

# Notes from the International Society for Intelligence Research conference

## Amsterdam, 2007

In the past, I have posted my summary and comments for the ISIR conference as e-mail messages. This year, I will try simply posting the summary to a web address, where interested parties can access it.

Every year, the conference papers range from outstanding to nearly hopeless. Unfortunately, there were a lot of papers submitted this year and that caused the day to be lengthened (early start) and the papers limited to 15 minutes, plus 5 minutes of questions. The result was not in the best interest of either the presenters or the audience. Even so, there were some good papers and ample opportunity to talk to the participants.

Although I took several pictures, many were shot without a flash and are not very good. I did get this nice one.



Left to right: J. P. Rushton, H. Nyborg, J. Flynn, R. Lynn, and S. Kanazawa

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Last year ISIR presented the first Lifetime Achievement Award to the most obvious and deserving person—Arthur Jensen. This year, the second such award was given to Douglas Detterman (Case Western Reserve University). From what was said, it appears that Jensen’s recommendation for the award was taken very seriously. Jensen noted that Detterman has made two very important contributions (in addition to his research and teaching) to the field of intelligence research:

He founded the journal *Intelligence* and has acted as its editor from inception to the present.

In 2000, he founded ISIR, which is the only organization that is dedicated to the study of human intelligence.

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Each year ISIR does a video interview with a person who is a significant participant in the field of intelligence research. The following have been interviewed:

- 2001 John Carroll
- 2002 Julian Stanley
- 2003 Arthur Jensen
- 2004 Thomas Bouchard, Jr.
- 2005 Earl Hunt
- 2006 John Loehlin
- 2007 James Flynn

[My comments and summary of the James Flynn interview \(December 13, 2007\):](#)



The interviewer was David Lubinski (Vanderbilt). He started the interview by asking Flynn to tell us about his life. From that point on, Lubinski only managed to get in a dozen or so words. Once the camera started, Flynn launched into an enthusiastic

discussion of himself and his ideas. He made a favorable impression from the start by telling us that he grew up in a Catholic family and has become a serious atheist. He also immediately told us of his well known (socialist) political orientation and did not ever attempt to disconnect his political notions from his thoughts about intelligence and the secular rise that bears his name. Flynn speaks clearly and with a loud voice, which was well suited for the interview and later became something of a tool for overpowering people with whom he disagreed. In spite of this, I found him to be very likable, smart, and complicated. He occasionally took positions that were diametrically opposed and admitted that he had done so.

Flynn mentioned his first article (1984), showing a 14 point gain over 30 years (I may have gotten the span wrong, but I think this is correct). In 1987 he published a paper that showed the largest gains were on the Raven's tests. He has found little, if any, gain in vocabulary. It is well known that FE (Flynn Effect) gains have been greatest in tests of abstract reasoning and least in tests that relate to scholastic items. This contrast immediately suggests that the FE gains have not been *g* loaded, since *g* loaded gains would necessarily boost all cognitive tasks. Flynn has not discussed this. I asked him what portion of the gains were *g* loaded and he went into his history discussion, then finally said "I don't know."

Flynn has approached the FE as a matter to be discussed qualitatively, without the support of carefully constructed research studies. Throughout his talk (this was an interview, but it turned into a speech), he described intelligence as a factor with historical variability. His debate with Charles Murray is available on the web and contains the same illustrations that he used in the "interview." His bottom line is that test items have become easier over time, not because people are more intelligent, but because the items being tested have taken on a more central role in their lives. This makes sense with some test items (vocabulary, for example, but that is one area where he has found little increase), but is not at all apparent with respect to other test items, some of which are unrelated to daily experiences (just look at the list of subtests used in the W-J III).

He mentioned reaction time tests and simply discarded them as not important. This is not so easy to accept, given that a battery of RT tests can produce a very highly *g* loaded discrimination, yet chronometric measures have not been shown to change over decades. Meanwhile, Flynn was positive about the future of brain imaging and seemed willing to accept future results, even if they support causation that is opposite of his preference. He expects that such research will ultimately find a physiological seat of *g*. I fully agree, but also find this comment to be in conflict with his arguments from the Dickens-Flynn paper (Heritability Estimates Versus Large Environmental Effects: The IQ Paradox Resolved).

