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Supplementary Material

Parent contributions to the development of political attitudes in adoptive and non-adoptive families

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Abstract

Where do our political attitudes originate? While early research attributed the formation of sociopolitical beliefs primarily to the process of socialization, genetically sensitive designs later clarified the significant role of genes in the development of social attitudes. However, it has remained unclear whether parents influence the development of these attitudes apart from or in addition to their genetic contribution. In a unique sample of 394 adoptive and biological families with offspring over the age of 30, we demonstrate strong correlations between attitudes of parents with both adoptive and non-adoptive offspring. Biometric modeling reveals a significant contribution of both parents apart from and in addition to genetic contribution, which includes evidence for gene-environment correlation. These findings have significant implications for the origin and development of political and social attitudes in a modern political sphere where the etiology of such beliefs may be more important than ever to many.

Keywords

political attitudes, adoption, behavior genetics, environment

Methods

Sociopolitical attitude scales

Seven sociopolitical attitude scales were administered to both parents and offspring during their third follow-up assessment. These consist of political orientation, Authoritarianism, Egalitarianism, Retribution, Religiousness, and social and economic conservatism. Political orientation was assessed with a single item on a 1–5 scale (higher scores = more liberal). The additional six sociopolitical attitude scales and their item content are detailed below. Excepting Religiousness, which appeared in its own section, all sociopolitical attitude items were randomized across scales and administered to participants in a single aggregate survey section titled "Social Attitudes". Unless otherwise noted, scale response options are coded on a 1–5 Likert scale (1 = "Strongly disagree"; 2 = "Disagree"; 3 = "Neither agree nor disagree"; 4 = "Agree"; 5 = "Strongly agree").

Authoritarianism. Authoritarianism consists of 12 items measuring three facets (4 items for each) of Authoritarianism (Authoritarian Subordination, Authoritarian Aggression, Authoritarian Conventionalism) from Duckitt et al. (2010)'s tripartite Authoritarianism-Conservatism-Traditionalism model (Duckitt, Bizumic, Krauss & Heled, 2010). Authoritarianism items are shown in Table S1.

Egalitarianism. Egalitarianism consists of 6 items from Feldman & Steenbergen (2001) (Feldman & Steenbergen, 2001) and an additional 2 items from Feldman (1988) (Federico, 2020). Egalitarianism items are shown in Table S2.

Retribution. Retribution is measured by four items from Sidanius et al. (2006)'s retribution scale (Sidanius, Mitchell, Haley & Navarrete, 2006) and a single retribution item from the World Values Survey used in Martin et al. (2017) (Martin, Rigoni, Vohs & Fiske, 2017). Retribution items are shown in Table S3.

Religiousness. Religiousness consists of the standard 9-item Religiousness scale that has been administered to the SIBS cohort at all three previous waves (Koenig, McGue & Iacono, 2009). All "Don't Know" responses were recoded to 0, which corresponds to the lowest response option on all items; Question 6 (originally on a 0 to 3 scale) and Question 7 (originally on a 0 to 1 scale) have been recoded to be on a 0 to 4 scale. Religiousness items are shown in Table S4.

General Social Survey-adapted items. Seventeen items are adapted from General Social Survey (GSS) items, 11 measuring social conservatism and 6 economic conservatism (Smith, Davern, Freese & Morgan, 2018; Weeden & Kurzban, 2016). GSS-adapted items are shown in Table S5.

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Scale means

For each political attitude phenotype and the ICAR-16, means and standard deviations are computed separately for mothers, fathers and offspring and for both adoptive and non-adoptive families (Table S7).

ICAR-16 sample test

We use the ICAR-16 sample test as a measure of general cognitive ability in our sample. This is to provide a measure for the same individuals that is not expected to show strong non-genetic parental transmission, thereby acting as a comparison variable to show that our parental transmission findings for political attitudes are not likely to be an artifact of this specific sample. We provide a panel of reliability analyses to justify our use of the ICAR-16 as a reliable and construct-valid measure of general cognitive ability.

