



Reminiscences of forty years of friendship with Hans Eysenck and collaboration on work on racial and national differences in personality and intelligence



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ABSTRACT

This paper summarises the author's friendship and collaboration with Hans Eysenck over forty years with particular reference to their work on racial and national differences in personality and intelligence and its subsequent development by the author and others. Eysenck was one of the first to accept a genetically based black–white difference in intelligence. Later work has developed this further by documenting IQs for all races.

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I first encountered Hans Eysenck's work in 1951–3 when I was a student at Cambridge University and read his *Dimensions of Personality* (1947) and *Uses and Abuses of Psychology* (1953). I was very favourably impressed with these, both for the interest of their content and the lucidity of Hans's writing. I much preferred them to the work that was being done at Cambridge that was largely based on information theory and has long since been consigned to the dustbin of history.

I first met Hans in April 1957 when I attended the British Psychological Society annual conference in St Andrews, where I gave a paper on mothers' rearing practises and child socialization (Lynn, 1957). Someone gave a paper arguing that intelligence has no heritability, and Hans responded by giving five reasons why this was wrong. These were the high correlation of the IQs of identical twins brought up in different families, the higher correlation of the IQs of identical twins than of fraternal twins brought up in the same family, the large variability of the IQs of children brought up in orphanages, the positive association of the IQs of these children with the socio-economic status of their fathers, and regression to the mean effects. It was a masterful response. I went up to him afterwards and said how much I liked his intervention. He invited me to join him for lunch and we had an enjoyable conversation. I told him of my poor opinion of psychology at Cambridge and he said he was not surprised.

Later in 1957 Hans published his book *The Dynamics of Anxiety and Hysteria*. In this he integrated his personality trait of introversion–extraversion with Clark Hull's behaviour theory. Many young and middle aged psychologists today have never heard of Hull, but in the 1940s he built a complete theory of behaviour resembling Euclid's geometry,

based on a set of axioms and using hypothetic-deductive logic to deduce theorems that could be experimentally tested. Hull's theory (in its simplest form, because it was quite complex) was an elaboration of Pavlov's theory that behaviour results from the balance of the positive force of excitation and the negative force of inhibition. If excitation is stronger than inhibition, a reaction will be made, and the greater the net excitation, the stronger the reaction will be. In the 1940s and 1950s many regarded Clark Hull as the greatest living psychologist and the journals were full of papers reporting tests of his theories.

In his 1957 book, Hans extended Hull's theory to individual differences. He proposed that extraverts generate reactive inhibition (a particular kind of inhibition) more rapidly than introverts. From this assumption he derived a lot of deductions, for which he provided evidence in his book. One of the most important of these was that introverts would form conditioned Pavlovian anxiety reactions more rapidly than extraverts, and one of his colleagues (Cyril Franks) demonstrated that this was so by using an eye-blink conditioning task in which a sound preceded a puff of air delivered to the eye. After a few trials, the subject becomes conditioned to blink to the sound. On the basis of this theory and result, Hans proposed that children become socialized by developing anticipatory anxiety reactions to disapproval and punishment, and that this process would occur more rapidly in introverts. He elaborated the theory further by proposing that anticipatory anxiety reactions are the basis of conscience and the moral sense, so it followed that introverts should have a stronger conscience and moral sense than extraverts.

I was enthralled by Hans's theory. It embraced Pavlov neurophysiological concepts, Hull's behaviour system, the introversion–extraversion personality dimension, and individual differences in the socialization of children. I began testing some of the deductions that could be made from it. In 1959 I wrote a paper on one of these

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and sent it to Hans for his opinion. He replied very warmly and said he would lend me some apparatus if I wanted to do any more work with it. He invited me to London to collect this and stay the night with him and Sybil, which I readily accepted. I had a wonderful evening with the Eysencks. Talking with Hans was a real meeting of minds and unlike anything I had experienced before.

In 1960 I did some more work on Hans's theory. I extended it to the deterioration of performance with age and proposed that this could be explained by an increase in reactive inhibition. Remarkably, it was published in *Nature* (Lynn & Griew, 1960). Later in the year I collaborated with Hans in a study to test his theory that extraverts were more tolerant of pain than introverts. His theory was that they should be more tolerant because they accumulate inhibition more rapidly and this blocks out the pain. I ran the study on students, which involved focusing light through a magnifying glass onto their foreheads. They were instructed to tolerate the pain for as long as they could bear it. This of course burned their skin and for several days they went around with blisters on their foreheads. I do not expect this study would be permitted today but experiments of this kind did not need the approval of ethics committees in those days. We found that there was indeed a significant correlation with extraversion (Lynn & Eysenck, 1961). Several others have confirmed this association, including Barnes (1975) and, more recently, Ferracuti and De Carolis (2005) in Italy.