Interestingly, Flynn does not believe that the FE will narrow the B-W IQ gap. Some environmentalists have argued that it will, but no evidence has surfaced to show that after decades of rise, the FE has actually narrowed the gap.

Flynn admitted to having been fired twice and explained that those events prompted him to move to New Zealand. He claims to have defended Larry Summers, James Watson,

and Chris Brand. [There is a written exchange between Flynn and Brand on a web page that was put up by Brand. It addresses the Dickens-Flynn paper.] In these areas, Flynn shows himself to be both honest and inconsistent. He is inherently likable and extraverted, although I remain of the opinion that he is less interested in discussion than in lecturing. I talked to him for a while at a reception and found him to be pleasant, polite, and sharp.

During his commentary, Flynn said that he favored affirmative action. In fact, he showed a strong interest in finding ways to help blacks overcome various obstacles. When Gottfredson questioned him about affirmative action, he said he is not a fanatic on the subject and admitted that it is unfair to whites. He said that, when employers want to hire a black worker, they are generally unconcerned with whether the employee is outstanding or average.

He attributed at least some of the FE gains to decreasing family size and noted that it cannot go much lower. When I had a chance to talk to him, I asked what portion of the FE gains he believes are  $g$  loaded. After repeating his historical perspective, he said “I don’t know.”

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**Invited address: Robert Plomin**

**Where are those genes hiding?**



Tim Bates (left) and Robert Plomin

Plomin has been at the forefront of the search for intelligence genes. The search has been expensive, time consuming, and difficult. So far, he has not found genes that account for

more than 0.5% of the variance, despite 98% power to detect them (slightly different numbers are given in his abstract—reason unknown). Presumably this excludes that 282 rare single genes that he has related to severe mental retardation. At the present, he is focusing on high intelligence, “because lots of things have to work right.”

*Linkage* is the process of looking within families, but requires large effects, on the order of 10%.

*Association* is based on case control and works with small effects (less than 1%).

*Pooling* is a technique used to study a wider range of samples, by combining them and studying the mix.

One of the first intelligence gene prospects that was announced was IGF2R. Unfortunately, it didn't replicate.

Plomin is the director of the Twins Early Development Study (TEDS). They have a web page here:

<http://www.teds.ac.uk/information/links.htm>

The link I provided will link back to the home page and also to Plomin's personal web page. TEDS and Plomin's work is there to study, for anyone who is interested. The interesting part of this work is that there is a longitudinal study in progress.

In other directions, he is looking at 4,000 individuals from the Study of Mathematically Precocious Youth (SMPY) with IQs at and above 160. SMPY is presently being managed by David Lubinski.

A few miscellaneous comments from Plomin:

- Non-coding RNA may be more important than previously thought.
- He doesn't expect to find even half of the intelligence genes.
- Gene-environment interaction may account for the increase in heritability from childhood to adulthood.

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The following comments are my brief summaries of some of the papers. Many of the papers had multiple authors, but I have listed only the names of the presenters. In some cases, I have also shortened the paper titles.

**Sophie Van der Sluis**

### **Environmental moderation of the heritability of IQ in adults**

Using Dutch twin studies (700 MZ and DZ twins and their siblings), heritability was examined. As expected the value reported for adults was 80-85% and 25% for children (a bit lower than I would expect). The researchers looked for moderating effects and found some effect for parental educational level, but none for environmental

characteristics that are under the control of the individuals: partners' educational level, urbanization, and real estate value of their adult homes (used as a proxy for wealth).

**Danielle Posthuma**

### **Intelligence & Genes**

Gave a childhood heritability of 30% (somewhat below the number from other sources). The focus of the paper was to discuss candidate intelligence genes. The genes mentioned:

ASPM	SMAP25	MCPH1
DRD2	CHRM2	COMT

ASPM and MCPH1 are both under selective pressure and are more frequent in Asia and Europe than in Africa. Both relate to brain volume. ASPM was tested for Dutch children, but no intelligence effect was found.

MCPH1 showed a positive intelligence correlation. In adults, the reverse allele was beneficial. Australian and Scottish data showed no effect, so the researchers concluded that the gene is not an intelligence related gene.

The other four genes were studied for twin families. CHRM2 accounted for 1 or 2 IQ points and this finding was replicated in the US.

SNAP25 is believed to play a role in synaptic transmission. There is a strong effect with the AA genotype.

