
Some Dubious Premises in Research and Theory on Racial Differences

Scientific, Social, and Ethical Issues

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ABSTRACT: *The scientific premises for looking for statistical differences between groups designated as races (on somewhat arbitrary grounds) are questionable. The explanation of such differences in strictly biological-evolutionary terms is even more dubious. Studies of temperament, basic personality traits, disorders (such as antisocial personality), and specific genetic markers show that there is much more variation within groups designated as races than between such groups. Investigators and theoreticians interpreting such differences on the basis of limited sampling within the three broad racial groups should be careful to avoid selectivity and misrepresentation of data that serve racist ideology, and should be cautious about presenting their theories to the public through inappropriate media forums.*

The belief in the innate superiority of one's own tribe to neighboring tribes, or one's own nation or "race" to other nations or races, is probably as old as our species. Those who offer evolutionary racial-genetic explanations for behaviors or values of groups that can change radically within a generation seem to ignore all history between the Pleistocene era and the last 20 years. As scientists, we are not obliged to publish theories based on dubious premises, reasoning, or data. But once such theories are published, we must critically examine the thesis rather than reject it out of hand. I will raise some questions about contemporary racial theory and research and illustrate my points with data on temperament and its diversity within races.

What Is Race?

The answer to the question "What is race?" seems simple to the layperson who makes judgments from prototypical images derived from caricatures found in art, literature, and the media. Stereotyping varies inversely with the extent of personal experience with individual members of other groups. Although the distinctions between the races may be clear to some psychologists operating from the best anthropological thinking of the 19th century, they are not so simple to the modern anthropologist. Nearly everyone agrees that there is only one species of humans living in the world today: *Homo sapiens*. To the biologist, a race, or subspecies, is an inbreeding, geographically isolated population that differs in distinguishable physical

traits from other members of the species. Members of such a population are capable of breeding with members of other populations in their species, but they usually do not do so for some period of time during which the specific physical characteristics of the group emerge from the limited but adaptive gene pool. Geographical isolation may have been a significant factor producing inbreeding in the distant evolutionary past, but now the barriers that separate populations are political, cultural, and religious rather than geographic. The Amish group living in the United States represents such an inbreeding group, maintained not by geographical isolation but by religion and culture. One could speculate on whether "natural selection" has eliminated "aggressive genes" from the group, or whether their nonviolent nature is maintained by culture.

Most modern anthropologists believe that *Homo sapiens* evolved only once. The variations that are used to distinguish populations are relatively recent and represent climatic adaptations or mere peculiarities of relatively isolated breeding populations. The problem of race is one of taxonomy of current populations (Barnicott, 1964). Although there is considerable speculation on the origin of races, little can be proved other than that a species, *Homo sapiens*, gradually evolved from its predecessor *Homo erectus* about 200,000 years ago in East Africa and spread through Africa and Eurasia (Cann, Stoneking, & Wilson, 1987). All extant human races are members of that species. We do not know what the skin color of the original population was or when the races began to differentiate. Some have proposed that certain races may have evolved to a "higher level" than others because of a historical sequence (i.e., Negroids to Caucasoids to Mongoloids) and the need for social organization to survive in more difficult climatic conditions (Rushton, 1989; Ruston & Bogaert, 1987). All of this reconstruction of evolutionary history is totally speculative, unverifiable, and post hoc. Actually, Rushton's theory is contrary to the evolutionary theory on which he bases his conclusions because, as Lynn (1989) has pointed out, a high reproductive and low parental investment strategy has been theorized as more likely to occur in unstable arctic environments than in stable tropical environments such as those in Africa.