Later in the 1960s Hans's theory suffered set-backs. The most serious was when Cyril Franks attempted but failed to replicate his finding that introverts condition more rapidly than extraverts. This damaged a major component on the theory that introverts develop a stronger conscience than extraverts because they condition more rapidly. In another set-back, I ran a study in which I gave the introversion–extraversion questionnaire and a questionnaire of moral values to a class of students and found there was no correlation between them. This also undermined Hans's theory. I did not publish this, because I sensed that people do not like to see their theories discredited and I valued Hans's friendship too much to risk alienating him. As a result of these studies, I became disenchanted with his theory and looked for other topics to work on. It was not long before Hans abandoned his 1957 inhibition–excitation theory and reformulated it to propose that introverts have higher levels of arousal than extraverts because of a more neurologically active reticular formation. Despite these problems, I believe that there were elements of truth in Hans's interlocking set of theories. In particular, I think his theory is sound that socialization is acquired by young children by the conditioning of anticipatory anxiety reactions to social disapproval, and hence that young children who do not form these conditioned reactions easily acquire only a weak conscience and frequently develop into psychopaths and criminals. Evidence for the theory was published by Lykken (1995) and more recently by Gao, Raine, Venables, Dawson and Mednick (2010) in a study of children in Mauritius. I think Hans's mistake was to identify extraversion with unsocialized behaviour.

In 1970 I began working on an extension of Hans's personality theory to the measurement of national and racial differences in neuroticism and introversion–extraversion. The approach was to adopt epidemiological and demographic phenomena as expressions of these dimensions. I collected data for the 18 economically developed nations for which there were reliable statistics. The phenomena for which I collected data were rates of suicide, alcoholism and road accident death rates as indices of high neuroticism and rates of chronic psychosis, death from coronary heart disease, and the consumption of caffeine, calories and as indices of low neuroticism. For indices of extraversion I collected data on rates of crime, cigarette consumption, divorce and illegitimacy. Factor analysis showed the two dimensions. The final step was to treat the nations as if they were individuals and use the data to score the nations on the neuroticism and introversion–extraversion factors. The results were that Japan emerged with a high level of the neuroticism together with most of the southern European nations, while the northern Europe nations had low levels of neuroticism. It was impossible to avoid

the conclusion that there are racial differences in neuroticism between Japan and the northern and southern sub-races of Europe. This was my first excursion into the thorny field of national and racial differences (Lynn, 1971, 1982; Lynn & Hampson, 1975). Hans liked this work and together with Sybil began an extensive research programme collecting questionnaire data for nations to examine it further with generally confirmatory results summarised for 25 countries by Barrett and Eysenck (1984) and extended to 37 nations and including Hans's third personality trait of psychoticism by Lynn and Martin (1995).

Although Hans's principal interest was in personality, he wrote quite extensively on intelligence throughout his career. About half of his *Uses and Abuses of Psychology* (1953) was concerned with intelligence. In 1971 he took up the controversial issue of race differences in his book *Race, Intelligence and Education* (Eysenck, 1971). He began by criticising the 1951 UNESCO declaration that “there is no proof that the groups of mankind differ in their innate mental characteristics” and countered that there is equally no proof that they do not differ. He wrote of “the myth of racial equality” and asserted that the evolution of the races in different environments “makes it highly likely that their gene pools differ for some genetically conditioned behavioural characteristics, including intelligence” (p. 20). I have argued that, as in so many of his judgments, Hans was right about this, and that anyone who asserts that the twelve major human races that have occupied very different environments for tens of thousands of years would have ended up with the same gene frequencies for intelligence must be totally ignorant of the basic principles of evolutionary biology (Lynn, 2006). The same conclusion has been advanced by Cochran and Harpending (2009) who provide evidence that humans evolved further and diverged genetically during the last 10,000 years in response to the new challenges presented by different environments, agriculture and civilization.

