

RACE DIFFERENCES: A GLOBAL PERSPECTIVE

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Because people vary so greatly within each racial group, they must be treated for most purposes as individuals. Nonetheless, I believe that much can be learned by studying races as groups. Theoretically intriguing is the fact that, around the world, in brain size and intelligence, sexual behavior and fertility, personality and temperament, speed of maturation and longevity, and crime and family stability, East Asians and Africans consistently average at opposite ends of a continuum, with Europeans intermediate (Table 1). Based on my studies I have proposed a gene-based evolutionary theory to account for these patterns (Rushton 1995b). This chapter reviews the data and the most parsimonious explanation of them.

I cannot emphasize enough that these profiles reflect *average differences*. Not all Africans or East Asians are the same as each other and different from Europeans. The full range of behavior, desirable or undesirable, is found in every racial group. No group has a monopoly on either virtue or vice, wisdom or folly. Nonetheless, the persistence of these distinctive racial patterns, over time and across nations and political systems, implies that they cannot be dismissed or ignored.

Unfortunately, just as evolution earlier seemed to undermine certain religious preconceptions, some see evidence of race differences as undermining their political agendas. For this reason, a major controversy occurred in Canada after my views became publicly known. Following a 1989 presentation of the theory at the

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Table 1. Relative Ranking on Diverse Variables

<i>Variable</i>	<i>East Asians</i>	<i>Whites</i>	<i>Blacks</i>
Brain size			
Autopsy data (cm ³ equivalents)	1,351	1,356	1,223
Endocranial volume (cm ³)	1,415	1,362	1,268
External head measures (cm ³)	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	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 1000 births)	4	8	16
Hormone levels	Lower	Intermediate	Higher
Secondary sex characteristics	Smaller	Intermediate	Larger
Intercourse frequencies	Lower	Intermediate	Higher
Permissive attitudes	Lower	Intermediate	Higher
Sexually transmitted diseases	Lower	Intermediate	Higher

Source: Rushton (1995a, p. 5). Reprinted by permission.

American Association for the Advancement of Science, there was a call for my dismissal by the premier of Ontario, a criminal investigation by the Ontario Provincial Police, a media campaign of opposition, disruptions at the university, and a four-year investigation by the Ontario Human Rights Commission. The firestorm of outrage led to countless challenges and rejoinders, so much so that at times the affair took over my life. Work on other topics seemed shallow by comparison. I learned to appreciate the cornerstone implications generated by the issue of race. By its impact on diverse areas of behavioral sciences, I imagined that research on the topic might help to complete the Darwinian revolution.

The editors have asked me to give some personal comments befitting a volume entitled "Sociobiology and Politics." So, let me make my position clear: In the never-ending tension between science and politics, I am on the side of science. The left-wing-liberal Zeitgeist that today dominates Western society, including the evolutionary sciences, consistently censors discussion about genetic causation and thereby inhibits sociobiological progress. As if to prove my point, such a brouhaha was raised about the paper I presented at the 1995 meeting of the European Sociobiological Society in Cambridge (at Charles Darwin's old college), outlining my views on left-wing dogmas and describing my personal experiences, that it helped prevent publication of those proceedings. (The paper may eventually appear elsewhere as "Darwin's *Really* Dangerous Idea," Rushton 1998).

The editors have also asked me to justify why I am "so intrigued" by my subject when it "lends itself to political (ab)use." I must, therefore, reiterate my objection to this selective intrusion by the editors and executives of the European Sociobiological Society (ESS) and once again call for repeal of censorious Article 2 of the ESS Constitution stating that it is wrong to "use and abuse knowledge" for political purpose. My position (see ESS Newsletter No. 43, January 1997) is that this article (and such editorial questioning) selectively chills scientific discourse. I make no apology for my choice of subject matter and can only say to those so inclined: "Go ahead. Imagine the worst of political motives. How exactly does this change the facts shown in Table 1? Is there an alternative theory that provides a better fit to *all* that data than the one I have proposed? I do not find any political consequences inexorably flowing from these data, but if you do, please state what they are."

I presume the editors expected me to say more than that I find human variation fascinating. Or that, as an academic living in multiracial Canada, I have a professional interest in racial stratification, as I teach and research the psychology of personality and individual differences. But, why need more be said? After all, many people are interested in race differences. For example, a recent government commission in Ontario (1996), where I live, concluded that blacks (mostly from the Caribbean) are five times more likely to be in jail than whites and 10 times more likely to be in jail than East Asians (mostly from Hong Kong and Vietnam). The commission argued that the disproportion is due to systemic anti-black racism

operating throughout the Ontario criminal justice system. (It ignored the underrepresentation of East Asians.)