Reliability indices. Detailed item analysis for the ICAR-16 sample test is presented in Condon & Revelle (2014; (Condon & Revelle, 2014)). The sample test consists of 16 items taken from the full 60-item ICAR test, each of which comprises one of four item types or subtests. These four subtests are summarized as letter and number sequences (LN), matrix reasoning (MR), 3D rotation (R3D) and verbal reasoning (VR). These comparisons are shown in Table S11.

Confirmatory factor analysis. We used confirmatory factor analysis to test a four-factor model of the ICAR-16 composed of letter and number sequences, matrix reasoning, 3D rotation and verbal reasoning. This model was fit using the *lavaan* package in *R* with full-information maximum likelihood (FIML). Model fit was strong, with a Tucker-Lewis Index (TLI) of .978, Comparative Fit Index (CFI) of .982, Standardized Root Mean Square Residual (SRMR) of .024, and Root Mean Square Error of Approximation (RMSEA) of .021 (90% CI: .015, .028). The full four-factor model fit the data significantly better than a single-factor solution (χ^2_6 difference = 502.42, $p < .001$), and far better than a four-factor solution that did not allow covariances among the four latent factors (χ^2_6 difference = 956.4, $p < .001$). As expected, the indicators all showed significant positive factor loadings, with standardized coefficients ranging from .20 to .73 (Table S12).

Additionally, we observed significant positive correlations among all four latent factors (Table S13), indicating that participants who showed high ability in one dimension were more likely to show high ability in the others as well. Taken together, these results are consistent with use of the ICAR-16 as a good short-form measure of cognitive ability, with the advantage of its short administration time outweighing its limitations in the context of this study.

Biometric modeling

We used observed correlations to estimate the following parameters: a = the effect of the genetic score on the phenotype; q = the variance of the genetic score, i.e., the additive genetic variance; d^2 = dominance genetic variance; s^2 = variance of environmental factors shared by siblings reared together, other than the phenotypes of their parents; m = direct effect of maternal phenotype on offspring phenotype; p = direct effect of paternal phenotype on offspring phenotype; w = covariance between latent

additive genetic and family environment factors; x = variance of the shared environment induced by parental phenotypes; μ = correlation between spouses.

To estimate variance components, we adapted the Cascade model (Keller, Medland, Duncan, Hatemi, Neale, Maes & Eaves, 2009) to include adoptive relationships:

- Mother-father = μ
- Biological mother-child = $\frac{1}{2}a(qa+w)+\frac{1}{2}a(qa+w)\mu+m+p\mu$
- Biological father-child = $\frac{1}{2}a(qa+w)+\frac{1}{2}a(qa+w)\mu+p+m\mu$
- Adoptive-adoptive siblings = $\frac{x+s^2}{1-2aw}$
- Adoptive-biological siblings = $\frac{x+s^2+aw}{\sqrt{1-2aw}}$
- Biological-biological siblings = $a^2(q-\frac{1}{2})+\frac{1}{4}d^2+2aw+x+s^2$
- Adoptive mother-child = $\frac{m+p\mu}{\sqrt{1-2aw}}$
- Adoptive father-child = $\frac{p+m\mu}{\sqrt{1-2aw}}$

Note that if the variance of the phenotype has been set to one in non-adopted individuals, the variance may be less than one in adopted individuals. We accounted for this by including the appropriate rescaling factor in any theoretical correlation involving an adopted individual.

A description of the path tracing rules for the unique assortative mating copath μ can be found in Keller et al. (2009). This covariance between spouses, which reflects mating choices based on the phenotypes of spouses, has implications for both genetic and non-genetic sources of variance and covariance. This correlation is an example of collider bias that must be conditioned on to reveal causal effects (Lee, 2012), and is modeled via special rules originally described by van Eerdewegh (1982). The observed spousal correlation is equivalent to:

$$CV(spouse) = \sigma^2\mu\sigma^2,$$

where μ is the assortative mating copath coefficient.

After applying Fisher's z-transformation, we minimized the squared differences between the empirical correlations and the theoretical (model-predicted) correlations by adjusting the parameter estimates. Each term in the sum of squared differences was weighted by the reciprocal of its variance, $N-3$, where N is the number of pairs in the correlation. To perform statistical inference, we took bootstrap resamples of our families and re-estimated the parameters each time.

