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Reassessment of Jewish Cognitive Ability: Within Group Analyses Based on Parental Fluency in Hebrew or Yiddish

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Abstract

The most influential study on the differences in intellectual ability between Jews and gentiles may be Backman's (1972) analysis of group differences in intellectual ability using the Project Talent data. However, inspection of the study, and the Project Talent data file on which the study is based, suggested that further analyses could be conducted that may be useful in shedding light on Jewish intellectual achievement. The most significant change from the original analysis was the use of parental fluency in Hebrew or Yiddish as a variable allowing for within group analyses. Analyses using this variable showed that as fluency increased so did general intelligence and scores on individual tests, with the exception of tests of spatial visualization and mechanical reasoning. For other European languages parental fluency was inversely associated with general intelligence. Results also showed that rates of myopia were positively associated with parental fluency in Hebrew or Yiddish, yet negatively associated with parental fluency in other European languages. General intelligence and individual test scores, with the exceptions of tests of spatial visualization and mechanical reasoning, were higher in individuals with myopia; for both Jews and gentiles. The results suggest that parental fluency in Hebrew or Yiddish is a valid measure Jewish within group differences and further research using the measure and the Project Talent data file is prescribed.

Key words: Jewish, intelligence, Hebrew, Yiddish, myopia

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1 Introduction

1.1 Rationale for Reanalysis of Backman (1972)

When accounting for human intellectual achievement, it has often been noted (e.g., Murray, 2003) that Ashkenazi Jews are represented well in disproportion to the size of their population. This success is often attributed to Jews higher levels of general intelligence (*g*) in comparison to gentiles. The Jewish advantage in *g* has been estimated to be between one-half to a full standard deviation higher than white gentiles, with an estimated IQ ranging between 107 and 115 (Lynn, 2004; Lynn & Kanazawa, 2008; Lynn & Longley, 2006). However, as mentioned by Lynn (p. 203; 2004):

> There is only one study of the intelligence of American Jews in the last half century which appears to be representative and had a reasonable sample size. This is Backman's (1972) analysis of the data in Project Talent, a nationwide American survey of the abilities of 18 year olds carried out in 1960.

Thus the findings of Backman (1972) loom large in the assessment of Jewish cognitive ability.

As stated in the quote by Lynn (2004), Backman (1972) analyzed data from Project Talent, which was a nationwide survey of multiple aspects of America's youth including cognitive ability. However, unlike the quote implies Project Talent was not a nationwide survey of the abilities of 18 year olds. Project Talent was a nationwide survey of high school students; grades nine through 12. Inexplicably Backman (1972) only analyzed the data from the twelfth graders. Thus, roughly three quarters of the potential sample was not included. Backman (1972) further culled the sample to make the groups more equivalent in size and composition by both removing white non-Jewish participants and participants at the low or high end of socioeconomic status.

Backman (1972) also did not measure what is properly understood as *g*. She factor analyzed 60 tests, the number of which and description of the procedures in the codebook suggests a large number were tests of knowledge on specific topics (e.g., photography). Eleven factors emerged of which six were used for further analysis. The factors used for further analysis were labeled verbal knowledge, English language, mathematics, visual reasoning, perceptual speed and accuracy, and memory. The factors not further analyzed included knowledge of hunting-fishing, color-foods, etiquette, and games and a factor called screening which identified illiterate and uncooperative participants.

In comparing gentile and Jewish Whites, Backman (1972) found Jewish Whites scored higher in verbal knowledge and mathematics, but lower in visual reasoning and memory. The finding that Jews have higher *g* is often qualified by the findings of more specific abilities in which it appears Jews score especially high on verbal and mathematical tests, roughly equivalent on memory tests, and below average on mental rotation (Cochran, Hardy, & Harpending, 2006;

Lynn, 2004). Thus Backman's (1972) findings were consistent with the findings of these other studies. But, given the manner in which the sample was determined and the data analyzed it is thought that further elucidation may be achieved by a more extensive analysis. Thus one impetus for the current investigation was to reanalyze the Project Talent data using a larger sample and including analyses at a more molecular (i.e., individual tests) and molar (i.e., *g*) levels.