COMT shows a positive intelligence effect in some situations and has an interaction with the DRD2 gene. DRD2 is related to receptor density and both correlate with higher working memory performance.

**Mike McDaniel**

### **IQ estimates for counties and independent cities in the Commonwealth of Virginia**

This study was spawned by prior studies of the correlations between IQ and the wealth of nations and of the wealth of states (one of the state level studies is by McDaniel and Kanazawa, who is in the photo at the right). The findings showed a large difference in intelligence (seen as human capital) for the various Virginia counties. This is not surprising and is assumed to be caused by various obvious factors such as "white flight," and the migration of smart families to strong school districts, as well as the tendency of clustering of professional employment by geographical area.

**John Raven**

### **Uses and abuses of the Raven Progressive Matrices**

I arrived at the conference site hotel well before check-in time and had to wait for a room to become available. I took a seat in the lobby and pulled out a copy of Intelligence to

read while waiting. Shortly thereafter, someone lit a cigarette and I moved to get away from the smoke. I sat by a man who spoke and I asked if he was also attending the conference. He was, so I introduced myself and he said he was John Raven. I immediately commented that I knew who he was (by name) and he smiled and said “I’ll bet you don’t.” Of course I did and told him that he was the son of John C. Raven, Spearman’s student. He said that people usually assume that he is John C. The room wait gave me an hour to chat with Raven and I was hoping to learn something useful. Unfortunately, the things I learned were very limited.

As we talked, Raven basically delivered the presentation that he had prepared for the next day. One worthwhile piece of information was that he was convinced that the Raven’s SPM+ is unusually linear, producing consistent differences from any portion of its range. In other words, he was saying that the test is an equal interval scale test and that the degree to which all intervals represent a difference is particularly equal in magnitude. Unfortunately, he seemed confused over the difference between an equal interval scale and a true ratio scale. I didn’t press him, since I was trying to be polite. He compared the SPM+ to a tape measure, but that is not really fair, since length is a true ratio scale and that is not true of any IQ test.



Above – John Raven illustrating measurement intervals

When I asked him to comment on the  $g$  loading of the Raven’s tests and of the score gains due to the Flynn effect, he quickly backed away from any comment on  $g$ . This was almost shocking, since intelligence researchers are inclined to use the Raven’s tests as if they were  $g$  tests (yes, the researchers know the details, but the approximation is reasonable for their purposes). He said that people are more able today to solve abstract



problems and that this was a real gain in ability. Then he commented that it was paradoxical that there were no gains in scholastic abilities and implied that he believed there was a net loss (I agree).

All in all, I found Raven to be a pleasant gentleman, but was not left with the feeling that he was able or willing to discuss a broad range of intelligence related subjects or even those that relate directly to testing. I asked if he kept up with any of the people who were test designers in other companies and he said “no.”

During his presentation, he did make an interesting comment that was related to one I have made on several occasions. He pointed to the lack of data (only 5-8 data points) at the high and low ends of the distribution. He said IQ tests should be normed against a rectilinear distribution, so that there would be equal numbers of points over the range of interest. This creates a chicken and egg problem, in that it would be necessary to first know the intelligence of the reference group. That is not necessary, if a believable stochastic sample is obtained and used to force fit the test to a Gaussian distribution. This is the actual procedure, but is subject to the sparse tail-data problem that Raven mentioned.

He also pointed out, during his presentation, that various tests of bias (rank order item difficulty, etc.) had produced no differences between racial groups. This was to be expected and is worth mentioning, since the Raven’s tests are frequently used to test and compare various population groups.

**Ian Deary**

### **Speed of information processing, lifetime cognition, and inflammation**

The objective was to compare data from the 1947 Scottish Mental Survey (given to almost all Scottish children at age 11) with speed of processing tests administered to the same individuals at age 70. There were 1091 individuals recruited for the age 70 portion of this comparison. The speed tests included: digit symbol, reaction time, and inspection time tasks. Blood tests were used to identify a marker of systematic inflammation, which when high is associated with lower cognitive performance.

The IQ correlation between the young and old groups was .695 and is reported as an underestimate because of a ceiling effect. The higher ability individuals had less of the CRP marker that is associated with inflammation.