Races have been defined in terms of observable physical features, such as skin color, hair type and color,

eye color, stature, head shape and size, and facial features (with special attention to noses). The problem is that many of the features are not correlated and none by themselves could furnish an indisputable guide to the anthropologists' definitions of racial groups. For features like skin color, which can be ranged on a metric, there is great variation within, as well as between, so-called races. In Africa, skin color of groups called *Negroid* ranges from black or dark brown to yellowish tan. There are groups classified as *Caucasoid* who are darker than certain African groups classified as *Negroid*. The same diversity in various physical features exists in European groups (Barnicott, 1964). Many groups, such as the Black population in America, represent unknown admixtures of White and Black populations. At what point is White Black or Black White? It is not a "black and white" question, but depends on legal-cultural definitions. In America prior to the Civil War, anyone with any Black ancestry was defined by the law of southern states as Black. In South Carolina anyone with 1/32nd degree of Black "blood" (one ancestor five generations back) was called Black regardless of his or her physical appearance. In Brazil, however, anyone with any degree of Caucasian appearance is regarded as White. In Britain much of the populace regards immigrants with any degree of skin darkness as "Blacks" including those from the Near East or Asia and those of African descent from the West Indies. Prejudice makes for poor discrimination between peoples of other racial groups. Unfortunately, some psychologists seem equally blind to intraracial diversity.

The differential distribution of blood types or antigens has been used extensively by the new science of population genetics to classify groups. Because all of the A, B, and O blood types are found in all groups, it is only the relative population statistics that can be used to distinguish among groups. Knowing that someone had blood type B, for instance, would not enable one to decide if he were of African or European Caucasian descent, even though the type is more common in the former (29%) than in the latter (7%–12%; Mourant, 1983). Studying distributions of blood types shows that some groups with common blood-type frequencies do not resemble each other in classical racial features, whereas others, like Africans and Oceanic Negroids, who have common features of color and hair form, differ in blood types. Australoid aborigines resemble American Indians far more than they do Africans, Asians, or Europeans in their low frequencies of the type B gene even though they are markedly different in physical type. The modern anthropology of population

genetics raises serious questions about the old concepts of race based on phenotypes.

Race and Temperament

Because *race* is defined as an inbreeding group of individuals with a specific geographic locus, smaller tribal units fit this definition better than do the huge superraces with their tremendous range of genetic and cultural diversity. Africa contains hundreds of groups with extreme differences in physical phenotypes, such as the difference in stature between the Pygmy and the Watasi. But the range in physical traits is minor compared with the range of temperaments in this or in any other continent. Groups with very similar genetic constitutions, as judged from physical appearance or even blood types, may be worlds apart in cultural patterns and temperament. A vast literature in cultural anthropology testifies that superficial physical similarity can coexist with drastic differences in cultural-behavioral patterns.

De Vries and Sameroff (1984) compared infants from three African tribes—the Kikuyu, Digo, and Masai—on infant rating scales. Significant differences between the tribal groups were found on every dimension except threshold. If such variation exists between groups within the "Negroid race," what kind of generalizations can be made from limited samplings of American or British Blacks with their admixtures of unknown African and Caucasian genes? In order to make such a generalization, one would need a stratified sample with proportional representation from all of the hundreds of African groups.

It is true that almost all psychological data depend on sampling assumptions. However, when we deal with social behavior we are usually careful not to generalize too far beyond the population from which we have drawn our samples. If I obtained data on sexual behavior from University of Delaware undergraduates, I certainly would not generalize beyond the American college student, and even this would not be done unless the Delaware data seemed to be in line with data from other American universities. Yet typically we see studies comparing American Blacks and Whites from a particular region of the country and a particular socioeconomic level, with no criteria for race other than a self-report. The African tribal ancestry of these Blacks is unknown, and their ancestry may consist of various admixtures with Whites of equally unknown ancestry.

When we make generalizations about the social behavior of selected populations (such as extraverts and introverts) from limited samples, there is also some tendency to ignore the limitations of the samples used in the research. However, in the case of extraversion and introversion, the selection criteria are well-defined (e.g., scores on a trait test or behavioral observations) and there is usually a sound theoretical basis for the hypothesis generating the research (e.g., predicting that extraverts will socialize more than will introverts). In the case of race, the criteria for group selection are not well defined and consist of external physical features rather than behavioral

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traits. The assumptions about behavioral correlates of these physical traits owe more to popular stereotypes than to biopsychological theory.

