



A comparative study of the general factor of personality in Jewish and non-Jewish populations



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ABSTRACT

It was hypothesized that Jews would have a personality profile characterized by high levels of the general factor of personality (GFP). Analyses based on three large samples supported this hypothesis. Additionally, the Jewish/non-Jewish group difference on personality traits exhibited a Jensen Effect with the largest difference between groups being on the traits that had the highest loadings on the GFP. Future research should focus on investigating how the high Jewish GFP is manifested in behavioral and social outcomes.

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1. Introduction

The high levels of achievement and eminence attained by Jews has been a subject of intense interest. Quite often differential psychologists have attributed this success to the high average level of general intelligence exhibited by Jews. Ashkenazi Jewish IQ estimates range from one half to a full standard deviation above the non-Jewish mean (Cochran, Hardy, & Harpending, 2006; Lynn, 2004, 2011; Lynn & Kanazawa, 2008; Lynn & Longley, 2006; MacDonald, 1994). Consistent with the idea that the high levels of Jewish intelligence are substantive, two recent analyses found Jensen Effects (Jensen, 1998) related to Jewish intelligence (Dunkel, 2014; Te Nijenhuis, Hanna, Metzén, & Armstrong, 2014), meaning, for example, that the Jewish/non-Jewish White difference is most pronounced on cognitive tests that load highly on the *g* factor.

However, the examination of Jewish success has often focused on the realms of intellectual achievement, using metrics like the percentage of Nobel prizes won to gauge accomplishment (e.g., Cochran et al., 2006; Lynn & Longley, 2006). But, Jewish accomplishment is also evident in pursuits less dependent just upon cognitive ability (Congressional Research Service, 2014). In a recent analysis of admissions to elite academic institutions Unz (2012) showed that Jews were enrolled in numbers well above what would be predicted solely on academic merit (see Appendices C–F),

suggesting that Jewish success, even academic success, should be attributable to some factor beyond that of cognitive ability.

An obvious candidate for the source of group differences is personality. Compared with intelligence, very little work has been conducted into understanding the personality differences between Jews and other groups. Cochran et al. (2006) argue that Jewish intelligence evolved as Jews found an economic-social niche in cognitively demanding professions such as trade and finance (with achievement in these professions leading to increased reproductive success), while farming remained the primary occupation of other groups. In comparison to farming, success in trade and finance also involves superior interpersonal skills suggesting that personality traits associated with heightened social effectiveness could also have been selected.

It has also been argued that the personality traits of Jews are partly constituted by a group-level orientation towards slow life history strategy (e.g. MacDonald, 1994). Life history is characterized by a continuum of physiological and psychological variables, with a 'fast' life history strategy being characterized by behavioral and personality dispositions which optimize the phenotype for high mating effort such as early maturation, weak pair bonds, and a focus on short-term mating. On the other hand 'slow' life history is characterized by lower mating effort and the production of relatively fewer highly invested-in offspring (Belsky, Steinberg, & Draper, 1991; Figueredo, Vásquez, Brumbach, & Schneider, 2004).

A key behavioral manifestation of life history is the general factor of personality (GFP), which exists as a source of common factor variance amongst various diverse personality measures – somewhat akin to the *g* factor of intelligence (Figueredo et al.,

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2004). Individuals with a high GFP can be thought of as being socially effective (e.g., Loehlin & Martin, 2013) or as having a high level of emotional intelligence, as these characteristics have been shown to have strong associations with the GFP (Dunkel & Van der Linden, 2014; Van der Linden, Scholte, Cillessen, Te Nijenhuis, & Segers, 2010; Van der Linden, Tsaousis, & Petrides, 2012). Consistent with this, Figueredo et al. (2004) found a strong relationship between the GFP and life history strategy, and that these two dimensions also combined with a general health factor called covitality to form a high-order factor dubbed Super-K. Subsequent research has lent support to the position that the GFP and life history strategy are correlated (Dunkel & Decker, 2010; Gladden, Figueredo, & Jacobs, 2008; Van der Linden, Figueredo, De Leeuw, Scholte, & Engels, 2012).