**Karin Modig-Wennerstad**

### **Offspring intelligence and parental mortality**

The negative correlation between IQ and mortality risk remains after correction for SES effects. Factors relating to the correlation include: reverse causality, system integrity (the robust body and genetic factors), fetal life, behavior risk factors, and understanding/managing symptoms (personal health care management). All causes of cardiovascular and coronary heart disease correlate inversely with IQ from childhood IQ measurements and have weaker correlations with childhood SES. The subjects reported



in the paper were males from the Swedish military (age 18). The mortality risk declined as a close to linear function with increasing IQ.

Both biological (genetic) and non-biological (shared environment) relationships were examined. The biological relationships showed the strongest effects.

**Ian Deary**

### **Childhood intelligence, personality, and death**

Nine studies show that high childhood IQ corresponds to longer life. On a stanine scale, comparing the lowest stanine to the highest results in a 70% reduction in mortality risk (Swedish data). The study that was presented was based on the full set of data from the Scottish Survey. The full set is a smaller N set that consists of those individuals born on the first day of each even numbered month (6 days of the year) and was collected over a span of 16 years (N = 1208). Part of the assessment involved a “home score” that was determined by visits to the homes in the survey; the item being evaluated was a conscientiousness-mood index. There was a 22% reduction in the “hazard” (mortality risk) per standard deviation increase in the C-M index, but for the lower half of the group there was no difference between the lowest two quartiles.

When the top half was compared to the bottom half there was a hazard ratio of 2.82 (favoring the top half). C-M adds to lifespan by reduced risky behavior, perseverance, consciousness, and stability of mood. A person in childhood who appears in the lower half (IQ and C-M) has a 2.5 times increased risk of death by age 64.

**Linda Gottfredson**

### **Psychometric properties of health self-care**

Gottfredson has presented similar papers in the past. Her basic point is that small, but constant, influences are additive over time and ultimately produce a significant influence on health. She cited a study of US military men who were born around 1950. They were given laboratory tests (high reliability) and clinical exams (low reliability). As expected, their death rates fell sharply with increasing IQ.

Individuals must understand and follow instructions from doctors and are necessarily their own primary health care providers. Gottfredson contends that non-adherence (taking medicines and following other health instructions) is a large problem that accounts for health related problems. Similarly, intelligence plays a role in risky behavior, injury avoidance, and managing chronic illness.

**David Lubinski**

### **Termites were healthier than the norm**

Terman’s well known study group (Termites) were taken from the 99<sup>th</sup> percentile of cognitive ability. Cognitive ability for the group was +2.7*d*. While both SES and

cognitive ability correlate with their above average health history, the stronger correlate is cognitive ability.

**Meredith Frey**

### **Is it possible to manipulate complexity within a single task framework?**

In 2004, I heard Frey present a paper on this same topic, but with a null result. I recall discussing it with her advisor (Doug Detterman) and he seemed baffled that they had not been able to find a way to alter the *g* loading of reaction time tasks. Attempts to increase *g* loading were based on increasing the complexity of the elementary cognitive task (ECT). Increased complexity increased reaction time, but did not increase *g* loading.

In a new attempt to manipulate *g* loading, the ECTs were formed as blocks (displayed on a touch screen), consisting of squares arranged in various patterns. The testee was required to select the block choice that most closely matched a reference block. In this case, the patterns did not offer identical matches to the geometry of the reference block, so the testee must select the option that is closest. The less discrepant condition (one square missing) had higher *g* loadings than the standard condition (identical match offered) or the more discrepant condition (two squares missing). The new approach achieves the objective that was being sought in 2004.

**Guy Madison**

### **IQ is correlated with variability in isochronous tapping tasks**

The timing task is a very simple exercise. The testee is asked to synchronize tapping with a regular sound, then to continue to tap at the same rate after the sound is turned off. Observations show that when the testee produces a longer interval (relative to the reference), he is likely to follow that interval with another long interval. This is drift. Drift correlates at  $r = -.34$  with the Raven's SPM and is significantly correlated with neuroticism.

This timing task is related to RT measurements and is particularly important because of its simplicity and the fact that it does not explicitly call on working memory. As with RT, tasks of this type tap into the cognitive function at an obviously low level.

**Chris Condon**

### **Is the Flynn Effect primarily a rise in spatial ability?**

Test scores (from the Johnson O'Connor Research Foundation) were examined over the span from 1989 to 2003. The scores showed a large (.18*d*) increase in spatial reasoning; .08*d* for memory; and no gains for reasoning and numerical abilities. A nonspatial general factor was found for seven nonspatial tests.