A Cross-National and Racial Study of Personality

I would like to illustrate the problem of ignoring the diversity within the classically defined racial groups by using the data from a cross-cultural study by Paul Barrett and Sybil Eysenck (1984). Some of the data from this study were described in a recent review (Rushton, 1988) purporting to show racial differences in temperament related to differences in socialization, sexual behavior, impulsivity, and criminality (see the critique by Zuckerman & Brody, 1988). The study by Barrett and Eysenck is a masterpiece of cross-cultural research. The authors made great efforts to develop modified forms of the Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975) that were comparable across nations and cultural groups. I chose to look at the Psychoticism (P) scale because this scale was, for some unknown reason, totally ignored in Rushton's review, despite its obvious relevance to the behavioral variables on which the three major races were hypothesized to differ. Except for successful German artists, English male art students, and Indian writers, the highest scoring groups on the scale are English delinquents and prisoners (Eysenck & Eysenck, 1975). I have suggested that this scale should more appropriately be called *Psychopathy* or *Social Nonconformity* rather than *Psychoticism* (Zuckerman, 1989). In a general factor analysis the scale provides one of the best markers for a dimension that includes impulsivity, lack of socialization, sensation seeking, and aggression (Zuckerman, Kuhlman, & Camac, 1988). These are some of the traits that have been hypothesized to be highest in the Negroid and lowest in the Mongoloid race, with Caucasians intermediate (Rushton, 1988).

Table 1 shows the transformed means on the P scale of the 3 highest and 3 lowest countries among the 25 countries in the Barrett and Eysenck (1984) study. India, representing the White race, was highest on P for both sexes. For the men, India was closely followed by Australia, another predominantly White sample, and Hong Kong, a representative of the supposedly restrained Mongoloid race. At the low end of P, among the male samples, we find 2 White samples, 1 from Israel and the other from Spain, and 1 of the 2 Black countries, Nigeria. The other group of Black men, Ugandans, fell in the middle range of this scale with a mean of 6. Ugandan women did score among the top 3 female groups on P, along with Caucasoid Indians and Yugoslavians. Hungarian, British, and Icelandic women were lowest on P, but the next lowest were Nigerian and Israeli women, consistent with the male data. Apparently Blacks, as well as Whites, can be found at both extremes on this scale. Race seems to be irrelevant to the dimension.

In order to compare countries in terms of their total pattern of personality on the basis of four EPQ scales (Extraversion, Neuroticism, Psychoticism, and Lie), matrices containing Euclidian distance measures were com-

Table 1
Transformed Means on the P Scale for the 3 Highest and 3 Lowest of 25 Countries

Scale/country	n	P-scale mean
Men		
High P		
India	509	8.41
Australia	336	8.41
Hong Kong	270	8.36
Low P		
Israel	688	3.74
Nigeria	329	3.59
Spain	435	3.14
Women		
High P		
India	555	7.92
Yugoslavia	491	6.91
Uganda	921	6.12
Low P		
Hungary	414	3.01
United Kingdom	598	2.89
Iceland	567	2.70

Note. Adapted from "The Assessment of Personality Factors Across 25 Countries" by P. Barrett and S. B. G. Eysenck, *Personality and Individual Differences*, 5, p. 618. Copyright © 1984 by Pergamon Press. Adapted by permission.