Thus, a life history account of Jewish achievement fits with the ideas posited by Cochran et al. (2006) in that each model suggests a role for personality. Both accounts point to a personality profile reflecting social effectiveness, and given that the GFP reflects social effectiveness it is a good candidate for consideration. On the basis of life history theory we therefore propose that Jews may have a higher GFP than non-Jews, and in conjunction with this hypothesis, it was predicted that differences in personality would be largest on the most GFP-loaded personality traits (e.g., there will be Jensen Effects associated with the group differences).

Given that Jewish/non-Jewish difference in intelligence is well established and that there may be a substantial association between the GFP and intelligence (Dunkel, 2013), intelligence could drive any Jewish/non-Jewish differences in the GFP. Note that response bias is an alternative interpretation of the GFP (e.g., Bäckström, 2007) and, therefore, it could also simply be a matter of more intelligent individuals being more adept in presenting themselves in a positive light in their responses on personality questionnaires (Major, Johnson, & Deary, 2014). For this reason, along with the demographic variables of age and sex, intelligence was also controlled in the present analysis into this putative source of group differences.

2. Method

2.1. Checking convergent validity

Data from three separate datasets (described below) were utilized. In each dataset a unique personality measure was administered. However, each of these measures were also administered to a substantial number of participants by Pozzebon et al. (2013) allowing for a comparison of GFPs across measures. That is, the data from Pozzebon et al. (2013) allowed for convergent validity to be checked by first extracting GFPs from the scales of each of the three measures and looking at the magnitude of their intercorrelations. As can be seen in Table 1, there is substantial convergence among the three GFPs.

2.2. Sample 1: The National Longitudinal Study of Adolescent Health (ADD Health)

The initial wave of data collection for ADD Health (Harris & Udry, 1994–2008) began in 1994–95 when the 20,745 participants

Table 1
Intercorrelations amongst GFPs.

	GFP _{IPIP}	GFP _{MIDUS}	GFP _{SAI}
GFP _{IPIP}	–		
GFP _{MIDUS}	.73* ₍₁₀₇₀₎	–	
GFP _{SAI}	.76* ₍₁₁₇₆₎	.66* ₍₁₁₁₁₎	–

Note: IPIP = International Personality Item Pool. MIDUS = Midlife in the United States. SAI = Student Activities Inventory. GFPs represent the score on the first unrotated factor from an exploratory factor analysis using Principal Axis Factoring on the measure scales. Degrees of freedom are in parentheses.

* $p < .001$.

were in middle or high school. The fourth and most recent wave of data collection was in 2008–09 when participants were 24–34 years of age. Personality and religious affiliation were measured in the fourth wave of data collection while intelligence was measured in wave 3 (2001–02).

2.2.1. Religious affiliation

Participants were asked their religious affiliation. Participants who identified as Protestant ($n = 1,675$), Catholic ($n = 925$), Jewish ($n = 34$), or None/Atheist/Agnostic ($n = 962$) were included in the analyses.

2.2.2. Personality

The Big Five personality traits of Agreeableness, Conscientiousness, Extraversion, Neuroticism, and Openness were measured using a five-point Likert-type scale to rate 20 items from the Mini-International Personality Item Pool (IPIP-BF; Baldasaro, Shanahan, & Bauer, 2013; Goldberg, 1999). The first unrotated factor using Principal Axis Factoring (PAF) was used to extract a GFP. This factor had an Eigenvalue of .89 and explained 17.96% of the variance among the trait scales. Owing to the low GFP Eigenvalue, an alternative unit-weighted GFP was computed using the z-scores of each of the Big Five measures. The PAF-derived GFP correlated with the unit-weighted GFP at $r = .96$. Due to this similarity, only the PAF-based GFP was used in subsequent analyses. The internal consistency for each trait scale and its factor loadings on the GFP can be seen in Table 2.

