The Intelligence of Nations and their Economic and Social Effects

Richard Lynn*,
_Professor of University of Ulster, Coleraine
Northern Ireland_

There are large national differences in intelligence and these contribute to differences in educational and intellectual achievement, per capita income, health, longevity, and religious belief. The European and the North East Asian peoples have the highest IQs and have made most of the advances in civilization during the last 2,500 years. They are also the most prosperous, technologically advanced, have the best health, and are the least religious. These national diffe-rences in intelligence evolved during the last ice age, when only the more intelligent could survive in the northern hemisphere. Today the numbers of these two peoples are declining because of low birth rates. This is a serious problem for the future of these two peoples.

Differences in intelligence among individuals explain a wide range of different life outcomes including educational attainment, intellectual achievement, earnings, health, fertility, social mobi-lity, and religious belief (and nonbelief or atheism). We know that intelligence is a cause of these phenomena because differences in intelligence are largely genetic (with heritabilities of about 80 per cent), and because intelligence measured in young children predicts these phenomena in adults. When pairs of brothers are examined, we find that the brother with the higher IQ performs better and achieves more than the one with the lower IQ.

In 2000 Tatu Vanhanen at the University of Helsinki and I decided to examine whether the contribution of differences in intelligence for the explanation of these phenomena for individuals could be extended to nations. Nations differ greatly in educational attainment, intellectual achievement, earnings, health, fertility, and religious belief. Could these differences be explained (at least in part) by differences in intelligence? We reasoned that this was probable, because nations are groups of individuals, and laws that hold for individuals should also hold for groups of individuals.

Our theory that national differences in intelligence might explain a number of social and

*Lynnr540@aol.com

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economic phenomena was not a wholly new hypothesis. In the nineteenth century it was widely believed that the Europeans (and perhaps Chinese) are more intelligent than other peoples and this explains why Europeans and (and Chinese) have built superior civilizations. This was asser-ted in 1853 by the Comte Arthur de Gobineau in France, in 1869 by Francis Galton in England. These ideas persisted into the early twentieth century when they were advanced in France in 1910 by Lucien Lévy-Bruhl, who contrasted the thinking abilities of Europeans and Africans: "the European makes use of abstract thought and his language has made simple logical processes so easy that they entail no effort. With primitives both language and thought are almost exclusively concrete" (p. 433). He describes their thinking as "pre-logical" (p. 422). It is remarkable that he used the same terminology of concrete and pre-logical that was later used by Piaget to describe the thought processes of European children between the ages of around 8 to 11 years, and which are superseded by logical or "formal" thinking that European children develop at around the age of 12 years. Similar conclusions were reached by Luria in his 1930 study of the thinking abilities of Uzbeks compared with those of lEuropeans. Similar views were advanced in 1912 by Gustav Kossinna in Germany and in 1916 by Maddison Grant in the United States. Both Kossinna and Grant believed that it was the Northern Europeans (Nordics, including Germans, Scandinavians, British, Russians and Poles) who are the most intelligent and have contributed most to civilization.

These ideas began to be rejected from around 1930 and from 1950 were only rarely advanced. By the end of the twentieth century most social scientists in the west (as in Russia) maintained that there are no racial or national differences in intelligence. Our hypothesis that there are national differences in intelligence and that these may explain many national differences in economic and social phenomena was therefore a revival and extension of the view widely held in the nineteenth and early twentieth centuries. However, we were able to examine this hypothesis more precisely be-cause during the twentieth century intelligence tests were administered in many countries. The first step of our work was to collect all these studies and calculate IQs for as many nations as possible.

We published our first results in 2002 in *IQ and the Wealth of Nations*. Here we presented measured IQs for 81 nations and examined the relation between national IQs and per capita income. We found that these were correlated at 0,73 with per capita income measured as Real GDP (Gross Domestic Product, 1998). This showed that 53 per cent of the variance in the per capita income can be explained by differences in intelligence (,73 squared = 53). We recognise, of course, that other factors affect national per capita income in addition to IQs. We consider that the two most important of these other factors are natural resources such as oil, natural gas, gold, diamonds, etc.; and the existence of a market economy. For example, South Korea has a higher per capita than North Korea because it has a market economy.