We constrained the dominance genetic variance to equal zero. The point estimate of this parameter was zero for most phenotypes, but in bootstrap resampling it occasionally assumed unrealistically large values. Since there is compelling theory and evidence for most genetic variance being additive (Hill, Goddard & Visscher, 2008; Maki-Tanila & Hill, 2014), we decided to constrain this parameter to zero in order to improve statistical inference about other parameters.

Decomposition of variance terms shown in main text Figure 1 and presented in main text Table 3 were therefore computed as follows:

- Heritability (A) = $h^2 = qa^2$
- Parental environment (F) = $m^2+p^2+2mp\mu$

- Sibling environment (S) $= s^2$
- G–E covariance $= 2 \times aw$
- Non-shared environment = 1 – (A + S + F + G-E covariance)

Additionally, because several of the variables represented in the above equations are functions of other variables in these equations (e.g., variance of the shared environment x is a function of m, p and μ; variance of the genetic score q is a function of μ), these variables are constrained rather than being strictly estimated. These *nonlinear constraints* help maintain logical consistency among parameters in the model and are common in most types of extended twin family design models (Keller, Medland, Duncan, Hatemi, Neale, Maes & Eaves, 2009).

Results

SES as a mediator of parental transmission

Socioeconomic status (SES) is expressed as a standardized measure relative to the full sample. Adopted families had higher SES (M = 0.18, SD = 0.92) than biological families (M = –0.24, SD = 1.06); this mean difference was significant (Welch's t[1050] = 7.284, $p < .001$).

We investigated the question of whether SES partially or totally mediates the effect of parental transmission on offspring attitudes using structural equation and mediation modeling from *R*'s *lavaan* and *psych* packages. Interestingly, the only significant mediating effects of SES were found in adopted families. In adopted families, the most pronounced mediation of SES was for the transmission of political orientation (1 = extremely conservative; 5 = extremely liberal) from parents to offspring; however, this analysis showed that the political orientation scores of both parents were associated with offspring's score independent of its association with SES. In sum, we found no compelling evidence that SES was responsible for the observed correlations between parent-offspring scores in either family type.

Comparison of participating and non-participating offspring at follow-up 3

We conducted a comparison of participants with non-participants in the current wave based on measures taken at intake to evaluate the possibility of attrition effects. A comparison of participants with non-participants in the current wave based on measures taken at intake indicated no selection on family SES (standardized effects size $d <$ .10 in absolute value) and minimal selection on individual characteristics. The largest difference was for intake externalizing symptoms (d = –.25), which was minimally correlated with the political composite (r = –.06) and sex (females more likely to participate than males).

Comparison is based on information obtained at the initial assessment. Educational level of parents was coded on a 5-point scale (1 = less than high school, 2 = high school or GED, 3 = some college, 4 = college, and 5 = professional or graduate degree). Occupational level of parents was coded on the 7-point Hollingshead scale for those holding a full-time job, reflected so that 1 = unskilled labor to 7 = professional. Family

income was reported by the mother on a 1 (less than $20,000) to 13 (Greater than $80,000) point scale. IQ is based on the Weschler scales. Externalizing symptoms is the total number of DSM-IV symptoms of childhood disruptive disorders (i.e., conduct disorder, ADHD and oppositional deviant disorder) based on clinical interview of both mother and offspring. The Religiousness scale is the same scale used in the main analysis, although in this case it was completed at the intake assessment. Traditionalism is a scale taken from the Multidimensional Personality Questionnaire, which has been shown to be highly correlated with the Altmeyer (Altemeyer, 1981) Right-Wing Authoritarian scale ($r = .75$; (Ludeke, Johnson & Bouchard, 2013)). Comparison of participants and non-participants is shown in Table S6.

Intercorrelations among scales and demographic statistics

Tables of correlations among political attitude phenotypes, ICAR-16, age at follow-up 3, years of education, highest degree computed, and socioeconomic status (z-scores) were computed for all individuals in aggregate (Table S8), as well as separately for mothers, fathers and adopted and non-adopted offspring. Correlation matrices for both parents (Table S9), and offspring (Table S10) are shown below.

Observed family correlations

As a supplement to Table 3 in the main text, we computed 95% confidence intervals for each familial relationship and for each phenotype. These are shown in Table S14.