puted. Similar methods are being used by modern anthropologists to group populations on the basis of genetic similarity. If there is any validity to the idea of differential temperaments among the three superraces, we would expect to see the 2 African nations, Uganda and Nigeria, grouped closely on the unidimensional scales of distance. Similarly, the 4 Asian representatives of the Mongoloid race, China, Japan, Hong Kong, and Singapore, should be close in pattern, and the White populations should constitute a third grouping. Figure 1 shows the placements of the samples of men and women from the 25 countries along the unidimensional scale of similarity. Male samples show no grouping of samples by race. China and Japan, for instance, lie at two ends of the scale, almost as different as possible. Different races lie close together on the scale. Israelis and Nigerians are quite similar in personality patterns and have scores that are very close on all four EPQ scales. Ugandan men resemble those from Hong Kong and the United Kingdom more than they resemble those from Nigeria. Ugandan women are more like Australian women than like Nigerian women. There is nothing here to support the hypothesis that overall similarities in personality are based on racial similarities.

Genetic Diversity

The data on personality suggest that the variation within broad populations, such as those defining the three major races, is large, relative to the variations between these populations. New methods enable us to examine geno-

Figure 1
Distances Between Country Samples on Patterns of Eysenck Personality Questionnaire Scores, Based on Euclidian Distance Matrices for Male and Female Samples, One Dimensional Model



Note. Distances are portrayed on an arbitrary scale ranging from -100 to +100. From "The Assessment of Personality Factors Across 25 Countries" by P. Barrett and S. B. G. Eysenck, *Personality and Individual Differences*, 5, p. 629. Copyright 1984 by Pergamon Press. Reprinted by permission.

typical as well as phenotypical variation. Protein variation between human populations is small relative to the variation among individuals within populations. Latter (1980)

analyzed 18 genetic systems (blood groups, serum proteins, and enzymes) in 40 populations within 16 regional subgroups around the world. Using a multivariate measure of individual differences, he calculated the variability within and between populations, breaking down the population variance into geographic regions and racial groups. *The major component of genetic diversity is between individuals in the same tribe or nation: it accounts for 84% of the variance. Of the remaining variance, 10% is accounted for by racial groupings and 6% by geographical regions.* Similar conclusions were reached for sequencing of mitochondrial and nuclear DNA for human populations (Cann et al., 1987; Wainscoat et al., 1986). When interpopulation distances are corrected for intrapopulation variation, they become quite small, amounting to 14% of the mean within population variation. The genetic analyses support the phenotypical analyses of personality. Racial groups are much more alike than they are different.

Crime and Antisocial Personality

Racial differences in American crime rates and patterns of sexual behavior have also been cited as evidence of inherited racial patterns of socialization or antisocial tendencies (Ellis, 1988a, 1988b). Most of these high rates of crime for Blacks represent young adolescent and adult males living in inner-city ghettos. Twin studies indicate that although adult criminality shows evidence of heritability in the concordance ratio of identical to fraternal twins, juvenile delinquency shows little evidence of heritability, with fraternal twin concordance rates nearly as high as those for identical twins (Christiansen, 1977). Although most chronic adult criminals have a record of teenage and earlier delinquency, most teenage delinquents do not show a pattern of prepubertal delinquency and most do not go on to become adult criminals (Wolfgang, Figlis, & Sellin, 1972). The twin concordance rates in studies conducted between 1931 and 1961 indicated a somewhat stronger genetic pattern for adult criminality, with concordance rates of about 69% for identical and 33% for fraternal twins. However, the results from later Scandinavian studies (Christiansen, 1977; Dalgaard & Kringlen, 1976) have shown much lower rates for identical twins (about 33%) and fraternal twins (about 16%). Stronger evidence for genetic rather than shared-environment influence on criminality comes from a study by Mednick, Gabrielli, and Hutchings (1986). Using data from adoption studies in Denmark, these investigators found that criminality in the biological parents of adoptees was related to criminality in the adoptees, whereas the criminal records of the adoptive parents were not predictive of crime in their adoptive children. But they also found that the socioeconomic class of the adoptive family was a significant influence on crime in adoptees even after controlling for the class of the biological parents. If this is true within the narrower range of social class difference in Denmark, it is likely to be even truer for the wider ranges within the United States and the United Kingdom. The results from Swedish adoptees also showed a strong

influence of postnatal environment on crime (Cloninger & Gottesman, 1987). Risk of criminality in their sample was not increased unless both the congenital and postnatal factors were predisposing. The recent tendency to account for racial differences in arrests and convictions by biological factors alone ignores the demonstrated influence of drugs and general family disruption in lower class Black communities.