**Ian Deary**

### **Scottish School of Educational Research 1925-1950**

Unlike the typical papers at ISIR conferences, Deary presented a very interesting historical account of intelligence research in Scotland. It is unlikely that any nation has or will match the breadth of testing and the importance of its researchers. Much of the presentation focused on Sir Godfrey Thomson. Deary and his colleagues managed to assemble a large collection of notes, letters and similar resources. They also found and interviewed a number of people who had worked with Thomson.

Part of the presentation related to the Scottish Mental Surveys of 1932 and 1947, which has served as a rich data source for a number of studies done by Deary.

**Jon Wai**

### **Spatial ability for STEM and visual arts**

STEM = science, technology, engineering and mathematics

The data set consisted of high school students in grades 9-12 who were tracked for over 11 years. It is my understanding that the data was a sampling from the  $N = 400,000$  large set. The primary finding was that spatial abilities were important to STEM students. The argument was made that spatial measurements, taken alone, may be important in selecting students for various courses of study (college entrance, etc.). The data showed that spatial abilities were important, but they also showed that spatial ability was covariant with math and verbal measurements.

**Greg Park**

### **Among doctorates, quantitative reasoning assessments conducted 25 years earlier (by age 13) predict patents and scientific publications**

Both Wai and park are students of David Lubinski and Camilla Benbow. This paper is another extraction from the Study of Mathematically Precocious Youth (SMPY) that was started by Julian Stanley and is still in progress as a longitudinal study. The SMPY cohorts include 1,569 males and 840 females who were selected from the top 1% of SAT-M testing prior to age 13. The group has produced 288 authors and 2,647 publications. 40% of them entered STEM careers and 35% entered natural sciences. They now include 176 inventors, who have received a total of 804 patents and 332 patents at Fortune 500 companies. Their STEM breakdown is 48% traditional, 38% computer related, and 13% biological.

**Tara Madhyastha**

### **The coming market for cognitive skills**

The paper was designed to examine job market models, which were rather uninteresting and possibly flawed, but there were a few comments worth repeating. Not surprisingly, SATs under-predict female grades. This has been known for some time and various reports indicate that the gap between male and female grades has widened. They claim about 46% of high school students take the SAT and that, in Washington state, the male score advantage is  $0.185d$ .

Fredrik Ullén

## **IQ and variability in isochronous tapping tasks**



The five authors have found that IQ correlates with the variability in a simple timing task. This measurement correlates (negatively, as a function of drift magnitude) more strongly with IQ than does reaction time. It should be noted that individual RT measurements each have relatively small  $g$  loading, but when administered as a battery of elementary cognitive tasks, the combined tests correlate with IQ tests at about the same magnitude as IQ tests correlate with each other.

The timing task simply involves having the testee tap with a regular sound that is played for him. After establishing the rate of tapping, the stimulus sound is turned off and the testee is monitored as he tries to continue to tap at the same rate. When a tap interval\* is longer than the reference interval, it tends to be followed by additional long intervals, thus causing a drift from the starting rate. This drift was correlated with the 60 item Raven's SPM-plus at  $r = -.39$ . The raven to gray matter volume (determined by voxel based morphometry) correlated at  $r = 0.36$ .

\*The researchers used several tapping intervals from 215 ms to 916 ms.

Their conclusion was that the tapping variability and IQ have overlapping neuroanatomical correlates in the frontal white matter. They proposed that the differences in the number of frontal connections may be one factor underlying IQ and tapping variability.

R. Colom (paper included work by Haier, Jung, and others)

## **Brain correlates of fluid, crystallized and spatial intelligence**

I included the extra names in this paper (omitted them in prior papers) only to point the reader towards that imaging that underlies the study. Voxel based morphometry was used to find correlations between brain volumes and Gf, Gc, and Gv. The primary findings (these are considered to be preliminary) are that different gray matter volumes were positively correlated with the three performance variables. One unanswered question is whether this finding is contradictory to the Johnson-Bouchard papers that argued against Gc as an independent factor. Their argument is that Gc and Gf have similar *g* loadings (the loading magnitudes may be higher on either factor) and that it is incorrect to represent them as separate factors, as if they were two distinct general factors. This problem diminishes somewhat, since it is possible to extract a single *g* from any correlation matrix, but if the brain is active in different volumes during tasks that are supposed to relate differently to the two factors, the difference in perspective may be resolved by the imaging studies.