Parent-offspring correlations by geographic distance

One possible influence on the size of parent-offspring correlations on measured phenotypes is the geographic distance between the homes of parents and their adult offspring. If, for example, children who live closer to their parents in adulthood tended to resemble their parents more on certain traits, this could have important implications for the interpretation of parent-offspring resemblance. We tested this hypothesis by including approximate geographic distance between the homes of adult offspring and their parents as a covariate in a multiple regression between each parent and their offspring on all phenotypes. Zip code data for residence of offspring and both parents at follow-up 3 was available for approximately 87% of the sample, and distance was calculated from the geographic coordinates of the centroid of each U.S. zip code region. Mothers and fathers had the same zip code for 90% of the sample, and distance between offspring and each parent was used as the covariate in each parent-offspring regression.

Across all parent-offspring pairs with valid distance data, mean parent-offspring distance was 171.6 miles (*SD* = 381.6), ranging from 0 to 1615.1 miles; 97 parent-offspring pairs retained the same zip code as one another in adulthood. Mean parent-offspring difference did not differ significantly by adoption status ($t = 0.95$, $p = .34$).

The results of multiple regression for each parent-offspring phenotype pair with distance as a covariate are shown in Table S15. This pattern of observations was similar between adopted and non-adopted offspring and their parents; aggregate sample is shown. Distance was not significant as a covariate for either parent's association with offspring for political phenotypes at $p < .05$, though it is possible that the effect for Retribution is trending towards significance ($p = .08$ for mothers and $p = .05$ for fathers). The short form cognitive assessment score is the one notable exception, with distance emerging as a significant covariate in parent-offspring correspondence for both parents ($p < .001$ for mothers and $p = .01$ for fathers). The positive slope of distance for ICAR-16 indicates that offspring more similar in cognitive ability to their parents tend to live further away from them in adulthood. Interestingly, this effect appears to be contingent on offspring's ICAR-16 score relative to that of their parents—distance is a significant and positive covariate only in parent-offspring dyads where offspring's ICAR-16 score is higher than that of either parent, and difference in score between offspring and parent significantly predicts distance, with offspring scoring higher than their parents tending to live further away from them in adulthood ($p = .03$ for fathers and $p = .004$ for mothers).

In sum, distance between parent and offspring does not seem to influence the size of the parent-offspring resemblance for political phenotypes. A visualization of this effect by parents' zip code categories in Minnesota for parent-offspring correlations in political orientation is shown in Fig. S1.

Full parameter estimates

The raw parameter estimates and associated 95% confidence interval for each phenotype are reported in Table S16.

Scale and demographic comparisons by adoption status

Mean differences and significance for each demographic criterion (highest degree completed, years of education, age, and family SES), political attitude phenotype and the ICAR-16 are reported below for adopted and non-adopted offspring (Table S17).

Scale and demographic comparisons by ethnicity of adoptee

Majority of offspring in sample (N = 680 total) report either white (N = 378) or Asian (N = 251) ethnicity. Mean differences and significance for each demographic criterion (highest degree completed, years of education, age, and family SES), political attitude phenotype and the ICAR-16 are reported below for white and asian offspring (Table S18).

Parental transmission and polarization effects

To examine the hypothetical effects of parental transmission on political polarization, we conducted a simulation of how political composite scores might be distributed if the component of non-genetic parental transmission were removed from the overall variance of scores. Variance decomposition (main text Table 3) reveals that parental environment accounts for .18 and G-E covariance .21 of the variance in offspring political composite scores, for a total of 39% of the observed variance. In other words, were there no parental socialization effect, then .39 of the variance of 1.00 would be gone. We simulated political composite scores with variance due just to genetics, the shared sibling environment and the non-shared environment. We re-normed this variance to .61 by multiplying the observed composite score by .78 (i.e., the square root of .61, the variance attributed by heritability, sibling environment and non-shared environment).

Table S19 describes this hypothetical distribution of scores compared to the full model. This restricted variance model results in a distribution of scores that has the same mean, but with a reduced range of scores (–2.22, 1.80 compare to the full model's range of –2.85, 2.31). If we were to define "political extremism" as the top 5% (liberal extremism) and the bottom 5% (conservative extremism) of observed political composite scores, this reduced variance transformation shows that only 2% of scores would fall above this cutoff for liberal extremism and less than 1% of scores below the cutoff for conservative extremism. While this reasoning for how parental transmission affects the variance of scores is speculative, our analysis suggests that parent socialization contributes to political polarization of offspring attitudes.

