Is Race A Valid Taxonomic Construct?

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This essay is Professor Rushton's latest "Statement on Race." It updates the research in his book ***Race, Evolution, and Behavior*** *(3rd edition, 2000), which contains over 1,000 references to the literature.*

Over the years egalitarians have questioned the taxonomic classification of race in terms of its empirical value and utility. Notwithstanding these criticisms, which seek to undermine the legitimacy of race as a scientific concept, the answer to the question posed in the title of this paper is "yes." If the concept of race didn't exist, science would have to invent it (and did)! Race is a valid taxonomic construct because it allows us to make predictions about people's behavior, especially at the group level.

In science, a concept is useful if it groups facts so that general laws and conclusions can be drawn from them. Predictions can be made using the taxonomic category of race because, on average, the Chinese, Japanese, and Koreans are similar to each other and different from White Americans, Germans, and Russians, who are similar to each other and different from Black Americans, Haitians, and sub-Saharan Africans. Predictability is the criterion by which the value of a hypothetical construct like race is evaluated. As I will show, race is highly predictive.

For the past 20 years my research has focused on differences between the three major races, commonly termed *Orientals* (East Asians, Mongoloids), *Whites* (Europeans, Caucasoids), and *Blacks* (Africans, Negroids). Roughly speaking, Orientals are those who have most of their ancestors from East Asia. Whites have most of their ancestors from Europe. And Blacks have most of their ancestors from sub-Saharan Africa. In the main, I have not addressed the many other groups outside of these three major races, or sub-groups within the three major races, though they are of interest as well.

What I've found is that in brain size, intelligence, temperament, sexual behavior, fertility, growth rate, life span, crime, and family stability, Orientals, as a group, consistently fall at one end of the spectrum, Blacks fall at the other end, and Whites fall in between. On average, Orientals are slower to mature, less fertile, and less sexually active, and have larger brains and higher IQ scores. Blacks are at the opposite end in each of these areas. Whites fall in the middle, often close to Orientals (see Chart 1).

Variable	Orientals	Whites	Blacks
BRAIN SIZE			
Autopsy data (cm3 Equivalents)	1,351	1,356	1,223
Endocranial volume (cm3)	1,415	1,362	1,268
External head measures (cm3)	1,356	1,329	1,294
Cortical neurons (billions)	13.767	13.665	13.185
INTELLIGENCE			
IQ test scores	106	100	85
Decision times	Faster	Intermediate	Slower
Cultural Achievements	Higher	Higher	Lower
MATURATION RATE			
Gestation time	?	Intermediate	Earlier
Skeletal development	Later	Intermediate	Earlier
Motor development	Later	Intermediate	Earlier
Dental development	Later	Intermediate	Earlier
Age of first intercourse	Later	Intermediate	Earlier
Age of first pregnancy	Later	Intermediate	Earlier
Life span	Longer	Intermediate	Shorter
PERSONALITY			
Activity level	Lower	Intermediate	Higher
Aggressiveness	Lower	Intermediate	Higher
Cautiousness	Higher	Intermediate	Lower
Dominance	Lower	Intermediate	Higher
Impulsivity	Lower	Intermediate	Higher
Self-concept	Lower	Intermediate	Higher
Sociability	Lower	Intermediate	Higher
SOCIAL ORGANIZATION			
Marital stability	Higher	Intermediate	Lower
Law abidingness	Higher	Intermediate	Lower
Mental health	Higher	Intermediate	Lower
Administrative capacity	Higher	Higher	Lower
REPRODUCTIVE EFFORT			
Two-egg twinning (per 1,000 births)	4	8	16
Hormone levels	Lower	Intermediate	Higher
Size of genitalia	Smaller	Intermediate	Larger
Secondary sex characteristics	Smaller	Intermediate	Larger
Intercourse frequencies	Lower	Intermediate	Higher
Permissive attitudes	Lower	Intermediate	Higher
Sexually transmitted diseases	Lower	Intermediate	Higher

Of course, these three-way racial differences are averages. Individuals are individuals. However, I've found that this three-way pattern is consistently true over time and across nations. That the same three-way racial pattern occurs repeatedly on some 60 different biological and behavioral variables is profoundly interesting and shows that race is more than "just skin deep." The international data come from the World Health Organization, the United Nations, and Interpol. Recently, I even traveled to South Africa to collect new IQ data.