1.2 Within Group Analyses and the Possible Role of Myopia

The most complete cataloging of formalized assessment of Jewish intellectual abilities is found in Lynn's 2011 book *The Chosen People: A Study of Jewish Intelligence and Achievement*. The majority of chapters in the book focus on evidence for Jewish intellectual ability gathered from around the world. But the last chapter (20), prior to the concluding chapter, is devoted to laying out the possible causes of the unique Jewish cognitive profile. Lynn (2011) believes that the differences are primarily the result of genetics, as opposed to culture, and proffers five bits of evidence to support his position. The fifth line of evidence is that myopia (i.e., near-sightedness) is more prevalent in Jews and that myopia is also associated with intelligence (Saw et al., 2004) due to pleiotropic genes (Miller, 1992, Cohn, Cohn, & Jensen, 1988); genes that have the effect of increasing intelligence, but also limit ability to see objects at a distance. In fact, Lynn (2011; p. 325) writes, "It would be useful and interesting to know whether the association between myopia and intelligence is present within Jewish populations…"

This statement by Lynn (2011), gives further direction for a reanalysis of the Project Talent data. First, Lynn (2011) suggests that a within group analysis may be especially interesting. In the base year Project Talent data collection, participants were asked a series of questions concerning their parent's level of fluency in a number of different languages (described in greater detail in the Method section), including Hebrew or Yiddish. This item allows for within group analyses based on the parents' level of fluency. Differences in parental fluency in Hebrew or Yiddish could mark within group differences in Jewishness (either due to cultural identification and parental enculturation of their child and/or possibly outbreeding with gentiles). If being Jewish is associated with higher levels of *g*, then the level of parental fluency could also be positively associated with *g*. Likewise if a Jewish cognitive profile includes especially higher scores on verbal and mathematics tests and lower scores on tests of mental rotation or visual reasoning, then it is expected that parental fluency would be positively correlated with verbal and mathematics scores, but negatively correlated with mental rotation and visual reasoning.

Additionally, because the question of fluency was posed to participants for several languages additional hypotheses can be tested. For example, if the hypothesized effects are simply a function of exposure to a foreign language then the predicted trend would be independent of the language spoken. If, however, the expected results are specific to Hebrew and Yiddish (i.e., Jewishness) then it is expected that the trends would only be seen within the Jewish group.

Project Talent also has an item measuring myopia. If parental fluency in Hebrew or Yiddish reflects the degree of outbreeding and myopia is a genetic cause of differential Jewish cognitive ability then it stands that myopia should vary by the level of parental fluency in Hebrew or Yiddish. More fluent parents should produce children with greater likelihood of myopia. Two additional predictions follow that buttress this prediction. First, if myopia is associated with intelligence the opposite trend between parental language fluency and myopia should be found in the other languages because parental fluency was more often inversely associated with *g*. Second, the cognitive profile specific to Jews should be reflected by individuals with myopia. Individuals with myopia should have higher *g*, especially strong verbal and mathematical scores, but very importantly they should also have lower scores on the tests of mental rotation and visual reasoning. If this is found it may be helpful in understanding the cognitive architecture associated with myopia.

2 Method

2.1 Participants

Project Talent is a longitudinal study that began in 1960. The base year data from 1960 was used in the current investigation (American Institutes for Research. Project Talent, Base Year Data, 1960). The sample was representative of high school students, grades 9 through twelve, with over 440,000 participants completing two full days or four half days of testing. Flanagan and colleagues (1962) provide a full description of the procedures and test construction.

Following Backman (1972), analyses were conducted on a subsample self-identified as White. This selection of cases resulted in additional reductions to the sample because the question concerning race was not included until five years after collection of the base year data, but was retroactively included in the base year data. The reliance of longitudinal data for racial classification also caused the data to have a positive skew because intelligence has been found to be negatively associated with attrition (Beaver, 2013). The total sample of self-identified White participants was 147,355 (73,834 male).