If we turn to studies of diagnosed antisocial personality rather than crime statistics, there is no evidence of racial differences. A major study of the prevalence of psychiatric disorders in the general community was undertaken by the National Institute of Mental Health in the United States. Robins et al. (1984) interviewed about 2,700 Blacks and 6,900 Whites randomly sampled from census tracts in three U.S. cities. There were no significant racial differences in diagnoses of antisocial personality in any of the cities, and in two of the cities the rates were slightly higher for Whites than for Blacks. Thus when random sampling is used there is no evidence supporting the idea that Blacks as a group in the larger American community have a greater disposition to antisocial personality disorders than do Whites. The contrast with the crime rate statistics is illuminated by the high rates of environmentally produced delinquency in poverty-stricken environments. Robins (1978) found that adult criminality is more related to socioeconomic class of origin in Blacks than in Whites. Cloninger, Reich, and Guze (1975) reported that their data showed no genetic differences in sociopathy between Blacks and Whites. One would expect behavior geneticist psychologists interested in racial differences to use the data from their own disciplines, particularly those data derived from proper sampling methods, rather than the crude population statistics (uncorrected for social class and other variables) from the World Almanac.

Reflections on Racist Science and Responsibilities of Scientists

The word *racism* is often used in a pejorative sense. According to *Webster's Third New International Dictionary of the English Language, Unabridged* (1981), racism is

The assumption that psychocultural traits and capacities are determined by biological race and that races differ decisively from one another which is usually coupled with a belief in the inherent superiority of a particular race and its right to domination over others. (p. 1870)

Note that the definition consists of two parts: The first is the ideology, and the second is the application of the ideology. Some researchers on race seem dedicated to establishing the racist ideology on a scientific basis while denying the political beliefs that are associated with it. Non-scientists are not likely to make the distinction between scientific theory and what seems to be its political implications, or between generalizations based on population

statistics and their applications to individual members of a given group. In terms of the possibilities for social change, most would equate *inherited* with *unchangeable*.

I have been accused by colleagues of bringing moral values to bear on "purely scientific" questions. These colleagues describe themselves as liberal in belief and absolutely opposed to racism as a political doctrine. I share with them the belief that all questions should be open to scientific investigation if they are answerable by current scientific methods. I have raised questions about the likelihood of finding the role of genetic mechanisms in racial differences, using prevalent definitions of race. For the sake of argument, let us suppose that these questions are answerable. Is this an important scientific question, worth the harm it might do in fostering and reinforcing stereotypes that are applied to individuals in the broader society? Harrington (in press) has challenged the assumption of a value-free science that is above criticism related to topic. Is anything studied by the methods of science beyond challenge on moral grounds? Everyone agrees that the scientific studies of survival time in freezing water conducted by the Nazis on concentration camp inmates were immoral, regardless of the quality of the methodology and data. But we do not agree on the reprehensibility of theories that reinforce negative stereotypes of large segments of the human population and thereby foster racism in all of its more malignant aspects.

Of course one should not criticize the study of nuclear physics because of possible extrapolations to hydrogen bombs. However, a scientist who decides to work on the interesting problem of developing a small portable hydrogen bomb is not above criticism. Similarly, research on the genetic and biological bases of intelligence should not be criticized because some might make unwarranted racist extrapolations from the findings. Generalizations about the innate intelligence or social responsibility of large and genetically diverse segments of the species are open to criticism on the grounds that they serve no important scientific purpose, given the present ambiguities in definition of the independent variable and immense sampling problems. A more important task is to discover the biological and social bases of individual differences in personality and intelligence within populations. Questions of population differences could be better addressed after we understand the proximate biological bases of the phenomena and can provide a better biological definition of the populations now called *rac*es.