Let's start with the biological differences in sports, which is something almost everyone observes. Jon Entine's recent book *Taboo: Why Black Athletes Dominate Sports and Why We Are Afraid to Talk About It*, addresses the old cliché that "White men can't jump" (and the new one that Oriental men jump even less well). Entine shows that in sports, it is Black men and women who can sky! And yet, as the data also show, it is mainly Blacks of West African descent who excel at running over short distances, while Blacks of East African descent—from Kenya and Ethiopia—excel at marathon running over long distances. These differences between East and West Africans show that taking an average can sometimes gloss over important distinctions. Still, Blacks from both East and West Africa excel at one or another kind of running. In sports, Blacks, as a group, have a genetic advantage.

It is interesting to know that race differences show up early in life. Black babies are born a week earlier than White babies, yet they mature faster as measured by bone development. By age five or six, Black children excel in the dash, the long jump, and the high jump, all of which require a short burst of power. By the teenage years, Blacks have faster reflexes, as in the famous knee-jerk response.

Blacks also have from 3 to 19% more of the sex hormone testosterone than Whites or Orientals. This means more explosive energy, which gives Blacks the edge in sports like boxing, basketball, football, and sprinting.

Why is it taboo to say that Blacks are on average better at sports? Because the hormones that give Blacks the edge in sports also make them more masculine in general. They are physically more active in school, and this can sometimes get them into trouble or even lead to their being diagnosed as hyperactive.

So the next question is, "Why do East Asians and Whites have wider hips than Blacks, and so make poorer runners?" The answer is that they give birth to larger-brained babies. During evolution, as the head size of newborns increased, women had to have a wider pelvis. Orientals average 1 cubic inch more cranial capacity than Whites, and Whites average a very large 5 cubic inches more cranial capacity than Blacks.

Some people are surprised to hear that the races differ in brain size. And they wonder how convincing the evidence is that brain size is related to intelligence. In fact, dozens of studies, including those based on state-of-the-art magnetic resonance imaging, have demonstrated the relation between brain size and intelligence.

Race differences in brain size have been demonstrated using four different methods: (1) magnetic resonance imaging, (2) brain weight at autopsy, (3) endocranial volume, and (4) external head measurements. These data are summarized in Chart 2 which presents the brain size averages across the four measurement techniques and also, where possible, corrected for body size. Orientals averaged 1,364 cm^3, Whites averaged 1,347 cm^3, and Blacks averaged 1,267 cm^3. Naturally the averages vary between samples and the races do overlap. But the results from different methods on different samples, measured from the 1840s to the 1990s, show the same strong pattern.

The racial differences in brain size show up at birth. One study of my own, published in the 1997 issue of the journal *Intelligence*, was carried out using the resources of the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) in Bethesda, Maryland. In it, I analyzed data from the enormous Collaborative Perinatal Project, which took head circumference measures and IQ scores from over 50,000 children followed from birth to seven years. The Oriental children averaged larger head circumferences than did the White children at birth, four months, one year, and seven years; the White children averaged larger head circumferences than did the Black children.

I published several other studies during the 1990s, also in *Intelligence*, confirming the racial differences in brain size. In one study, I (1991) analyzed data from the National Aeronautics and Space Administration, and found the mean cranial capacity for East Asians was 1,460 cm^3, and for Europeans it was 1,446 cm^3. From a stratified random sample of 6,325 U.S. Army personnel, I (1992) calculated average cranial capacities for Asians, Whites, and Blacks, respectively, of 1,416 cm^3, 1,380 cm^3, and 1,359 cm^3. (I also found that officers averaged 1,393 cm^3 while enlisted personnel averaged 1,375 cm^3.) From a compilation made by the International Labour Office in Geneva of tens of thousands of people from around the world, I (1994) found that samples from the Pacific Rim, Europe, and Africa averaged cranial capacities, respectively, of 1,308 cm^3, 1,297 cm^3, and 1,241 cm^3. Travis Osborne and I (1995) published a paper showing that brain size was about 50% heritable for both Blacks and Whites using data from the Georgia Twin Study based on 236 pairs of Black and White adolescent twins. And once again we found Whites averaged greater cranial capacity than Blacks.

