scientists. It is poorly defined, is not objectively measured, and cannot be studied in a true experiment. Thus, scientific conclusions about the causal relationship between ethnicity and health are difficult to make” (1996, p. 287).**
- Again, these terms are problematic.**

- **While these criticisms are legitimate, the concepts of race and ethnicity are not going to be removed from discussions as long as funding agencies demand their inclusion in our studies and as long as researchers continue to identify disparities that can be attributed to them.**
- **To attempt to remedy this problem, we will look at the usage of the terms, historically, and then, we will look at the formation of human groups in the prehistory and history of our species.**

“Evolution” of Race

Early Usage: In 1684, Francois Bernier, in one of the earliest classifications, *New Division of Earth by the different species or races which inhabit it*” (1684) referred to these different people as races.

His classification was based on observations made by explorers that geographically isolated humans looked different; that is, they were distinguished by their unique phenotypic characteristics.

In 1923, Kroeber would refer to a race as “a group united by hereditary, a breed or genetic strain or subspecies...[it corresponded] to a breed in domestic animals” (p. 75)

By mid century, the term race was seen as problematic

Problems:

- **The classification of race depended on an ideal type; no one was sure what to do with intermediate types.**
- **Even though such things as skin and hair color, stature, cephalic index, nasal index differed among humans, it was not clear which of these markers might be the most important in classifying races.**
- **Similarity in phenotype could be related to facing similar environment pressures, not shared genes.**

“Evolution” of Ethnicity

As the word race fell into disfavor, ethnicity was seen as its replacement because the roots of the term *ethnic* are Greek, meaning a nation or people and its *cultural* practices.

Ethnic groups were identifiable on the basis of cultural traits, which included not only the shared language, but other practices of a particular category of individuals.

Thus, ethnicity was initially used to distinguish cultural homogeneity (ethnic group) from genetic homogeneity (race).

It was also, early in the usage of the term, seen as a term that distinguished “them” from “us,” with us being the explorers and scholars writing about exotic peoples.

Illustration of the problem

- **At various times, archaeologists have attempted to identify, in the archaeological record (and in the absence of skeletal material), ethnic groups.**
- **Their failure to do so is related to the fact that based solely on the study of material culture in the archaeological record, identifying ethnicity is impossible.**

Problems with ethnicity

In health research, attempts to replace the term race with the term ethnicity, and thus shift the focus from genetic racial categories to cultural ethnic ones, have not proven to be as successful as was initially hoped.

As scholars began to recognize the problems associated with the use of the term “ethnicity,” they began to consider the possibility that cultural similarities are important when...

---they are the result of descent from common ancestors; when they have inherited, so to speak, both genes and traditions from those ancestors.

Even though Boas (1912) attempted to demonstrate the primacy of culture over genes in producing phenotypes, a central problem is that ethnicity is not simply a synonym for culture.

A new way to see ethnicity: Moving towards identifying the appropriate focus of our studies

- **If we look at the Broadbeach burial ground in Queensland, we find that the majority of males buried here over a 1000 year period shared a defect of the sacral canal. That defect was inherited from a distant ancestor.**
- **The majority of the males also inherited from an ancestor the practice of dental ablation; these males all had their right incisor removed prior to death. Dental ablation was, at the time of contact, a common practice and the tooth removed served as a clan identifier. Clans were comprised of individuals sharing both traditions and genes.**

A useful concept

- **The concept of ethnicity as common ancestry, distinct from both the concept of race and that of culture, is a crucial step for formulating a concept of ethnicity that is useful to health professionals.**
- **An appropriate focus of our studies are reproductively isolated populations, such as the one found at Broadbeach. Many such population continue to exist.**

The anthropology model of the origin of human cooperative categories

For Thomas Hobbes the commonwealth, an early form of social organization, had its origin when men banded together in order to avoid the “warre of everyone against everyone” (Lev 14, 4).