If I had reached the same “culture theory” conclusions as the *Report of the Ontario Commission on Systemic Racism in the Ontario Criminal Justice System*, I doubt that the editors would have requested an explanation for my motives. They would certainly not have asked me to comment on the possibility of “political abuse.” As I pointed out in my complaint in ESS Newsletter No.43, although political abuse cuts all ways, these editors always raise it in a very selective fashion. Moreover, where does truth enter the picture?

There is good reason to believe (as this chapter makes clear) that what the Ontario commission concluded about crime is a long way from the whole truth and nothing but the truth. I could answer the editors that being a teacher at a university *requires* me to describe and explain the world as it is rather than as someone wishes that it were. To search for truth is, after all, what society pays me to do. It is a part of my job description as a university professor, especially one teaching psychology courses in “Psychological Testing,” and in “Personality Theory,” where individual and group differences are central to the curriculum and covered in textbooks (albeit often untruthfully). But to emphasize the scientific primacy of truth in the 1990s is to risk playing the fogey.

Here is how Hans Eysenck addressed the same situation back in 1975:

It used to be taken for granted that it was not only ethically *right* for scientists to make public their discoveries; it was regarded as their *duty* to do so. Secrecy, the withholding of information, and the refusal to communicate knowledge were rightly regarded as cardinal sins against the scientific ethos. This is true no more. In recent years, it has been argued, more and more vociferously, that scientists should have regard for the social consequences of their discoveries, and of their pronouncements; if these consequences are undesirable, the research in the area involved should be terminated, and results already achieved should not be publicized. The area which has seen most of this kind of argumentation is of course that concerned with the inheritance of intelligence, and with racial differences in ability; many even of those who acknowledge that Jensen’s arguments are scientifically correct have argued that he was wrong (and that Herrnstein and I were wrong) in actually publishing the conclusions to which all the experimental work was leading.

Yes, I have come to unpopular conclusions and this *does* elicit legitimate curiosity, even from those on my side of the debate. In fact, I did not always myself believe that race differences existed in deep structure. Fifteen years ago, as an established social learning theorist, I would have said that any differences that existed would have been primarily environmental in origin (Rushton 1980). However, I have been persuaded, by data, and findings from numerous sources, that the races do differ, genetically, in the mechanisms underlying their behavior.

Although my conclusions may be unpopular, they are part of the mainstream. In a poll conducted by political scientists Mark Snyderman and Stanley Rothman of Smith College and published in the 1987 *American Psychologist*, a majority (52%) of 661 scientists agreed with the conclusion that part of the black-white dif-

ference had a genetic cause. Only 17 percent believed it was entirely environmental. I can only hope that new books on the topic, most recently Michael Levin's (1997) *Why Race Matters* and Arthur Jensen's (1998) *The g Factor*, will bring about a more open discussion.

I. INTERNATIONAL BELL CURVES

Most research on race has focused on cognitive ability. For example, over a 2,000-year period, many commentators and historians have noted an African cultural disadvantage, relative to Europeans and Asians. More recently, Herrnstein and Murray's (1994) *The Bell Curve* reported the results of a 12-year longitudinal study of social mobility in 11,878 youths (3,022 of whom were African American) and found most 17 year olds with high scores on the Armed Forces Qualification Test (black as well as white) went on to occupational success by their late 20s and early 30s whereas many of those with low scores went on to welfare dependency. However, the bell curve for "African" Americans is offset lower than the ones for "Latino," "White," "Asian," and "Jewish" Americans. (In *The Bell Curve* these IQ equivalents were 85, 89, 103, 106, and 115, respectively, pp. 273-278.)

The Asian-white-black pattern is not unique to the United States. For over 20 years British psychologist Richard Lynn has been surveying the scientific literature on the international distribution of intelligence (Lynn 1982, 1997). He has found consistently that Mongoloid populations in the Pacific Rim average IQs in the 101 to 111 range, while Caucasoid populations in Europe and Australasia average IQs of about 100. Negroid populations living south of the Sahara, in the Caribbean, and in Britain, average IQs between 70 and 90. Black Africans living south of the Sahara have a mean IQ of around 70.

Many researchers doubted the validity of the initial report of a mean IQ of 70 for blacks in Africa. However, several recent studies have verified the finding. Kenneth Owen (1992) found a similar value for tests given to 13 year olds from the South Africa school system (1,056 whites, 1,063 East Indian, 778 Cape Coloreds—the term in South Africa for mixed-race individuals—and 1,093 black Africans). So did Fred Zindi (1994), a black Zimbabwean, in a study of 12- to 14-year-old blacks in his country. Interesting to note is that in the South African study, the Cape Colored (i.e., mixed-race) students averaged an IQ of 85—the same as the average score for blacks in the United States, Britain, and the Caribbean. Genetic studies (similar to those used in paternity diagnosis) show that, like the South African Cape Coloreds, these groups average about 25 percent white admixture.