Most of Hans's book was concerned with the differences in intelligence between blacks and whites in the United States. His conclusions were that the average IQ of blacks was 85 in relation to 100 of whites, that the IQ of blacks was a little lower in the southern states and a little higher in the northern, and that lighter-skinned blacks have higher average IQs than darker-skinned. He was scrupulous in noting that these differences are averages, that there is a wide range of intelligence in all races, and that 11% of blacks in the United States have an IQ higher than the average white. His summary of the evidence on the black–white difference in intelligence in the United States was largely based on the work of Jensen (1969). He went a little further than Jensen who concluded that it was a reasonable hypothesis that genetic factors were involved in the black–white IQ difference, whereas Hans's conclusion (p. 130) was more forcefully put in his verdict that: “All the evidence to date suggests the...overwhelming importance of genetic factors in producing the great variety of intellectual differences which we observe in our culture, and much of the difference observed between certain racial groups.”

Hans also expanded on the work of Jensen by noting the low average IQ of the Australian Aborigines and the higher IQ of mixed race Aborigines and Europeans than of pure Aborigines. This has been subsequently confirmed by further work (Lynn, 2006). He also noted and discussed the low IQ of the Irish in Ireland and suggested that it is likely a result of the emigration of the more able, a conclusion for which I have provided considerable further documentation including the evidence that the IQ of Irish immigrants in the United States is slightly higher than that of British and other northern Europeans (Lynn, 2015).

Hans's *Race, Intelligence and Education* was criticised by Sandra Scarr (1976) who wrote that the book was “generally inflammatory” and that there “is something in this book to insult almost everyone except WASPs and Jews”. It is true that in some places it is written in a way that is likely to offend some people! For instance, he starts off with a recollection of his student boxing days at University College, London, when he was told by ‘Mr Racial Prejudice’ not to punch his black opponent on the chin because “these niggers have heads made of iron”. In general, however, I do not think this criticism is justified. While it may be hurtful

for blacks, Australian Aborigines and Irish to be informed that their IQs on average are lower than those of Europeans it should not be regarded as insulting, but even if it is Hans considered that it is the responsibility of the scientist to state the truth as he sees it.

Scarr (1976) also criticised Hans's book on the grounds that the evidence that US blacks are genetically inferior to whites in IQ is not conclusive but ironically some years later she herself provided some of the strongest evidence for this conclusion in a study in which she found that black infants adopted by white middle class couples had the same low IQ in late adolescence as other blacks (Lynn, 1994) and she herself conceded that this was the case (Scarr, 1995). Jensen (1972, 1973, 1998) has presented further extensive evidence for the genetic basis of racial differences in intelligence and subsequent supporting evidence includes the differences in brain size (Smith & Beals, 1990; Rushton, 1992) and studies reporting that the high IQs of Korean children adopted by Europeans in Belgium (Frydman & Lynn, 1989).

By the 1970s Hans had become the most famous British psychologist so his book *Race, Intelligence and Education* attracted a good deal of media and public attention. For some he became a hate figure. He was attacked and punched on the nose by a protestor during a talk at the London School of Economics and he received a number of death threats and threats to kill his children. These may have led him to avoid working on intelligence for the next few years.

I had a great respect for Hans's views and his conclusion on race differences was one of the factors that influenced me to work on this question. I began collecting studies of IQs from all over the world and began to publish these in the late 1970s with papers on the decline of intelligence in Scotland which I attributed to selective emigration of the more intelligent (Lynn, 1977a), on the intelligence of the Japanese that I calculated from standardisations of the Wechsler tests at around 108 (Lynn, 1977b) and on the intelligence of the Chinese and Malays in Singapore that I calculated at 110 and 96, respectively (Lynn, 1977c). The next year I published my first compilation of studies of racial differences in intelligence in which I concluded that the Northeast Asians have the highest IQs followed by the Europeans, Native American Indians, South Asians and North Africans, sub-Saharan Africans and Australian Aborigines (Lynn, 1978). A year later I published a study of IQ differences in the regions of the British Isles concluding that these are highest in London and the south-east at 102 and decline towards the periphery to approximately 97 in Scotland and 96 in southern Ireland. I attributed these differences to selective emigration of the more intelligent and showed that regional IQs are highly correlated with per capita income and intellectual achievement (Lynn, 1979).

I followed this up with a similar study of regional IQ differences in the regions of France concluding that these are highest in Paris and decline towards the periphery to the lowest in Corsica. I again attributed these differences to selective emigration of the more intelligent and showed that regional IQs are highly correlated with per capita income and intellectual achievement (Lynn, 1980). I presented these results as path models in which selective migration leads to IQ differences, which are in turn responsible for the economic and social outcomes. Later in the year I published another study of the intelligence of the Japanese showing it was a few IQ points higher than that of Europeans (Lynn & Dziobon, 1980).