2.2.3. Intelligence

The Peabody Picture Vocabulary Test (PPVT) was administered in wave 3. The ADD Health PPVT score has successfully been used as a measure of general verbal intelligence (Beaver et al., 2014; Rowe, Jacobson, & Van den Oord, 1999).

2.2.4. Results

Table 2 presents the means and standard deviations for personality traits, the GFP, and intelligence by religious affiliation. Following the objectives of the study an initial omnibus test was performed by collapsing the groups into Jewish and non-Jewish and testing for the difference on the GFP, $t(5024) = 3.73$, $p < .001$. This was followed by another test of the difference on the GFP between Jews and non-Jews controlling for age, sex, and intelligence, $F(1, 4806) = 7.85$, $p < .01$. Next, comparisons were made between the Jewish and the other religious affiliation groups. Jews had higher GFPs than all other groups: Protestants, $t(1685) = 3.61$, $p < .001$; Catholics, $t(944) = 3.54$, $p < .001$; Agnostic/Atheists, $t(980) = 4.19$, $p < .001$.

Jensen Effects for the group differences were tested by correlating the differences between Jews and the other religious groups in terms of standardized scores for each of the Big Five and correlating the difference with the factor loadings of the traits. The resulting correlation was $r = .85$. The correlation was rerun controlling for the internal consistency of each trait scale. The resulting partial correlation was $pr = .88$. These findings confirm that the group differences are strongly related to the extent to which the individual personality scales loads on the GFP.

2.3. Sample 2: Midlife in the United States II (MIDUS II)

MIDUS II (Ryff et al., 2004–2006) is the second wave of data collection of an extensive longitudinal examination of adult development within the United States. Data collection for MIDUS II was completed in 2009. The full sample consisted of 4963 participants between the ages of 32 and 84.

Table 2

Internal consistency and factor loadings for the personality measures; Means and standard deviations for personality measures, GFP, and intelligence (ADD Health).

Variable	α	Loading	Jewish	Catholic	Protestant	None/Atheist/Agnostic
Openness	.65	.49	16.06 (2.88)	14.39 (2.27)	14.33 (2.45)	14.81 (2.63)
Conscientiousness	.65	.31	14.24 (2.99)	14.80 (2.74)	14.74 (2.69)	14.27 (2.79)
Extraversion	.71	.46	13.97 (3.14)	13.47 (2.97)	13.17 (3.05)	12.96 (3.18)
Agreeableness	.70	.56	16.76 (2.27)	15.30 (2.39)	15.47 (2.35)	14.74 (2.67)
Neuroticism	.62	-.23	9.47 (3.04)	10.43 (2.74)	10.30 (2.78)	10.49 (2.84)
GFP	–	–	.48 (.75)	.02 (.73)	.01 (.75)	-.10 (.79)
Intelligence	–	–	111.24 (16.17)	100.39 (15.87)	100.99 (13.93)	105.46 (14.04)

Note: Standard deviations are in parentheses.

2.3.1. Religion

MIDUS II includes an item about religious preference. In response to the question, participants were given 46 options and allowed to supply their own answer. To reduce the number of affiliation groups and to achieve consistency with the previous analysis the following steps were taken. First, five Jewish categories distinguished in the data file (Orthodox, Conservative, Reform, Reconstructionist, and “Other”) were recoded to from one category ($n = 98$). Roman Catholics ($n = 933$) and Atheist and Agnostics ($n = 112$) were also included. To reduce the large number of Protestant categories to a manageable number, the two denominations with the largest sample sizes, Baptists ($n = 466$) and Methodists ($n = 303$) were chosen to be included in the analyses.

2.3.2. Personality

The personality traits of Agency, Agreeableness, Conscientiousness, Extraversion, Neuroticism, and Openness were measured using a four-point Likert-type scale to rate the self-descriptiveness of 31 adjectives that had been previously pilot tested by MIDUS II researchers. Principal Axis Factoring yielded a single factor which had an Eigenvalue of 2.01 and explained 33.48% of the variance among the trait scales. The internal consistency for each trait and its factor loadings on the GFP can be seen in Table 3.

