Race Differences in Intelligence, Creativity and Creative Achievement

Richard Lynn*
University of Ulster, Coleraine, Northern Ireland, BT52 1SA

Race differences in intelligence are generally consistent with differences in the historical record of creative achievement in the arts and sciences. The North East Asians (classical Mongoloids) and the European Caucasoids have the highest intelligence and the greatest creative achievements, while other races have lower IQs and lesser creative achievements. There is however an anomaly: North East Asians have a higher IQ than Europeans, but their creative achievements have been less. Evidence is presented showing that the North East Asians have lower creativity measured by openness to experience. It is proposed that this explains their lower creative achievement.

Key Words: Race; Intelligence; Creativity; Creative Achievement; Openness to experience.

IQs for the major races have been compiled from approximately 550 studies and are given in Lynn (2006). The metric in this compilation is based on a mean of 100 and standard deviation of 15 for Britain. Assessed by this metric, the estimated average IQ of the North East Asians (the Classical Mongoloids of China, Korea and Japan) is 105, the European Caucasoids 99, the South Asian and North African Caucasoids 84, South East Asians 87, the Native American Indians 86, the sub-Saharan Africans 67, the Australian Aborigines 62 and Kalahari Bushmen 54. These race differences in IQ are highly correlated with differences in scores on standardized international assessments of mathematics and science proficiency obtained by 9- and 13-year-old students, described in Lynn & Vanhanen (2006) and extended in Lynn and Mikk (2007) and in Lynn, Meisenberg, Mikk & Williams (2007). In these studies the North East Asians do much better than the Europeans, who in turn do better than the South Asians, the South East Asians and the sub-Saharan Africans.

* E-mail: LynnR540@aol.com

Table 1
Population size (millions), Nobel prize-winners and Fields medallists, and total achievements per 1 million, 1901-2006

	Africans	Europeans	North East Asians	S.Asians & N.Africans
Population - million	300	933	878	872
Nobels: Science	0	357	14	5
Nobels: Literature	1	91	3	4
Nobels: Economics	0	51	0	1
Fields: Math	0	42	5	0
Total	1	541	22	10
Per million	0.003	0.580	0.025	0.011

Table 2.
Scores of 64 countries on openness to experience

Europeans		**Europeans**		**South Asians**	
Argentina	50.8	Slovenia	50.5	Bangladesh	53.3
Australia	50.1	South Africa*	54.4	Cyprus	49.4
Austria	49.3	Spain	49.6	Fiji	47.2
Belgium	54.6	Sweden*	46.0	India	48.5
Canada	48.7	Switzerland	52.6	Indonesia	48.0
Chile	54.7	Ukraine	42.1	Israel	50.9
Croatia	48.0	U. K.	46.0	Jordan	47.1
Czech Rep.	50.6	United States	50.0	Lebanon	49.4
Denmark*	46.5	**MEDIAN**	**50.10**	Malaysia	47.6
Estonia	53.2			Morocco	49.1
Finland	50.3	**N. East Asians**		Philippines	49.3
France	48.1	China*	48.3	Turkey	52.7
Germany	47.8	Japan	41.5	**MEDIAN**	**49.20**
Greece	51.5	Hong Kong	41.6		
Hungary*	53.7	South Korea	44.3	**L. Americans**	
Italy	50.0	Taiwan	45.7	Bolivia	50.7
Latvia	49.9	Vietnam*	44.0	Brazil	49.2
Malta	50.7	**MEDIAN**	44.15	Mexico	52.3
Netherlands	49.9			Peru	51.3
New Zealand	49.5	**Africans**		**MEDIAN**	**51.00**
Norway*	51.5	Botswana	48.2		
Poland	49.1	Congo – Zaire	46.2		
Portugal	50.3	Ethiopia	47.1		
Romania	53.1	South Africa*	47.7		
Russia*	49.1	Tanzania	48.2		
Serbia	52.4	Zimbabwe	48.5		
Slovakia	52.5	**MEDIAN**	**47.4**		

