IQ gains in Argentina between 1964 and 1998

James R. Flynn,⁎, Lilia Rossi-Casé

⁎ Corresponding author.
E-mail address: jim.flynn@stonebow.otago.ac.nz (J.R. Flynn).

Article history:
Received 8 January 2011
Received in revised form 29 September 2011
Accepted 13 January 2012
Available online xxxx

Keywords:
Flynn effect
International Raven's data
IQ gains persistence
Nutrition hypothesis
IQ gains Argentina
IQ gains nutrition

1. Introduction

Massive IQ gains from one generation to another have occurred in at least 31 nations. But only two are from Latin America: Brazil and Dominica (Flynn, 2009a, 2009b, 2009c). This paper reports Raven's data from the city of La Plata in Argentina.

They cover the 34 years between 1964 and 1998. A city can undergo drastic and atypical change over such a period. Some Northern European cities have experienced unusual economic decline. Liverpool lost almost half of its population between 1930 and 2001 (Belchem, 2006). After its coalmines closed between 1965 and 1975, Heerlen in the Netherlands began a precipitous decline that continues to this day (CIA, 2011). Might La Plata's gains be specific to that locale and unrepresentative of Argentina as a whole?

If La Plata had been relatively depressed in 1964 and relatively prosperous by 1998, this would engender IQ gains that were atypically large. Or if its unemployment increased, and that of Argentina decreased, a lot of the bottom half of its population would have deteriorated atypically. Therefore, a national trend toward IQ gains primarily in the bottom half of the curve would be obscured because of peculiar local conditions.

Table 1 compares the local economy of La Plata with larger trends between 1964 and 1998. The percentage of its population employed was an almost perfect match for Argentina as a whole during the entire period. La Plata’s median family income began and ended at exactly 103% of that of Argentina as a whole. There was a decade between 1979 and 1989 during which it enjoyed unusual prosperity but after 1989, it quickly dropped to its initial level (by 1994).

2. Samples and data collection

The Universidad Nacional is the state university of La Plata, which today has a population of about 600,000. The university standardized Raven’s Progressive Matrices both in 1964 and between 1996 and 2000 (mid-point 1998). The content of the test was unaltered between those years. The 1998 sampling procedures were designed to be identical to those of 1964 (Rossi-Casé, 2000). Thanks to the growth of the school population, the 1998 sample had 1390 subjects aged 13 to 24 years, as compared to the 1964 sample of 880 subjects.

To illustrate implementation of the design, we will describe the 1998 selection process. In 1998, La Plata had 100 secondary
2.1. Data and method

We used three methods to calculate IQ gains: (1) SD differences; (2) Median score differences; and (3) Mean score differences. The first is unique in that it does not require a contentious choice as to what SD to use to convert raw score points into IQ points. Virtually all of the distributions have attenuated SDs due to ceiling effects and using these would inflate gains over time. Paradoxically, although the first method treats the data as a normal distribution, and in fact the distributions have a negative skew, it registers the effects of the skew by sampling at various levels. Loehlin, Lindzey, and Spuhler (1975) introduced it into the literature and Flynn (1987) adopted it.

The second (using medians) assumes a symmetrical distribution above and below the median. Thanks to the skew, this is not quite the case. It requires an un-attenuated rawscore SD and we chose the best one we could find. The third (using means) also requires a posited SD. It also takes the skew into account. But it can be argued that the extent to which the 1998 distributions are less skewed than the 1964 distributions “artificially” lowers the 1964 mean and that the median would be fairer.

### Table 1

Comparative data for La Plata, 1964 to 1998. Source: INDEC (1998). The median income was estimated in October for each year.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>La Plata</td>
<td>Percentage employed (all ages)</td>
<td>43.1</td>
<td>41.9</td>
<td>41.3</td>
<td>35.2</td>
<td>36.4</td>
<td>38.5</td>
<td>39.0</td>
</tr>
<tr>
<td>Argentina</td>
<td>Percentage employed (all ages)</td>
<td>43.8</td>
<td>40.7</td>
<td>40.1</td>
<td>38.4</td>
<td>37.9</td>
<td>39.3</td>
<td>40.8</td>
</tr>
<tr>
<td>Median family monthly income (US dollars)</td>
<td>La Plata</td>
<td>76.4</td>
<td>73.3</td>
<td>220.5</td>
<td>324.8</td>
<td>183.3</td>
<td>166.9</td>
<td>535.4</td>
</tr>
<tr>
<td>Argentina</td>
<td>74.2</td>
<td>69.5</td>
<td>208.2</td>
<td>288.7</td>
<td>142.1</td>
<td>150.4</td>
<td>521.2</td>
<td>579.1</td>
</tr>
<tr>
<td>La Plata income as percentage of Argentine income</td>
<td>103</td>
<td>105</td>
<td>106</td>
<td>112</td>
<td>129</td>
<td>111</td>
<td>103</td>
<td>103</td>
</tr>
</tbody>
</table>