2.3.3. Intelligence

Participants were administered the Brief Test of Adult Cognition by Telephone (BTACT; Lachman & Tun, 2008) which includes a bundle of cognitive tasks. The composite score consisting of the sum of the standardized scores of word list recall, backward digits, category fluency, number series, and counting backwards was used as a measure of intelligence.

2.3.4. Results

Table 3 presents the means and standard deviations for personality traits, the GFP, and intelligence. Following the objectives of the study an initial omnibus test was performed by collapsing the groups into Jewish and non-Jewish and testing for difference on the GFP, $t(1872) = 3.20$, $p = .001$. This was followed by another test of the difference on the GFP between Jews and other religious groups controlling for age, sex, and intelligence, $F(1, 1603) = 7.32$, $p < .01$. Next comparisons were made between the Jewish and the other religious groups. Jews had higher GFPs than the

other groups: Catholics, $t(1010) = 2.92$, $p < .01$; Methodists, $t(392) = 2.88$, $p < .01$; Baptists, $t(546) = 3.27$, $p = .001$; Agnostic/Atheists, $t(203) = 2.88$, $p < .01$.

Jensen Effects for the group differences were tested by correlating the differences between Jews and non-Jews in terms of standardized scores for each of the trait scores and correlating the difference with the factor loadings of the traits. The resulting correlation was $r = .84$. The correlation was rerun controlling for the internal consistency of each trait scale. The resulting partial correlation was $pr = .88$.

2.4. Sample 3: Project Talent (PT)

PT is a longitudinal study that was begun in 1960 to assess the abilities and proclivities of high school students in the United States. The base year 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. Only the primary PT probability sample is used (this sample excludes those failing the PT credibility index; typically due to learning or reading disabilities, or aberrant responding). Participants with omitted baseline ability or personality scores, or those failing to respond to the 5 year follow up survey were also excluded, resulting in a base sample of $N = 115,464$.

An additional within-group analysis could be performed based on Dunkel (2014) use of an item from the first wave of PT in which participant's reported parental fluency in Hebrew or Yiddish. Greater fluency, as a proxy of the strength of the religious affiliation, should be positively associated with the GFP.

2.4.1. Religious affiliation

A question concerning religious affiliation was not included in the base year questionnaire and testing packets. It was not until the five-year follow-up wave of data collection that participants were asked their religious affiliation with the response options of Protestant ($n = 67,440$), Catholic ($n = 32,700$), Jewish ($n = 6,915$), None ($n = 4,872$), Other (N/A) and refuse to answer (N/A).

2.4.2. Personality

The Student Activities Inventory (SAI) was used to measure personality (Flanagan et al., 1962). The SAI instructs participants to

Table 3

Internal consistency and factor loadings for the personality measures; Means and standard deviations for personality measures, GFP, and intelligence (MIDUS II).

Variable	α	Loading	Jewish	Catholic	Methodist	Baptist	Agnostic/Atheist
Openness	.77	.74	3.07 (.51)	2.90 (.53)	2.90 (.58)	2.81 (.55)	3.22 (.47)
Conscientiousness	.68	.46	3.48 (.45)	3.43 (.45)	3.43 (.42)	3.38 (.48)	3.27 (.49)
Extraversion	.76	.79	3.27 (.55)	3.14 (.56)	3.10 (.58)	3.14 (.57)	2.87 (.59)
Agreeableness	.80	.59	3.49 (.51)	3.47 (.50)	3.49 (.48)	3.48 (.49)	3.21 (.54)
Neuroticism	.74	-.26	2.11 (.68)	2.11 (.62)	2.01 (.63)	2.06 (.64)	2.03 (.69)
Agency	.81	.59	2.88 (.67)	2.61 (.67)	2.64 (.66)	2.63 (.66)	2.74 (.65)
GFP	–	–	.32 (.86)	.04 (.88)	.02 (.88)	-.03 (.94)	-.02 (.79)
Intelligence	–	–	.36 (1.10)	.04 (.94)	-.04 (.98)	-.36 (1.04)	.47 (1.04)

Note: Standard deviations are in parentheses.

rate the self-descriptiveness of statements using a five-point scale, but the Project Talent administrators dichotomized the responses based on the degree of agreement with the statement (e.g., statement describes me extremely or quite well = 1; statement describes me fairly, slightly, or not very well = 0) prior to the summing across items.