2.2 Between and Within Group Classification

Included in the Project Talent base year data were questions concerning the degree to which the participant's parents were fluent in particular languages. The European languages were German, French, Spanish or Portuguese, Italian, Russian or Slavic, Scandinavian, and Hebrew or Yiddish. Response to the question, "How well does either of your parents speak each of the following languages? Mark your answers as follows: (1) doesn't speak this language; (2) rather poorly, (3) not very well, (4) fairly well, (5) fluently, (6) very fluently." The answer to this question of parental fluency in Hebrew or Yiddish was used to classify participants as Jewish or gentile. Participants whose answer was doesn't speak this language were classified as gentile while participants whose responses ranged from rather poorly to very fluently were categorized as Jewish.

2.3 Cognitive Ability and Myopia

Sixteen tests of cognitive ability were administered to participants. The scores from the full base year sample on the sixteen tests were submitted to an Exploratory Factor Analysis using Principal Axis Factoring. The first unrotated factor, with an Eigenvalue of 7.71 and accounting for 48.19% of the variance among scales, was used to compute *g* (factor loadings for the cognitive tests can be seen in Table 2).

Myopia was measured dichotomously. Participants responded "yes" or "no" to the question, "Do you have trouble with distance vision?" A little over a quarter (28.40%) of the sample responded "yes" to the question.

3 Results

3.1 Analyses of Cognitive Ability

The means and standard deviations for *g* by parental fluency for seven European languages are presented in Table 1. Pearson product-moment and Spearman rank order correlations for the relationship between parental fluency and *g* were calculated. Only in the case of parental fluency in Hebrew or Yiddish was the association between parental fluency and *g* found to be positive; although not significant in the case of the rank order correlation. If one assumes that the data is interval, the correlation between parental fluency in Hebrew or Yiddish and *g* was, r (10,578) = .10. The relationship between parental fluency in Russian or Slavic and *g* was close to zero, the relationship between parental fluency in a Scandinavian language and g trended negative (but was not significant), and for German, French, and Spanish the trend was significantly negative.

Table 1

Means and Standard Deviations for g by Language and Level of Fluency in the Participant's Parents

		Parent's Fluency in Given Language						
		Rather Poorly	Not Very Well	Fairly Well	Fluently	Very Fluently	ρ	r
Hebrew or Yiddish	(n = 11,137)	.34 (1.06)	.27 (1.14)	.45 (1.06)	.61 (1.00)	.58 (.90)	.80	.88*
German	(n = 33,253)	.64 (.88)	.58 (.93)	.54 (.93)	.45 (.95)	.34 (.93)	-1	-.98*
French	(n = 30,779)	.75 (.88)	.71 (.92)	.67 (.90)	.49 (.98)	.26 (.95)	-1	-.94*
Spanish/Portuguese	(n = 19.066)	.65 (.90)	.60 (.93)	.51 (.94)	.33 (1.01)	.14 (.97)	-1	-.97*
Italian	(n = 15,569)	.39 (.95)	.25 (1.01)	.20 (.97)	.20 (.93)	.12 (.88)	-.98*	-.93*
Russian or Slavic	(n = 10,553)	.49 (.99)	.28 (1.07)	.34 (.97)	.43 (1.02)	.44 (.91)	.00	.09
Scandinavian	(n = 9,639)	.42 (.96)	.24 (1.04)	.33 (.99)	.27 (1.04)	.29 (.98)	-.30	-.52

Note.* $p < .05$. Standard deviations are in parentheses. For the full White only sample, $M = .40$, $SD = .88$.

Recently, te Nijenhuis, David, Metzen, and Armstrong (2014) found a Jensen Effect between Jewish and non-Jewish Whites and between European and Oriental Jews. Thus an analysis was conducted to follow-up on the findings of te Nijenhuis et al. (2014). A supplemental analysis was performed to examine the relationship between parental fluency and *g* for Jensen Effects (Jensen, 1998) using the method of correlated vectors. The *g* factor loadings for the cognitive tests were correlated with parental fluency in Hebrew or Yiddish. If the tests with the strongest loadings are also the tests with the strongest correlation with parental fluency in Hebrew or Yiddish it indicates that the differences between parental fluency groups are greatest on tests that measure *g*. The results can be seen in Table 2. As seen in Table 2, both Pearson and Spearman correlations were significant indicating that that differences among parental fluency groups was strongest on the most *g*-loaded cognitive tests.