**Satoshi Kanazawa**

### **Correlates of national IQ**

In the evolutionary psychology sense, Kanazawa argues that Type II errors are more damaging, so people have tended to avoid Type II's at the expense of making an increased number of Type I errors. From this, he proceeded to relate national IQs to the belief in god, noting that god-belief accounts for more than 70% of the variance (higher mean national IQs result in lower percentages of god-believers). Nations with higher mean IQs have more interstate wars and fewer intrastate wars. Nations with higher IQs are healthier, live longer, are more liberal, less religious and more monogamous.

Among his general findings, at the individual level:

Less intelligent people – enjoy watching TV more

More intelligent people—have fewer children, stay healthier, and live longer. They enjoy instrumental music more (but enjoy vocal music the same as less intelligent individuals).

**Richard Lynn**

### **Intelligence and religion**

Lynn cited Dawkins—that more intelligent people have emancipated themselves from religion. Lynn, Harvey and Nyborg (2004) found a correlation between IQ and the belief in god (for 137 countries) was  $r = -.60$ .

Lynn cited a book that I own, but have only partly read: *The Golden Bough* by James Frazer.\* He pointed to religion relating to magic and superstition, with keener minds rejecting religion and replacing it with science.

In 1928 two studies of intelligence and religious belief found the following correlations:

Howells	$r = -.27$
Sinclair	$r = -.32$

On a regional basis, I managed to record a few examples:

<u>Location</u>	<u>IQ</u>	<u>% belief in god</u>
Sub-Saharan Africa	67	99.5
North Africa	84	99.5
Latin America	84	99
Europe	99	80
NE Asia	105	70

On a racial basis:

	<u>Whites</u>	<u>Blacks</u>
IQ	100	85
Religious, no doubts	62	80
Very strong religion	37	49

On a group basis, the survey item “religion is very important to my life” showed this:

<u>Group</u>	<u>IQ</u>	<u>% agreeing</u>
Jews	110	34
Whites	100	52
Hispanics	89	57
Blacks	85	74

\* I discovered that The Golden Bough can be obtained free from Google. To download it or read it, go to <http://books.google.com/> and type in the book name.

### **Gerhard Meisenberg**

#### **Effects of intelligence on fertility and mortality**

From his study, he predicted that the differences between national mean IQs and their association with fertility will reduce the average IQ of the world population by 3.74 points per generation. On a national level, life expectancy increases at an almost linear rate with IQ.

The life expectancy and fertility correlations are given below:

<u>Predictor</u>	<u>life expectancy</u>	<u>fertility</u>
IQ	.823	-.831
Education	.759	-.862
GDP	.774	notes missing
Democracy	.622	notes missing

As expected, the IQ effect on mortality is more important in the low IQ range. A few miscellaneous notes:

5.5		children/woman where IQ is less than 70
90		mean IQ of the world population today
86		mean IQ of the next generation of the world population
3.74		IQ points lost per generation
1.34		IQ points lost per decade (stupidity index)

**Jan te Nijenhuis**

### **Blindness, Deprivation, and IQ**

This meta-analysis paper tested the environmentalist argument that group differences in IQ are due (or partly due) to deleterious effects of poor or non-stimulating environments over time. Previous studies, reported by Brand and others, have shown that deafness does not degrade IQ. This study is the natural complement as it was based on blind and partly sighted individuals, who also suffer a very severe form of environmental deprivation. The study revealed that there was some delay in mastery of some tasks. Sensorimotor development was delayed by ½ year and school achievement was delayed by 3 years; but by adulthood, blind and partly sighted people do not have IQs that are lower than sighted peer groups. Early IQ deficits decreased over time until the deficits were eliminated. Environmental theory predicts the opposite, claiming that deprivation has a cumulative effect and reduces IQ.

Since the study included data from various time periods, corrections were made to account for Flynn effect gains. The mean IQ score for blind adults was 102.1.

Linda Gottfredson commented that “all of life is set up for sightedness,” thereby agreeing with the premise that blindness is fairly considered to be a severe environmental handicap.