Of course, questions can be raised about the validity of using tests for racial comparisons. However, because the tests show similar patterns of internal item consistency and predictive validity for all groups and because the same differences are found on relatively culture-free tests, most psychometricians think that the

weight of 1,323 grams whereas black Americans averaged 1,223 grams. Kenneth Beals and his colleagues in anthropology (1984) examined endocranial volume in up to 20,000 skulls from around the world and found East Asians, Europeans, and Africans averaged cranial volumes of 1,415, 1,362, and 1,268 cm³, respectively. A study by me (Rushton 1992) using external head measurements from a stratified random sample of 6,325 U.S. Army personnel found that Asians, whites, and blacks averaged 1,416, 1,380, and 1,359 cm³, respectively. Another study by me (Rushton 1994), using head measures, this time from tens of thousands of men and women collated by the International Labour Office from around the world, found that East Asians, Europeans, and Africans averaged 1,308, 1,297, and 1,241 cm³, respectively. Finally, a study in Britain used MRI and found that people of African and Caribbean background averaged a smaller brain volume than did those of European background (Harvey, Persaud, Ron, Baker, and Murray 1994).

Brain size differences appear early in life. Data from the U.S. National Collaborative Perinatal Project of over 53,000 children reveals that, at birth, East Asian infants average larger cranial capacities than do white infants who average larger cranial capacities than do black infants. These differences are not due to body size because, although by seven years of age black children surpass the white and Asian children in height and weight, the three-way racial ordering in cranial size remains (Rushton 1997a).

IV. SPEED OF MATURATION

Racial differences in behavior begin to show up at the earliest stages of life and they persist until death. These maturational differences have consequences. For example, younger maturation leads to earlier pregnancies and shorter lifespans. Early onset of sexual maturity affects later learning opportunities.

Group differences in speed of maturation start early in the womb. Black babies in the United States average a shorter gestation than white babies. By week 39 of pregnancy, 51 percent of black children have been born, but only 33 percent of white children (Niswander and Gordon 1972; Polednak 1989). In Europe, even black babies of professional-class mothers (from sub-Saharan Africa) average an earlier birth than European babies (Papiernik, Cohen, Richard, de Oca, and Feingold 1986). Although black babies tend to be born earlier than white babies, they are physiologically more mature as measured by pulmonary function and amniotic fluid (Papiernik et al. 1986). These biological factors indicate that the shorter gestation period for black babies is genetically based.

The faster pace of physical maturation among blacks continues through life. Such well-standardized tests as Bayley's Scales of Mental and Motor Development and the Cambridge Neonatal Scales find that black babies from Africa, the Caribbean, and the United States mature faster on landmark measures taken from birth to 12 months (coordination and head lifting, in muscular strength and turning

tests *are* valid measures of racial differences (Jensen 1998; Snyderman and Rothman 1987). This was also the judgment of a recent Task Force Report from the American Psychological Association (Neisser et al. 1996).

Reaction time is one of the simplest culture-free psychological tests. In one of these (the "odd-man-out" test), nine- to 12-year-old children decide which of several lights stands out from the others, and then press the button that corresponds to that light. The test is so easy that all children can perform it in less than one second. But even on this very simple test, children with higher IQ scores perform faster than do lower-IQ children. And, Asian children from Hong Kong, Japan, and California are, on average, faster than white children from Britain, Ireland, and California who are faster than black children from South Africa and California (Jensen 1998).

II. INTELLIGENCE AND BRAIN SIZE

I surveyed the published research on intelligence and brain size in the 1996 issue of the journal *Psychonomic Bulletin and Review* (Rushton and Ankney 1996). The relationship between IQ and brain size has been most clearly shown using the state-of-the-art technique known as Magnetic Resonance Imaging (MRI). MRI produces three-dimensional images of the brain of a living person. In eight separate studies with a total sample size of 381 adults, the overall correlation between brain size measured by MRI and IQ was 0.44. (Lower correlations can be found between head circumference measures and IQ. The correlation here is about 0.20 but the relationship is robust having been found for many different ages and in many different populations.)