In general, these IQ differences are consistent with the contributions the races have made to creative achievements in science, mathematics, technology, and the arts documented by Murray (2003) in his encyclopedic compilation given in his book *Human Accomplishment*. Although he barely mentions the word race, Murray shows that the North East Asians and the Europeans are the two races that have made most of the contributions to creative achievement, with some lesser contribution from the South Asians and North Africans, the South East Asians, and the Native American Indians. Very little contribution has been made by the sub-Saharan Africans, the Australian Aborigines and the Kalahari Bushmen.

Despite these general consistencies, there is an inconsistency between the North East Asians' high IQs and strong school performance in mathematics and science, and their lesser creative achievements in the arts and sciences, as compared with the Europeans. Although the North East Asians have a higher IQ, and greater abilities in mathematics and science in school, Murray (2003) shows that the Europeans have made more contributions to creative achievement. Murray suggests that the North East Asians and the Europeans made about equal progress in technological creative achievement up to around the year 1600 AD. The Chinese invented paper and printing, gunpowder and the magnetic compass well before the Europeans, and had a well-developed mathematics. On the other hand, the North East Asians did not make the fundamental advances in science and mathematical theory that were made by the Europeans. Murray writes that "China had no Euclid, no body of mathematical knowledge that started from first premises…During the Song (960-1279 AD) Chinese astronomers correctly demonstrated the causes of solar and lunar eclipses. But again there was no theory, no Ptolemaic characterization of the universe. The Chinese simply discovered certain things" (pp.38-9). The same can be said of the Japanese of whom Murray writes that "even today, it is commonly observed that Japan's technological feats far outweigh its slender body of original discoveries" (p.399).

Murray concludes that despite their impressive technological advances the North East Asians have never quite matched the Europeans at the highest level of creative achievement. The superiority of the Europeans became much

more evident from around the year 1500 AD to the present. Murray estimates that 97 per cent of significant creative achievements have been made by Europeans: "modern Europe has overwhelmingly dominated accomplishment in both arts and sciences… what the human species is today it owes in astonishing degree to what was accomplished in just half a dozen centuries by the peoples of one small portion of the Eurasian land mass" (p.264).

Murray's conclusions have been endorsed by physicist turned historian Michael Hart (2007). He writes that "Europe's closest rival was China… but even during the period when China was, on the whole, more advanced than Europe, the Chinese never came close to the Greek achievements in mathematics and science" (p.324).

Murray's compilation stops at 1950. His analysis can be updated by examining the numbers of Nobel prize-winners in science (chemistry, physics and medicine), literature, and economics, and by the numbers of Fields Medallists, the most prestigious award for outstanding achievement in mathematics. The Nobel Prizes have been awarded from the year 1901, except for economics, for which the annual prizes began in 1969. The Fields medals have been awarded from 1936. Race differences in the receipt of these awards are shown in Table 1. To assess the contributions of race differences, the awards need to be considered in relation to the size of the populations. These are given for the mid-twentieth century in row 1 of the table. The next rows give the numbers of Nobel prize-winners for science, literature (the one African is the Nigerian Wole Soyinka; the table does not count the mixed-race West Indian Derek Walcott and American Toni Morrison) and for economics (this does not include the mixed race West Indian Arthur Lewis). The next row gives the numbers of mathematicians awarded the Fields Medal. The last two rows give the total numbers of prizes and the total numbers per million of population. It is apparent that the Europeans won by far the greatest number of prizes in relation to the size of their population. They won more than twenty times the number of East Asians, more than fifty times the number of South Asians and North Africans, and about 200 times the number of Africans. None of these prizes have been won by Native Americans or by South East Asians. The compilation

summarized in Table 1 takes Murray's analysis forward to the year 2006 and confirms his conclusion that the Europeans have made by far the greatest contribution to creative achievement up to the present.

