

VOG 2017 CTC 1

Who's Smarter? Men or Women?

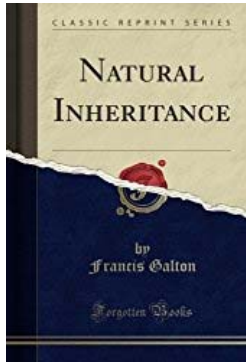
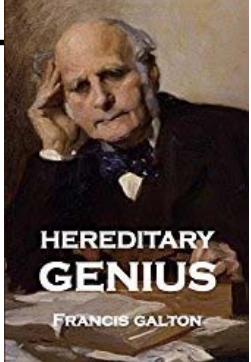
Cynthia Schield
History Major, Stanford
35 Years Human Resources Manager

Milo Schield @ Augsburg University
Teaches Statistical Literacy & Critical Thinking

Twin Cities Critical Thinking Club
Sept 3, 2017
www.StatLit.org/pdf/2017-Schild-CTC-Slides.pdf

VOG 2017 CTC 2


IQ & Heredity: Francis Galton

VOG 2017 CTC 3

Alfred Binet's intelligence testing: to predict school achievement


- In the late 1800s, a new law in France required universal education.
- Alfred Binet knew that some new students would need help to succeed.
- Binet develop tests to predict a child's level of success in regular education.
- Goal: to determine which students would need support.

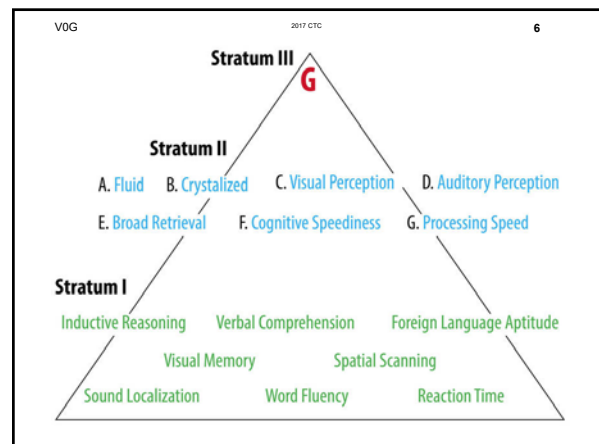


VOG 2017 CTC 4

IQ Tests: Lewis Terman Stanford-Binet

Lewis Terman
Created Stanford-Binet
Changed scoring: mental / chron X 100; 100 = average for age
Began 'Terman Study'
Eugenics advocate





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Nature vs. Nurture


I. Q. Correlations*

▶ Foster parent-child	.20	Weak correlation
▶ Parent-child	.50	
▶ Siblings reared together	.49	Strong correlation
▶ Fraternal twins	.53	
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*Erlenmeyer-Kimling and Jarvik, 1963

These are the correlations between various groups of IQ scores. Remember the correlation is stronger the closer the score is to 1.

Stenographer



OKAY. Secretarial jobs in which women served men the way wives served their husbands became common at the end of the century.

Next

V0G 2017 CTC 9

Wrong on women and dreams; Right on some things



Civilization began the first time an angry person cast a word instead of a rock.

Sigmund Freud

V0G 2017 CTC 10

Terman got it right: Girls have same IQ as boys

Equal intelligence was seen as a pre-requisite for suffrage.

Terman explained lack of intellectual careers for women:

- Motherhood
- Discrimination
- Lack of opportunity

*Terman used IQ to liberate women.
Terman was a man ahead of his time.*

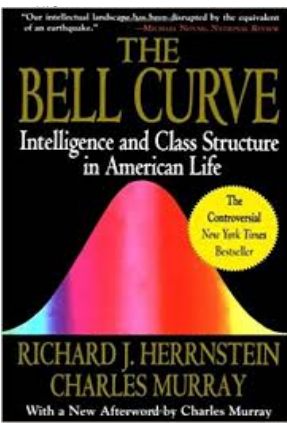


"Our intellectual landscape has been disrupted by the equivalent of an earthquake."
—Marianne Williamson, *Jesus Calling*

THE BELL CURVE


Intelligence and Class Structure in American Life

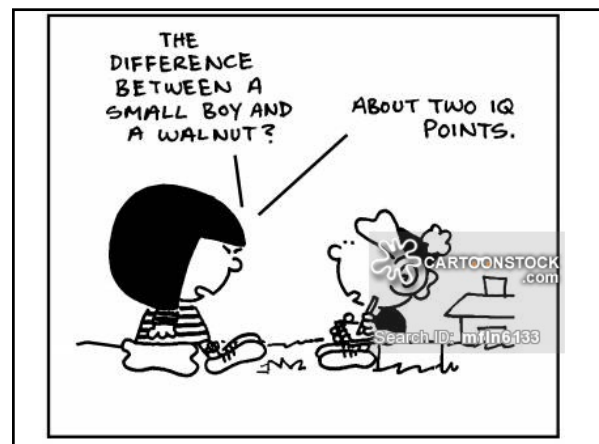
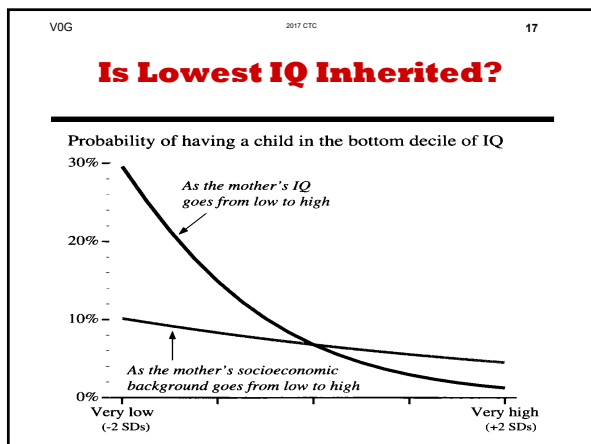
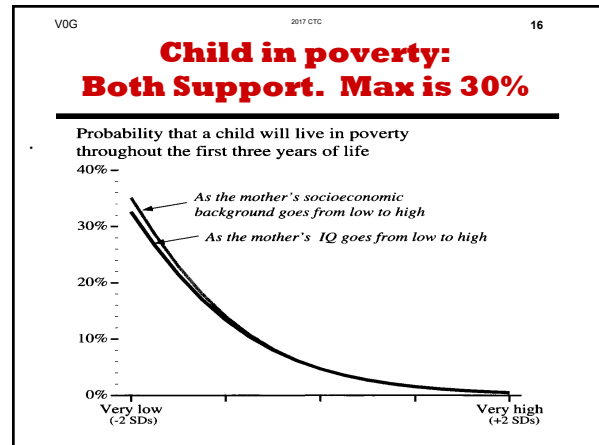
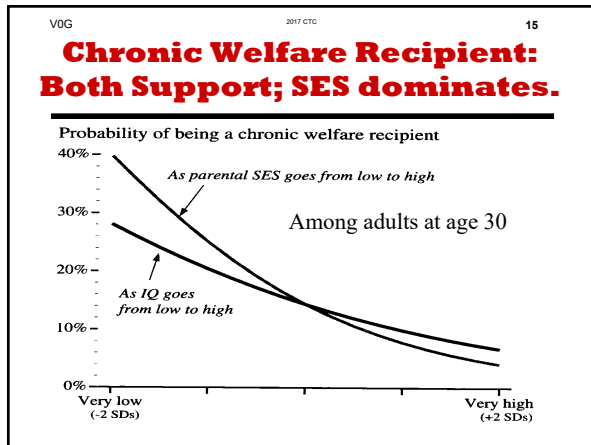
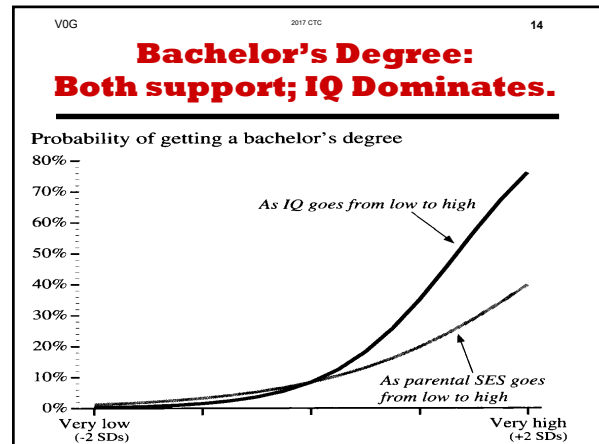
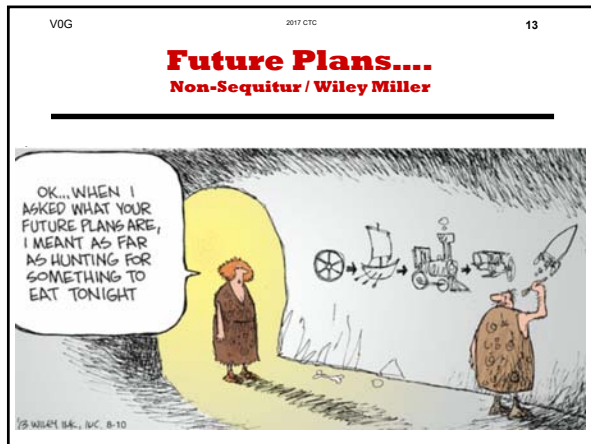
The Controversial New York Times Bestseller

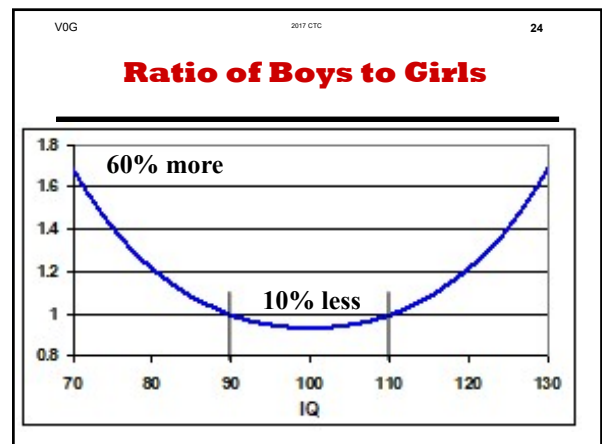
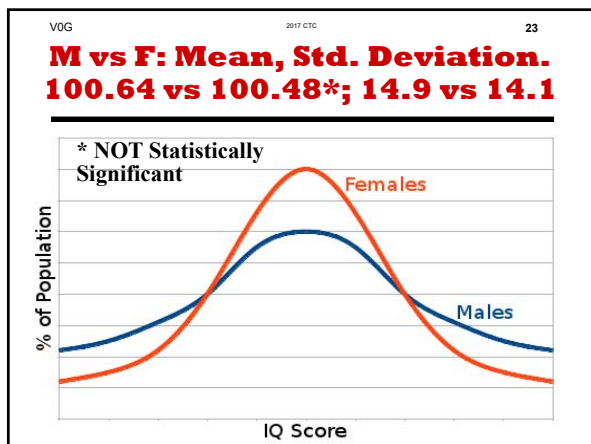
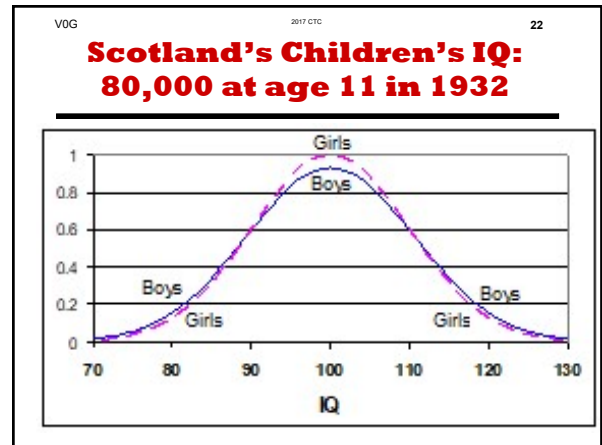
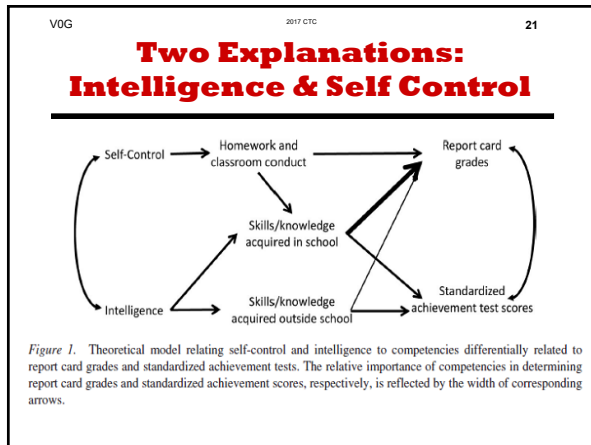
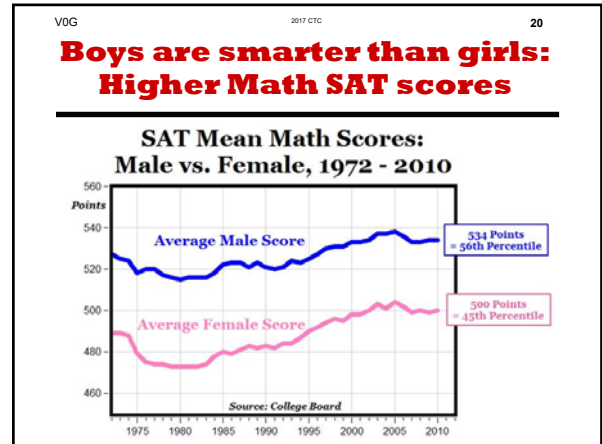
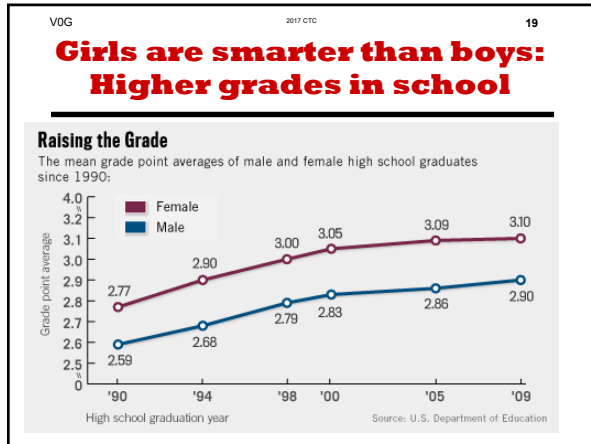


RICHARD J. HERRNSTEIN
CHARLES MURRAY

With a New Afterword by Charles Murray







IQ and Crime

- There is an IQ gap of 8–10 points between criminals and noncriminals, even when statistically controlled for race and social class.
- IQ is not a very strong indicator of criminal behavior.
 - But, it does consistently predict

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www.jblearning.com

**Guys dumber than gals?
Prison: Men 3 times as likely**

Why?