III. RACE DIFFERENCES IN BRAIN SIZE

The results from numerous modern studies converge on the conclusion that the brains of East Asians and their descendants average about 17 cm³ (1 in³) larger than those of Europeans and their descendants, whose brains average about 80 cm³ (5 in³) larger than those of Africans and their descendants (Rushton 1997a; Rushton and Ankney 1996). This racial gradient has been independently established using three procedures: (a) wet brain weight at autopsy, (b) volume of empty skulls using filler, and (c) volume estimated from external head sizes. Recently, (d) a Magnetic Resonance Imaging (MRI) study has confirmed the white-black difference.

Consider just a few of the recently conducted studies, some from the United States and others from around the world, showing again the universality of the racial pattern. Dr. Khang-Cheng Ho and his associates (1980) at the Medical College of Wisconsin reported autopsy brain weights on 1,261 individuals. Holding constant age, sex, and body size, they found that white Americans averaged a brain

over, and locomotion) and 15 to 20 months (putting on clothing). The growth curve findings were observed since the 1930s and have not changed in the intervening years, despite changes in social and economic conditions (Bayley 1965; Freedman 1974). In contrast, East Asian children mature more slowly than do white children on similar tests. East Asian children typically do not walk until 13 months, compared to 12 months for white children, and 11 months for black children (Freedman 1979).

Sub-Saharan Africans also have a more rapid rate of dental development than do whites, who have a more rapid rate than East Asians. On average, Negroid children begin the first phase of permanent tooth eruption at 5.8 years and finish at 7.6 years; Caucasoids begin at 6.1 years and finish at 7.7 years; and Mongoloids begin at 6.1 years and finish at 7.8 years (Eveleth and Tanner 1990). African populations also average larger jaws and bigger teeth (and more teeth—third and fourth molars) than do Europeans, who average larger jaws and bigger (and more) teeth than do East Asians (Tompkins 1996).

Blacks reach sexual maturity, as measured by age at first menstruation, first sexual experience, and first pregnancy, faster than do whites, who mature sexually earlier than do East Asians. One large-scale survey of about 17,000 American girls, published in the 1997 issue of *Pediatrics* by Herman-Giddens and colleagues, found the timetable of puberty onset averages about a year earlier for black girls than for white girls. By age 8, 15 percent of the white girls and 48 percent of the black girls had some breast development, pubic hair, or both. In the study the average age when puberty began was just under nine years old for blacks and roughly 10 to 10½ years for whites. The age when girls begin to menstruate, which can be a year or more after puberty starts, is between 12 and 13 for white girls and a year earlier for black girls.

The first signs of sexual maturity in boys also show race differences. Studies show that 60 percent of black boys by age 11 have reached the stage of accelerated penis growth and 2 percent have experienced coitus, figures not reached by white boys for another 1.5 years. East Asians, on the other hand, typically lag one to two years behind their (white) American counterparts in sexual development and onset of sexual interest.

V. FAMILY STRUCTURE

Since the 1965 Moynihan Report documented the high rates of marital dissolution, high frequency of female heads of families, and numerous illegitimate births, the figures cited as evidence for the instability of the black family in America have tripled. About 75 percent of births to black teenagers are currently out of wedlock compared with 25 percent of births to white teenagers.

A similarly constituted matrifocal black family is found in the Caribbean with father-absent households and a lack of paternal certainty. Moreover, there is sep-

arate bookkeeping by cohabitants. Even when blacks are married, the tendency is not to pool resources, implying a readiness to part company. The Caribbean pattern, like the American one, is typically attributed to the long legacy of slavery. The slavery hypothesis, however, does not fit data from sub-Saharan Africa. Reviewing long-standing African marriage systems, Draper (1989) summarized: "coupled with low investment parenting is a mating pattern that permits early sexual activity, loose economic and emotional ties between spouses...and in many cases the expectation on the part of both spouses that the marriage will end in divorce or separation, followed by the formation of another union."

VI. TEMPERAMENT

Studies show that blacks are more uninhibited in temperament than whites, who are in turn more uninhibited than East Asians. These results do not vary, regardless of the age of the subjects, the trait studied, or the method of measurement. (Typically, studies of infants and young children use observer ratings, while studies of adults use paper-and-pencil tests.)

One study, carried out in French-speaking Quebec, examined 825 four to six year olds from 66 countries (Tremblay and Baillargeon 1984). These immigrant children were rated by 50 teachers in preschool French-language-immersion classes. The teachers consistently reported better social adjustment and less hostility and aggression for the East Asian children than for the white children, and more social adjustment and less hostility and aggression for the white children than for the black children.

Racial differences in personality and temperament are also found in university students using such well-known tests as Cattell's Sixteen Personality Factor Questionnaire, the Eysenck Personality Questionnaire, the Edwards Personal Preference Schedule, and the Minnesota Multiphasic Personality Inventory. East Asians (both in their countries of origin and in North America) average lower in aggression, dominance, impulsivity, and displays of masculinity. East Asians also show more caution than Europeans and especially more so than Africans or African Americans.