How can we explain why the Europeans have been so pre-eminent in creative achievement although they have a lower average IQ and lower school performance in mathematics and science than the North East Asians? It would seem that the Europeans must have some advantage that the North East Asians lack. It has sometimes been suggested that the answer to this question is that the North East Asians are more conformist and this inhibits creative work, which inevitably involves dissent or departure from social norms and accepted modes of thought. This theory was advanced some half a century ago by Joseph Needham (1956), who blamed Confucianism which promoted the practical application of technological processes while denying the importance of theoretical explanation. The Chinese scholar Cong Cao (2004) agrees. He writes "China's basic research is said to lack originality" (p.157) and "there is scarcely any tradition of reasoned discourse between two individuals in order to approach clarity or truth; and wherever there is disagreement between a master and his disciple, the outcome is predetermined. The master has always had the last, triumphant word, while his disciple was reduced to silence. China's educational system binds students to their mentors. A mentor is an authority figure as formidable as a father, and to challenge him is unacceptable. This loyalty discourages criticism to seniors" (p.164). However, to attribute the conformity of the Chinese to Confucianism is questionable because the Japanese and Koreans seem to display the same characteristic, but they do not subscribe to Confucianism. The conformity of the North East Asians appears more of a racial characteristic than a cultural one confined to China.

Murray makes the same argument regarding the conformity of the North East Asians more crisply. He writes of "the cliché that East Asians are intelligent but lack creative flair" (2003, p.38) and that "disapproval of open dispute took a toll on the ability of East Asian science to build an edifice of cumulative knowledge. Progress in science in the West has been fostered

by enthusiastic, non-stop competitive argument in which the goal is to come out on top. East Asia did not have the cultural wherewithal to support enthusiastic non-stop, competitive arguments". A similar point is proposed by Allik and Realo (2004) who suggest that European peoples are "individualistic" while East Asian peoples are "collectivist". They write "in collectivist East Asian cultures, individuals subordinate their personal goals to collective ones … whereas in the individualistic West, most individuals are seen as separate and autonomous and they live their lives in accordance with personal goals" (p. 33). The North East Asian subordination of personal goals to collective ones is not conducive to creative achievement, for which it is necessary to put personal goals first. Thus, the individualistic personality that is more characteristic of the Europeans is more likely to promote creative achievement.

Similar observations have been made of other North East Asian peoples. Writing of the Japanese, Shiota, Kraus and Clark (1996, p.84) observe that "popular and scholarly characterizations of the Japanese have often emphasized their tendency to maintain harmony with others within their group"; and writing of the Koreans, Han (1996, p.90) observes that "Koreans usually put the highest value on maintaining good relationships with people within an in-group". This priority accorded to preserving group harmony subordinates personal goals to collective ones and is likely to inhibit creative thinking.

The theory that Europeans have greater creativity than North East Asians and that this is the key to the European pre-eminence in creative achievement has a certain plausibility, but creativity is hard to measure and until recently there have been no data that can be brought to bear on this problem. Recently, however, some evidence has appeared that makes it possible to examine whether this is the correct explanation.

Method

Since around 1980 a consensus has emerged among psychologists that there are five major personality traits. These are openness to experience, neuroticism, introversion-extraversion, conscientiousness, and agreeableness (McCrae &

Costa, 1999). Openness to experience is the trait with which we are concerned because it is a measure of creativity. It is defined as "related to scientific and artistic creativity, divergent thinking and political liberalism. At the core of this dimension is an openness to feelings and new ideas, and flexibility of thought" (Wang & Erdheim, 2007, p.1495). McCrae (1987) has reviewed research on this issue and shown that the openness to experience scale is correlated at around 0.4 with a variety of measures of creativity including divergent thinking. He concludes that "these data suggest that creativity is particularly related to the personality domain of openness to experience" (p.1258).