1. Society discriminates against men.
2. On average, men have lower IQ than women
3. Men have less self-control than women
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Lack of self-control seems relevant to committing a crime

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* ADHD: Attention Deficit Hyperactivity Disorder
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3101894/>

**Guys dumber than gals?
Mental Retardation: 50% more guys**

*Mentally retarded (IQ<65): M-to-F is 3-to-2.
50% more prevalent among males than females*
<https://mn.gov/mnddc/parallels2/pdf/80s/82/82-PMR-ARC.pdf>

Mental retardation does not seem like a lack of self-control



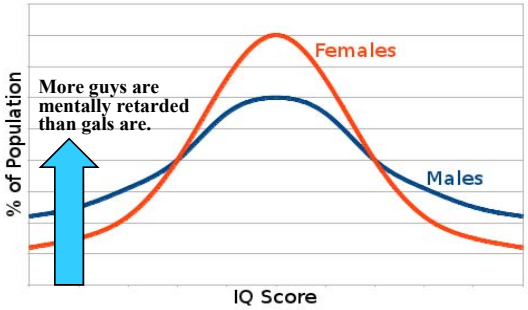
**Guys dumber than gals?
Conclusion #1: NO!**

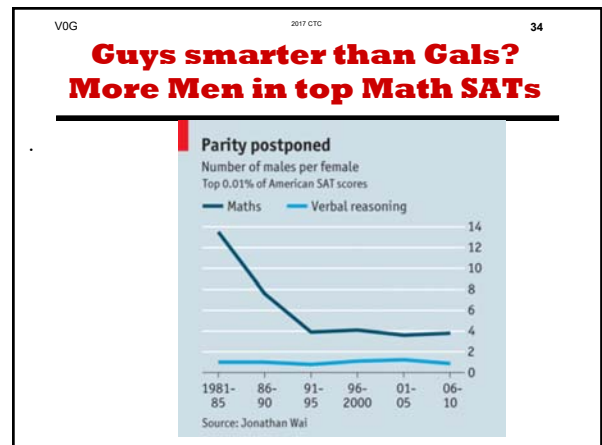
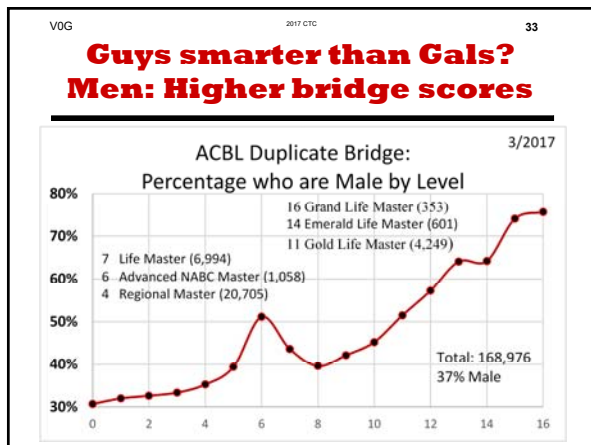
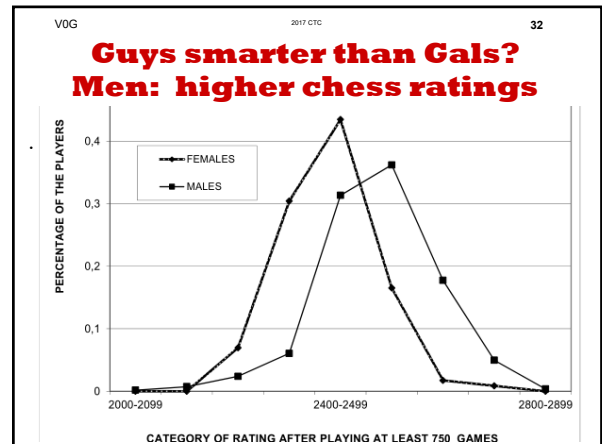
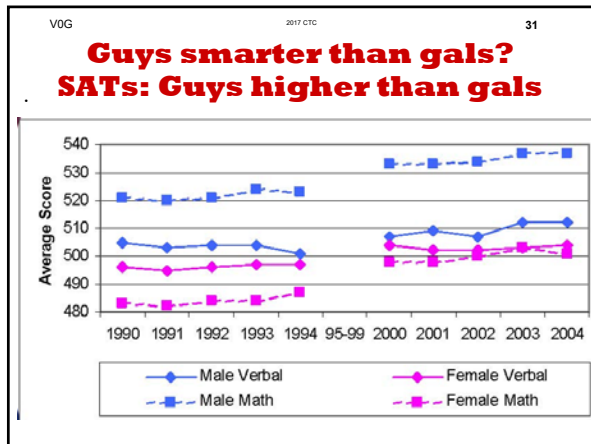
Guys 50% more likely to be mentally retarded than gals.

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 - Probably; This is not relevant to mental retardation.*

More low-IQ guys than low IQ gals AND
“SELECTION BIAS” Just looking at bottom.

**More males at the extremes:
More guys mentally retarded**





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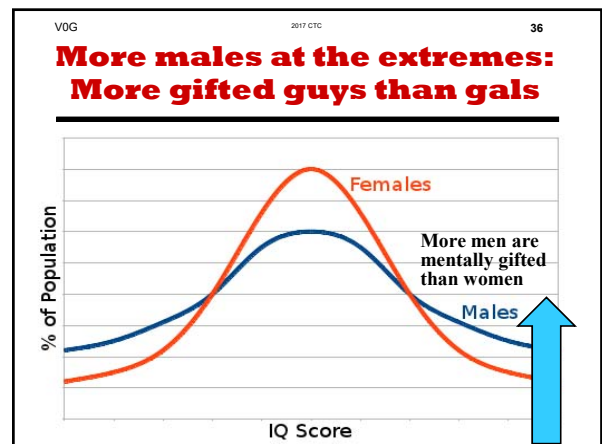
Guys smarter than Gals? Conclusion? NO!

So what explains more men than women in the following?

- Higher SAT scores (math and verbal)
- Men are more likely at top in chess and bridge
- Men more likely in high-IQ majors: Physics+Comp. Sci.
- Men 4 times as prevalent in top 0.01% of SAT Math

1. Men smarter than women – on average? NO!
2. More men at the extremes? YES!

Selection Bias: Selecting just the top end



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Conclusion #3
Differences due to Selection Bias

More men at IQ extremes + selection bias explain:

BOTTOM END:
 Mentally retarded: 50% more male than female

TOP END:
 Higher SAT scores (math and verbal)
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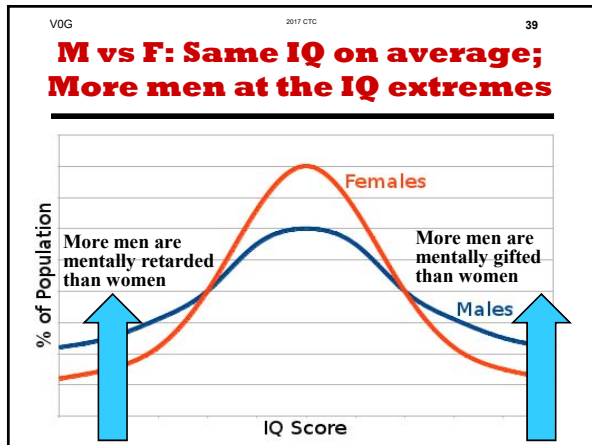
V0G 2017 CTC 38

Are men smarter than women?
No and Yes...

Smarter on average? No!
 More men than women among high IQ? Yes!

Selection bias – looking just at high IQ – gives weak reason for saying guys smarter than gals

More men than women among low IQ? Yes!
Mental retardation: “smoking gun” Gender vs. IQ



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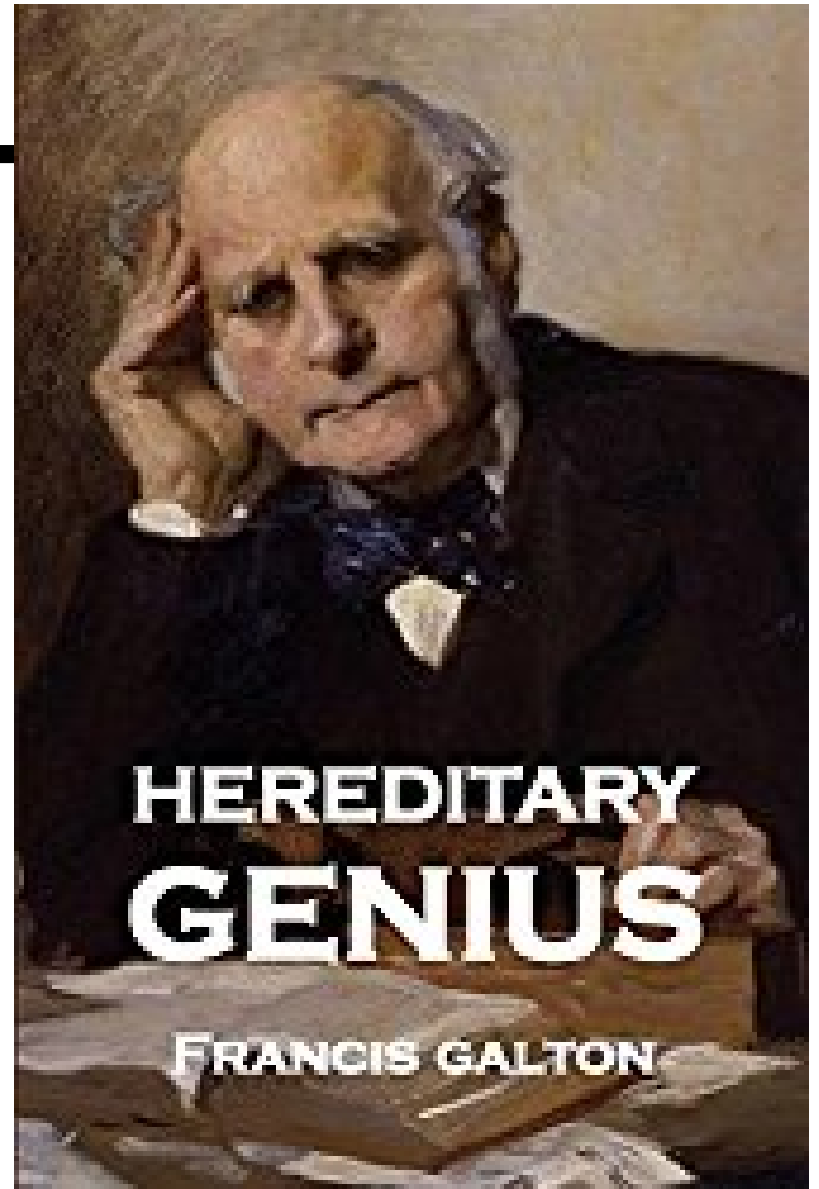
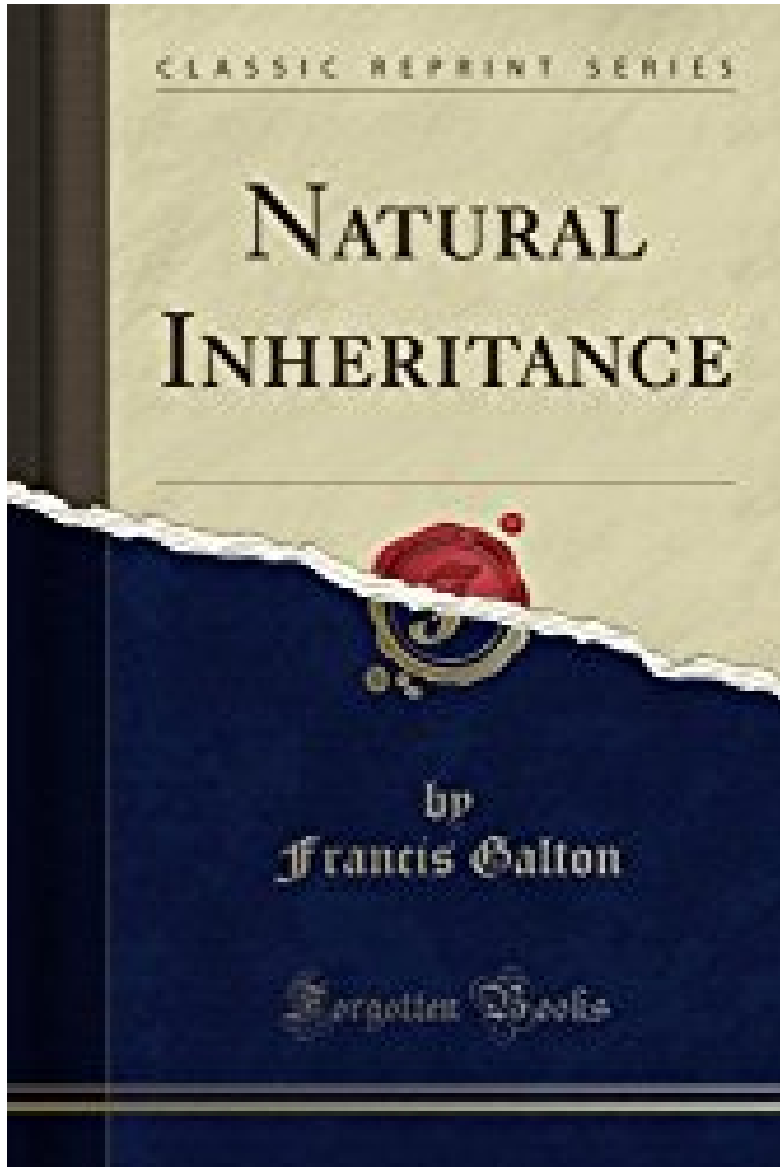
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Lewis Terman