During these years I often saw Hans and he was invariably encouraging about the work I was doing. In the 1980s several studies were published showing that reaction times were positively related to intelligence and Hans and I decided to collaborate in collecting data on them for the races in a number of countries to see whether these showed the same differences as IQs. We found that this was the case in so far as reaction times were fastest in Japanese and Chinese children (Lynn, Chan, & Eysenck, 1991), intermediate in Europeans and slowest in blacks in South Africa. This set of studies was summarised in Lynn (1991a) and showed that race differences in IQs have a neuro-physiological basis and cannot be reasonably attributed to bias in the tests or poor education.

In 1991 I published these results and an updated compilation of racial IQs in which I first proposed the cold winters theory stating that the cognitive demands of survival through cold winters explain the higher IQs that evolved in the Northeast Asian and European peoples (Lynn, 1991a, b). This theory has become widely accepted, for example, by Miller (1991), Rushton (2000), Meisenberg (2007). Hans (Eysenck, 1991, p. 123) wrote a commentary in which he began: "In principle I find Lynn's arguments very convincing". He went on to suggest that nutritional differences may have made a significant contribution to race differences in intelligence. I accepted this point and incorporated it into my later work on race differences proposing a reciprocal causal relation between population intelligence and nutrition such that low intelligence populations provide their children with poor nutrition and this further depresses the intelligence of the children.

Hans's last word on race differences in intelligence was written shortly before his death and appeared in his last book *Intelligence: A New Look*. In this he concluded that "Intelligence tests are not culturally biased against American blacks or other native-born English-speaking peoples in the U.S.; members of all racial-ethnic groups can be found at every IQ level. The bell curves of different groups overlap considerably... but the bell curves for some groups (Jews and East Asians) are centred somewhat higher than those for whites in general. Other groups (blacks and Hispanics) are centred somewhat lower than non-Hispanic whites" (Eysenck, 1998, p. 214). This was an accurate summary of the research evidence. He did not, however, regard intelligence as the most important human characteristic. At the end of his last book, he wrote that "...moral behaviour is most important; only slightly less important is the quality of being cultured, courteous and chivalrous; intelligence only comes in third. In other words, what is needed is intelligence in the service of morality and decency. Would anyone disagree?"

I had derived great support and encouragement from Hans's friendship for some forty years from the late 1950s up to his untimely death in 1997 and I greatly missed him. I continued to work on race differences in intelligence. In 2006 I published a book giving a synthesis of these (Lynn, 2006) and give an updated summary of the evidence in Table 1.

In 1999 I met Tatu Vanhanen, a political scientist in Helsinki to discuss the idea that national differences in IQs could explain some of the differences in economic development. We agreed to work on this project to integrate psychology and economics and sketched out the plan in which I would be responsible for collecting IQs for nations, and Tatu Vanhanen would provide the economic and political science data and expertise. We worked on this together for the next two years and published our conclusions in our book *IQ and the Wealth of Nations*. We gave measured and estimated IQs for all nations in the world and reported a correlation of .73 for the association between national IQs and per capita income and proposed that the principal causal path was from genetically based IQs to economic development. For the next ten years we continued to work on these issues and have presented our conclusions in our most recent book *Intelligence: A Unifying Construct for the Social Sciences* (Lynn & Vanhanen, 2012). In this we gave updated IQs for all nations in the world and reported substantial correlations between national IQs and a wide range of economic, social and epidemiological phenomena including educational attainment in science and mathematics, per capita income, poverty, economic inequality, democracy, health, fertility, crime, religious belief and happiness. Our documentation of national IQs and their causes and economic and social effects have been developed further by a large number of scholars among whom we are particularly indebted to Gerhard Meisenberg, Heiner Rindermann, James Thompson, Donald Templer, Michael Woodley and Satoshi Kanazawa.

Gerhard Meisenberg was one of the first to make important contributions to this research programme. Two years after the publication of our national IQs he published significant correlations between these and per capita income measured as gross domestic product ($r = .82$), educational attainment (.77), economic freedom (.65), corruption

Table 1
Race differences in intelligence.