Political polarization may also be deepened by the effects of large spousal correlations. Although ideological assortment of spouses is known to be stronger for political phenotypes than most other individual characteristics (Alford, Hatemi & Hibbing, 2011), research from over the past two decades has found that spousal correlations for political phenotypes have been of increasing magnitude each decade since the 1960s and 1970s (Jennings & Stoker, 2001), and that this increase facilitates intergenerational continuity by creating an "echo chamber" that works within families (Iyengar, Konitzer & Tedin, 2018). Such research has typically reported the highest of these correlations in the range of .50–.70; it is unclear whether the large observed spousal correlation of .82 for the political composite represents a continuation of this

trend or is unique to this sample. In light of the large non-genetic parental transmission of these attitudes, the effects of such potent ideological assortment on children's developing political attitudes is worth considering in today's highly partisan world.

Table S1. Authoritarianism scale items

Q #	Item	Reverse-scored	*r* with composite
Subordination			
Q1	It's great that many young people today are prepared to defy authority.	✓	–.61
Q2	What our country needs most is discipline, with everyone following our leaders in unity.		–.58
Q9	Obedience and respect for authority are the most important virtues children should learn.		–.57
Q17	People should be ready to protest against and challenge laws they don't agree with.	✓	–.52
Conventionalism			
Q4	Nobody should stick to the "straight and narrow." Instead, people should break loose and try out lots of different ideas and experiences.	✓	–.46
Q15	There is absolutely nothing wrong with nudist camps.	✓	–.46
Q23	The "old-fashioned ways" and "old-fashioned values" still show the best way to live.		–.68
Q28	This country will flourish if young people stop experimenting with drugs, alcohol and sex, and pay more attention to family values.		–.64
Aggression			
Q26	Strong, tough government will harm, not help, our country.	✓	–.16
Q33	The facts on crime and the recent public disorders show we have to crack down harder on troublemakers, if we are going preserve law and order.		–.62
Q35	Our society does NOT need tougher government and stricter laws.	✓	–.29
Q39	The way things are going in this country, it's going to take a lot of "strong medicine" to straighten out the troublemakers, criminals and perverts.		–.56

Note: All item correlations with the composite score were significant at $p < .001$.

Table S2. Egalitarianism scale items

Q #	Item	Reverse-scored	*r* with composite
Q7	One of the biggest problems in this country is that we don't give everyone an equal chance.		.69
Q13	If wealth were more equal in this country, we would have many fewer problems.		.71
Q19	We have gone too far in pushing equality in this country.	✓	.70
Q22	All in all, I think economic differences in this country are justified.	✓	.65
Q25	Incomes should be more equal because every family's needs for food, housing, and so on, are the same.		.59
Q31	This country would be better off if we worried less about how equal people are.	✓	.70
Q34	Our society should do whatever is necessary to make sure that everyone has an equal opportunity to succeed.		.50
Q36	It is not really that big a problem if some people have more of a chance in life than others.	✓	.51

Note: All item correlations with the composite score were significant at $p < .001$.

Table S3. Retribution scale items

Q #	Item	Source	Reverse-scored	*r* with composite
Q6	Those who hurt others deserve to be hurt themselves.	Sidanius et al. (2006)		–.28
Q12	Society does not have the right to get revenge for murder.	Sidanius et al. (2006)	✓	–.42
Q18	For a terrible crime, there should be a terrible penalty.	Sidanius et al. (2006)		–.41
Q29	The punishment should fit the crime.	Sidanius et al. (2006)		–.38
Q42	Severe punishment for criminals is essential to a democracy.	Martin et al. (2017)		–.59

Note: All item correlations with the composite score were significant at $p < .001$.