**Helmuth Nyborg**

### **Religion, IQ, Sex Hormones, and Delinquency**



Points made (it is understood that these are statistical, not absolute observations):

- Atheists have higher IQs than believers.
- Liberal believers have higher IQs than dogmatic believers.
- Differences in IQ explain differences in income.
- If countries are below a fertility rate of 2.1 they are less corrupt and less religious



- 90% of the US population believes in a personal god
- Highest IQs: Episcopal, atheists, Jews (not necessarily in that order)
- Each IQ point is worth about \$715 per year in income.
- Correlation between not believing in god and IQ:  $r = .78$ .
- Highly intelligent countries are disappearing (low fertility).

#### J. Philippe Rushton

### **Genetic and environmental contributions to group differences on the Raven's Progressive Matrices estimated from twins reared together and apart**

In 1998 Rushton went to South Africa where he administered the Raven's to students. He found a mean IQ of 70. In a separate study of Roma (Gypsy) groups, the living conditions were found to be about the same and the Raven's IQ scores were also 70. Heritabilities were calculated (using Falconer's formula—discussed in my article on heritability) for test items for the two groups. Group differences were larger for the test items that were less heritable. Test items with higher reliabilities had higher heritabilities. When a test-retest was done, the environmental differences disappeared and the heritabilities stayed strong. All of the differences were higher for items with higher heritabilities.

The rank order correlations were .90. No culturally specific effects were found.

The Roma study was reported a year ago in this:

General mental ability in South Asians: Data from three Roma (Gypsy) communities in Serbia

*Intelligence, Volume 35, Issue 1, January-February 2007, Pages 1-12*

J. Philippe Rushton, Jelena Čvorović and Trudy Ann Bons

#### Martin Steppan

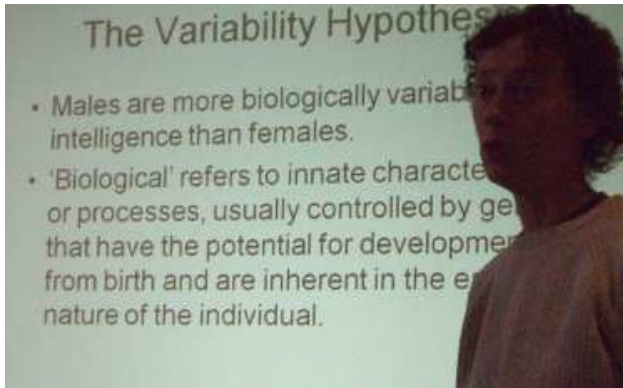
### **The influence of Protestant achievement ethic on test results**

The test used for this study was the Medical School Aptitude Test (EMS), used in Switzerland, Germany, and Austria. Protestants achieve better in Switzerland and throughout Europe than Catholics ( $r = .526$  with latitude). When tested, the differences between Protestants and Catholics was greatest on memory and visual abilities.

It should be pointed out that the study was based on applicants to medical schools. This is an example of a severely restricted range.

#### Wendy Johnson

### **Toward an understanding of sex differences in variability in intelligence**



This paper seeks to provide a partial explanation for the greater variability (higher standard deviation in the distribution) in male than in female intelligence. One obvious way this could be explained is by assuming that the sex chromosomes carry some of the intelligence genes. Prior to this paper, I asked Johnson if any intelligence genes were likely to be found on the sex chromosomes and she answered without any hesitation that the sex chromosomes carry 20% of the intelligence genes.

Lehrke was one of the first to speculate that X chromosomes account for some of the variance in intelligence. Mutations at the suspected loci can cause severe mental retardation.

The Scottish Mental Surveys show the following male to female variance ratios:

1.12 for 1932

1.17 for 1947

The distributions were not Gaussian and were heavier at the low end (a wide bump on the left side of the distribution). Variance analysis shows that about 20% of the intelligence genes should be on the X chromosome. About 800 genes on the X code for proteins; about 500 of these are expressed in the brain (specific genes not known).

[Kees-Jan Kan](#)

### **Why Crystallized Intelligence is not Crystallized Intelligence**

The Cattell-Horn model of intelligence contends that intelligence consists of two components at the highest order stratum: Gf and Gc (fluid and crystallized). Investment theory then argues that people invest their fluid intelligence to acquire learned abilities, which accumulate over time. Kan argues that investment theory fails to explain why abilities correlate, after Gf is factored out. For example, people who have the same level of Gf tend to score at the same level on both mathematical knowledge and vocabulary.