However, given that the differential reliability of the cognitive tests may affect their associations with parental fluency, the test for Jensen Effects was rerun correcting for the reliability of the cognitive tests. Reliabilities for the tests were estimated using information from Flanagan et al. (1964). Flanagan et al. (1964) report reliability estimates by grade (9^{th}, 10^{th}, 11^{th}, 12^{th}) and sex, but because the full sample was used for the current analysis the reliabilities were averaged across the eight groups for each cognitive test. The reliabilities can be seen in Table 2.

Correcting for the reliability of the cognitive tests was done two ways. First, corrected correlations for each cognitive test were computed and these corrected correlations (in parentheses in Table 2) were then used for the basis of the test for Jensen Effects. Second, a partial correlation between factor loading and fluency, controlling for test reliability, was calculated. As seen in Table 2, in both cases correcting for reliability weakened the correlation. However, with the corrected correlation method the relationship was still significant, while the partial correlation method produced a result that was not significant.

Table 3 presents the more fine-grained examination of cognitive abilities by looking at scores on each of the cognitive tests separately. For participants whose parents exhibited some degree of fluency in Hebrew or Yiddish the level of fluency was positively associated with each test of cognitive ability, save two. For mechanical reasoning and three-dimensional visualization there was an inverse relationship between parental fluency in Hebrew or Yiddish and ability. In the case of mechanical reasoning the relationship was significant.

3.2 Analyses of Myopia

The percentage of participants reporting trouble with distance vision by level of parental fluency in Hebrew or Yiddish can be seen in Table 4. As seen in the table there was a significant positive association between the two variables. Parental fluency within other languages showed the opposite trend. Table 5 presents the scores on individual cognitive tests by White Jew and White gentile and myopic or not myopic. For both Jews and gentiles the pattern is the same. Myopia was associated with higher scores with the exceptions of mechanical reasoning and two-dimensional visualization.

Table 2

Jensen Effects and for Parental Fluency

Cognitive Test	Factor Loading	Estimated Reliability	Factor Loading-Fluency Correlation (Corrected)
Abstract Reasoning	.70	.66	.07 (.09)
Advanced Math	.52	.47	.07 (.10)
Arithmetic Reasoning	.78	.72	.07 (.08)
Creativity	.72	.71	.07 (.08)
Disguised Words	.66	.87	.14 (.15)
English Total	.78	.88	.13 (.14)
High School Math	.77	.75	.10 (.11)
Information	.88	.97	.10 (.10)

Mechanical Reasoning	.65	.70	-.04 (-.05)
Memory for Sentences	.33	.62	.03 (.04)
Memory for Words	.54	.82	.07 (.08)
Reading Comprehension	.86	.92	.14 (.15)
Visualization in 2-Dimensions	.49	.85	.02 (.02)
Visualization in 3-Dimensions	.61	.65	-.01 (-.01)
Vocabulary	.85	.80	.13 (.15)
Word Functions	.72	.83	.05 (.05)

ρ (Factor Loading-Fluency) = .67**

r (Factor Loading-Fluency) = .57*

r (Factor Loading-Fluency Corrected for Reliability of the Cognitive Test) = .51*

Partial *r* (Factor Loading-Fluency.Reliability) = .41

Note. $^{**}p < .01$, $^{*}p < .05$.