The second method subtracts the Raven’s raw score at the median (50th percentile) for 1964 from that of 1998. The raw score difference is then divided by the raw score SD. No SDs were available from 1964. Therefore, for all ages, we used the largest SD available from 1998. This gives a mean decrease of 1.305 SDs (or 19.57 IQ points) as the estimated gain for ages 13–14. Not all raw score levels were used. To qualify, they had to meet the following criterion: their percentile equivalent was not above 95 for 1998; if it was as low as 5 for 1998, it had to be at least at 50 for 1964. This eliminates the distorting effect of comparisons that include only a very few subjects.

The procedures seem to have approached their objective of simulating a random sample of La Plata’s total secondary and tertiary school populations. For example, females comprise 50.56% of the sample. Census data show that the true value is 50.81% (Karmona, 2003).

### Table 2

Table 2 illustrates the kind of data that were available. It would have been desirable to use latent variable analysis to see if items changed properties over time, but item-by-item data was not available for 1964. Thus, we could not determine whether the gains were factor invariant (Wicherts et al., 2004).

The first method compares the percentiles that attained a certain raw score in 1964 and 1998 respectively. Take ages 13 to 14. A Raven’s score of 48 was the 90th percentile in 1964; so it was 1.282 SDs above the 1964 mean. That same score was the 50th percentile in 1998; so it was right on the 1998 mean. Therefore, at that level, the IQ-gain estimate is 1.282 SDs. The same comparison was made for other raw scores and their percentile equivalents. Sometimes interpolation was used but the distances were generally small (linear and non-linear gave the same result within one percentile). The average of the values was calculated, namely, 1.305 SDs (or 19.57 IQ points) as the estimated gain for ages 13–14. Not all raw score levels were used. To qualify, they had to meet the following criterion: their percentile equivalent was not above 95 for 1998; if it was as low as 5 for 1998, it had to be at least at 50 for 1964. This eliminates the distorting effect of comparisons that include only a very few subjects.

The procedures seem to have approached their objective of simulating a random sample of La Plata’s total secondary and tertiary school populations. For example, females comprise 50.56% of the sample. Census data show that the true value is 50.81% (Karmona, 2003).

**3. The methods applied**

The first method compares the percentiles that attained a certain raw score in 1964 and 1998 respectively. Take ages 13 to 14. A Raven’s score of 48 was the 90th percentile in 1964; so it was 1.282 SDs above the 1964 mean. That same score was the 50th percentile in 1998; so it was right on the 1998 mean. Therefore, at that level, the IQ-gain estimate is 1.282 SDs. The same comparison was made for other raw scores and their percentile equivalents. Sometimes interpolation was used but the distances were generally small (linear and non-linear gave the same result within one percentile). The average of the values was calculated, namely, 1.305 SDs (or 19.57 IQ points) as the estimated gain for ages 13–14. Not all raw score levels were used. To qualify, they had to meet the following criterion: their percentile equivalent was not above 95 for 1998; if it was as low as 5 for 1998, it had to be at least at 50 for 1964. This eliminates the distorting effect of comparisons that include only a very few subjects.

The second method subtracts the Raven’s raw score at the median (50th percentile) for 1964 from that of 1998. The raw score difference is then divided by the raw score SD. No SDs were available from 1964. Therefore, for all ages, we used the largest SD available from 1998. This gives a mean decrease of 1.305 SDs (or 19.57 IQ points) as the estimated gain.

The third method is exactly the same using means rather than medians. There were no means available from 1964. But we used a method that estimates means from the distributions (described at the bottom of Table 2). It gave estimates that virtually matched the actual means from 1998. Therefore we compared these to estimated means from 1964. At ages 13–14, the mean score difference was 9.42 and divided by 6.26, this gives 1.505 SDs (or 22.57 IQ points). So the three methods vary only from about 19.5 to 22.5 points and we leave the choice to the reader.
For each row in the table, multiply the percentage of subjects therein times the mid-point of the scores that bound it. For example, here are the calculations for

The method (estimating the mean of the 1998 23
averaging both the 6 estimated and actual means). This is equivalent to about 0.21 IQ points.