Created Stanford-Binet

**Changed scoring:
mental / chron X 100;
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Eugenics advocate





CHICAGO, ILL., MONDAY, APRIL 6, 1917. PUBLISHED DAILY, EXCEPT SUNDAYS AND HOLIDAYS. PRICE: FIVE CENTS.

U. S. AT WAR: WILSON

**ABOUT SONGS
LATER, ADDED
U. S. STEAMER**

**WILSON'S MESSAGE
TO CONGRESS**



**BOTH HOUSES
FASTEN WORK
ON PROGRAM**

**WILSON'S MESSAGE
TO CONGRESS**

THE DECLARATION
President's Message to Congress
That German Submarines
are a Threat
to U. S. Shipping

**"WE MUST FIGHT FOR
JUSTICE AND RIGHTS"**
President Tells Joint Session of Congress
That German Submarines
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to U. S. Shipping



EIGHTH EDITION

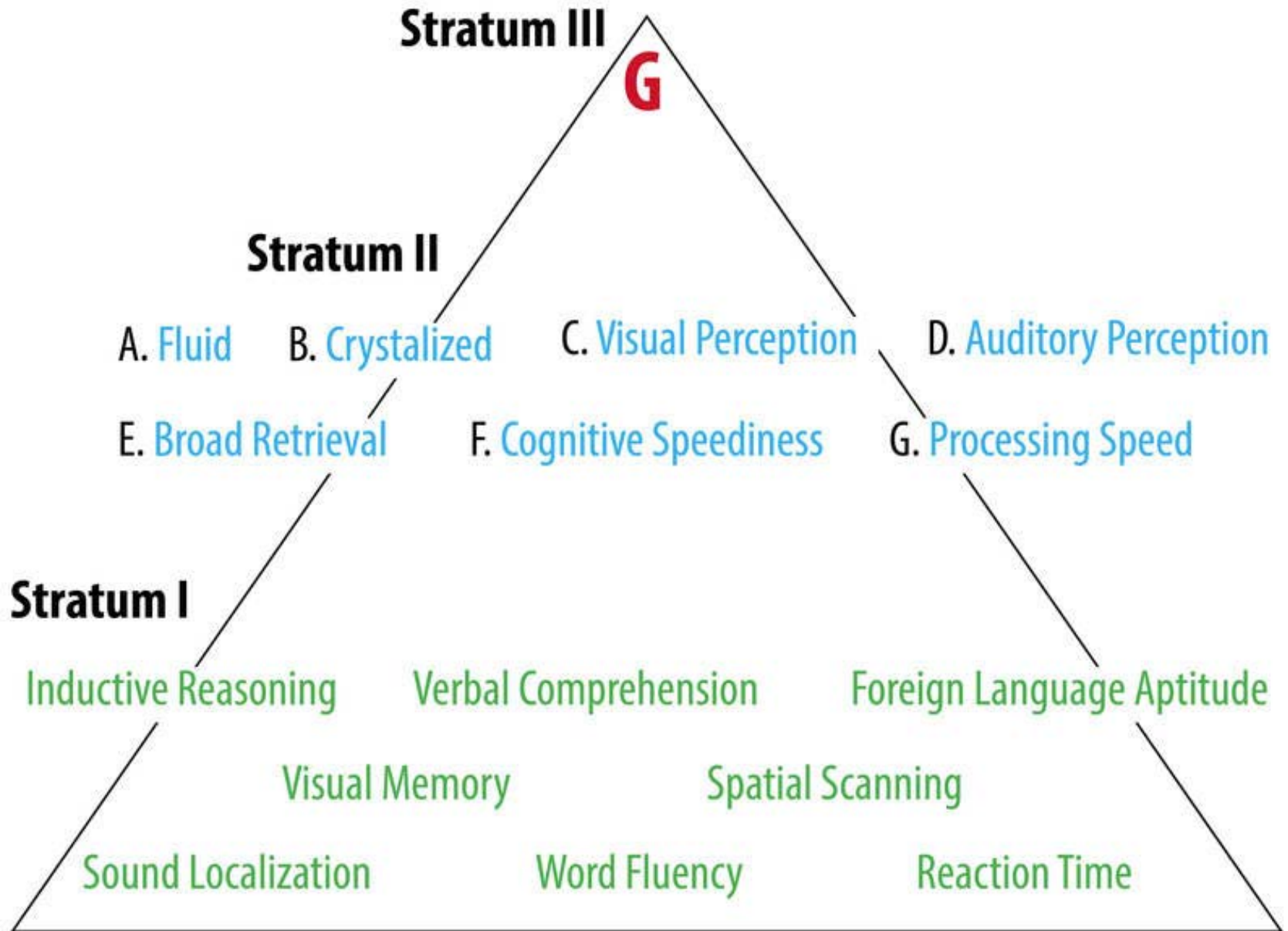
NEW YORK JOURNAL



EIGHTH EDITION

House by a Vote of 373 to 50 Passes Joint Resolution

WAR IS DECLARED BY U. S.



Nature vs. Nurture

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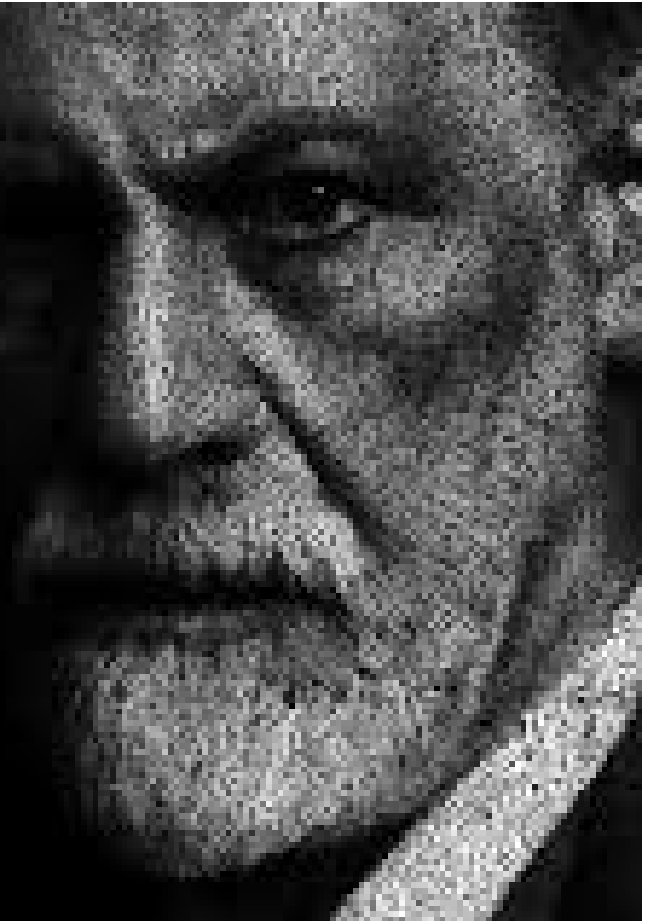
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"Our intellectual landscape has been disrupted by the equivalent of an earthquake."
—Mortimer Adler, *National Review*