Table 3

Means and Standard Deviations Among Cognitive Tests by Level of Fluency in Hebrew or Yiddish of the Participant's Parents

		Parent's Fluency in Hebrew or Yiddish						
Cognitive Test	Full White Only Sample	Rather Poorly	Not Very Well	Fairly Well	Fluently	Very Fluently	ρ	*r*
Vocabulary	.36 (.88)	.36 (1.04)	.26 (1.12)	.49 (1.02)	.66 (.95)	.65 (.86)	.80	.88*
Information	.39 (.88)	.40 (.88)	.28 (1.12)	.49 (1.02)	.64 (.99)	.60 (.90)	.80	.82
Memory for Sentences	.14 (.96)	-.04 (1.02)	-.05 (.98)	-.07 (1.01)	-.03 (.98)	.03 (.99)	.60	.67
Memory for Words	.22 (1.00)	.10 (1.02)	.08 (1.04)	.21 (1.05)	.27 (1.03)	.30 (1.00)	.90*	.94*
Disguised Words	.23 (.96)	.24 (1.04)	.28 (1.08)	.48 (1.03)	.64 (.98)	.65 (.98)	1	.96*
English Total	.34 (.81)	.16 (1.07)	.06 (1.15)	.29 (1.06)	.43 (.96)	.45 (.82)	.90*	.89*
Word Functions	.30 (1.03)	.24 (1.08)	.19 (1.10)	.31 (1.06)	.41 (1.05)	.36 (.99)	.80	.82
Reading Comprehension	.36 (.87)	.25 (1.08)	.14 (1.16)	.40 (1.04)	.55 (.96)	.57 (.88)	.90*	.89*
Creativity	.30 (.97)	.20 (1.01)	.20 (1.04)	.29 (1.01)	.40 (1.01)	.37 (.96)	.87	.92*
Mechanical Reasoning	.27 (.97)	.22 (.98)	.19 (.96)	.12 (.97)	.14 (.99)	.09 (.94)	-.90*	-.93*
Visualization- 2D	.19 (.95)	.13 (.97)	.10 (1.00)	.15 (.99)	.18 (.98)	.18 (.98)	.87	.83
Visualization- 3D	.25 (.97)	.14 (.99)	.08 (1.00)	.11 (1.02)	.13 (1.00)	.08 (.97)	-.46	-.40
Abstract Reasoning	.30 (.88)	.23 (.99)	.16 (.99)	.28 (.95)	.38 (.90)	.38 (.87)	.87	.86
Arithmetic Reasoning	.34 (.96)	.27 (1.06)	.22 (1.07)	.36 (1.04)	.48 (1.04)	.44 (.97)	.80	.86
High School Math	.33 (1.03)	.36 (1.16)	.37 (1.15)	.57 (1.17)	.73 (1.13)	.67 (1.06)	.90*	.91*
Advanced Math	.21(1.11)	.39 (1.23)	.39 (1.28)	.53 (1.33)	.73 (1.38)	.62 (1.31)	.87	.86

*Note.** $p < .05$. Standard deviations are in parentheses.

Table 4

Percentage with Myopia by Language and Level of Fluency in the Participant's Parents

	Parent's Fluency in Given Language						
	Rather Poorly	Not Very Well	Fairly Well	Fluently	Very Fluently	ρ	*r*
Hebrew or Yiddish	*30.84*	*34.01*	*36.33*	*37.01*	*36.78*	*.90**	*.90**
German	*34.26*	*32.93*	*33.09*	*33.05*	*32.23*	*-.70*	*-.85*
French	*32.84*	*33.24*	*32.24*	*32.23*	*30.95*	*-.90**	*-.87*
Spanish or Portuguese	*33.38*	*32.00*	*31.64*	*30.84*	*30.66*	*-1*	*-.96**
Italian	*30.15*	*31.11*	*30.70*	*29.18*	*29.39*	*-.66*	*-.60*
Russian or Slavic	*35.18*	*35.27*	*34.70*	*34.11*	*34.30*	*-.90**	*-.80*
Scandinavian	*32.46*	*31.96*	*32.84*	*33.87*	*31.40*	*-.04*	*-.10*

*Note.** $p < .05$.

