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Selective Intelligence, Roman Catholicism and the Decline of Intelligence in the Republic of Ireland

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Previous studies have shown that the mean IQ in the Republic of Ireland is 93 in relation to 100 for Britain and the rest of central and northern Europe. New evidence is presented giving an IQ of 88.3 in Ireland and therefore confirming this estimate. It is proposed that the causes of this lower IQ lies principally in the selective emigration of those with higher IQs over the course of several generations, with a smaller contribution from the dysgenic effect of Roman Catholicism.

Key Words: IQ; Ireland; Wechsler test; selective emigration; brain drain; Roman Catholicism.

Average IQs for all 195 nations in the world have been published by Lynn & Vanhanen (2012). These IQs are scaled in relation to an IQ of 100 (SD = 15) for Britain. This compilation has shown that the European nations have approximately the same IQs as that in Britain, with two exceptions. There are the far south of Europe and the Republic of Ireland, where IQs are in the 88-96 range. In the far south of Europe IQs have been calculated at 89 in Serbia, 92.5 in Bulgaria, 92 in Greece, 90 in the south of Italy and 94 in the south of Spain (Lynn, 2010, 2012, Lynn & Vanhanen, 2012). The explanation proposed for the lower IQ in the far south of Europe is the long history of migration from Turkey, the Middle East and North Africa, where IQs are between 83 and 90. The genes of these immigrants have become mixed with those of southern European populations and produced a cline of partly European and partly Near Eastern and North African origin. Their IQs are consequently intermediate between those of approximately 100 in northern and central Europe, and 83-90 in the Near East and North Africa, as would be expected in a cline of the two ancestral populations.

With regard to the Balkans archaeological evidence indicates that farming peoples from present day Turkey migrated into the Balkans in Neolithic times (Semino et al., 1996, 2000, 2004). In more recent times the exchange of populations across the Dardanelles has been facilitated during the many centuries in which the Balkans and the Near East have been unified in single states. Between the 9th and 4th centuries BC the Greeks established colonies in Asia Minor (present day Turkey). The Romans and later the Byzantines ruled the Balkans and south west Asia from around 100 BC to around 1300 AD. From 1354 the Ottoman Empire based in present day Turkey began to colonize the south-east of the Balkans. By 1430 the Ottomans had conquered most of the Balkans and continued to expand their control until 1683, when they reached the outskirts of Vienna but were defeated and pushed back from the north, but they retained most of the Balkans. They lost this territory between the mid-19th century and 1914 except for the region around Istanbul. During these millennia peoples moved freely between the Balkans and the Near East.

These peoples interbred, bringing about the European-Near Eastern cline. This has been shown by Cavalli-Sforza et al. (1994) in their genetic linkage tree, in which Greeks are shown to be more closely related to Iranians and other southwest Asian peoples than they are to Italians, Danes, and English. The continent-wide cline from the south-east to the north-west remains one of the most consistent results of population genetic studies in Europe (Pinhasi et al., 2012). However, it is not known to what extent this cline can be attributed to demic diffusion during the Neolithic revolution or to later migrations. Studies of fossil DNA from early Europeans are expected to resolve this question in the near future (Lararidis et al., 2014).

The IQ in Ireland

The low IQ in Ireland requires a different explanation because the closest genetic affinities of the Irish are with Britain and Scandinavia (Tian et al., 2008). Nine studies of the IQ in Ireland are summarized in Table 1. These IQs are calculated in relation to a British IQ of 100 (SD =15) and for the year of administration to adjust for secular increases in intelligence known as the Flynn effect. The IQs range between 87 and 97 with a median of 93. Part of the explanation for the range of IQs in these results is probably that some of the samples were drawn from Dublin including the highest IQ of 97 obtained by Buj (1981), and others from rural locations including the lowest IQ of 87 obtained by Lynn & Wilson (1990) for a sample in Donegal. However, the IQs at the lower end of the range of 90 obtained by Macnamara (1964) and of 88 obtained by Gill & Byrt (1973) were based on representative samples from the whole country.

Table 1. *Studies of the IQ in Ireland.*

Test[1]	N	Age	IQ	Reference
MH	96	10-13	90	Macnamara, 1964
SPM	3450	6-12	88	Gill & Byrt, 1973
CF	75	Adults	97	Buj, 1981
SPM	1361	6-12	97	O'Connor et al., 1988
SPM	191	9	87	Lynn & Wilson, 1990
SPM	2029	9-12	96	Jeffers & Fitzgerald, 1991
SPM	1361	6-12	93	Carr, 1993
SPM	2029	9-12	91	Carr, 1993
SPM	10000	23-49	95	Raven et al., 2000

[1] MH=Moray House; SPM=Standard Progressive Matrices; CF=Culture Fair.