VII. CRIME

Although it may be little more than a cliché to point out that blacks in the United States commit proportionately more crimes than do whites or Asians, the causes thereof remain much debated. A novel study of *When Women Kill* examined 296 female-perpetrated homicide cases between 1979 and 1983 in several U.S. cities (Mann 1996). Racial disproportions were similar to those found in male-perpetrated homicides. Of the arrests, 75 percent of the women were black women, 13 percent were white, and none were Asian (the remainder were "Latina"). The

“socialization-only” reasons often given for black men fit more awkwardly for black women who are nominally precluded from expectations of violence.

It is seldom officially noted that East Asians are *underrepresented* in U.S. crime statistics relative to whites and have been ever since record keeping began. In the 1920s the underrepresentation of the Chinese in crime was seen as providing a theoretical problem for criminologists who solved the problem using the concept of the “ghetto.” For the Chinese, a ghetto was seen as a place that protected members from the disruptive tendencies of the outside society. Among blacks, however, the ghetto was said to foster crime and to have done so since at least the turn of the century. The U.S. census of 1910 showed more blacks than whites in jail, in the north as well as the south. Official figures from the 1930s through the 1950s showed blacks were arrested for crimes of violence in ratios to whites of from 6:1 to 16:1 (Wilson and Herrnstein 1985).

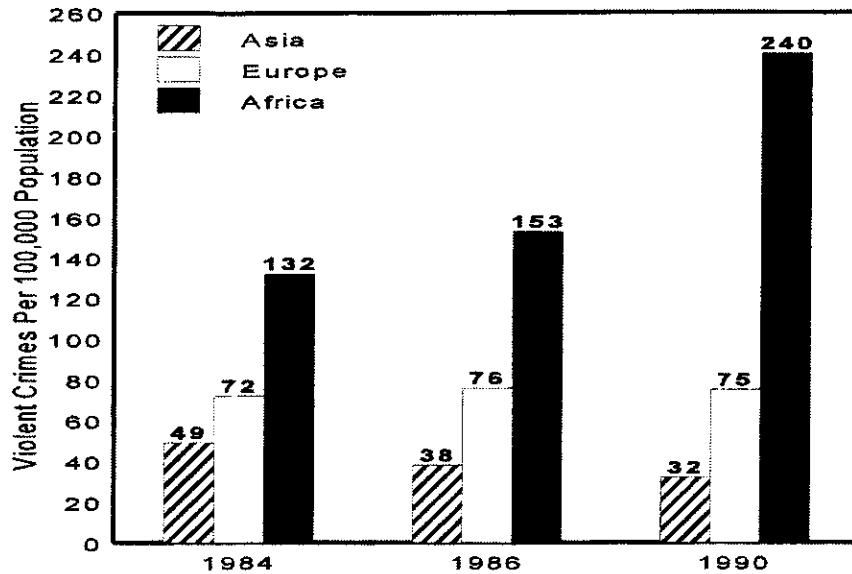
As I have already mentioned, a government commission in Ontario (1996) reported that, in Canada too, blacks were five times more likely to be in jail than whites and 10 times more likely than were Asians. Also, in England, results over the last 15 years show that blacks, who constitute 10 percent of the population of London, commit about 50 percent of the violent crime.

The global nature of the racial pattern in crime is readily confirmed using INTERPOL yearbooks. Analyses of these yearbooks throughout the 1980s showed that African and Caribbean countries had double the rate of violent crime than European countries and three times that of countries in the Pacific Rim. For example, averaging over the three crimes of murder, rape, and serious assault for 1984 and 1986 showed the figures per 100,000 population were, respectively, 142, 74, and 43 (Rushton 1990). Subsequently, an analysis of the data for 1989-1990 again found the rates of murder, rape, and serious assault were three times higher for African and Caribbean countries than for Pacific Rim countries, with European countries once again intermediate (Rushton 1995a). For 1989-1990, the rates of violent crime per 100,000 population for Africans, Europeans, and Asians were 240, 75, and 32 (see Figure 1).

VIII. SEX, HORMONES, AND AIDS

The same pattern of East Asian-white-black average differences can be seen in sexual anatomy, sexual behavior, and rates of sexually transmitted disease. One likely explanation is an underlying racial difference in hormone levels. Public health services are now actively studying these factors in order to combat the spread of AIDS.

Ovulation rates differ by race. The average woman produces one egg every 28 days, in the middle of her menstrual cycle. Black women, however, average shorter cycles than do white women, and more often produce two eggs in a single



Source: Adapted from data in Rushton (1990, 1995a).