The five personality traits have been measured in samples of the population in 56 countries by Schmitt, Allik, McCrae & Benet-Martinez (2007). The means for each country have been calculated in relation to a mean of 50.0 (standard deviation = 10) in the United States. The means for these countries for openness to experience are given without asterisks in Table 1. These means are supplemented by means for a further 8 countries given by McCrae (2002) and for Vietnam by Leininger, 2002). These additional nine countries are denoted by asterisks. With regard to South Africa, Schmitt et al. (2007) give a mean of 49.0 for a combined sample of blacks and whites. This has been replaced in the table by separate entries for blacks and whites given by McCrae (2002).

Reading the table from the left, the first column and the top half of the second column gives the means for 35 countries populated largely by Europeans. The median score for these European countries is 50.10. The lower half of the second column gives the means for 5 North East Asian countries together with Vietnamese. Notice that these are all the major North East Asian countries, except for North Korea. The Vietnamese are entered here because this sample consisted of Vietnamese immigrants in the United States who had left Vietnam after the communist takeover. These were largely ethnic Chinese who fled persecution. It will be seen that these North East Asian populations have a median score of 44.15 and all of them score well below the European median. Only the Ukraine among the European countries scored below the North East Asian median.

The bottom section of the second column gives the means for 6 countries of sub-Saharan Africa. All of these scored below the European mean and obtained a median score of 47.4.

The third column gives the means for 11 South Asian countries together with Morocco, placed in this group because Moroccans are racially close to South Asians. The median score of this group is 49.2 and is slightly below the European. The lower half of the third column gives the means for 4 countries of Latin America. The median score of 51.0 is virtually identical to the European median of 50.1.

Discussion

The most striking feature of the results is the low openness to experience scores of the six North East Asian populations. Their median score of 44.15 is slightly more than half a standard deviation below the European median of 50.10. In standard deviation units, the North East Asian median is 0.6d below the European median. This can be compared with the North East Asian IQ advantage in intelligence of 6 IQ points, amounting to .4d (standard deviation units). Thus, the North East Asian advantage of .4d in IQ is offset by a European advantage of .6d in creativity. The European advantage in creativity is larger than the North East Asian advantage in IQ. It is proposed that this explains the problem set out in the introduction of the relatively low creative achievements of the North East Asian peoples compared with the Europeans. As Murray and others have suggested, despite their higher IQ, the North East Asian peoples are less creative than the Europeans.

A second interesting result is that the 6 sub-Saharan African populations all scored below the European median. The median of the sub-Saharan African populations (47.4) is .29d below the European median. Thus, the sub-Saharan Africans suffer a double disadvantage of low creativity as well as low IQ, which does much to explain their low creative achievements. A third interesting result is that the median score of the 12 South Asian and North African countries (49.2) is only slightly below the European median of 50.1.The difference is .09d. Although their IQ (84) is lower than that of the Europeans, they have almost as high creativity and their creativity is substantially higher than that of the North East Asians and the sub-Saharan

Africans. This may help to explain the success of these peoples in building the early civilizations along the valleys of the Tigris, Euphrates, Indus and Nile rivers.

A fourth interesting result is that the median score of the four Latin American countries (50.0) is virtually identical to the European median of 50.1. These are all mixed race countries with substantial Native American Indian populations (except in Brazil where, together with Mestizos, they are only around 15 per cent of the population). These results suggest that the creativity of the Native American Indians is about the same as that of Europeans. This may help to explain the success of these peoples in building the early Aztec, Maya and Inca civilizations of Central and South America, despite their relatively low IQ of 86.