Table 5

Means and Standard Deviations of Cognitive Tests by Jew or Gentile and Myopia

	Myopic			
	Yes		No	
Cognitive Test	Jew	Non-Jew	Jew	Non-Jew
Vocabulary	.68 (.93)	.46 (.87)	.53 (.96)	.35 (.86)
Information	.66 (.97)	.48 (.88)	.52 (.97)	.39 (.86)
Memory for Sentences	.02 (1.00)	.20 (.96)	-.02 (.98)	.13 (.96)
Memory for Words	.34 (1.05)	.34 (1.02)	.19 (1.00)	.19 (1.00)
Disguised Words	.66 (1.00)	.35 (.95)	.52 (1.01)	.22 (.95)
English Total	.49 (.94)	.50 (.83)	.32 (.93)	.34 (.85)
Word Functions	.50 (1.04)	.46 (1.04)	.27 (1.03)	.26 (1.02)
Reading Comprehension	.62 (.93)	.50 (.83)	.42 (.98)	.34 (.85)
Creativity	.40 (.99)	.37 (.96)	.32 (.99)	.31 (.97)
Mechanical Reasoning	.12 (.96)	.21 (.96)	.15 (.96)	.31 (.97)
Visualization- 2D	.17 (.97)	.18 (.93)	.18 (.99)	.22 (.94)
Visualization- 3D	.13 (.98)	.29 (.96)	.09 (.99)	.26 (.87)
Abstract Reasoning	.41 (.89)	.37 (.86)	.30 (.92)	.29 (.87)
Arithmetic Reasoning	.51 (1.01)	.43 (.95)	.37 (1.01)	.34 (.94)
High School Math	.76 (1.12)	.41 (1.03)	.56 (1.11)	.31 (1.01)
Advanced Math	.70 (1.36)	.24 (1.12)	.54 (1.31)	.18 (1.08)
g	.64 (.96)	.51(.86)	.46 (.96)	.38(.38)

Note. Standard deviations are in parentheses.

4 Discussion

Jewish intellectual success and preeminence is often attributed to Jews unique cognitive profile, especially higher *g*. Due to its large and representative sample, one of the most influential studies supporting this position is Backman's (1972) analysis of the Project Talent data (Cochran, Hardy, & Harpending, 2006; Lynn, 2004). However, a more detailed examination of the Backman (1972) study revealed that a reanalysis of the data may provide additional insights. The most important alteration from the original analysis was the use of the level of parental fluency in Hebrew or Yiddish to examine within group differences.

It was found that the level of fluency in Hebrew or Yiddish in participant's parents was positively associated with *g*. Importantly, the pattern for most of the other European languages was in the opposite direction. Overall, with some discrepancy between tests, the within group differences on *g* were also supported by a Jensen Effect for parental level of fluency in Hebrew or Yiddish. This means that the cognitive tests that were most strongly correlated with parental fluency were also the tests with the highest loadings on the *g* factor. Parental fluency in Hebrew or Yiddish was also related to scores on individual cognitive tests in a pattern consistent with predictions. The level of parental fluency was positively associated with test scores with the exception of three-dimensional visualization and mechanical reasoning. Three-dimensional visualization, although not significantly, and mechanical reasoning were actually inversely associated with parental fluency. These exceptions to Jewish cognitive superiority have been found in previous studies.

Lynn (2011) posits that because Jews have a higher rate of myopia and myopia is associated with higher intelligence that there may be pleiotropic genes, affecting both myopia and intelligence, which are more frequent in Jews. He also suggests that a within group analysis could be interesting. Indeed, it was found that rates of myopia increase along with parental fluency in Hebrew or Yiddish and show the opposite pattern with fluency in the other European languages. The trend in the specific test scores by myopia and Jew or non-Jew is especially telling. The results for the individual tests are similar to the within group analyses; individuals with myopia score higher on all the cognitive tests, and *g*, with the exception of two-dimensional visualization and mechanical reasoning. The trend is the same for Jews and non-Jews suggesting that the basis for the relationship between myopia and cognitive abilities is the same in both groups. These results may also be useful in understanding the relationship between myopia and general and specific cognitive abilities.