Figure 1. International Rates of Violent Crime (Murder, Rape, and Serious Assault) per 100,000 Population

cycle. Both increase fertility. Occasionally, each egg in a double ovulation is fertilized by a separate sperm. This produces dizygotic (two-egg) twins.

Race differences in rates of double ovulation are very clear. The frequency of two-egg twins is less than four per 1,000 births for East Asians, eight for whites, and 16 or greater for blacks (Bulmer 1970). The frequencies of three-egg triplets and four-egg quadruplets, though rare in all groups, show a similar racial ordering. Studies of Asian–white crosses in Hawaii and white–black crosses in Brazil have shown that the rate of multiple birthing is hereditary and due to the race of the mother, not the father. (The frequency of monozygotic twinning, the result of a single egg fertilized by a single sperm splitting into two identical parts, is nearly constant at about four per 1,000 in all races.)

Race differences exist in average testosterone level (male sex hormone) and this may explain other behavioral differences. Studies show 3 to 19 percent more testosterone in black college students and military veterans than in their white counterparts (Ellis and Nyborg 1992). Studies among the Japanese show a correspondingly lower amount of testosterone than among white Americans. Some investigations were carried out by medical researchers interested in cancer of the prostate, one determinant of which is testosterone. Black men have higher

rates of prostate cancer than white men who in turn have higher rates than Asian men (Polednak 1989).

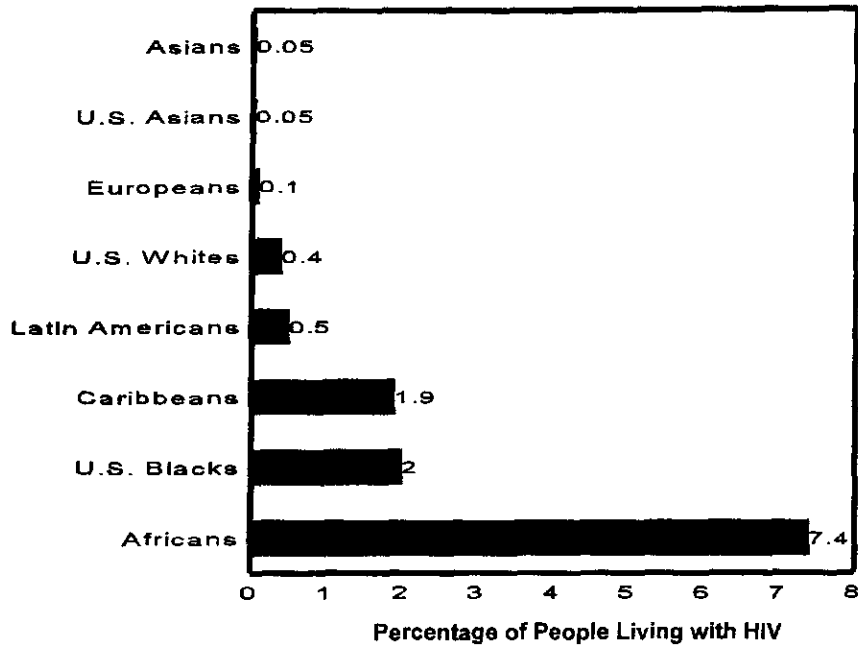
Racial differences exist in sexual behavior, as documented by numerous surveys including some carried out by the World Health Organization (Hofman 1984; Rushton 1997b). Africans, African Americans, and blacks living in Britain are more sexually active, at an earlier age, and with more sexual partners than are Europeans and white Americans, who in turn are more sexually active, at an earlier age, and with more sexual partners than are Asians, Asian Americans, and Asians living in Britain. Sexual behavior translates into consequences, including pregnancies and sexually transmitted diseases such as AIDS.

The rapid worldwide rate of increase in AIDS continues (currently over 20% a year) and, in their latest report, the World Health Organization (1997) showed that more than 30 million people are living with either HIV infection or AIDS. That is one in every hundred adults in the sexually active ages of 15 to 49 worldwide. The main transmission route is through unprotected sexual intercourse between men and women (heterosexual) or between men (homosexual), although HIV is also transmitted through blood by the use of inadequately sterilized needles, syringes, or other skin-piercing instruments.

UNAIDS and WHO publish annual estimates of the per capita prevalence of the HIV virus for various regions in the world (Figure 2). In sub-Saharan Africa the epidemic started in the late 1970s. Today over 20 million adults and children there are living with HIV/AIDS, 50 percent of them female (implying that the transmission route is mainly heterosexual). Currently, eight out of every 100 Africans are infected with the AIDS virus, and in some areas the figure reaches 20 percent. South Africa estimates that one in 10 adults is living with HIV.