It is notable that the differences between the North East Asians, Europeans and sub-Saharan Africans are remarkably consistent. All of the six North East Asian peoples, and all of the six sub-Saharan African peoples, score below the European median. This consistency suggests a genetic basis of the differences. This is confirmed by a study in Canada that compared Canadian Chinese with Canadian Europeans and found the Chinese scored significantly lower on the openness to experience trait, even though both groups had been brought up in the same cultural environment (McCrae, Yik, Trapnell et al., 1998). If a genetic basis of the differences is accepted, the question arises of how these differences could have evolved. A possible answer to this problem is that an increase of creativity evolved in the European peoples because it conferred a selective advantage for solving the novel problems they encountered in the last ice age, consisting of hunting large animals, making improved tools and weapons, storing food for future consumption, and keeping warm. Why then did the North East Asians not evolve a higher level of creativity to solve the even more difficult problems of solving the novel problems they encountered in North East Asia? This is a difficult one, but possibly the answer to this problem is that creativity is associated with dissent and non-conformity to group norms. This would have been disadvantageous in the very severe environment of North East Asia in which groups would have needed a high level of conformity to preserve

harmonious co-operative social relationships. In such a harsh environment the maverick non-conformist creative genius would have been a luxury that could not be tolerated.

References

Allik, J. & Realo, A.
(2004) Individualism-collectivism and social capital. Journal of Cross-Cultural Psychology, 35, 29-49. Cao, C. (2004). Chinese Science and the Nobel Prize complex. Minerva, 42, 151-172.

Han, K.
(1996) The Korean MMPI-2. In J.N.Butcher (Ed) International Adaptations of the MMPI-2. Minneapolis, MN: University of Minnesota Press.

Hart, M
(2007) Understanding Human History. Athens, GA: Washington Summit Books.

Leininger, A.
(2002) Vietnamese personality and acculturation. In R.R. McCrae & J. Allik (Eds) The five factor model of personality across cultures. New York: Kluwer Academic.

Lynn, R.
(2006) Race Differences in Intelligence: An Evolutionary Analysis. Athens, GA: Washington Summit Books.

Lynn, R., Meisenberg, G., Mikk, J. & Williams, A.
(2007) National differences in intelligence and educational attainment. *Journal of Biosocial Science, 39,(to appear)*.

Lynn, R. & Mikk, J.
(2007) National differences in intelligence and educational attainment. *Intelligence*, 35, 115-121.

Lynn, R. and Vanhanen, T.
(2006) *IQ and Global Inequality*. Athens, GA: Washington Summit Books.

McCrae, R.R.
(1987) Creativity, divergent thinking, and openness to experience *Journal of Personality and Social Psychology*, 52, 1258-1265.

McCrae, R.R.
(2002) NEO-PI-R data from 36 cultures. In R.R. McCrae & J. Allik (Eds) The five factor model of personality across cultures. New York: Kluwer Academic.

McCrae, R.R., & Costa, P.T., Jr.
(1999) A Five-Factor theory of personality. In L. A. Pervin & O. P. John (Eds.) *Handbook of personality: Theory and research* (2nd ed., pp. 139-153). New York: Guilford.

McCrae, R.R., Yik, M.S.M., Trapnell, P.D., Bond, M.H. & Paulhus, D.L.
(1998) Interpreting personality profiles across cultures: bilingual, acculturation and peer rating studies of Chinese undergraduates. *Journal of Personality and Social Psychology, 74*, 1041-1055.

Murray, C.
(2003) *Human Accomplishment*. New York: Harper Collins.

Needham, J.
(1956) *Science and Civilization in China*. Cambridge: Cambridge University Press.

Schmitt, D.P., Allik, J., McCrae, R.R. & Benet-Martinez, V.
(2007) The geographic distribution of big five personality traits. *Journal of Cross-Cultural Psychology, 38, 173-212*.

Shiota, N.K., Kraus, S.S. & Clark,L.A.
(1996) Adaptation and validation of the Japanese MMPI-2. In J.N.Butcher (Ed) *International Adaptations of the MMPI-2*. Minneapolis, MN: University of Minnesota Press.

Wang, M. & Erdheim, J.
(2007) Does the five-factor model of personality relate to goal orientation? Personality & Individual Differences, 43, 1493-1505.