Since one cubic inch of brain matter contains millions of brain cells and hundreds of millions of nerve connections, brain size helps to explain why the races differ in IQ. On standardized IQ tests, hundreds of studies show the three-way pattern. Orientals average slightly ahead of Whites on such tests and Whites average substantially ahead of Blacks. Most IQ tests have an average score of 100, with a "normal" range from 85 to 115. Around the world, Whites average an IQ of about 100, Orientals an IQ of about 104, and Blacks in Britain, the Caribbean, and the U.S. average lower IQs—about 85. The lowest average IQs are found for

sub-Saharan Africans—around 70. Like the other data sets in this essay, these are reviewed in my book *Race, Evolution, and Behavior*. An even more recent book on the topic is by Richard Lynn and Tatu Vanhanen, *IQ and the Wealth of Nations*.

The extremely low average IQ of 70 for sub-Saharan Africans has been difficult for many people to accept. To determine for myself how realistic a figure it was, I traveled to South Africa to initiate a series of studies at the University of the Witwatersrand in Johannesburg, one of the most prestigious universities in Africa. In the first study, we administered the Raven's Standard Progressive Matrices to 173 African first year psychology students who scored at the 14th percentile on 1993 U.S. norms, giving them an average IQ of 84. In a second study, we administered the same test to another group of psychology students who scored an IQ of 83. After training on how to solve these types of tests, their IQs rose to 96. In a third study, we gave the same test to a more academically select student population — 198 African engineering students who had taken mathematics and sciences courses in high school. This group scored at the 41st percentile with an IQ of 97. These results, from an elite university, showing mean IQ scores for African undergraduates ranging from 83 to 97, confirm the overall IQ of 70 for Africans because around the world university students typically score 15 to 30 IQ points above their population average.

Race differences in brain size and IQ, along with those in testosterone, have important implications for social behavior. For example, in the United States, Orientals are seen as a "model minority." They have fewer divorces, out-of-wedlock births, and cases of child abuse than do Whites. More Orientals graduate from college and fewer go to prison. Blacks, on the other hand, are 12% of the American population but make up 50% of the prison population.

The racial pattern of crime in the U.S. is not due to local conditions like "White racism." For nearly twenty years I have been monitoring the *Interpol Yearbooks* and publishing data on the worldwide crime statistics. These consistently show that the rate of violent crime (murder, rape, and serious assault) is about three times lower in East Asian and Pacific Rim countries than they are in African and Caribbean countries. Whites in European countries are intermediate. The 1996 rates of violent crime, for example, were: East Asian countries, 35 per 100,000 people; European countries, 42; and African and Caribbean countries, 149.

Orientals are the least sexually active, whether measured by age of first intercourse, intercourse frequency, or number of sexual partners. Blacks are the most active on all of these. Once again Whites fall in between. National surveys in Britain and the U.S., and international surveys by the World Health Organization, reveal the three-way racial pattern in sexual behavior. These racial differences, in turn, affect the rate of sexually transmitted diseases. For example, the latest figures from the Centers for Disease Control and Prevention (for the year 2000) shows the rate of chlamydia in African Americans is 10 times higher than it is for Whites, and for gonorrhea and syphilis the rate among Blacks is nearly 30 times the White rate.

Twin and adoption studies show that genes play a big part in athletic ability, brain size, IQ, and personality. Trans-racial adoption studies, where infants of one race are adopted and reared by parents of a different race, provide some of the strongest evidence that race differences are heritable. Oriental children, even if malnourished before being adopted by White parents, go on to have IQs above the White average. Black infants adopted into middle-class White families end up with IQs lower than the White average. Some of these data are summarized in Chart 7.

The Evolution of Racial Differences

Look back again at all the traits in Chart 1. They form a pattern. Whites consistently average *between* Orientals and Blacks in dozens of areas. Also, the groups with the *largest* brains have the *lowest* rates of two-egg twinning! Why? The answer lies in evolution. *No purely cultural theory can explain all of these traits taken together*. There is, however, a gene-based explanation that explicitly involves the trade-off between reproductive effort (twinning rates) and brain size. The patterns make up what is called a "life-history." They evolved together to meet the trials of life—survival, growth, and reproduction.