In the mainly black Caribbean, the overall infection rate is also a very high 2 percent, with 33 percent of the cases being women, which is a high proportion relative to whites and signifies that much of the transmission is through heterosexual intercourse. The very high incidence of HIV in the 2,000-mile swathe of Caribbean countries from Bermuda in the Atlantic to Guyana in South America is especially striking, but has rarely (if ever) been explained. In Haiti the rate among pregnant women has reached 8 percent.

U.S. data show that African Americans have rates similar to their counterparts in black Africa and the black Caribbean, with 3 percent of black men and 1 percent of black women living with HIV (Rosenberg 1995; see also Figure 2). This survey, appearing in *Science*, drew correspondence to the effect that "race" was not causal to the incidence rates but was merely a marker for social factors such as poverty, which were the real causes. The author of the report replied, however, noting that (1) even with socioeconomic indicators controlled, sexually transmitted infections remained higher among African Americans than among other groups, and (2) "cultural variations in behavior," distinct from socioeconomic status, were part of the complex web of causation (Rosenberg 1996). None of the correspondents pointed to the racial distribution elsewhere in the world nor to the fact that in



Note: HIV Prevalence rate equals the number of persons living with HIV/AIDS in one specific region at a specific time divided by the total population of the region. Adapted from data in World Health Organization (1997). Data are in the public domain.

Figure 2. Estimated HIV Prevalence Rates (%) in 1997

Africa, it is *high* socioeconomic status that puts people at risk, mainly by increasing their access to sexual partners. AIDS is a serious public health problem for all racial groups, but particularly so for Africans and people of African ancestry (see Figure 2).

IX. HERITABILITY OF RACIAL DIFFERENCES

The worldwide consistency of the East Asian-white-black gradient on so many variables makes it very likely that some of the differences are genetic. Of course, environmental factors such as poor nutrition, and the presence of parasites like tape worms directly effect brain size and behavior. No one argues that racial differences are 100 percent genetic. Instead, the argument is between “hereditarians” like me, who hold to a mixed genetic-environmental model, say about 50 percent genetic and 50 percent environmental, and the “egalitarians” who hold, in effect, that racial differences are 100 percent environmental.

Theories of racial differences based on 100 percent cultural transmission have formidable problems accounting for the physiological traits such as speed of dental and physical maturation, brain size, gamete production, and testosterone production as well as the consistency of the racial rankings across time and culture. Direct evidence for between-group heritabilities also exist. For example, the racial differences in multiple birthing are independently heritable through the race of the mother and not through the race of the father. This is true for Asian-white crosses in Hawaii and white-black crosses in Brazil (Bulmer 1970).

Estimates of the heritability of IQ among whites routinely range from 40 to 80 percent. Similar heritabilities have also been found among black Americans, Asian Americans, Hawaiians, Koreans, and the Japanese. It would seem reasonable, therefore, to generalize these within-group heritabilities to between-group differences.

More direct evidence for the heritability of racial differences comes from adoption studies. There are at least three studies measuring IQs of Korean and Vietnamese children adopted into white American and white Belgian homes (Clark and Hanisee 1982; Frydman and Lynn 1989; Winick, Meyer, and Harris 1975). As babies, many of these children had been hospitalized for malnutrition. Nonetheless, they grew to excel in academic ability. Their average IQs were 10 or more points higher than the national norms in their adoptive countries.

By contrast, black and mixed-race (black/white) children adopted into white middle-class families typically perform at a lower level than white siblings with whom they have been raised. One famous study is the Minnesota Trans-Racial Adoption Study (see Table 2). By age 17, adopted white children had an average IQ of 106, an aptitude based on national norms at the 59th percentile, and a class rank at the 54th percentile; adopted mixed-race children had an average IQ of 99, an aptitude at the 53rd percentile, and a class rank at the 40th percentile; and adopted black children had an average IQ of 89, an aptitude at the 42nd percentile, and a class rank at the 36th percentile (Weinberg, Scarr, & Waldman 1992).

As shown in Table 2, the mixed-race children had scores intermediate to the "all-white" and "all-black" children. Numerous studies have shown similar results with lighter skin typically correlating with higher IQ. William Shockley estimated that for low-IQ black populations, there is a one-point increase in average "genetic" IQ for each 1 percent of Caucasian ancestry, with diminishing returns as an IQ of 100 is reached (Shockley 1973). Overall, using blood tests and DNA markers, studies show that African Americans have about 25 percent European genes (Chakraborty, Kamboh, Nwankwo, and Ferrell 1992). It is interesting to note in this regard that Cape Coloreds, a mixed-race population in South Africa, average an IQ of 85, mid-way between non-mixed black South Africans with an IQ of 70 and white South Africans with an IQ of 100.