In 2006 we published a sequel in *IQ and Global Inequality*. Here we presented measured IQs for 112 nations and we estimated IQs for an additional 81 nations on the basis of the measured IQs of similar neighboring nations. We believe this is justified, because neighboring nations generally have very similar IQs. This gives a total of 193 nations, which are all the nations of the world with populations above 40,000 (I have recently produced measured IQs for another 17 nations (Lynn, 2009). A complete list of national IQs is given in the appendix at the end of this paper).

We then examined the relation between national IQs for all countries in the world and a number of social and economic phenomena. We found that national IQs were correlated with the following: per capita income (r=0,60), percentage adult literacy (r=0,65), percentage enrollment in tertiary education (r=0,74), life expectancy (r=0,75), amount of democracy (r=0,53). We also found that in 37 countries national IQs are correlated with educational achievement in mathematics and science (r=0,84), and in 149 nations (fewer nations because data are not available for all nations)

that national IQs were correlated with the rates infant mortality (*r*=-0,77) and maternal mortality in childbirth (*r* -0,73). These correlations are negative, i.e. nations with higher IQs have lower rates of infant mortality and maternal mortality. However, some things are not correlated with national IQs. For example, we found that correlation of national IQs with happiness is zero (62, countries, r=0,03). It seems that having a IQ and the high income typically associated with a high IQ, do not make people happy.

We know that correlations do not necessarily demonstrate causal relations. Nevertheless, we believe that in this set of correlations, national IQs are the cause of these phenomena because of all the evidence on individuals that IQs in childhood are causal determinants of these phenomena. In addition, it has been found in many countries (including the United States, Britain, Australia, India, etc. and including Russia) that IQs have a strong genetic basis, with a heritability of approximately 80 per cent. From this evidence we believe that national differences in IQs are causal to differences in these social and economic phenomena.

Our work compilation of national IQs has created quite a lot of interest and a number of social scientists have examined whether our data and can be replicated and extended to explain other phenomena. Some of these studies are summarized in Table 1.

Table 1

Correlates of national IQs

Domain	Variable	N Nations	r x IQ	Reference
Educational Attainment	Math & Science	73	,90	Lynn & Mikk, 2007
Income	Log GDP, 1975–2003	81	,82	Meisenberg, 2004
Income	GDP per capita, 2004	152	,76	Morse, 2008
Health	Infant mortality	126	-,84	Kanazawa, 2006
Health	Life expectancy	126	,80	Kanazawa, 2006
Health	HIV: percent infected	165	-,49	Rindermann & Meisenberg, 2009
Health	Suicide	85	,42	Voracek, 2004
Intellectual Achievement	Patent index	112	,51	Gelade, 2008
Intellectual Achievement	Academic publications	139	,87	Morse, 2008
Religion	Belief in god	58	-,58	Kanazawa, 2009
Religion	Atheism	137	,60	Lynn et al., 2009
Fertility	TFR	113	-,71	Shatz, 2008
Fertility	TFR	192	-,73	Lynn & Harvey, 2008
Fertility	TFR	170	-,83	Meisenberg, 2009

Educational attainment has been calculated by Meisenberg (2009) from the studies of tests in mathematics and science administered to school students in a total of 73 countries. He reports a correlation of 0,90 between these and national IQs.