The 1964 means were unavailable. They were estimated by a method that gave estimates for the 1998 means that were off by only 0.089 raw score points
both 1964 and 1998 for all ages from 13 to 14 through 23

Results

Table 2 equates Raven’s raw scores with percentiles from both 1964 and 1998 samples compared.

<table>
<thead>
<tr>
<th>Percentiles</th>
<th>Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>95</td>
<td>49</td>
</tr>
<tr>
<td>90</td>
<td>48</td>
</tr>
<tr>
<td>75</td>
<td>44</td>
</tr>
<tr>
<td>50 median</td>
<td>39</td>
</tr>
<tr>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Mean</td>
<td>46.85</td>
</tr>
<tr>
<td>Estimated Mean</td>
<td>38.00</td>
</tr>
</tbody>
</table>

* The 1964 means were unavailable. They were estimated by a method that gave estimates for the 1998 means that were off by only 0.089 raw score points (averaging both the 6 estimated and actual means). This is equivalent to about 0.21 IQ points.

4. Results

Table 3 equates Raven’s raw scores with percentiles from both 1964 and 1998 for all ages from 13 to 14 through 23–24, and gives estimates derived from all three methods. Because they encompass a larger proportion of the population, the school samples (ages 13–18) are the most representative. The SD method gives 20.06 points overall with a variation from 18.62 to 21.99 points by age. The median method gives 21.57 points with a variation from 19.17 to 23.96. The mean method gives 22.63 points with a variation from 20.28 to 24.85. Simply to provide one estimate, we have taken the midpoints of the lowest and highest estimates. This gives a gain of 21.35 points and divided by 34 (the number of years the gains cover) equals 0.628 points per year.

However, the estimate is undoubtedly too low. At ages 15–19, the 1960 census shows that dropouts were 54.15% of the age cohort; the 1991 census puts dropouts at 26.53% (INDEC, 2002). Therefore, the 1964 in-school sample was considerably more elite and this would diminish the difference between their scores and those of the 1998 in-school sample. The census age category does not quite fit our data because some 60 years ago and that dietary deficiencies were concentrated mainly in the bottom half of the population. Therefore, enhanced nutrition in recent generations has benefited primarily the less affluent. Therefore, IQ gains should be larger in the bottom half of the IQ curve than in the top.

Up to now, seven developed nations have provided data that both cover the post-1950 period and give the whole IQ distribution from top to bottom. France, The Netherlands, and the US show relatively uniform gains over the whole curve (Flynn, 1985, p. 240; 1987, Table 3, 2009c; Vroon, 1984; Wechsler, 1992, Table 6.9). British Raven’s data are detailed and do not show the IQ gap between the top and bottom halves reducing over time. The difference was large on the eve of the great depression, contracted 1940 to 1942, expanded 1964 to 1971, contracted 1972 to 1977, and has

5. Discussion

5.1. Nutrition

The 20th century has seen both massive height gains and massive IQ gains. Therefore, many have posited enhanced nutrition as a cause of both (Lynn, 1989, 1990, 1993, 1998, 2009a, 2009b, 2009c; Storfer, 1990). All nations enjoyed significant nutrition gains right up through the Great Depression. The real point of contention is whether nutrition has continued to be an important factor in developed nations since the onset of relative affluence in 1950.

The major argument for nutrition as a persistent factor rests on indirect evidence, namely, the pattern of IQ gains. It is assumed that the more affluent had an adequate diet some 60 years ago and that dietary deficiencies were concentrated mainly in the bottom half of the population. Therefore, enhanced nutrition in recent generations has benefitted primarily the less affluent. Therefore, IQ gains should be larger in the bottom half of the IQ curve than in the top.

Up to now, seven developed nations have provided data that both cover the post-1950 period and give the whole IQ distribution from top to bottom. France, The Netherlands, and the US show relatively uniform gains over the whole curve (Flynn, 1985, p. 240; 1987, Table 3, 2009c; Vroon, 1984; Wechsler, 1992, Table 6.9). British Raven’s data are detailed and do not show the IQ gap between the top and bottom halves reducing over time. The difference was large on the eve of the great depression, contracted 1940 to 1942, expanded 1964 to 1971, contracted 1972 to 1977, and has
The answer lies in the fact that factors other than better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Table 4 uses the La Plata data to test the viability of the nutrition hypothesis in that locale. It eliminates the extremes of the curve by focusing on the 75th, 50th, and 25th percentiles. The raw score gains at the 75th percentile are large at all ages, ranging from 8 to 9 extra items correct. Given a raw score SD of 6.26 they average at 20 IQ points (8.33/6.26 = 1.33 SDs = 20 points). Where we have secondary school samples (ages 13 to 16), gains above the median are a good match for those below. Where university samples begin to intrude (age 18), gains below the median forge ahead; but not because those above diminish, rather it is because those below soar well above 20 IQ points.