I have explained the racial pattern in brain size, intelligence, and other traits using a gene-based life-history theory that evolutionary biologists call the *r-K* scale of reproductive strategies. At one end of this scale are *r*-strategies that rely on high reproductive rates. At the other end are *K*-strategies that rely on high levels of parental care. This scale is generally used to compare the life histories of different species of animals. I have used it to explain the smaller but real differences between the human races.

On this scale, Orientals are more *K*-selected than Whites, while Whites are more *K*-selected than Blacks. Highly *K*-selected women produce fewer eggs (and have bigger brains) than *r*-selected women. Highly *K*-selected men invest time and energy in their children rather than the pursuit of sexual thrills. They are "dads" rather than "cads."

Race differences also make sense in terms of human evolution. Modern humans evolved in Africa about 200,000 years ago. Africans and non-Africans then split about 110,000 years ago. Orientals and Whites split about 40,000 years ago, around the time that modern humans were first in Europe. Analyses of DNA sequencing, along with the fossil and archaeological record, demonstrate this sequence, as does the pattern of traits shown in Chart 1.

The further north people went out of Africa, the harder it was to get food, gain shelter, make clothes, and raise children. So the groups that evolved into today's Whites and Orientals needed larger brains, more family stability, and a longer life. But building a bigger brain takes time and energy so there is a trade off with slower rates of growth, lower levels of sex hormones, less aggression, and less sexual activity. Thus came about the pattern of traits in Chart 1.

What are the implications of this research? One is, obviously, that race is a valid taxonomic construct. If it were not it would have no reliable predictive value and we would not find the same racial pattern all around the world and over time. The fact that, on average, African-descended children are born with smaller brains than European- or East Asian-descended children, regardless of where in the diasporas the children are located, allows reliable predictions to be made about their future academic and occupational achievement. Similarly, the fact that throughout the world Blacks have a stronger sex drive than Whites or East Asians explains why Black Americans, Black Caribbeans, and sub-Saharan Africans have the highest rates of sexually transmitted diseases, and why East Asians have even lower rates than Whites.

A second implication is that "White racism" is not responsible for all of society's problems. Black underachievement is not simply due to "White prejudice." It is more deeply rooted. On average, Black children are born with smaller brains than White or East Asian children. Pointing this out is not constructing stereotypes, it is simply observing facts as they are. Both science and justice call for us to seek and tell the truth, not to tell lies and spread error.

Another implication is that we have to accept that racial differences will not just disappear. Hitherto, most theories in the behavioral sciences have assumed that all human populations have equal abilities to achieve equal levels of social development. We need to accept the existence of the evolved diversity of human populations.

Sometimes it is claimed by those who argue that race is just a social construct that the human genome project shows that because people share 99% of their "genes" in common, that there are no races. This is silly. Human genes are 98% similar to chimpanzee genes. Yet no one thinks that chimpanzees have the same intelligence, brain size, or social behavior patterns as human beings; they look and behave very differently. In fact humans share 90% of their genes with mice, which is why we can use them to test drug therapies. Similarly, although men and women are genetically 99% the same, it is foolish to believe that sex is just a "social construction."

Much confusion arises because there are several sets of genetic measures. A much more realistic story comes from looking at the 3.1 billion base pairs that make up the 30,000 genes. People differ in 1 out of every 1,000 of these base pairs. Each change in a base pair can alter a gene. Technically, base pair differences are called single nucleotide polymorphisms (SNPs). Base pair differences are important and SNPs clump together in races. Just one change in the base pair for hemoglobin, for example, causes sickle-cell anemia, from which many Blacks suffer. Other base pair differences affect IQ, aggression, and mental illness. The 3.1 billion base pairs provide plenty of room for large racial differences.

In summary, the same racial pattern would not occur so consistently all around the world and over time if race were a mere social construct. If it were a meaningless construct, it would have no power to predict phenomena like brain size, growth rate, life span, crime, and family stability. Other evidence also shows that race is a biological reality. For example, coroners in crime labs can identify race from a skeleton or even just the skull. They can even identify race from blood, hair, or semen. How could they do this if race was only a social construct? The scientific evidence shows that the politically correct mantra "race is just skin deep" is a case of deep denial.

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