More technical evidence for the genetic basis of the racial differences in IQ comes from studies using differential heritabilities. Some items and subtests are more genetically influenced than are others. The more genetically influenced the subtest, the more it differentiates between blacks and whites. A very similar relation is found

Table 2. Comparison of Black, Mixed-Race, and White Adopted and Biological Children Raised in White Middle-Class Families

Children's background	Age 7 IQ	Age 17 IQ	Age 17 school achievement		Age 17 school aptitude based on national norms (weighted mean of 4 percentiles)
			Grade-point average	Class rank	
Adopted, with 2 black biological parents	97	89	2.1	36	42
Adopted, with 1 white, 1 black biological parent	109	99	2.2	40	53
Adopted, with 2 white biological parents	112	106	2.8	54	59
Nonadopted, with 2 white biological parents	117	109	3.0	64	69

Source: Weinberg, Scarr, and Waldman (1992).

with the general factor of intelligence (known as *g*) showing that different IQ tests tend to be related. More *g*-loaded tests also tend to be more heritable.

The key point is that the environmental hypothesis and genetic hypothesis predict *opposite* outcomes. Environmental theory predicts racial differences will be greater on more culturally influenced tests; genetic theory predicts racial differences will be greater on more heritably-loaded tests. Arthur Jensen's recent book, *The g Factor*, summarizes the results from 17 independent data sets on a total of nearly 245,000 whites and 45,000 blacks derived from 171 psychometric tests and shows the more heritable the test, the greater the white-black difference on that test, even among three year olds.

Building on Jensen's (1985, 1987) earlier work, I carried out a study with the 11 subtests of the Wechsler Intelligence Scale for Children (Rushton 1989). I found that white-black differences are greatest on those subtests that show the most inbreeding depression, a powerful estimate of genetic influence. (Inbreeding depression occurs when harmful recessive genes combine, which is more likely in the offspring of closely related parents. The estimates of inbreeding depression had been calculated from cousin marriages in Japan, so the results are unlikely to reflect any cultural differences between blacks and whites in the United States). There really is no nongenetic explanation for the correlation between amount of inbreeding depression for a specific psychological subtest, and white-black differences on that test.

These results are especially conclusive because they go against the effects of any cultural influences. Culture theory predicts that differences between blacks and whites will be greater on those sub-tests most affected by the environment. To the contrary, the race differences are clearly greatest on the most heritable subtests.

X. EVOLUTIONARY ORIGINS OF RACE DIFFERENCES

Evolutionary selection pressures are different in the hot savanna where Africans evolved than they are in the cold Arctic, where East Asians evolved. The modern “African Eve” theory of human origins posits a beginning in Africa some 200,000 years ago, an exodus through the Middle East with an African–non-African split about 110,000 years ago, and a Caucasoid–Mongoloid split about 41,000 years ago (Stringer and Andrews 1988). This evolutionary sequence fits with and helps to explain how and why the variables cluster.

The further north the populations migrated out of Africa, the more they encountered the cognitively demanding problems of gathering and storing food, acquiring shelter, making clothes, and raising children successfully during prolonged winters. As the original African populations evolved into present-day Caucasoids and Mongoloids, they did so in the direction of larger brains, slower rates of maturation, lower hormone levels, decreased sexual potency, decreased aggressiveness, and decreased impulsiveness. Other traits such as family stability, advanced planning, self-control, rule following, and longevity likewise increased.

In my opinion, little doubt can remain about the genetic basis of at least some of the racial differences. I am aware of no environmental factor able to explain either the consistency of the international racial pattern across so many diverse variables or the tradeoff between brain size and gamete production in which people of East Asian ancestry average the largest brains and the lowest twinning rate, people of African ancestry average the smallest brains and the highest twinning rate, and people of European ancestry average intermediately in both. Only gene-based life-history theories predicting tradeoffs between parental care and reproductive effort fit all of the data.

XI. CONCLUSION

Recognizing that the pattern in achievement, crime, and family organization is not unique to the United States but occurs internationally shows the need for a more general (genetic-evolutionary) theory than the particularized explanations typically provided. The behavioral profile of blacks in America is like those for blacks in Africa and the Caribbean and so cannot be due to “white racism” or other cultural features unique to the United States. Similarly, whites and East Asians in America behave like their counterparts elsewhere in the world. Traditional environmental explanations based on Asian family strength and African poverty are themselves explained by an evolutionary perspective.

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