I would not argue with the right of investigators to study these problems now and to attempt to form some hypotheses. Misguided attempts at censorship tend to elicit protective reactions from the academic community and lead some academics to suspend critical judgment of the work and reasoning of the person under public censure. However, there is a general responsibility of scientists to strive for objectivity, to avoid selectivity of data in reviews, to consider the sampling and controls required for tests of hypotheses, to evaluate the adequacy of data sources and methods, and to give more than perfunctory consideration to other hypotheses. These are responsi-

bilities of scientists in any area of science, but in socially sensitive areas they are of even greater importance.

How a scientist behaves after a discovery is also a matter of social concern. The expected course of behavior is to publish in scientific journals and consider the reactions of peers before appearing on talk shows to present one's viewpoint to the general public. There are proper forums for scientists to present findings to the public, and there is nothing wrong with this as long as investigators are cautious and qualifying in their conclusions. However, television does not like complicated and qualified ideas. Most popular programs in this medium serve an audience that seems to want simplicity and sensation. They are not good vehicles for informing the public of complicated scientific issues that lend themselves to distortion by those with political axes to grind. Eysenck (in press) has acknowledged the danger of misinterpretations of research to serve racist purposes, but he suggests that these dangers are less than those of censorship in science. This assumes of course that the basic research is unbiased and nonselective. Critical peer review is not censorship.

Scientists also have a social responsibility to be extracritical on research or theory that serves racism. Rushton (in press) has claimed that standards of evidence for research on evolutionary and genetic hypotheses concerning race are held to "ludicrously high levels." One must read the critiques of his work to decide whether his critics are unreasonable in their demands for standards of proof and deduction (Lynn, 1989; Zuckerman & Brody, 1988). However, as Rushton's work on race has been published in respectable journals, there is obviously some disagreement about the standards or the work. But why shouldn't one impose high standards for those interpretations that have such large potential for abuse and social or physical harm? When the tobacco companies or their paid investigators report that cigarettes are really safe, one should scrutinize their evidence with great care, not only because of the questionable objectivity of the findings, but also because of the harm to smokers if they really believe the findings, and the findings are false. The question of whether ideas are based on good or bad science, scholarship, and logic is *not* an irrelevant question. The question of whether racial studies are racist largely depends on the quality of the research and the reasonableness of the deductions. The lay public is often unable to make these distinctions and is prone to accept anything coming from a person in a white lab coat as fact. While defending the academic freedom of promoters of racist science, we should make our disagreements and the reasons for the disagreement quite clear. Emotional reactions unsupported by reasons are useless because they undermine our credibility as scientists. If we fail to express our disagreement with practitioners of racist science, their pronouncements will be accepted by the public as the final word of scientific truth.

All questions should be open to scientific investigation for those who choose to study them and offer reasonable hypotheses based on sound data. This is a tenet of scientific values that most of us would endorse. How-

ever, certain topics are regarded with justified skepticism because the premises on which they are based are either not scientifically justified or are basically untestable using the scientific approach. If an investigator claims to have irrefutable scientific evidence for astrology, conscious life after death, the existence of God, or the content of the mental life of preverbal infants, it is quite natural for scientists to regard such claims with skepticism and disbelief. When the evidence is not due to deliberate fraud, the fault is usually the lack of proper controls in the research, lack of attention to alternate, more parsimonious interpretations, and unwarranted generalizations from the data. In medical science, the consequences of bad research can be a matter of life or death. In psychology, the harm done by bad science is usually of little consequence. However, when the fallacious ideas generated are used to support pernicious political doctrines like racism, the results are a disservice to our science and, more important, to the larger human community.

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