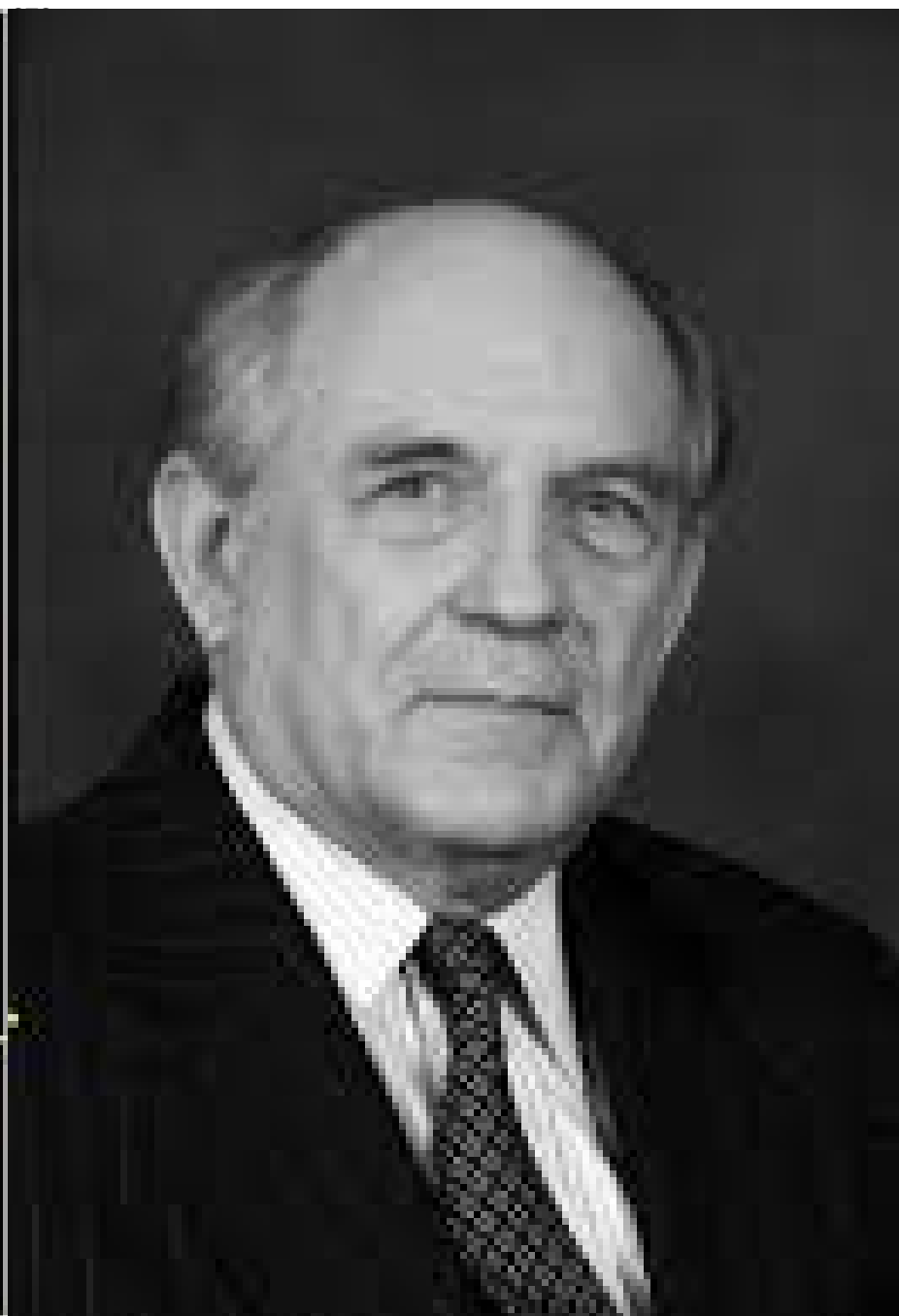
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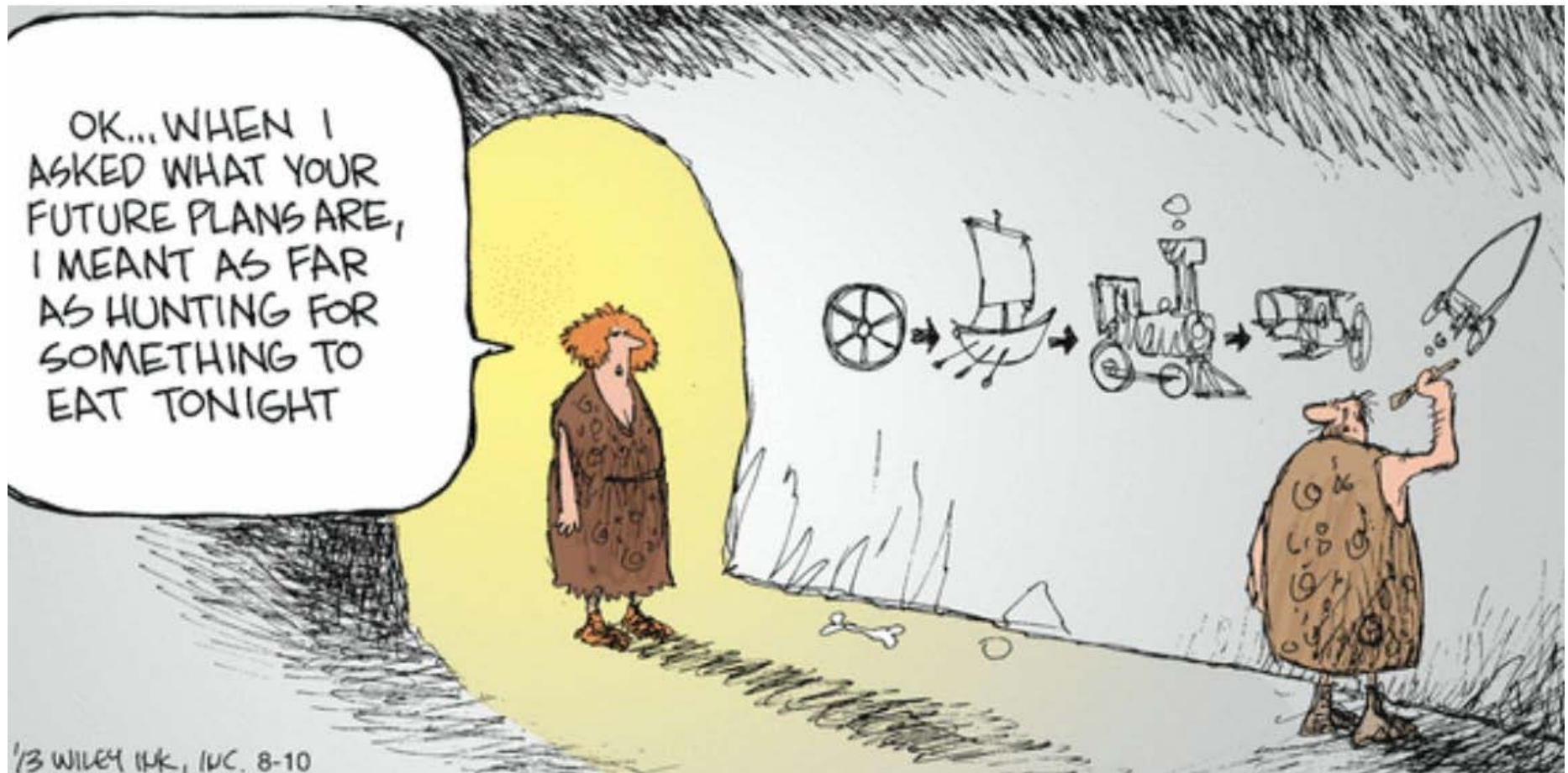
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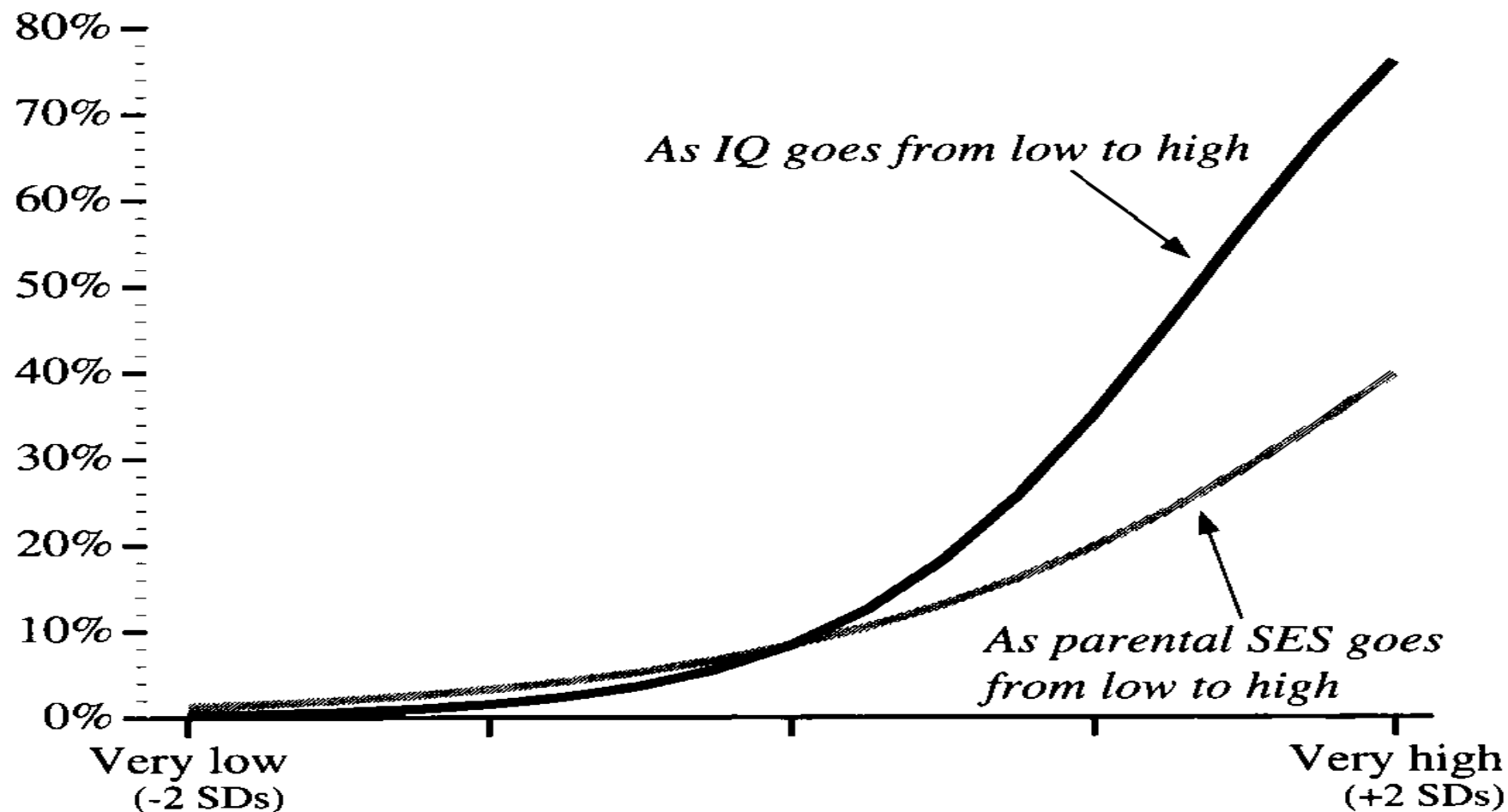
Future Plans....

Non-Sequitur / Wiley Miller



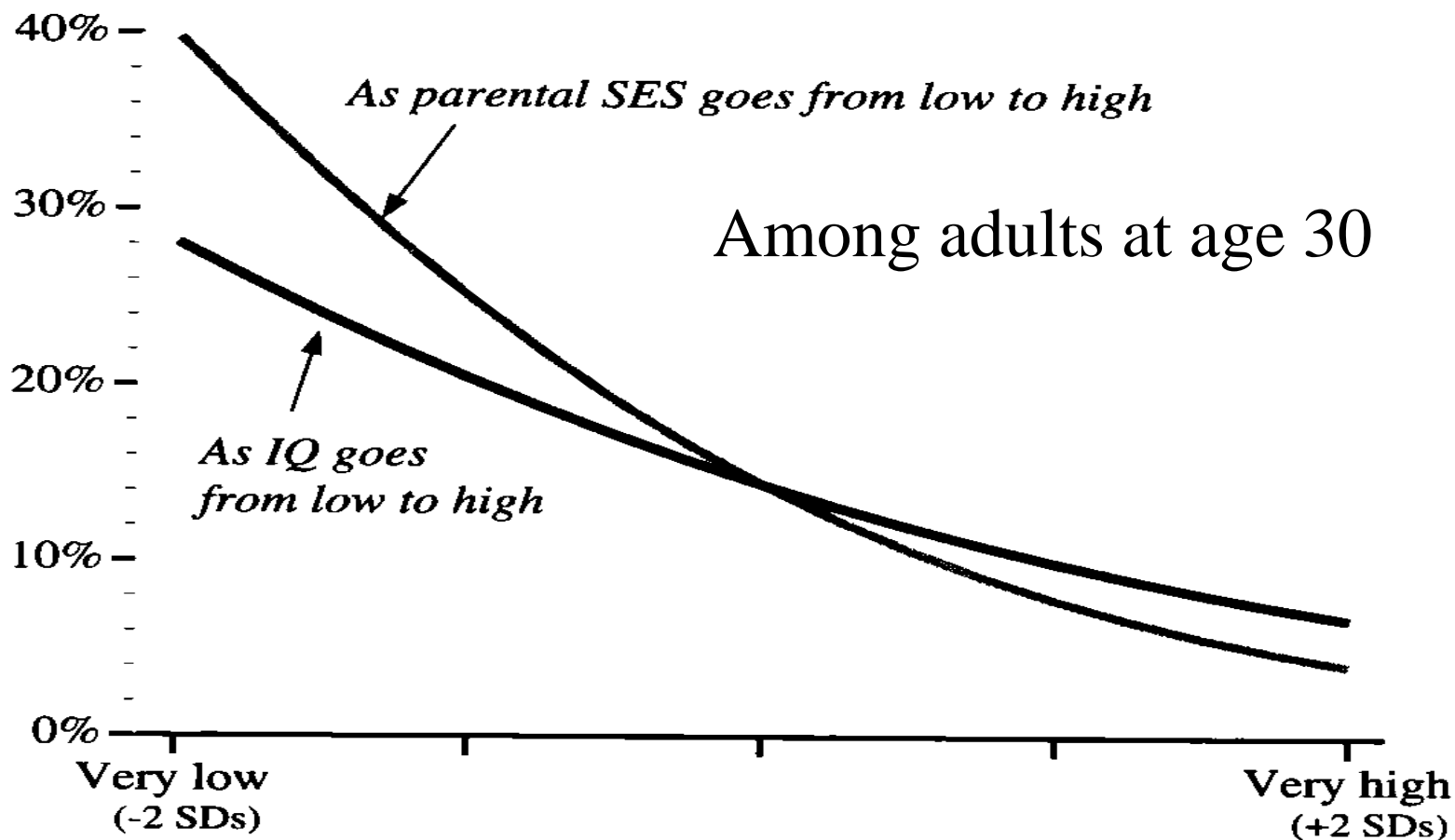
Bachelor's Degree: Both support; IQ Dominates.