Income

There are several ways of measuring national income. In the first study in Table 1 Meisenberg (2004) confirmed that national IQs are significantly associated with per capita income measured as log GDP (Gross Domestic Product) averaged for the years 1995–2003. His correlation of 0,82 is higher that we reported. In the second study Morse (2008) used GDP (Gross Domestic Product) for 2004 and reported a correlation of 0,76 with national IQ. Both these correlations are higher that we reported. We believe that the positive correlation between national IQ and per capita income is to be expected from the correlation among individuals, because populations are aggregates of individuals, and populations with higher IQs can supply goods and services with greater value than those with lower IQs, and hence command higher incomes.

Health

Our report that national IQs are associated with health have been confirmed by Kanazawa (2006) who reports correlations of national IQs with rates of infant mortality (r=-0,84) and life expectancy (r=0,80). We believe that the explanation for these high correlations is that people with high IQs provide better health care for babies (hence low infant mortality) and look after their own health more efficiently (hence long life expectancy). Many studies have shown that among individuals IQ is associated with good health and life expectancy. In the next study Rindermann & Meisenberg (2009) reported a correlation of national IQ with the percentage of the population infected with HIV (r=-0,49; the higher the infection rates, the lower the IQ). This is a particular case of the more general correlation of national IQ with health and life expectancy. This study gave HIV infection rates for adults for 2001 and 2003 for 165 countries. They report huge differences between countries in infection rates. The rate in Europe is 0,3 percent, while the rate in sub-Saharan Africa is approximately 25 times greater at 7,4 percent. Several countries sub-Saharan Africa have even higher rates, e. g. 37 per cent in Botswana, 25 per cent in Zimbabwe, 22 per cent in South Africa, and 16,5 per cent in Zambia. To explain this negative correlation the authors suggest that the low IQ populations of sub-Saharan Africa have less understanding of how HIV is acquired and are less efficient at ensuring that they do not become infected.

It has been shown by Voracek (2004) that there is a correlation of 0.43 between national IQs and the rate of suicide. This is consistent with studies in the United States and South Africa where the suicide rate among blacks is about half that of Europeans (Baudelot & Establet, 2008). It seems that only more intelligent people commit suicide. It may be that the explanation is that the more intelligent peoples are more prone to depression, which is frequently the cause of suicide. Many studies have shown that sub-Saharan Africans experience depression less than Europeans, e.g. "there is no doubt that classical psychotic depression of any type is relatively rare in the African" (Carothers, 1953, p. 145). In the United States, blacks experience depression less than Europeans (Kessler et al., 1996; Williams et al., 2007).

Intellectual Achievement

The next two studies show that national IQs are correlated with intellectual achievement. Gelade (2008) showed a correlation of national IQ with the patent index (the numbers of patents for new inventions, as a the percentage of the population) (r=0,51). Morse (2008) used the number of academic publications (per capita) as a measure of intellectual achievement and showed a high correlation with national IQ (r=0,87). We believe that the explanation for these results is straightforward. Nations with high IQs have more people able to produce inventions and academic publications.

Religion

Kanazawa (2009 has reported a negative correlation of national IQ with the percent-

age of the population that has a belief in god (58 countries; r=-0,58). We have confirmed this result in a study of 137 countries (r=0,60), where the question was "do you dis- believe in god?" (Lynn et al., 2009). We believe that the explanation is that people with high IQs generally do not believe in god. Many studies have found that among individuals, including children, there are negative correlations between intelligence and religious belief. Also, lower percentages of intelligence elites hold religious beliefs compared with the general population. For example, in the United States it has been found in the 1990s that among members of the American National Academy of Sciences, 7 per cent believed in the existence of god, as compared with approximately 90 per cent found in a poll of the general population. In Britain, it has been reported that 3.3 per cent of Fellows of the Royal Society believe in the existence of god, while 68.5 per cent of the general population believe in the existence of god. In addition, religious belief declines with age among children and adolescents, as they become more intelligent. Finally, there has been a decline of religious belief during the course of the twentieth century as the intelligence of the population has increased.