Some researchers claim that Gc is verbal intelligence. Some claim that it is a consequence of exposure to education and reflects motivation, interest, SES, etc. Kan argued that Gc cannot be interpreted as a latent variable. Paul Irwing commented that data shows a latent variable. An argument erupted among several participants. Ian Deary said that Gf and Gc have different heritabilities.

Unfortunately, Wendy Johnson was not present during the presentation of the paper. She has written at least two papers that dismiss Gc as not constituting a separate cognitive ability.

**Ruth Spinks**

### **Comparing premorbid and short measures of IQ to the WAIS-III**

For various clinical reasons, short form tests are used to estimate intelligence. These tests work reasonably well over the range of  $\pm 1d$ , but demonstrate ceiling and floor effects outside of that range, thereby overestimating low IQs and underestimating high IQs.

**Michael Firmin**

### **The SAT does not have to be so time consuming**

This paper is strongly related to the one mentioned above, in that it examines a shortened form of the SAT as an alternative to the full form. The shortened version uses 45 test items and takes 50 minutes; the standard SAT takes about 3 hours and 45 minutes.

Reliabilities: .99 for the full SAT; .82 for the short form SAT.

Correlation to school grades:  $r = .30$  for the SAT and  $r = .28$  for the short form SAT

In the discussion that followed, people mentioned that the shortened SAT would not be expected to work well at the upper end and that high end scores were needed by top schools. Numerous comments were similar: “Let them spend more time and take the full test.”

[At this point, there was a brief moment of humor. Here we are at a conference about “intelligence.” The next speaker provided his Power Point files and the computer operator noted that he couldn’t find them on the computer because everyone had named their files “ISIR 2007.” Duh! After some effort, the proper files were located, but the presentation is not worth further comment.]

**Lee Ellis**

### **Androgen promoted traits**

This study was based on self-reported data relating to testosterone level and a number of academic interests. Unfortunately, the study did not include any actual measurements of testosterone levels. Instead, Ellis attempted to estimate levels from questions pertaining to such self-reported items as strength, voice, body hair, and penis size. In short the study was meaningless, but evoked a comment from one participant who noted that it was “charming” to see someone accept as accurate self-reported penis size. While his comment was both correct and humorous, I was looking forward to having the conference end without a discussion of penis size. [This seemingly unrelated matter gets injected into some discussions of between-group intelligence based on an extrapolation of r-K theory from a species-species comparison to a within-species comparison at the sub-species level.] Unfortunately, it not only continued, but went on after the conference.

The fire was fed by Don Templer, who began citing the book that has been used as a reference for such scientific matters. His discussion was rather protracted. After the papers were done, I got on the shuttle bus to Central Station so that I could catch a train. Templer was on the same bus and was still going on about penis research, much to the dissatisfaction of one of the lady passengers. It was difficult to not laugh, largely because of the seriousness with which Don rattled on and on.

**Don Templer**

### **Comparison of mean IQ in Muslim and non-Muslim Countries**

This paper is based on literature sources, not original research, but the findings are interesting. Templer examined countries that were over half Muslim. The mean IQ was less than 85. [At lunch one day, Rushton said the highest number for any Muslim nation was not greater than 89, so the two are in close agreement.] The mean IQ for non-Muslim countries is about 91, which is also in close agreement with the usually cited world mean of 90.

Templer guessed that past architectural (and similar) accomplishments could be explained by either of two possibilities: the work was done by Christians and Jews, under the control of Muslims, or the populations have changed.

Miscellaneous findings:

- In Denmark, the Muslim population is about 4%, but they commit a majority of all rapes on Danes.
- The range of national IQs (Muslim countries) is 81 to 87, except for Qatar where the mean is 78.

**Don Templer**

### **Comparison of mean IQ in Muslim and non-Muslim Countries**

Mean IQ to skin color for 18 New World countries and regions:  $r = -.62$ . He compared the new world to old world countries, where the skin color indexes were the same and found a correlation of  $r = .977$ . He feels that this number is too high for comfort, but did not offer any additional insight to it. [Population group skin color was compiled and reported last year. The method was not based on instrumentation, but rather on a visual comparison to a set of reference shades.]

During the discussion, Meisenberg said that better color data has been reported and that the correlation (IQ to color) was  $r = -.89$ . Rushton added that there had been about 20 studies of US blacks that showed similar results (lighter = higher IQ), but lower correlations. He also said there was a similar relationship found in Japan.