Probability of getting a bachelor's degree



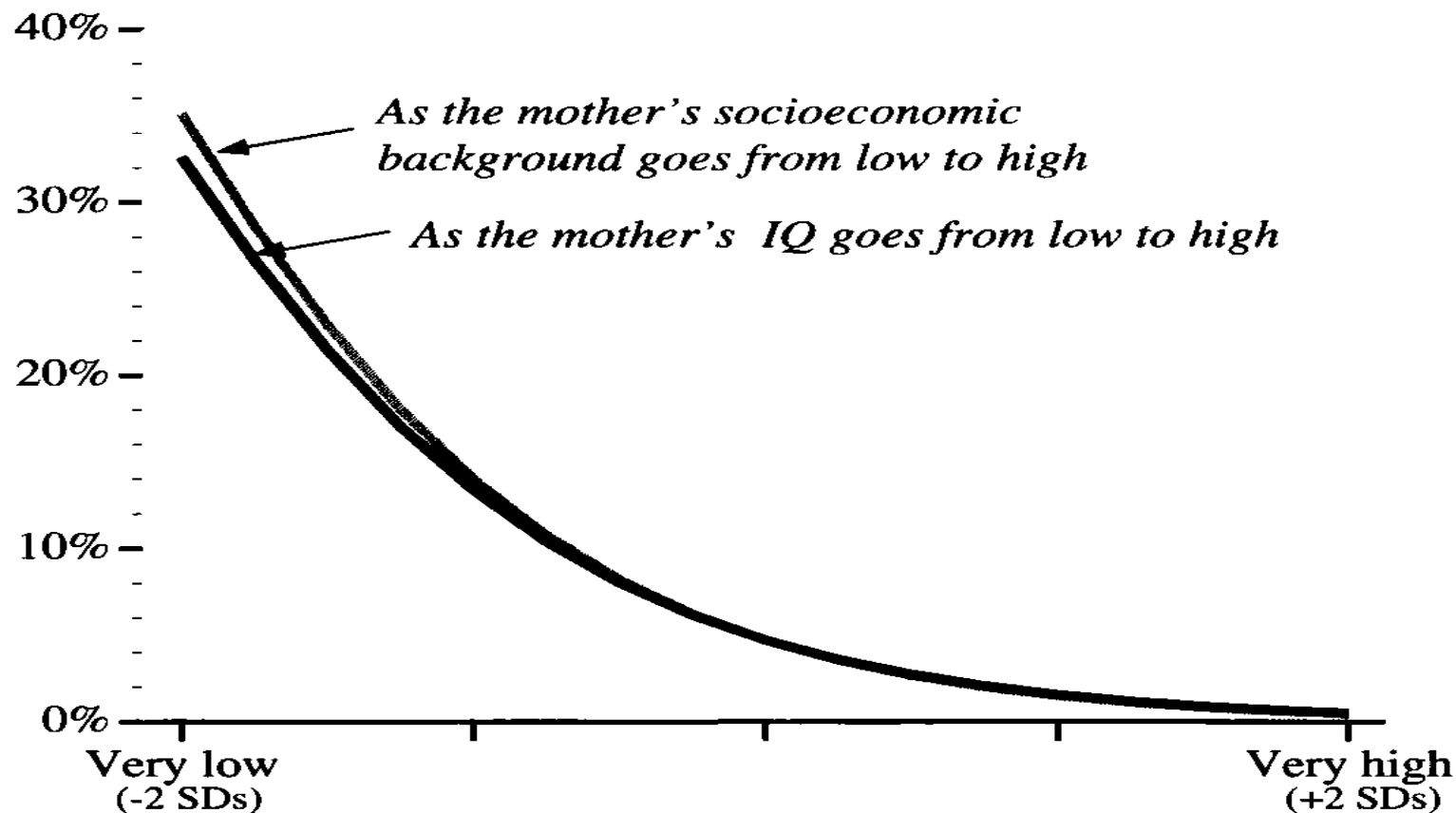
Chronic Welfare Recipient: Both Support; SES dominates.

Probability of being a chronic welfare recipient



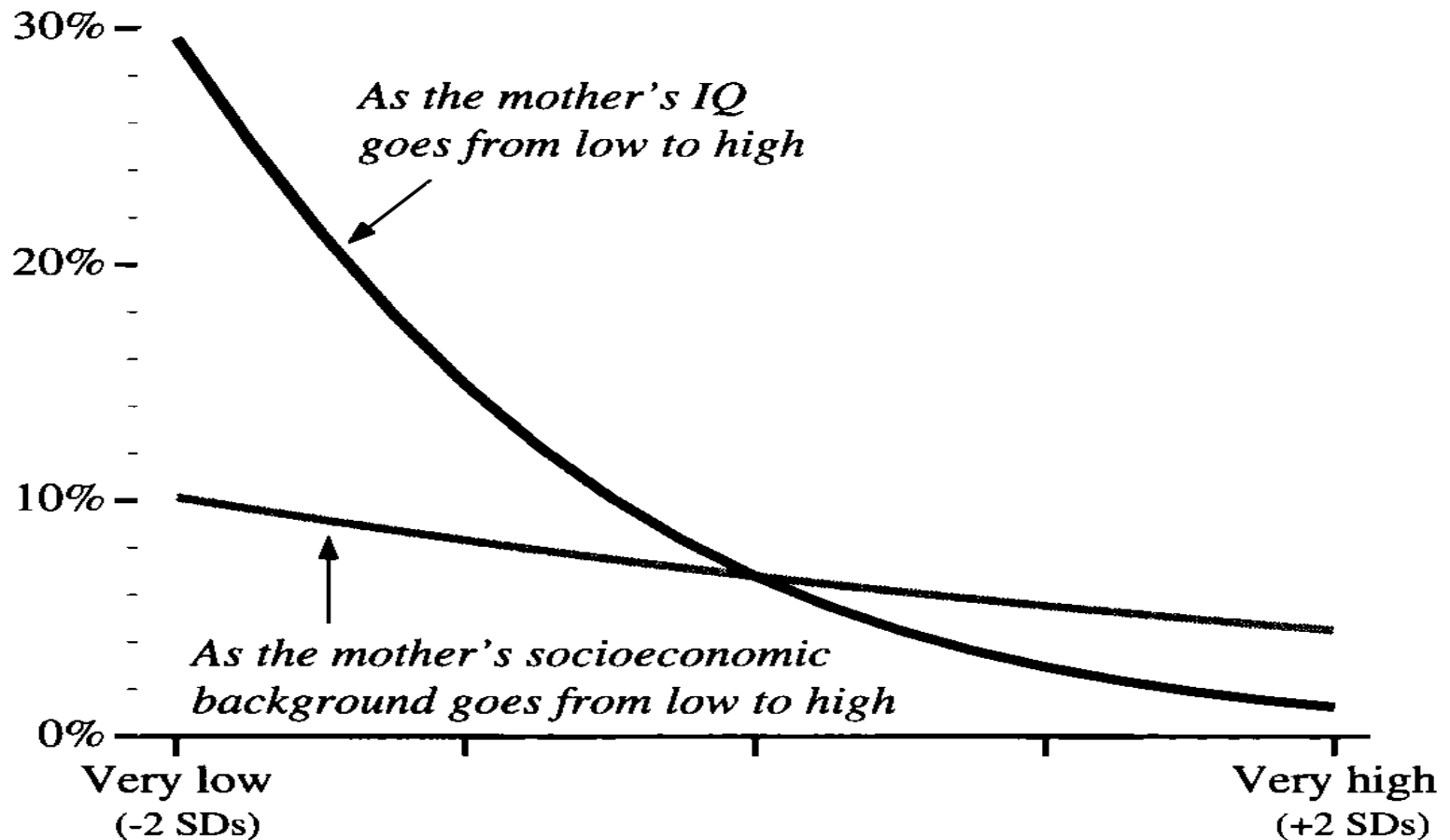
Child in poverty: Both Support. Max is 30%

Probability that a child will live in poverty throughout the first three years of life



Is Lowest IQ Inherited?

Probability of having a child in the bottom decile of IQ



THE
DIFFERENCE
BETWEEN A
SMALL BOY AND
A WALNUT?

ABOUT TWO IQ
POINTS.



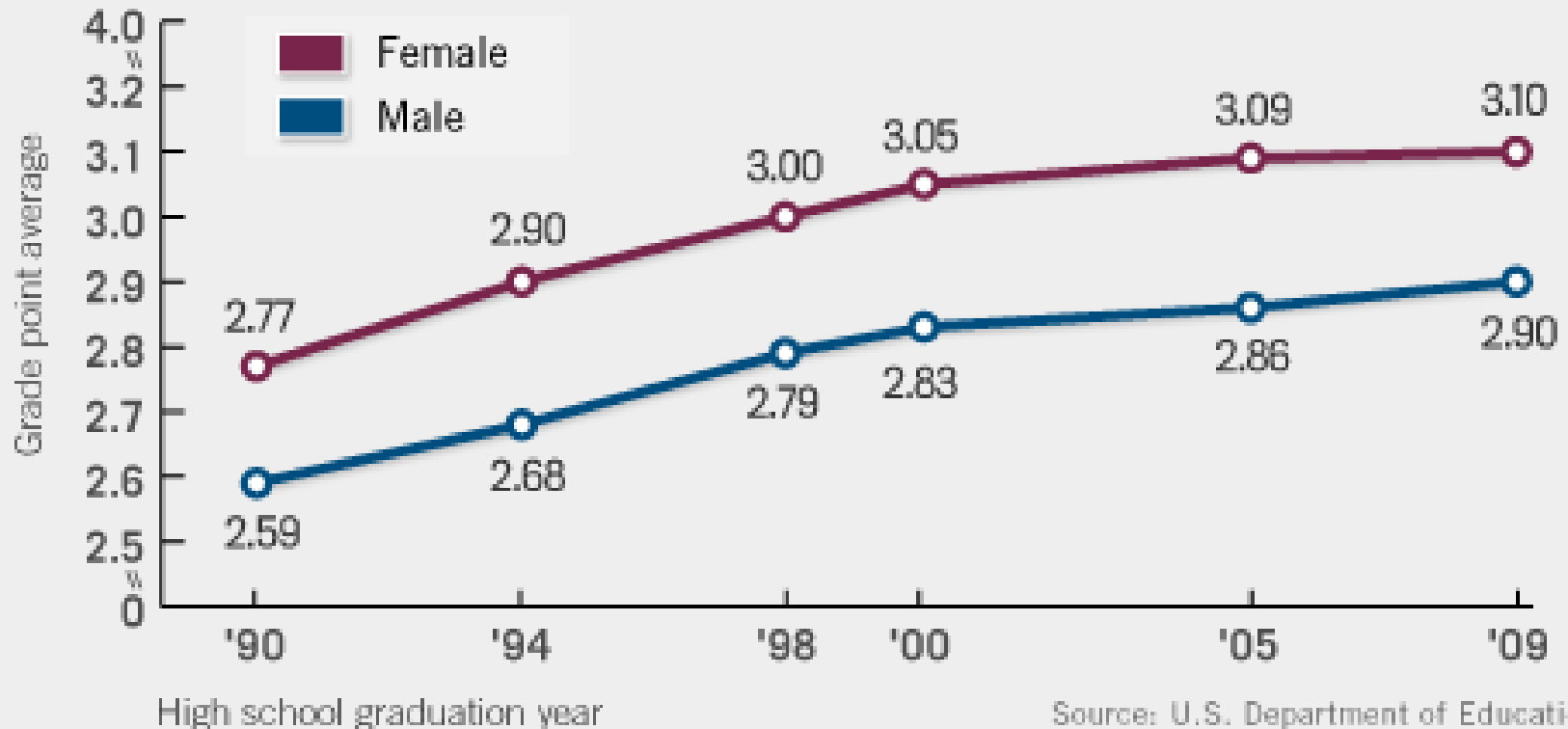
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Girls are smarter than boys: Higher grades in school

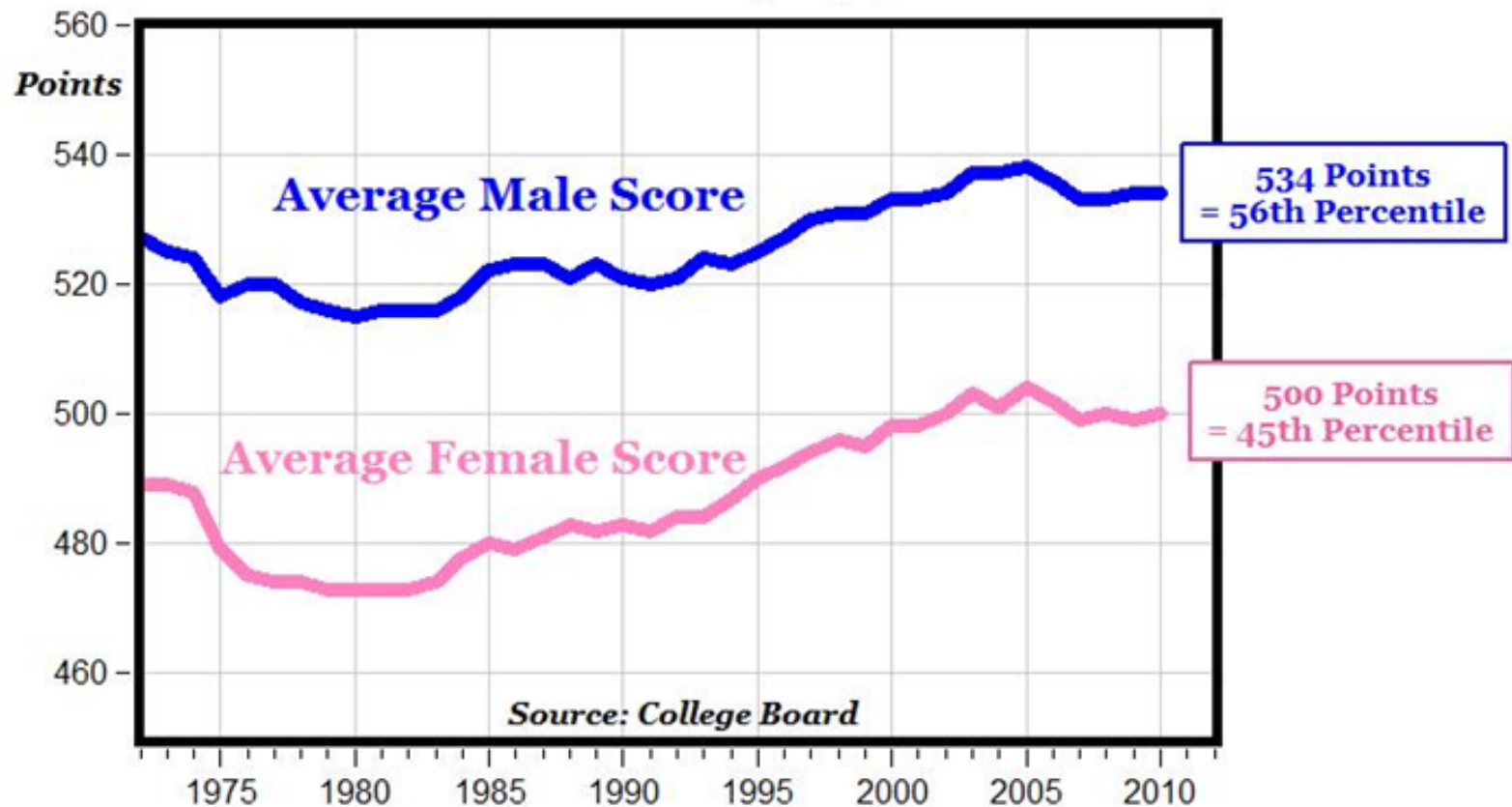
Raising the Grade

The mean grade point averages of male and female high school graduates since 1990:



Boys are smarter than girls: Higher Math SAT scores

SAT Mean Math Scores: Male vs. Female, 1972 - 2010



Two Explanations: Intelligence & Self Control

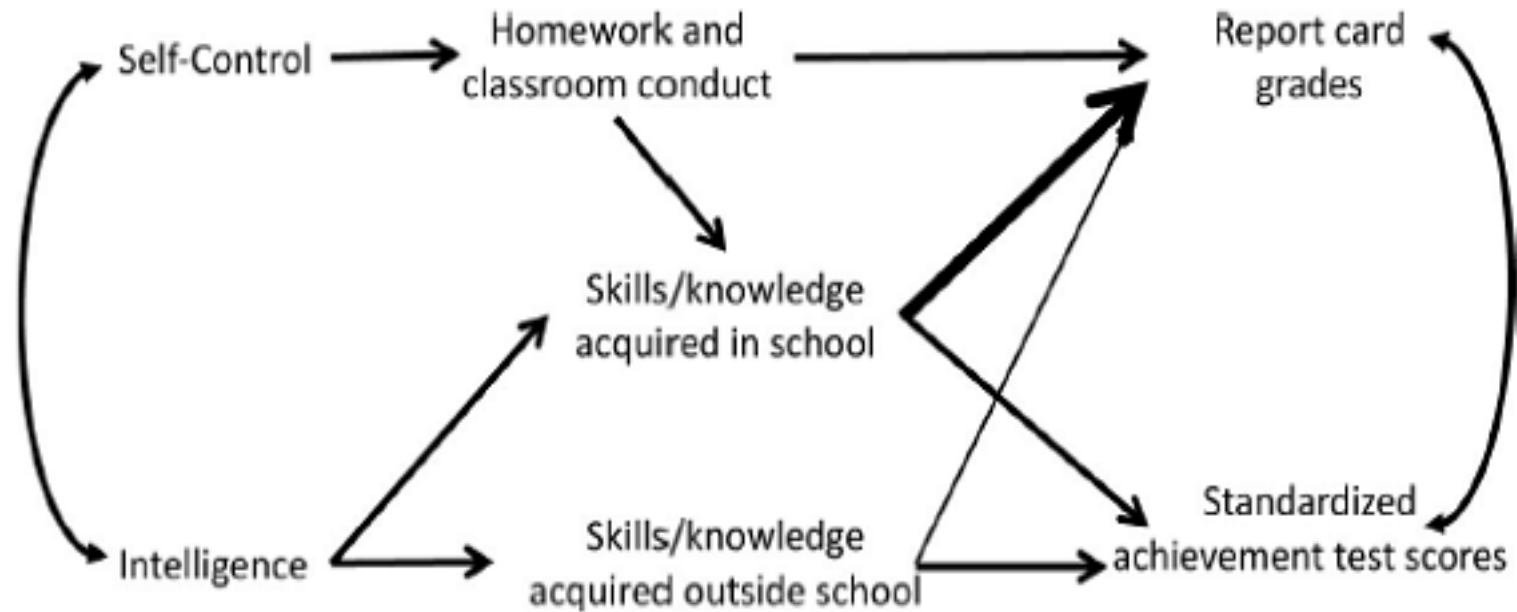
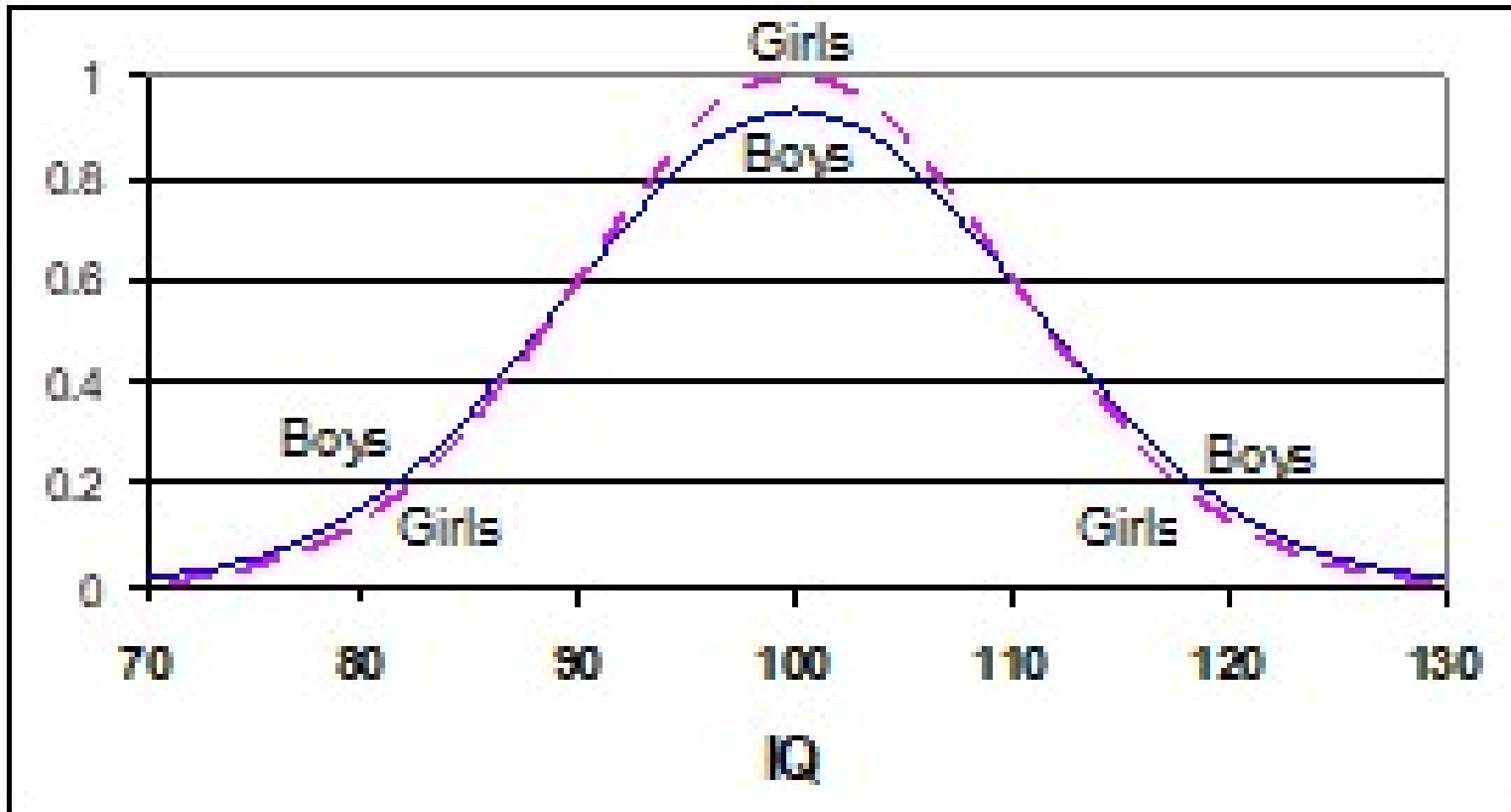
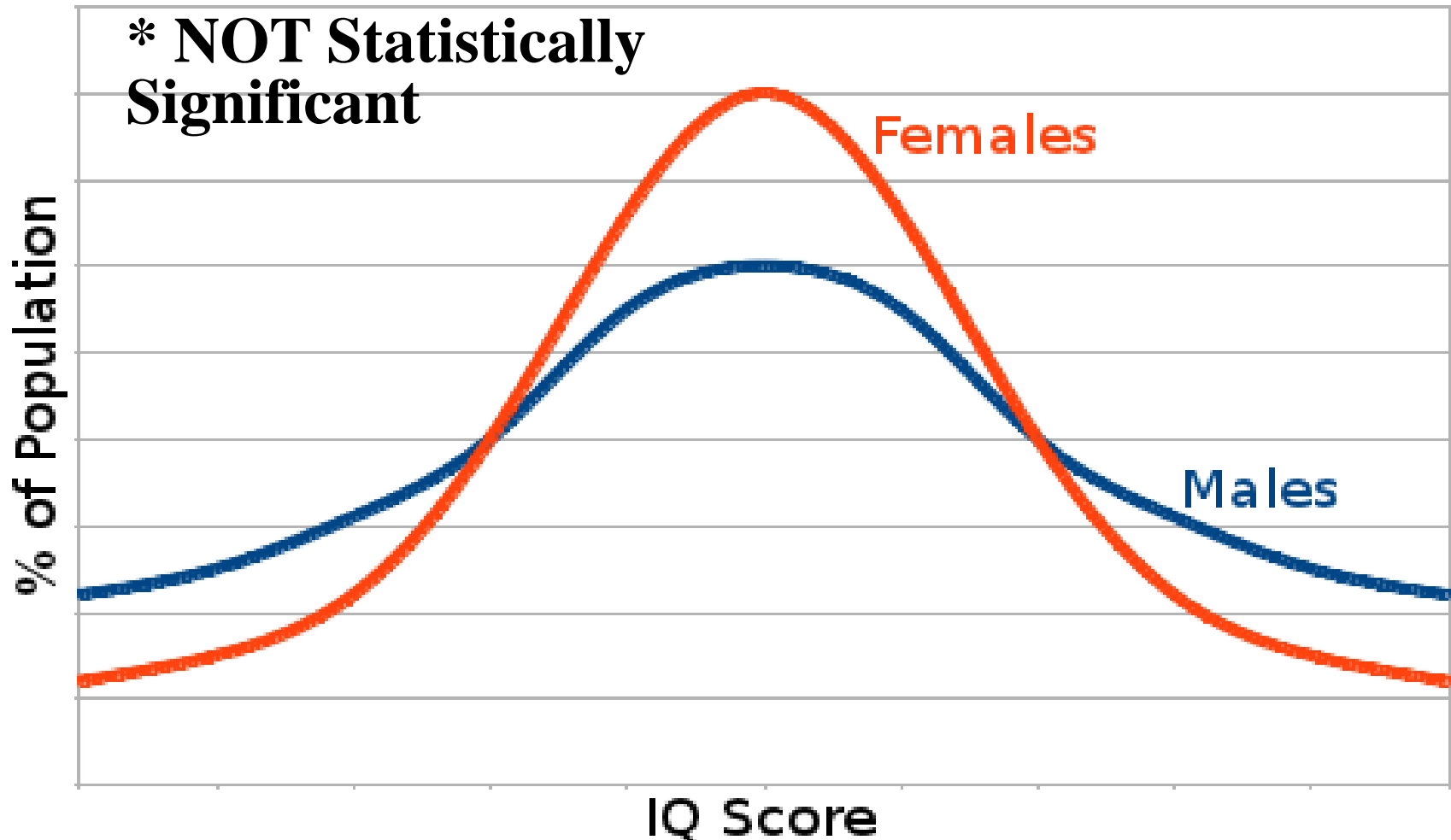


Figure 1. Theoretical model relating self-control and intelligence to competencies differentially related to report card grades and standardized achievement tests. The relative importance of competencies in determining report card grades and standardized achievement scores, respectively, is reflected by the width of corresponding arrows.