This paper addresses three questions. First, a further study of IQ in Ireland is presented to determine whether the previous studies showing a low IQ can be confirmed. Second, the low IQ in Ireland is contrasted with Ireland's much better performance in the PISA (Program for International Student Assessment) studies of 15-year-olds in math, science and reading in the 2000, 2003, 2006, 2009 and 2012 assessments. The PISA studies have been treated as measures of intelligence and been scaled to an IQ of 100 ± 15 for the United Kingdom by Meisenberg & Lynn (2011). On these tests Ireland obtained a score of 100. Meisenberg & Lynn (2011) added this result in their updated calculation of an IQ for Ireland to give an IQ of 95.7. Third, what factors have been responsible for the low IQ in Ireland?

New data on intelligence in Ireland

New data on intelligence in Ireland are available in an unpublished thesis by Mylotte (1993). The sample in this study consisted of 100 consecutive sets of twins born between 1983 and 1986 in University College Hospital in Galway, a university town in the west of Ireland. The number in the sample was therefore 200. The twins came from the city and from the surrounding country, so the sample represented the Irish urban and rural population. The sample was tested at the age of 6 years with the American Wechsler Preschool and Primary Scale of Intelligence (WPPSI). This test consists of ten subtests of which five are verbal and five are non-verbal (designated "performance"). Scores on these are combined to give a full scale IQ, which is a measure of general intelligence defined as the sum of all major cognitive abilities. This full scale IQ is a good measure of Spearman's *g*, the general factor common to all cognitive tests (Jensen, 1998).

The sample obtained a verbal IQ of 97.6 and a performance IQ of 102.2. These two IQs can be averaged to 99.9 to give a full scale IQ, apparently showing that the Irish IQ is the same as the American IQ. However, three adjustments need to be made. First, these IQs need to be adjusted for the increase of intelligence over time known as the Flynn effect. The WPPSI was standardized in the United States in 1964 (Wechsler, 1967), and the American verbal IQ of 6 year olds on the test increased by approximately 7.6 IQ points over the period 1964-1984 (Flynn, 1984). Thus to compare the Irish IQ with the American IQ for the year 1984, 7.6 IQ points need to be deducted from the Irish verbal IQ reducing it to 90.0. The American performance IQ of 6 year olds increased by approximately 15.2 IQ points over the period 1964-1984 (Flynn, 1984), so 15.2 IQ points need to be deducted from the Irish performance IQ reducing it to 87.0. The adjusted Irish verbal and performance IQs can be averaged to give a full scale IQ of 88.5. Mylotte's data were collected in 1990, so the Irish IQ needs to be reduced by a further 3.4 IQ points (6 years) to equate it to the American IQ, bringing it to 85.1. A second adjustment has to be made because the American IQ is based on a standardization sample of the population including blacks. The IQ of European Americans is approximately 2 IQ points higher than the IQ of the total population (Herrnstein & Murray, 1994). The British IQ is the same as that of American Europeans, i.e. 2 points higher than that of the American population. Hence in relation to a British IQ of 100, a further 2 points need to be deducted from the Irish IQ of 85.1 obtained in Mylotte's twin data, reducing it to 83.1.

A third adjustment has to be made to Mylotte's twin data because twins have lower average IQs than singletons. A meta-analysis of the IQ of twins has been published by Voracek & Hauber (2008). They report 19 studies from six countries and calculate that twins have a 4.2 points IQ deficit, probably because of nutritional deficiencies and other perinatal and prenatal problems such as low birth weight, according to the authors. Hence 4.2 needs to be added to the IQ 83.1 of the Irish twins to give an IQ of 87.3 for the population.

This result is virtually identical to the Irish IQ of 88 obtained by Gill & Byrt (1973) in their sample drawn from the whole of the country. When the result of the present study is added to the previous studies, the median IQ becomes 92.5. This is proposed as the best current estimate of the IQ in Ireland.

There are two further points of interest in the present study. First, the previous studies of the Irish IQ summarized in Table 1 were based on the Moray House test of verbal reasoning, the Standard Progressive Matrices and the Culture Fair. The results of the three types of test are reasonably consistent. The present study used another test (the WPPSI: Wechsler Preschool and Primary Scale of Intelligence) and gives a similar result showing that estimates of the Irish IQ are

consistent using a variety of different tests of abilities on different samples and age groups. Second, eight of the nine previous studies were based on non-verbal tests (the SPM and the Culture Fair). The present study of the WPPSI gives both verbal IQ and non-verbal IQ and shows that the verbal IQ is 3 points higher than the non-verbal IQ. This is interesting because it has sometimes been suggested that the verbal IQ is high in Ireland on account of the number of eminent Irish writers such as Edmund Burke, W.B. Yeats, Oscar Wilde, James Joyce and the Nobel Prize for Literature winners George Bernard Shaw and Seamus Heaney. Despite this impressive list, the present results show that the verbal IQ in Ireland is only marginally higher than the non-verbal IQ.