Despite the fact that Hobbes provided the seed from which grew most of our political philosophy today, and despite the fact that the idea of a social contract is intriguing, human social organization and even large scale cooperation among identified categories of individuals began long before populations were engaging in such wars. In fact social organization, initiated by birth to a mother, is very ancient in our human ancestral lineage.

The anthropology model of the origin of human cooperative categories

From that birth to a mother, given reproductive success and the parental care it implies in humans, the numbers of descendants grew: to quote Fox (1967: 122), “large lineages or clans...grow up over time as the descendants of the original ancestor/ ancestress’ accumulate.”

Clan and tribe are the terms used by anthropologists to refer to categories of individuals who share common descent, who are co-descendants of a common ancestor. This form of social organization is both widespread and ancient.

Clans, tribes & ethnicity

Members of clans and tribes were identifiable by descent names and body decoration, including tribal and clan tattoos, paint, dress and other forms of ornamentation.

Cooperation among these clan and tribal men and women was encouraged by the axiom of kinship amity, which was the obligation to provide care to any clan member, close kin, friend, or stranger, and its rules of “kindness, love, help, and peace” that are applicable to members of one’s clan or tribe.

The cooperation needed for defense did not require a social contract, as Hobbes had insisted, the cooperation had been established and was ongoing prior to the emergence of any such threat.

Clans, tribes & ethnicity

While kin selection can explain the cooperation observed in other species that cooperate in categories larger than the family (bees, ants, termites, the naked mole rat), the individuals in those species are closely related.

Human clans, moieties, phratries, and tribes (the so-called descent groups) are comprised of hundreds or thousands or even tens and hundreds of thousands of individuals who claim common descent, but who, identifying one another and following rules of kinship amity, cooperate with some intensity.

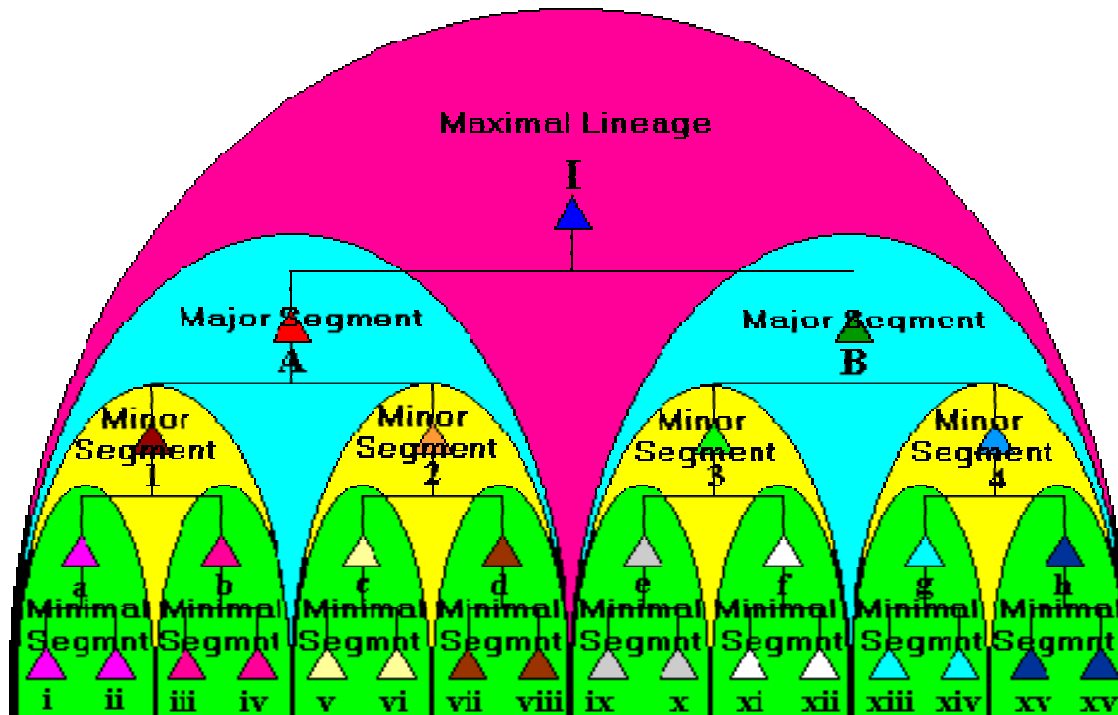
What, then, is an ethnic group?