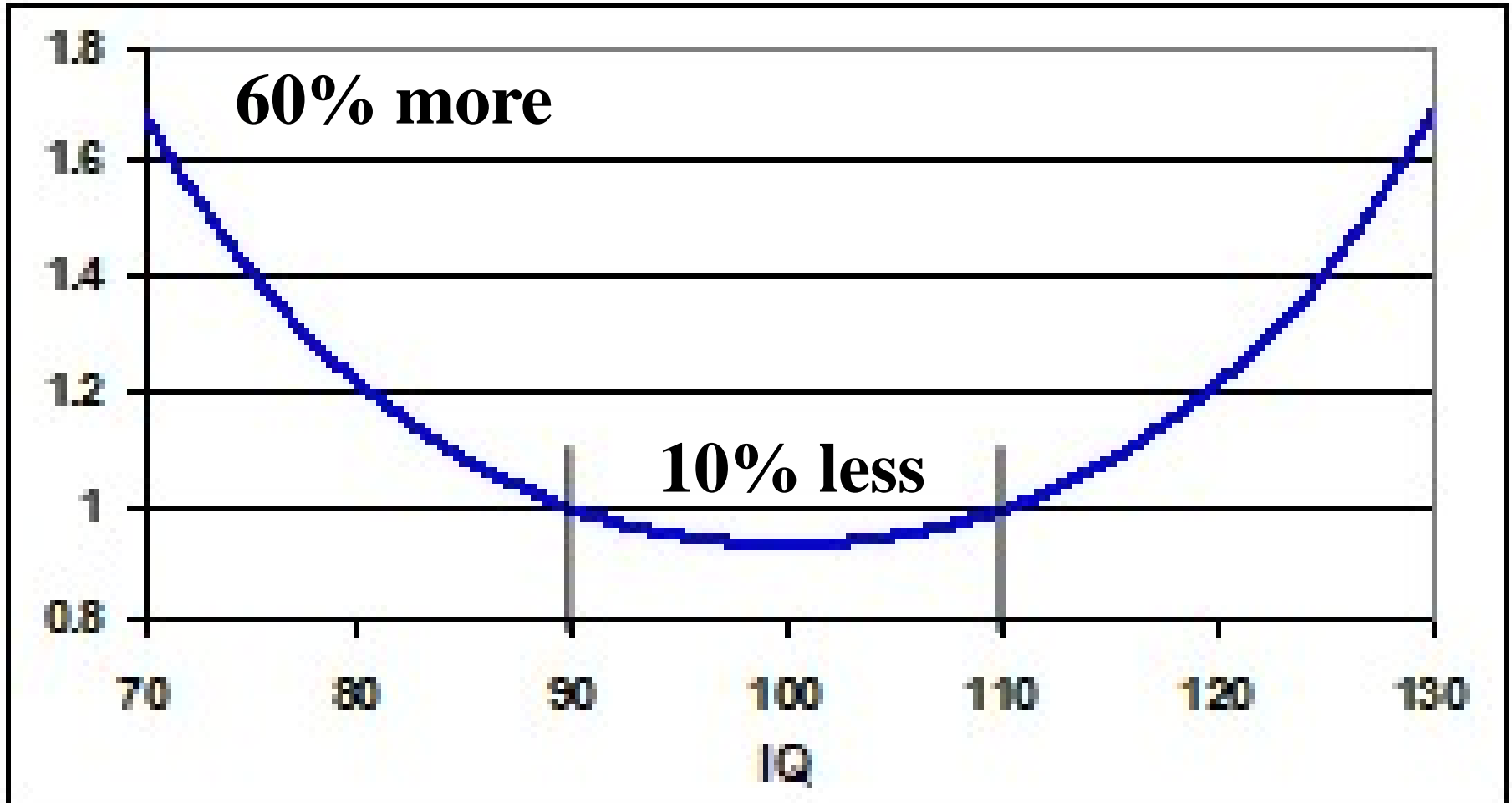
Scotland's Children's IQ: 80,000 at age 11 in 1932



M vs F: Mean, Std. Deviation. 100.64 vs 100.48*; 14.9 vs 14.1



Ratio of Boys to Girls



IQ and Crime

- There is an IQ gap of 8–10 points between criminals and noncriminals, even when statistically controlled for race and social class.
- IQ is not a very strong indicator of criminal behavior.
 - But, it does consistently predict

Guys dumber than gals?

Prison: Men 3 times as likely

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Mental retardation
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Conclusion #1: NO!

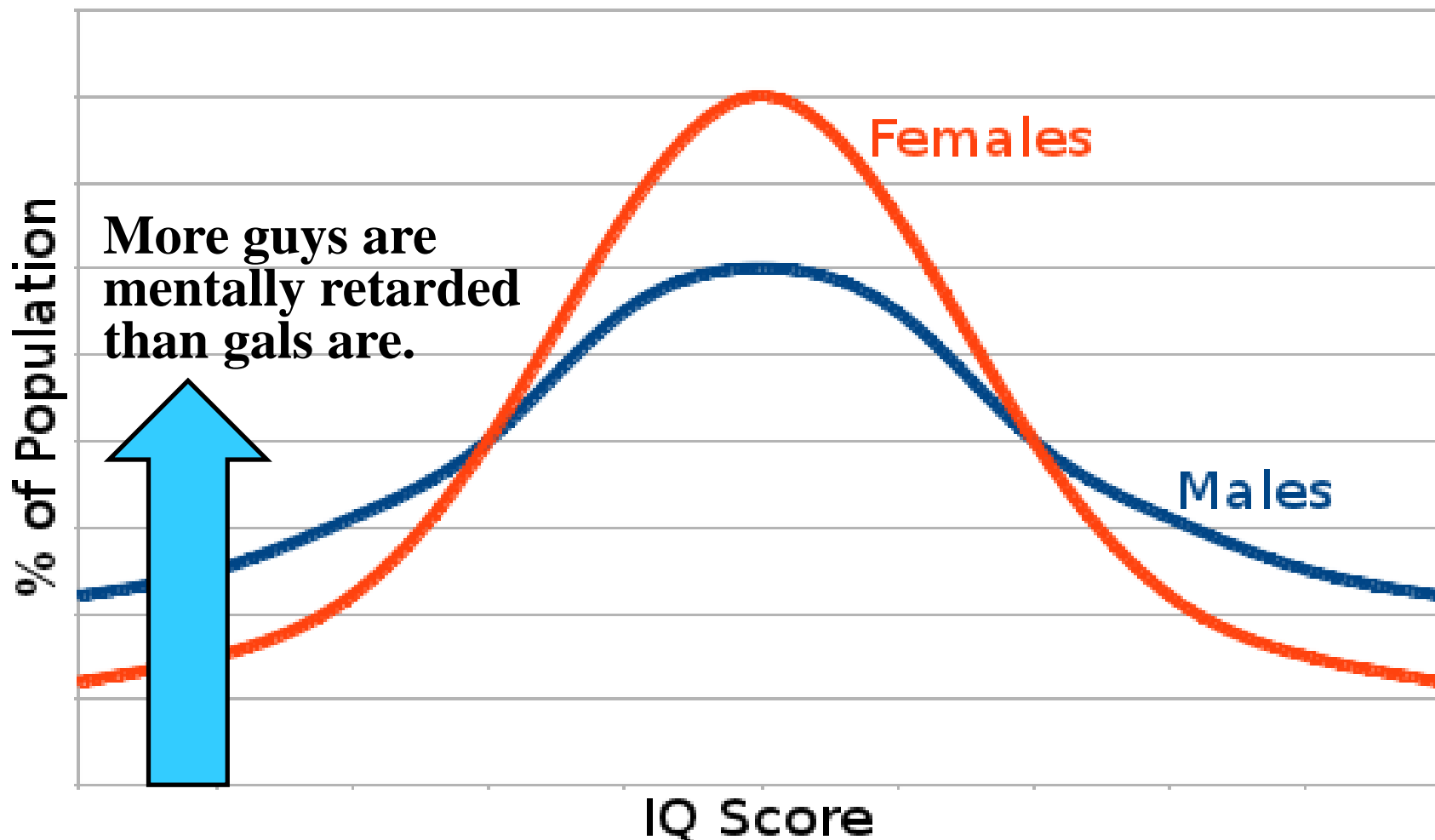
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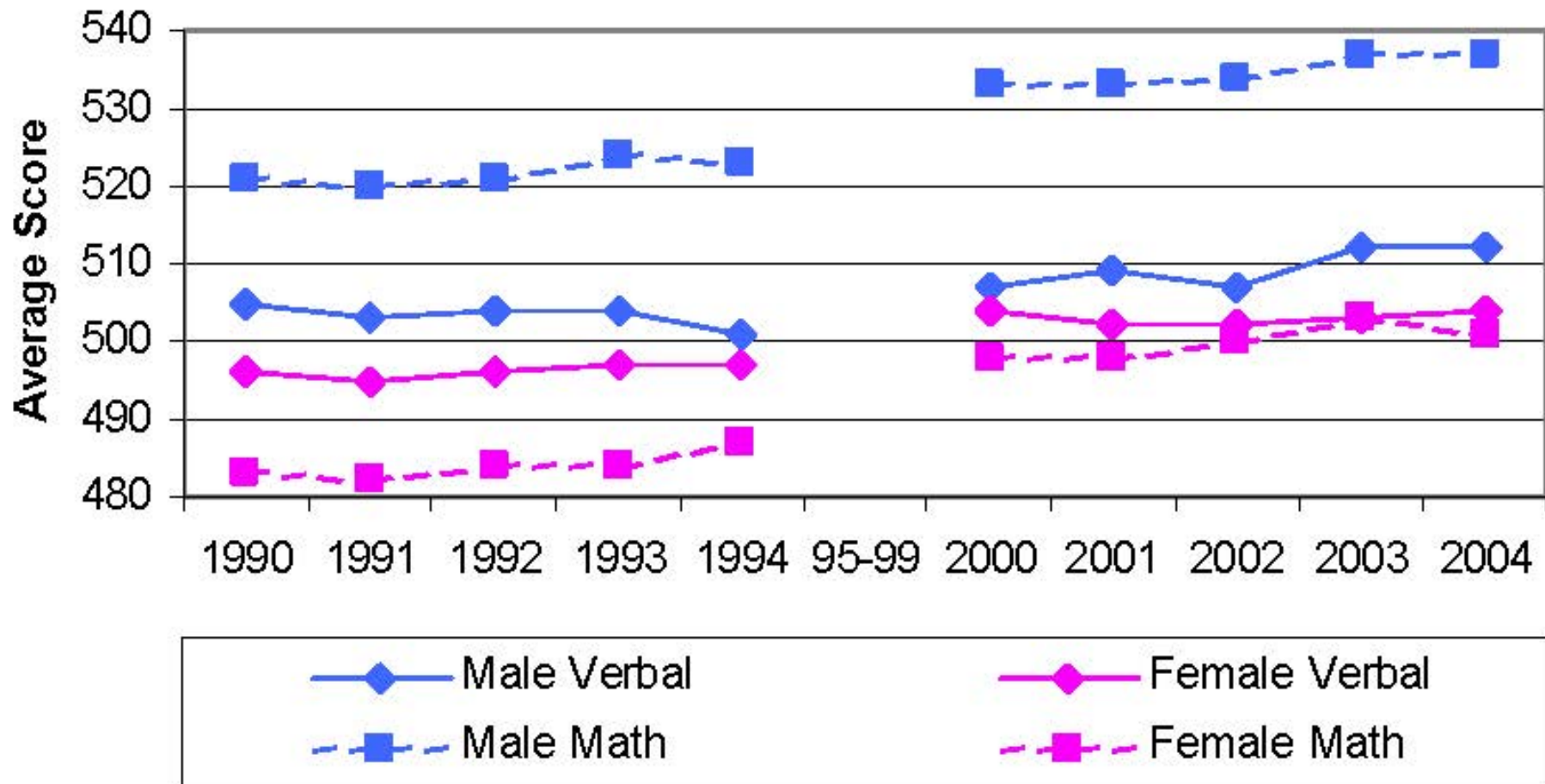
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More males at the extremes: More guys mentally retarded