Race	Location	IQ	Race	Location	IQ
Bushmen	S.W. Africa	56	Pacific Islanders	Pacific Islands	85
Pygmies	Africa	61	Maoris	New Zealand	90
Aborigines	Australia	62	Southeast Asians	Southeast Asia	87
Aborigines	New Guinea	63	Southeast Asians	United States	93
Sub-Saharan Africans	Africa	71	Native Americans	North America	86
Sub-Saharan Africans	Caribbean	71	Native Americans	Latin America	86
Sub-Saharan Africans	United States	85	Hispanics	United States	89
Sub-Saharan Africans	Netherlands	85	Arctic Peoples	North America	91
Sub-Saharan Africans	Britain	86	Central/west Europeans	Europe	100
North Africans	North Africa	83	East Europeans	East Europe	96
South Asians	South Asia	84	South Europeans	South Europe	94
S. Asians & N. Africans	Britain	92	Europeans	Outwith Europe	99
S. Asians & N. Africans	Europe	85	North East Asians	North East Asia	105
S. Asians & N. Africans	Africa	86	North East Asians	United States	101
S. Asians & N. Africans	Fiji, etc.	85	North East Asians	Elsewhere	102

($-.68$) (the negative correlation showing that high IQ nations have less corruption), the Gini index as a measure of economic inequality ($-.60$) (the negative correlation showing that high IQ nations have less economic inequality), and skin reflectance (.89) showing that the populations of high IQ nations have lighter skins (Meisenberg, 2004). He has reported an IQ of 67 for Dominica (Meisenberg, Lawless, Lambert, & Newton, 2005) confirming our estimate of the low IQ in the Caribbean. He was largely responsible for our most recent estimates of national IQs obtained by combining the results of studies of intelligence and educational attainment (Meisenberg & Lynn, 2011). Among his numerous other contributions he has shown that for 117 countries national IQs are significantly correlated with economic growth 1975–2005 (.48), big government (.22) and democracy (.56) (Meisenberg, 2012).

Some of Meisenberg's more recent work has been carried out in collaboration with Michael Woodley. They have shown that national IQs are significantly negatively correlated with rates of teenage pregnancies ($-.69$), STDs (sexually transmitted diseases) ($-.88$), homicide ($-.64$), crime ($-.51$) and temperature ($-.75$) (showing that high IQ countries have lower temperatures), and significantly positively correlated with rates of the use of contraception (.73), savings (.34), Rushton's K life history (.88), and brain size (.77) (Meisenberg & Woodley, 2013). Woodley (2009) has also shown a negative significant correlation of national IQs with inbreeding depression ($-.62$) contributing to the lower IQs in Muslim countries with high rates of inbreeding depression arising from the high frequencies of cousin marriages.

Heiner Rindermann has made a number of important contributions to this research programme. Among these, he has shown that national IQs are significantly correlated with high cognitive achievements measured as awards of patents (.40) and Nobel Prizes for science (.34) (Rindermann, Sailer, & Thompson, 2009), and performance in the Mathematics Olympiad (.68) (Rindermann, 2011). He has addressed the question of the direction of causality between national IQs and per capita income and has shown that the principal causal path is from national IQs to per capita income with some smaller reciprocal effect from per capita income to national IQs. He has also proposed a "smart fractions theory" stating that the proportion of the population with high IQs makes a particularly important contribution to a number of economic and social outcomes including scientific and technological achievements and wise political leadership (Rindermann, 2012; Rindermann & Thompson, 2011).

Donald Templer has developed our thesis that the higher IQs of the European and Northeast Asian peoples evolved as an adaptation to the cognitive demands of survival through cold winters by showing a correlation of $-.61$ between national IQs and low winter temperature (Templer & Arikawa, 2006) and a correlation of .72 between national IQs and latitude (Templer, 2008).

Satoshi Kanazawa has proposed the theory that greater race differences in intelligence evolved as an adaptation to novel environments and supported this by showing a correlation of .45 between national IQs and distance from the original evolutionary environment of humans in equatorial east Africa (Kanazawa, 2008). In other studies he has shown that national IQs are significantly correlated with liberalism (.51), infant mortality ($-.84$), life expectancy of women (.82) (Kanazawa, 2006) and negatively with polygyny ($-.61$) and religious belief ($-.58$) (Kanazawa, 2009). Numerous papers have continued to appear on national and racial IQs and their social and economic correlates and effects and these have now become accepted as one of the domains of intelligence research. Such are the large oaks that have grown from the small acorns planted by Hans in his pioneering work.

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