The present result confirming the low IQ in Ireland leaves unresolved the problem noted in the introduction, that Ireland has performed as well as Britain in the 2000-2012 PISA (Program for International Student Assessment) studies for 15-year-old students in math, science and reading comprehension. There are two likely solutions to this anomaly. First, it may be that the math, science and reading comprehension tests in the PISA studies are not as valid measures of IQ as has been widely assumed. Second, the PISA data for Ireland are inaccurate because of sampling error and should be discarded.

Selective emigration

We now consider the question why the IQ is lower in Ireland than in the rest of northern and central Europe. It can be assumed that in early medieval times the Irish had the same intelligence as the other peoples of northern and central Europe, because Ireland was an important center of scholarship and made a significant contribution to the preservation of ancient learning. It can therefore be assumed that intelligence declined in Ireland during the last five hundred years or so, relative to other European nations. There are two plausible explanations for this decline, consisting of selective emigration of the more intelligent and the dysgenic effect of Roman Catholicism.

The selective emigration theory proposed in Lynn (1977, 1979) holds that there has been a tendency for the more intelligent to emigrate from Ireland to Britain, the United States, Canada, Australia and elsewhere over the course of around two centuries. Ireland has experienced huge emigration from the famine of 1845-6 up to the present. The population of Ireland (the present Irish Republic, excluding Northern Ireland) in 1841 was approximately 6 million. During the great famine of 1845-6 about 1 million emigrated and 1 million died, leaving the population at around 4 million. Further emigration over the next one and a half centuries reduced the population to approximately 2.8 million by 1971 despite

relatively high fertility rates. From this time to the present the population has been relatively stable (McGinnity et al., 2006).

The hypothesis that selective migration of the more intelligent has had a significant effect in reducing the IQ in Ireland is supported by three considerations. First, there is evidence that emigration from Ireland has been selective for intelligence from the high rate of emigration of university graduates (Lynn, 1968). Second, it has typically been found that when people emigrate from poor regions to more affluent regions these migrants tend to have higher than average IQs. The reason for this is that a higher IQ is needed to envision the advantages and find the resources to migrate. This has been shown in the United States by Tolnay (1998) and Vigdor (2002), who have both found that it has been blacks with greater educational attainment (a proxy for intelligence) who migrated from the southern states to the northern states, with the result that blacks in the northern states have an IQ about 10 points higher than those in the South. Kaufman & Doppelt (1976) reported an average IQ of 90.5 for blacks in the northern states compared with approximately 85 for all American blacks and around 80 for those in the southern states. Further evidence that migration is typically selective for intelligence and that selective migration can reduce the IQ of a residual population is available for Scotland, where Maxwell (1967) reported a follow-up study of 1,000 11-year-olds whose IQs had been tested in 1947. He found that by the age of 30, 17.2 percent had emigrated and that the IQ of these was 108.1. This implies a fall of 1.7 IQ points in Scotland for that generation and, allowing for regression effects, a fall of approximately 1 IQ point a generation and 4 IQ points a century. This can explain why during the years 1940-1975 the mean IQ was 2.7 points lower in Scotland than in England (Lynn, 1979). The lower IQ in Scotland than in England has been confirmed by the 1995, 2003 and 2011 assessments in the Trends in International Mathematics and Science Study (TIMSS) that showed that 8th grade students in Scotland scored an average of 24.5 scaled score points below those in England, a difference of approximately 4 IQ points.

Third, if the low Irish IQ is primarily a result of selective emigration, we should expect that the Irish who have emigrated would have higher IQs than those in Ireland. This appears to be the case in the United States. Group differences in average earnings are a good proxy for group differences in average intelligence (e.g. Lynn, 2008), and data for these show that the ethnic Irish in the United States have the same average earnings as the ethnic English. Table 2 gives the average annual earnings (thousand $US) of men aged 25-54 of all major ethnic groups in the United States in 1979 obtained from the census of that year available in the Bureau of the Census Public Use Microdata sample.

The results set out in Table 2 show that the Irish had average earnings of $US 24,500, fractionally higher than the English ($US 24,100) and about the same as the average of other European ethnic groups (the median of these is $US 25,500. These results therefore suggest that the Irish in the United States have approximately the same average IQ as other Europeans, and hence that the low IQ in Ireland is likely attributable to some selective emigration.