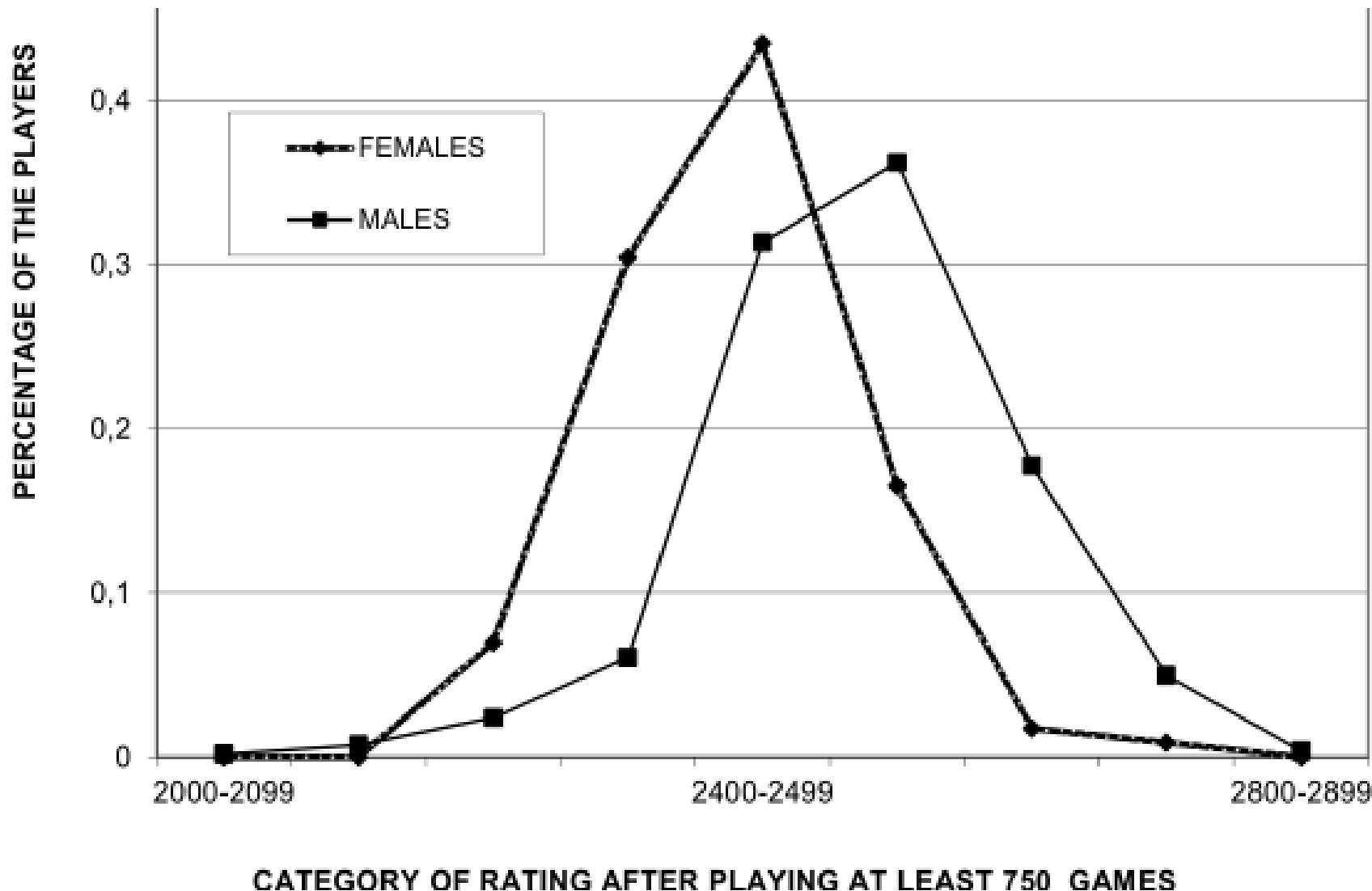
Guys smarter than gals?

SATs: Guys higher than gals



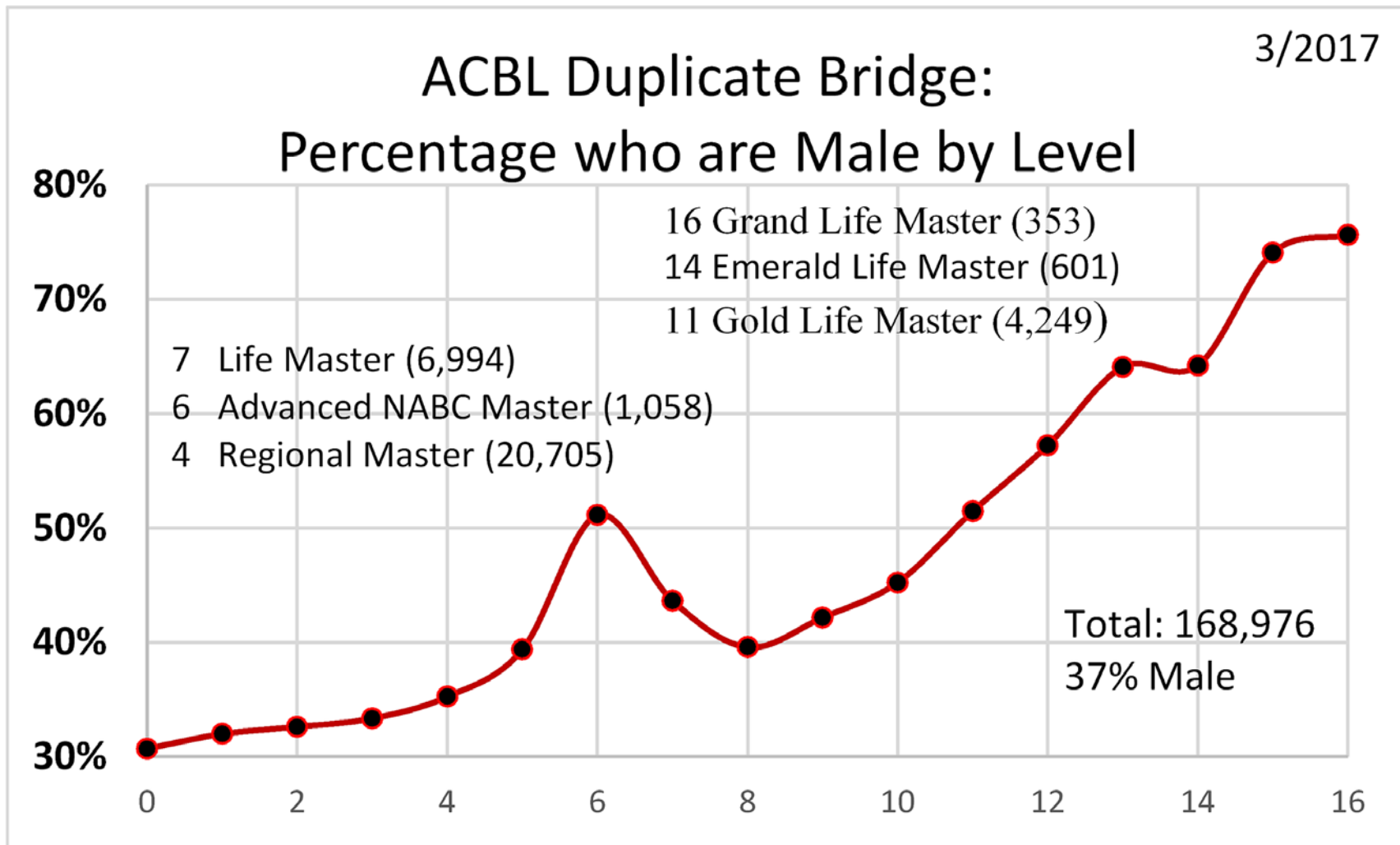
Guys smarter than Gals?

Men: higher chess ratings



Guys smarter than Gals?

Men: Higher bridge scores

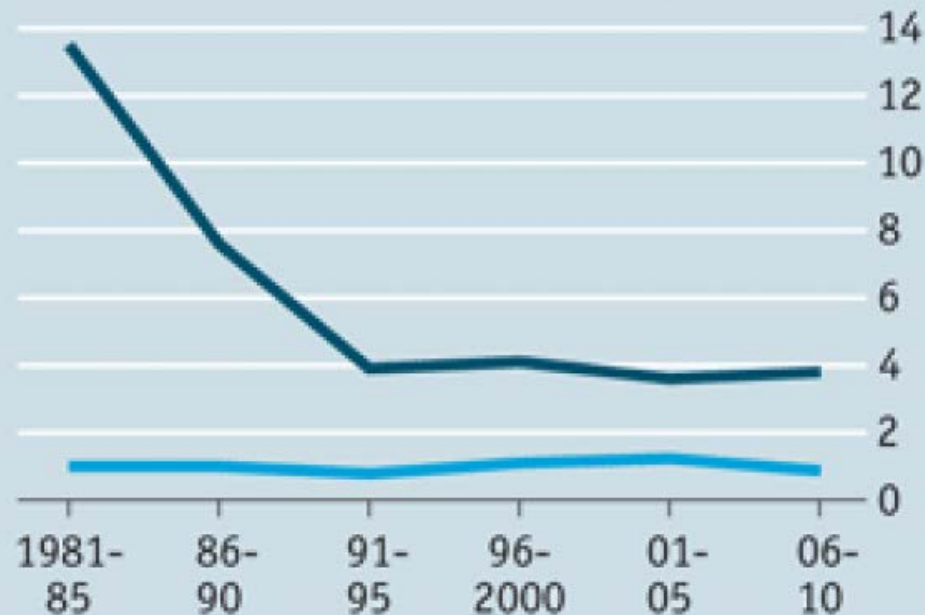


Guys smarter than Gals? More Men in top Math SATs

Parity postponed

Number of males per female
Top 0.01% of American SAT scores

— Maths — Verbal reasoning



Source: Jonathan Wai

Guys smarter than Gals? Conclusion? NO!

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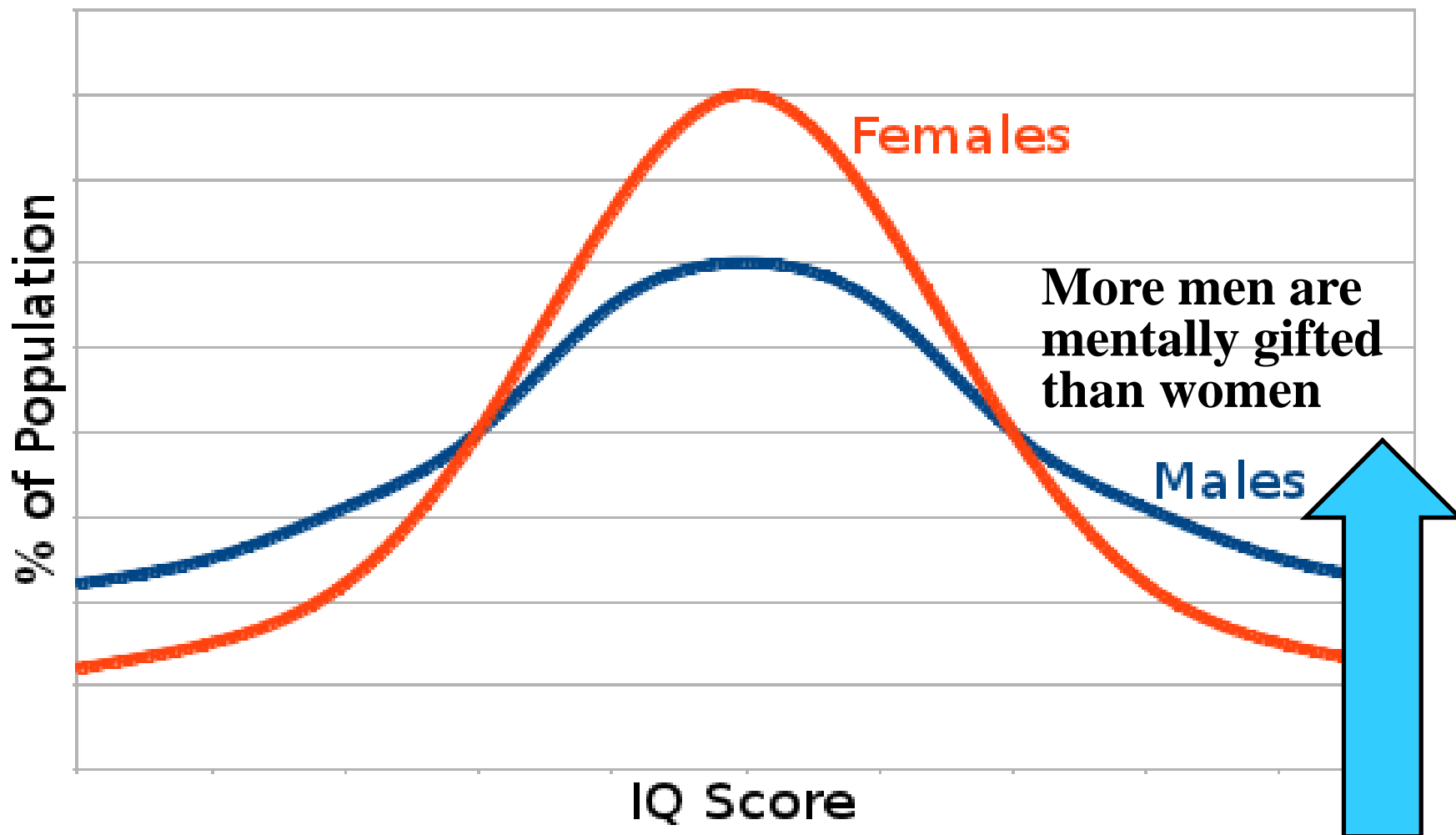
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Men 4 times as prevalent in top 0.01% of SAT Math

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2. More men at the extremes? **YES!**

Selection Bias: Selecting just the top end

More males at the extremes: More gifted guys than gals



Conclusion #3

Differences due to Selection Bias

More men at IQ extremes + selection bias explain:

BOTTOM END:

Mentally retarded: 50% more male than female

TOP END:

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M vs F: Same IQ on average; More men at the IQ extremes