Explanation of national differences in Intelligence

We have been interested in the causes of the differences in national IQs. We have found that national IQs are determined by the racial composition of the population. We have calculated national IQs in relation to a British IQ of 100 and standard deviation of 15, and we have found that the IQs of the North East Asians (in China, Hong Kong, Japan, South Korea, Singapore and Taiwan) are approximately 105; the IQ of the Europeans (in Europe, North America, Australia and New Zealand) is approximately 100, except in the Balkans, where it is about 93 (this is due to interbreeding with south Asians from Turkey); the IQ of the Native American Indians is approximately 84; the IQ of the South Asians and North Africans is approximately 84; the IQ of the sub-Saharan Africans is approximately 70; and the IQ of the Australian Aborigines is approximately 62. The studies on which these conclusions are based on several hundred studies and are given in Lynn (2006). These race differences in intelligence are also present in brain size. Table 2 shows race differences in brain size (cc: cubic capacity) given by Smith and Beals (1990) based on the measurements of approximately 20,000 skulls. A number of studies have shown that brain size is correlated with intelligence at approximately 0,40.

Thus, the most intelligent peoples are the Europeans and North East Asians. This is, perhaps, obvious. During the last two and a half thousand years, these two peoples have made almost all the discoveries in science and technology, and created almost all the great art, music and literature. However, the South Asians and North Africans, as well as the Chinese, developed early civilizations. We believe this is because they had favourable conditions consisting of rivers that flooded each spring and deposited fertile soil on which crops

Table 2

Race differences in brain size and intelligence

Race	Brain size	IQ
North East Asians	1,416	105
Europeans	1,369	100
Native American Indians	1,366	86
South Asians	1,293	84
Sub-Saharan Africans	1,282	70
Australian Aborigines	1,225	62

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could be grown to support large populations. The Native American Indians also developed early civilizations in central America and Peru, although these were not so advanced as the early civilizations developed by Europeans and Chinese. Sub-Saharan Africans and Australian Aborigines have never produced a civilization. They never invented written languages, arithmetic, substantial buildings, etc.

We believe that the explanation of these racial differences in intelligence is that higher intelligence evolved in the European and North East Asians peoples because

they had to live during the last ice age that began about 28,000 years ago and ended about 12,000 years ago. During this time Europe and North East Asian were much colder than today. The land was frozen tundra, like northern Siberia today. People needed higher intelligence to survive in these conditions. There were no plant foods for much of the year. They had to hunt and kill large animals for food, and make clothes to keep warm. In sub-Saharan African and Australia it was warm and plant foods were available all the year. Thus, sub-Saharan Africans and Australian Aborigines did not need to develop the high intelligence of the Europeans and North East Asians. In climate and geography, the South Asians and North Africans (and the Native American Indians) fall half way between sub-Saharan Africans and Australian Aborigines, and Europeans and North East Asians, so they have developed intelligence which is also intermediate. Thus, we reported that the further nations are from the equator, the higher their IQs and that latitude is correlated at 0.67 with national IQs.

This theory has been examined by Meisenberg (2004) and by Templer & Arikawa (2006). Their results are shown in Table 3. Meisenberg (2004) reported for 58 countries a high correlation of 0.89 between national IQ and skin reflectance (a measure of skin color). He argued that the European and North East Asians peoples evolved light skins to facilitate the absorption of vitamin D from sunlight. Thus, light skin color is a measure of exposure to harsh northern latitudes. Templer & Arikawa (2006) have extended this analysis to 129 countries and reported a high correlation of 0.92 between national IQ and skin color. They have also reported a correlation of -0,66 between low winter temperature and national IQ, i. e. countries with the low winter temperatures have high IQs. These studies have confirmed our theory that it was the low winter temperatures experienced by the European and North East Asians peoples during the last ice age that was responsible for their high IQs.