The SAI includes 10 scales that are labeled Calmness, Culture, Impulsiveness, Leadership, Mature Personality, Self-Confidence, Sociability, Social-Sensitivity, Tidiness, and Vigor. Previously, Dunkel et al. (2014) extracted a GFP from the SAI using the first unrotated factor from an exploratory factor analysis of the scales. This factor accounted for 42.80% of the variance among scales and was used as the GFP in the current study. The estimated internal consistency for each trait scale based on Pozzebon et al. (2013) and its factor loadings on the GFP from Dunkel, Cabeza De Baca, Woodley, and Fernandes (2014) can be seen in Table 4.

2.4.3. Intelligence

A primary objective of the PT ability battery was to survey a wide variety of human abilities (Flanagan et al., 1962, p. 57). A general cognitive ability factor has been shown to underlie the variance among the tests of the PT battery (Carroll, 1993; Reeve, 2004). The PT ability battery is comprised of 11 tests that assess narrow abilities, including fluid intelligence (Abstract Reasoning, Arithmetic Reasoning, Mechanical Reasoning, Reading Comprehension, 2D Rotation, 3D Rotation, and Table Reading) and crystallized intelligence (Vocabulary, Biological Sciences Knowledge, Social Sciences Knowledge, and Literature Knowledge). We followed recommendations of Jensen and Weng (1994) and Reeve and Blacksmith (2009) to obtain a viable *g*-score. The first unrotated principal component based on the 11 tests was extracted. This component accounted for 48.72% of the observed score variance in the operational sample. Scores on this component are reported on a standard IQ metric with a mean of 100 and standard deviation of 10. To check the accuracy of this method, we also computed *g*-loadings using Principal Axis factoring. In the current data, the vector of *g*-loadings derived using PCA correlated $r = .996$ with *g*-loadings derived using PAF.

2.5. Results

2.5.1. Between group analyses

Owing to the large sample size, significance tests on group differences on the GFP are virtually meaningless and were not conducted. However, Table 4 presents the means and standard deviations for the personality traits, the GFP, and intelligence. The Jewish GFP value in the PT sample falls between the values from datasets 1 and 2 and the rank order of the groups is the same as well. Jews have the highest scores, Catholics and Protestants are fairly equal, and the no-religion group has the lowest score. The

lower GFP for the no-religion group is especially noteworthy because they also have the highest intelligence score (as they did in the MIDUS II sample), further indicating that the group differences in GFP are not simply a product of intelligence.

Jensen Effects for the group differences were tested by correlating the differences between Jews and non-Jewish standardized scores for each of the personality traits and correlating the difference with the factor loadings of the traits. The resulting correlation was $r = .41$. The correlation was rerun controlling for the internal consistency of each trait scale. The resulting partial correlation was $pr = .57$.

2.5.2. Within group analyses

For participants who reported being Jewish, the descriptive statistics for the GFP by the six levels of parental fluency (ranging from Does not Speak to Very Fluently) can be seen in Table 5. As seen in Table 5 there is a positive trend between fluency and the GFP which results in a correlation between the variables of $r = .09$.

3. Discussion

Jewish intellectual ability does not fully account for Jewish accomplishment (e.g., Unz, 2012). Both theoretical evolutionary explanations (Cochran et al., 2006; MacDonald, 1994) for Jewish intellectual ability and Jewish social success suggest that Jews are highly socially effective. This social effectiveness may be a contributing factor to Jewish accomplishment and because the GFP is thought to reflect social effectiveness (Dunkel & Van der Linden, 2014); it was hypothesized that Jews would have a higher GFP than other groups. An extensive analysis of this hypothesis was performed by using three separate datasets and the hypothesis was supported in the analyses of each of these samples.