The Argentine diet probably resembles that of developed rather than developing nations. Historically, the Argentine consumption of beef has been high and it reached its present level at least as far back as the 19th century. On the other hand, Calvo and Gnazzo (1990) found that almost half of a sample of children (aged 9 to 24 months) from Buenos Aires had iron deficiencies.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

The Argentine diet probably resembles that of developed rather than developing nations. Historically, the Argentine consumption of beef has been high and it reached its present level at least as far back as the 19th century. On the other hand, Calvo and Gnazzo (1990) found that almost half of a sample of children (aged 9 to 24 months) from Buenos Aires had iron deficiencies.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Table 4 uses the La Plata data to test the viability of the nutrition hypothesis in that locale. It eliminates the extremes of the curve by focusing on the 75th, 50th, and 25th percentiles. The raw score gains at the 75th percentile are large at all ages, ranging from 8 to 9 extra items correct. Given a raw score SD of 6.26 they average at 20 IQ points (8.33/6.26 = 1.33 SDs = 20 points). Where we have secondary school samples (ages 13 to 16), gains above the median are a good match for those below. Where university samples begin to intrude (age 18), gains below the median forge ahead; but not because those above diminish, rather it is because those below soar well above 20 IQ points.

The Argentine diet probably resembles that of developed rather than developing nations. Historically, the Argentine consumption of beef has been high and it reached its present level at least as far back as the 19th century. On the other hand, Calvo and Gnazzo (1990) found that almost half of a sample of children (aged 9 to 24 months) from Buenos Aires had iron deficiencies.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.

Keeping a balance sheet is, of course, in an important sense simplistic because the potency of nutrition would vary by place and time. In developing nations, there is no doubt that better nutrition may have been present among the affluent in 1950 and moved down to benefit the less affluent after that date. Good education or modern parenting characterized by a richer parent/child interaction may have spread to the bottom half of the population over the last two generations. Until further data are available, the nutrition hypothesis is suspect in Scandinavia. Spain alone shows a balance of evidence that is favorable.
Gains on Raven’s progressive matrices or tests composed of Raven’s items.  

Table 5a  

Table 5a shows Raven’s gains across national or group boundaries for adult subjects in developed nations. Swayed by its presumed nutritional advantages, we have classed La Plata (Argentina) as a developed nation. The La Plata data for ages 19 to 24 give a rate of gain of 0.814 IQ point per year. We set aside the French data as suspect (Flynn, 1987).

We set aside the more recent Norwegian data in order to focus on Raven’s gains at their peak period. The average rate of gain from all groups and locales is 0.691 points per year. Rates range from a low of 0.540 points to a high of 0.869 points. The La Plata rate of gain falls within this range, although it is above the mid-point between these extremes (0.705 points per year).

5.2. Magnitude and persistence of IQ gains

Table 5b shows Raven’s gains in various locales for school children in developed nations. The La Plata data for ages 13 to 18 give a rate of 0.628 IQ points per year. This is unusually high but the collective data show a wide range of rates and are far inferior to the adult data in sample quality.

The Norwegian data are unique in showing that adult gains on Raven’s fade away toward the end of the 20th century. However, its Raven’s trends match Scandinavian trends on IQ tests in general: robust gains before 1968, the rate halved by its presumed nutritional advantages, we have classed La Plata (Argentina) as a developed nation. The La Plata data for ages 19 to 24 give a rate of gain of 0.814 IQ point per year. We set aside the French data as suspect (Flynn, 1987). We set aside the more recent Norwegian data in order to focus on Raven’s gains at their peak period. The average rate of gain from all groups and locales is 0.691 points per year. Rates range from a low of 0.540 points to a high of 0.869 points. The La Plata rate of gain falls within this range, although it is above the mid-point between these extremes (0.705 points per year).

Table 5b shows Raven’s gains in various locales for school children in developed nations. The La Plata data for ages 13 to 18 give a rate of 0.628 IQ points per year. This is unusually high but the collective data show a wide range of rates and are far inferior to the adult data in sample quality.