The Decline of the World's IQ

Shatz (2008) reports a negative correlation ($r=-0,71$) between national IQ and fertility (numbers of children; TFR, total fertility rate), i. e. the populations of nations with high IQs have few children of about 1.5 per woman, while the populations of nations with low IQs have many children, of about 6.0 per woman. As a result, Shatz reports that nations with high fertility (many children) have high rates of population growth, and he reports a negative correlation ($r =-0,52$) between rates of population growth rate and national IQs. This correlation is lower than the negative correlation ($r=-0,71$) between national IQ and fertility because nations with low IQ have high death rates, which reduce their high rates of population growth. Shatz suggests two possible explanations (1) "the IQ fertility relationship is mediated by economics… it is possible that countries that are poorer have lower quality educational systems,

Table 3

Variables causal to national IQs

Variable	N Countries	r x IQ	Reference
Skin reflectance	58	,89	Meisenberg, 2004
Skin color	129	,92	Templer & Arikawa, 2006
Winter temperature:	129	-,66	Templer & Arikawa, 2006

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lower quality health care, and more difficult access to birth control, all of which may contribute to higher fertility rates"; (2) Rushton's (2004) "differential K theory … it is possible that countries with higher IQ scores and lower fertility rates have larger proportions of high K selected individuals with lower IQ scores and higher fertility rates" (Rushton's theory is that high K selected individuals have few children and high IQs, that North East Asians are the most high K selected people, followed by Europeans, while sub-Saharan Africans are the least K selected). Negative correlations between national IQ and fertility have also been reported by Lynn & Harvey (2008) (192 nations, r=-0,73) and by Meisenberg (2009) (170 nations, r=-0,83).

These results are consistent with several studies that have reported negative correlations between IQ and fertility within the nations in Europe (Lynn, 1996) and the United States (r=-0,17, Lynn & Van Court, 2004). We believe that there are two principal explanations for for these negative correlations. First, that people with high IQs are more efficient at using contraception to limit their fertility, while those with low IQs have more unplanned children and, as a result, more of them. Second, many women with high IQs prefer to pursue their careers in their twenties and early thirties. Then they decide not to have children, or else they are not able to have children.

The implication of these results is that the genotypic (genetic) IQ of the populations within countries and in the world as a whole is declining. We have calculated the rate of decline within countries as about 1 IQ point a generation. Meisenberg (2009) has calculated the rate of decline of the world's intelligence at about 4 IQ point a generation. The two most intelligent peoples, the European and the North East Asians, all have too few children to maintain the size of their populations. Meanwhile, the less intelligent peoples of Africa, South Asia and the non-European peoples of South America have many more children. The future of the European and the North East Asians peoples is threatened because they are not having sufficient children to maintain the size of their populations. In addition, in western Europe, the United Sates and Canada, the European peoples are being replaced by non-European immigrants. By the year 2045, Europeans will be a minority of the population in the United States. This will happen next in Canada, and by the end of the 21st century it is probable that Europeans will be minorites of the population throughout western Europe. All these countries will decline in economic and military strength. They will become like Mexico, Venezuela and South Africa, where Europeans are a minority of the population. By the year 2,100 European civilization may survive in eastern Europe, including Russia, and in a few other places like New Zealand, Australia and Iceland, if these prevent the immigrant of non-European peoples. But the size of populations of these countries will decline and deteriorate genetically, if present trends continue. China, with its huge population of about 1,2 billion, and the high IQ of its people, will become the world's only super-power. We believe these are serious problems for the future of the European peoples and the civilization they have created. How can we solve them? Can we survive? Or will we be replaced by other less intelligent peoples? I will leave readers to consider these important questions.