These findings are buttressed by three supplementary findings. First, when controlling for intelligence the group differences remained. Second, the personality differences showed a Jensen Effect. This means that the difference between Jews and non-Jews is strongest on the personality scales that are most reflective of the GFP. If, as theorized, the GFP reflects social effectiveness this means that the more closely a trait maps onto social effectiveness, the larger the difference between Jews and other groups. Third, the within group analysis, using fluency in Hebrew or Yiddish as a measure of strength of religious affiliation, exhibited a positive association with the GFP. While the results of the present investigation support the hypothesis that Jews have a higher GFP, subsequent analyses could be directed toward determining whether this group difference is predictive of differences in important group outcomes (e.g., income). Additionally, future research could focus on the source of the group differences. The theoretical explanations for the evolution of Jewish cognitive ability and the heritability of

Table 4
Means and standard deviations for personality measures and level of education by religious affiliation (PT).

Variable	Estimated α	Loading	Jewish	Catholic	Protestant	No religion
Sociability	.84	.65	7.34 (2.93)	6.84 (2.93)	6.71 (1.43)	5.84 (3.08)
Social sensitivity	.85	.75	5.65 (2.35)	4.79 (2.35)	4.75 (2.38)	4.50 (2.43)
Impulsiveness	.67	.29	2.12 (1.77)	1.93 (1.65)	1.94 (1.64)	2.19 (1.86)
Vigor	.89	.64	3.82 (2.24)	3.79 (2.19)	3.84 (2.18)	3.63 (2.26)
Calmness	.88	.73	4.99 (2.60)	4.36 (2.55)	4.59 (2.58)	4.41 (2.62)
Tidiness	.88	.72	6.32 (2.95)	6.01 (2.85)	5.85 (2.84)	5.07 (2.92)
Culture	.84	.75	5.95 (2.47)	5.30 (2.37)	5.39 (2.42)	5.09 (5.30)
Leadership	.82	.56	1.75 (1.57)	1.28 (1.38)	1.35 (1.43)	1.38 (1.46)
Self-confidence	.81	.49	5.79 (2.65)	5.17 (2.53)	5.26 (2.56)	5.40 (2.65)
Mature personality	.93	.80	13.44 (5.55)	11.77 (5.33)	11.84 (5.36)	11.62 (5.70)
GFP	–	–	.39 (.93)	.08 (.93)	.09 (.96)	–.02 (.95)
Intelligence	–	–	106.71 (8.34)	102.93 (8.66)	103.99 (8.93)	109.45 (8.83)

Note: The impulsiveness scale may be better understood as representing boldness with because it includes reverse scored items like "I am cautious". Standard deviations are in parentheses.

Table 5

Means and standard deviations of the GFP by parental fluency in Hebrew or Yiddish (Cases selected for Jewish).

Parent's fluency in Hebrew or Yiddish					
Does not speak	Rather poorly	Not very well	Fairly well	Fluently	Very fluently
.17 (.63)	.18 (.60)	.14 (.62)	.21 (.62)	.27 (.62)	.31 (.62)

Note: Standard deviations are in parentheses.

the GFP (e.g., Figueredo et al., 2004) suggest that some of the group difference may be due to genetics.

Another, surprising, trend in the data may also warrant further investigation. While the trend seen in the atheist/agnostic/no religion groups not only offers tangential support to the primary hypothesis (i.e., GFP differences are not simply an artifact of differences in intelligence), it is also interesting in and of itself. The atheist/agnostic/no religion groups exhibited high levels of intelligence, but low GFP scores. Thus, it appears that while atheists and agnostics are intelligent, they are less socially effective. Is this social ineffectiveness born out of being intellectually incongruent with others? What form does the social ineffectiveness take; abrasiveness, passivity? The GFP and GFP-intelligence relationship in atheists and agnostics could be a fruitful topic for future research.

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