We are arguing here is that the roots of social organization, and the form of human social categorization that is wired into our heads, were based on birth to a mother and, given reproductive success, the growth of that family that now included a father, into a clan or tribe, or as we now refer to it, an ethnic group.

These categories of individuals have been and continue to be identifiable not only through their claims of common descent, but through such cultural things as shared language, body decoration (tribal and clan outfits) and, today, shared genes. This is the category that one would predict would be important in health research.

Understanding Ethnicity

- An understanding of ethnicity today is complicated by the fact that there are nearly an infinite number of common ancestors that can be used to delineate any descent group. A focus on more distant common ancestors identifies a larger ethnic group because it implies a larger set of co-descendants (e.g., Asian as opposed to Chinese), while a focus on a more recent common ancestor identifies a smaller ethnic group.



Thus, humans tend to be at the center of concentric rings of ethnic categories and may expand or contract their ethnic category by focusing on more distant or closer common ancestors in different situations. Evans-Pritchard uses the Bedouin of Cyrenaica to illustrate this principle:

“A tribe is conceived of as a huge family descended from a common ancestor . . . [and each primary tribal division believes] that they are descended from a common ancestor, who is generally a son of the ancestor of the tribe. . . Primary tribal divisions split into secondary divisions, and secondary divisions into tertiary divisions, and so on The members of each division also consider that they are descended from a common ancestor who, in his turn, is descended from the ancestor of the larger division of which they form a section (Evans-Pritchard, 1949:55).

In sum, what do we do now?

The entire topic of ethnicity needs to be reexamined with fresh eyes. Instead of using labels merely out of habit, all potential ethnic categories should be evaluated based on two criteria:

1) does the label identify a category of people actually likely to have more genes in common with each other due to relatively recent common ancestry than they do with people who are not in the category, and/or

1) does the label identify a category of people actually likely to have more cultural traditions in common with each other due to recent common ancestry than they do with people who are not in the category.

Application

Categories that meet one or both of these criteria are likely to help explain health disparities, categories that do not meet one or either of these criteria are less likely to help explain health disparities or if disparities exist they are due to factors other than shared genes and traditions

Applying this approach would mean that some of the most common racial or “ethnic” categories should be abandoned, and other new ethnic categories created.

Categories to reconsider

- **A familiar category that may be of little if any use is African American. Rather than categorizing all African Americans in one category, it would be more appropriate to identify their specific African Ancestry. It clearly is not an accident that genetic profiles match onto language families.**
- **The category Latino/Hispanic is also of little use. The ancestors of living Latino/Hispanics come from nearly all quarters of the earth. They have no shared culture and any ancestor shared is a very, very distant ancestor.**
- **This does not mean that health disparities identified in these populations are unimportant, it just means that they are due to factors other than shared ancestry.**

Categories to consider

- **Categories we have ignored include those populations that have been isolated genetically and who, through founder's effect, share common genes. There are many such groups.**
- **To provide one example, the population of the providence of Newfoundland has been genetically isolated. These individuals, who share common traditions (including dietary traditions that may be linked to several health issues) and they share several monogenic disorders, both inherited from their ancestors.**

In sum

- **In conclusion, talk about race and/or ethnicity as causes of health disparities has not gone away because of the simple fact that ancestry does influence health. Instead of continuing the vague and inconsistent usage of these terms, and arguing about their political correctness, we suggest a fundamental refocusing on the two possible ways that ethnicity per se can influence health due to the implication of common ancestry.**
 - **First, ethnicity can influence health through the inheritance of genes from shared ancestors.**
 - **Second, ethnicity can influence health through the inheritance of traditions from those shared ancestors.**

Questions?