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Appendix. National IQ. Measured IQs shown by *

Country	IQ	Country	IQ	Country	IQ	Country	IQ
Afghanistan	84	Dominica*	67	Liberia	67	St Vincent*	71
Albania	90	Dominican Rep*	82	Libya	86	Samoa (Western)*	88
Algeria	83	Ecuador*	88	Lithuania*	94	Sao Tome & Principe	67
Andora	98	Egypt*	81	Luxembourg	100	Saudi Arabia*	78
Angola	68	El Salvador	80	Macedonia	91	Senegal*	74
Antigua	70	Equatorial Guinea	64	Madagasca*	82	Serbia-Montenegro*	89
Argentina*	93	Eritrea*	76	Malawi	69	Seychelles	86
Armenia	94	Estonia*	99	Malaysia*	92	Sierra Leone*	64
Australia*	98	Ethiopia*	64	Maldives	81	Singapore*	108
Austria*	100	Fiji*	85	Mali	68	Slovakia*	96
Azerbaijan	87	Finland*	99	Malta*	97	Slovenia*	96
Bahamas	84	France*	98	Mariana Islands*	81	Solomon Islands	68
Bahrain*	81	Gabon	64	Marshall Islands*	84	Somalia	68
Bangladesh*	82	Gambia	64	Mauritania	76	South Africa*	72
Barbados*	80	Georgia	94	Mauritius*	89	Spain*	98
Belarus	97	Germany*	99	Mexico*	88	Sri Lanka*	79
Belgium*	99	Ghana*	71	Micronesia	84	St.Lucia*	62
Belize	84	Greece*	92	Moldova	96	St.Vincent*	71
Benin	70	Grenada	71	Mongolia*	101	Suriname*	89
Bermuda*	90	Guatemala*	79	Morocco*	85	Sudan*	71
Bhutan	80	Guinea*	67	Mozambique*	64	Swaziland	68
Bolivia*	87	Guinea-Bessau	67	Myanmar	87	Sweden*	99
Bosnia	90	Guyana	87	Namibia*	72	Switzerland*	101
Botswana	70	Haiti	67	Nepal*	78	Syria*	83
Brazil*	87	Honduras*	81	Netherlands*	100	Taiwan*	105
Brunei	91	Hong Kong*	108	New Caledonia*	85	Tajikistan	87
Bulgaria*	93	Hungary*	98	New Zealand*	99	Tanzania*	72
Burkina Faso	68	Iceland*	101	Nicaragua	81	Thailand*	91
Burundi	69	India*	82	Niger	69	Tibet	94
Cambodia	91	Indonesia*	87	Nigeria*	69	Timor-Leste	87
Cameroon*	64	Iran*	84	N. Mariana Islands	81	Togo	70
Canada*	99	Iraq*	87	Norway*	100	Tonga*	86

Cape Verde	76	Ireland*	92	Oman*	83	Trinidad & Tobago	85
Central African Rep*	64	Israel*	95	Pakistan*	84	Tunisia*	84
Chad	68	Italy*	102	Panama	84	Turkey*	90
Chile*	90	Jamaica*	71	Papua New Guinea*	83	Turkme-nistan	87
China*	105	Japan*	105	Paraguay*	84	Uganda*	73
Colombia*	84	Jordan*	84	Peru*	85	Ukraine	97
Comoras	77	Kazakstan	94	Philippines*	86	United Arab Emitates*	83
Congo – Brazzaville*	65	Kenya*	72	Poland*	99	United Kingdom*	100
Congo-Republic*	64	Kiribati	85	Portugal*	95	United States*	98
Cook Islands*	89	Korea, North	106	Puerto Rico*	84	Uruguay*	96
Costa Rica	89	Korea, South*	106	Qatar*	78	Uzbekistan	87
Cote d'Ivoire	69	Kuwait*	86	Romania*	94	Vanuatu	84
Croatia*	90	Kyrgyzstan	90	Russia*	97	Venezuela*	84
Cuba*	85	Laos*	89	Rwanda*	76	Vietnam*	94
Cyprus	91	Latvia	98	St Helena*	67	Yemen*	85
Czech Republic*	98	Lebanon*	82	St..Kitts Nevis	67	Zambia*	71
Denmark*	98	Lesotho	67	St Lucia*	62	Zimbabwe*	66
Djibouti	68						