The clearest limitation of the paper is that while the results are consistent with previous findings on Jewish cognitive ability, the only novelty is the within group nature of the analyses. The results only bolster previous findings, but do not offer new novel insights. That said, the results are highly suggestive of the validity of the within group analysis, and given the scope of the Project Talent data this means that there is substantial potential for further research which may yield new insights. For example, Lynn and Kanazawa (2008) and Lynn and Longley (2006) suggests Jew's higher *g* is enough to explain their achievement. They point out that given the same distribution of *g* and a mean IQ of roughly 110, that a group that is two percent of the population will be overrepresented at the far right tail of the distribution at a score of six to seven times in comparison to the 98% of the population with a mean IQ of 100. Indeed, a quick check using the measure of parental fluency in Hebrew or Yiddish to categorize participants as Jew or gentile, 13.8% of the individuals in the top percentile of *g* were Jewish. This high degree of representation at the far right end of the distribution may account for more discernable intellectual achievement, but might there be other differences (e.g.., personality and social) that are more important near the center of the distribution where there is more overlap between Jew and gentile and where the majority of individuals lay? The Project Talent data is broad enough that this could be worth examining in future research.

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6 References

American Institutes for Research. Project Talent, Base Year Data (1960). ICPSR33341-v2. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2013-05-23. doi:10.3886/ICPSR33341.v2

Bachman, M. E. (1972). Patterns of mental abilities: Ethnic, socioeconomic, and sex differences. *American Educational Research Journal, 9,* 1-12.

Bayer, A. E. (1972). Construction of a race item for survey research. *Public Opinion Quarterly, 36,* 592-602.

Beaver, K. (2013). Intelligence and selective attrition in a nationally representative and longitudinal sample of Americans. *Personality and Individual Differences, 55,* 157-161.

Cochran, G., Hardy, J., & Harpending, H. (2006). The natural history of Ashkenazi intelligence. *Journal of Biosocial Science, 38,* 659-693.

Cohn, S. J., Cohn, C. M. G., & Jensen, A. R. (1988). Myopia and intelligence: a pleiotropic relationship? *Human Genetics, 80,* 53-58.

Flanagan, J. C., Dailey, J. T., Shaycoft, M. F., Gorham, W. A., Orr, D. B., & Goldberg, I. (1962). *Design for a study of American youth.* Boston: Houghton Mifflin.

Flanagan, J. C., Davis, F. B., Dailey, J. T., Shaycoft, M. F., Orr, D. B., Goldberg, I., Neyman Jr., C. A. (1964). Project Talent: The identification, development, and utilization of human talents. *Final Report for Cooperative Research Project No. 635 U.S. Office of Education Department of Health, Education, Welfare.*

Jensen, A. R. (1998). *The g factor: The science of mental ability*. Westport, CT: Praeger.

Lynn, R. (2004). The intelligence of American Jews. *Personality and Individual Differences, 36,* 201-206.

Lynn, R. (2011). *A study of Jewish intelligence and achievement.* Whitefish, MT: Washington Summit Publishers.

Lynn, R. & Kanazawa, S. (2008). How to explain high Jewish achievement: the role of intelligence and values. *Personality and Individual Differences, 44,* 801-808.

Lynn, R., & Longley, D. (2006). On the high intelligence and cognitive achievements of Jews in Britain. *Intelligence, 34,* 541-547.

Miller, E. M. (1992). *On the correlation of myopia and intelligence [Monograph]*. Genetic, Social, and General Psychology Monographs, 118.

Murray, C. (2003). *Human accomplishment.* New York: Harper Collins.

Saw, S., Tan, S., Fung, D., Chia, K., Koh, D., Tan, D. T. H., & Stone, R. A. (2004). IQ and the association with myopia in children. *Investigative Ophthalmology & Visual Science, 45,* 2943-2948.

Te Nijenhuis, J., David, H., Metzen, D., & Armstrong, E. L. (2014). Spearman's hypothesis tested on European Jews vs non-Jewish Whites and vs Oriental Jews: Two meta-analyses. *Intelligence, 44,* 15-18.