Table 2. *Average earnings (thousand $US) of ethnic groups in the United States, 1979.*

Ethnic group	Earnings	Ethnic group	Earnings
American	21.3	Lithuanian	27.3
Austrian	29.4	Mexican	19.3
Belgian	27.2	Native American	19.1
Black	18.6	Norwegian	24.7
Canadian	23.7	Other Hispanic	21.3
Chinese	26.8	Other White	24.6
Czech	25.5	Polish	25.6
Danish	25.4	Portuguese	25.4
Dutch	23.5	Puerto Rican	19.6
English	24.1	Russian	32.4
Finnish	27.3	Scandinavian	25.7
French	23.2	Scots-Irish	25.4
French-Canadian	23.8	Scottish	25.7
German	24.4	Slovak	26.5
Greek	25.7	Swiss	24.2
Hungarian	27.8	Ukrainian	25.5
Irish	24.5	Welsh	25.7
Italian	25.5	Yugoslavian	28.0
Japanese	26.4		

Some of the other ethnic earnings merit comment. The Russians have the highest average earnings. The explanation for this is that they are mainly Jews, who have an IQ advantage of approximately 10 points over non-Jewish whites (Lynn, 2011). The Chinese and Japanese have higher average earnings than the white median, consistent with their average IQ of approximately 105 (Lynn, 2008). The three Hispanic groups listed as Mexicans, Puerto Ricans and Other Hispanics have lower average earnings than the white median, consistent with their average IQ of 89 (Lynn, 2008). The Native Americans have lower average earnings than the three Hispanic groups, consistent with their average IQ of 86,

and the blacks have the lowest average earnings, consistent with their average IQ of 85 (Lynn, 2008). There is therefore a consistent linear correspondence between the IQs and earnings of the ethnic groups running in descending order from Russian Jews, Chinese and Japanese, non-Jewish Europeans, Hispanics, Native Americans, to blacks.

Further information about the IQ of ethnic groups is available from the National Longitudinal Study of Youth, conducted by the US Department of Labor. The Armed Services Vocational Aptitude Battery (ASVAB) was administered to a sample of 15 to 23 year olds in 1980. Information about self-reported ethnicity and race was available. Table 3 shows the average *g* factor scores of ethnic groups in this survey. Data were age-corrected and extrapolated to age 23. The factor scores are scaled to the IQ metric, with an average IQ of 100 for all non-Hispanic Whites. The results confirm the results of average income in Table 2. Irish-Americans perform 1.5 points above the average of all non-Hispanic Whites and 1.8 points above the ethnic English.

Table 3. *Average IQs, calculated from g-factor scores, for ethnic groups in the United States. Data are from the NLSY79.*

Ethnic group	IQ	N
German	102.3	1701
Irish	101.5	578
English	99.7	2316
French	99.5	601
Italian	97.8	253
Hispanic	86.3	1506
Black	82.1	2934

Dysgenic effect of Roman Catholicism

We now turn to a second possible explanation of the low IQ in Ireland consisting of a dysgenic effect of Roman Catholicism. The theory is that priests, monks and nuns have had above average IQs. The result of this would be that their celibacy would have had a dysgenic effect in reducing the IQ of the population relative to that in Protestant populations in which the clergy have been permitted to marry and have children. There is some evidence supporting this theory. It has been reported that in the Netherlands Protestants have a higher average IQ than Catholics by 2.25 points (Verhage, 1964), and in Switzerland Protestants have a higher average IQ than Catholics by 1.92 points (Steppan, 2010).

To examine this theory further, we have examined the intelligence of Protestants and Catholics in Northern Ireland. From the mid-1940s about 75 per cent of 11 year olds in Northern Ireland have taken an intelligence test in the 11+ examination for selection for secondary schools. On the basis of their performance approximately the top 25 per cent have been selected for grammar schools. Until 1992/93 the 11+ examination consisted of a verbal reasoning test. In 1992/93, 26.6 % of children in Protestant schools and 25.6 % of children in Catholic schools obtained scores in grade 1 (the highest grade); and 46.2% of children in Protestant schools and 45.4% of children in Catholic schools obtained scores in grades 1-3. These results show that Protestant children performed slightly better than Catholics.

From 1997 the intelligence test for the 11+ examination was replaced with tests in English, maths, science and technology, and these can be regarded as proxies for intelligence. The results of the 2008/09 test were that 26.7 % of children in Protestant schools and 25.5 % of children in Catholic schools obtained scores in grade 1 (the highest grade), and 36.0 % of children in Protestant schools and 35.5 % of children in Catholic schools obtained scores in grades 1-3. Once again, the results (all supplied by the Northern Ireland Department of Education) show that Protestants performed slightly better than Catholics. The advantage of the Protestants was quite small and consistent with those in the Netherlands and in Switzerland in showing that Protestants have a slightly higher average IQ than Catholics of about 2 IQ points. These results therefore suggest that the dysgenic effect of Roman Catholicism can explain about 2 points of the 8 IQ point deficit in the Republic of Ireland, leaving the remaining 6 point deficit more plausibly explained by selective emigration.

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