The Norwegian data are unique in showing that adult gains on Raven’s fade away toward the end of the 20th century. However, its Raven’s trends match Scandinavian trends on IQ tests in general: robust gains before 1968, the rate halved by its presumed nutritional advantages, we have classed La Plata (Argentina) as a developed nation. The La Plata data for ages 19 to 24 give a rate of gain of 0.814 IQ point per year. We set aside the French data as suspect (Flynn, 1987).

We set aside the more recent Norwegian data in order to focus on Raven’s gains at their peak period. The average rate of gain from all groups and locales is 0.691 points per year. Rates range from a low of 0.540 points to a high of 0.869 points. The La Plata rate of gain falls within this range, although it is above the mid-point between these extremes (0.705 points per year).

Table 5a shows Raven’s gains across national or group boundaries for adult subjects in developed nations. Swayed by its presumed nutritional advantages, we have classed La Plata (Argentina) as a developed nation. The La Plata data for ages 19 to 24 give a rate of gain of 0.814 IQ point per year. We set aside the French data as suspect (Flynn, 1987).

We set aside the more recent Norwegian data in order to focus on Raven’s gains at their peak period. The average rate of gain from all groups and locales is 0.691 points per year. Rates range from a low of 0.540 points to a high of 0.869 points. The La Plata rate of gain falls within this range, although it is above the mid-point between these extremes (0.705 points per year).

Table 5b shows Raven’s gains in various locales for school children in developed nations. The La Plata data for ages 13 to 18 give a rate of 0.628 IQ points per year. This is unusually high but the collective data show a wide range of rates and are far inferior to the adult data in sample quality.

The Norwegian data are unique in showing that adult gains on Raven’s fade away toward the end of the 20th century. However, its Raven’s trends match Scandinavian trends on IQ tests in general: robust gains before 1968, the rate halved by its presumed nutritional advantages, we have classed La Plata (Argentina) as a developed nation. The La Plata data for ages 13 to 18 give a rate of gain of 0.628 IQ point per year. This is unusually high but the collective data show a wide range of rates and are far inferior to the adult data in sample quality.

5.2. Magnitude and persistence of IQ gains

Table 5b shows Raven’s gains in various locales for school children in developed nations. The La Plata data for ages 13 to 18 give a rate of 0.628 IQ points per year. This is unusually high but the collective data show a wide range of rates and are far inferior to the adult data in sample quality.

The Norwegian data are unique in showing that adult gains on Raven’s fade away toward the end of the 20th century. However, its Raven’s trends match Scandinavian trends on IQ tests in general: robust gains before 1968, the rate halved by its presumed nutritional advantages, we have classed La Plata (Argentina) as a developed nation. The La Plata data for ages 13 to 18 give a rate of gain of 0.628 IQ point per year. This is unusually high but the collective data show a wide range of rates and are far inferior to the adult data in sample quality.

The Norwegian data are unique in showing that adult gains on Raven’s fade away toward the end of the 20th century. However, its Raven’s trends match Scandinavian trends on IQ tests in general: robust gains before 1968, the rate halved by its presumed nutritional advantages, we have classed La Plata (Argentina) as a developed nation. The La Plata data for ages 13 to 18 give a rate of gain of 0.628 IQ point per year. This is unusually high but the collective data show a wide range of rates and are far inferior to the adult data in sample quality.

The Norwegian data are unique in showing that adult gains on Raven’s fade away toward the end of the 20th century. However, its Raven’s trends match Scandinavian trends on IQ tests in general: robust gains before 1968, the rate halved by its presumed nutritional advantages, we have classed La Plata (Argentina) as a developed nation. The La Plata data for ages 13 to 18 give a rate of gain of 0.628 IQ point per year. This is unusually high but the collective data show a wide range of rates and are far inferior to the adult data in sample quality.

Colom, R., Andres Pueyo, A., & Juan-Espinosa, M. (1998). Generational IQ trends. It will be fascinating to see if its less developed nations approach the mean IQs of its more developed nations during the 21st century.

Latin America is a continent whose nations range from near developed (Argentina, Brazil, Chile, Costa Rico, Mexico, Uruguay) to developing. It may present a microcosm of global trends. It will be fascinating to see if its less developed nations approach the mean IQs of its more developed nations during the 21st century.

References


Flynn, J. R. (1985). Wechsler intelligence tests: Do we really have a criterion of mental retardation? American Journal of Mental Deficiency, 90, 236–244.