Table S4. Religiousness scale items

Q #	Item	Scoring[a]	*r* with composite
Q1	How often do you attend religious services?	A	–.48
Q2	How often do you seek guidance, help or forgiveness through prayer?	A	–.47
Q3	How often do you read scripture or other religious material?	A	–.47
Q4	How often do you review or discuss religious teachings with your family or those close to you?	A	–.43
Q5	How often do you decide moral "do's" and "don'ts" in religious terms or for religious reasons?	A	–.48
Q6	Do you observe religious holidays and celebrate events like Christmas or Passover in a religious way?	B	–.48
Q7	Do you belong to religious study groups?	C	–.35
Q8	Do your friends have similar religious beliefs?	D	–.09[b]
Q9	How important is your religious faith in your daily life?	E	–.50

[a] Response options for each type of item is as follows.
A: 0 = never; 1 = seldom (e.g., on religious holidays); 2 = monthly; 3 = weekly; 4 = more than once a week; 5 = don't know
B: 0 = never; 1 = sometimes; 2 = regularly; 3 = always; 4 = don't know
C: 0 = yes; 1 = no
D: 0 = no friends have similar religious beliefs; 1 = few friends have similar religious beliefs; 2 = some friends have similar religious beliefs; 3 = most friends have similar religious beliefs; 4 = all friends have similar religious beliefs; 5 = don't know
E: 0 = no importance; 1 = some importance; 2 = important; 3 = very important; 4 = extremely important; 5 = don't know
[b] Item Q8 was the only Religiousness item that did not correlate with the composite at $p < .001$ ($p = .003$).

Table S5. Items adapted from the General Social Survey (GSS): Social and economic conservatism

Q #	Item	*r* with composite
Social conservatism		
Q3	There should be no laws forbidding the distribution of pornography to persons 18 or older.	.28
Q8	Methods of birth control should be available to teenagers between the ages of 14 and 16, and parental consent should not be required.	.62
Q11	The use of marijuana should be legal.	.50
Q16	There are always some people whose ideas are considered bad or dangerous by other people. For instance, consider somebody who is against all churches and religion. Such a person should still be allowed to teach in a college or university.	.48
Q21	There are always some people whose ideas are considered bad or dangerous by other people. For instance, consider a man who admits that he is a homosexual. Such a person should still be allowed to teach in a college or university.	.50
Q24	There are always some people whose ideas are considered bad or dangerous by other people. For instance, consider a Muslim clergyman who preaches hatred of the United States. Such a person should still be allowed to teach in a college or university.	.41
Q30	Sexual relations between two adults of the same sex are not wrong at all.	.68
Q32	The United States Supreme Court made the right decision when it ruled that no state or local government may require the reading of the Lord's Prayer or Bible verses in public schools.	.65
Q37	Some people say that because of past discrimination, women should be given preference in hiring and promotion. Others say that such preference in hiring and promotion is wrong because it discriminates against men. Those who favor giving preference to women have the better view.	.55
Q38	The number of immigrants from foreign countries who are permitted to come to the United States to live should be left as is or even increased.	.65
Q40	The death penalty should not be given, even to persons convicted of murder.	.55
Economic conservatism		
Q5	The government should raise the taxes of wealthy families in order to give income assistance to the poor.	.74
Q10	The government is spending too little money on improving the nation's health.	.60
Q14	The government is spending too little money on improving the nation's education system.	.63
Q20	The government is spending too little money on improving the conditions of African Americans.	.70
Q27	The government is spending too little money on Social Security.	.34
Q41	The government is spending too little money on assistance for childcare.	.62

Note: No GSS-adapted items were reverse-scored. All item correlations with the composite score were significant at $p < .001$.

Table S6. Comparison of participants and non-participants in current wave relative to intake assessments

	Participants			Non-Participants				*r* with
Intake measure	*N*	*M*	*SD*	*N*	*M*	*SD*	*d*	composite
Sex[a]	746	.62	NA	488	.44	NA	NA	.14
Birth year	746	1986.5	2.9	488	1986.4	2.7	.04	.07
Mom's education	744	3.60	0.89	486	3.60	0.94	.00	.23
Dad's education	736	3.71	0.95	481	3.72	1.00	–.01	.21
Mom's occupation	341	5.11	1.30	223	5.13	1.34	–.02	.17
Dad's occupation	698	5.20	1.58	449	5.30	1.43	–.07	.15
Family income	580	11.6	2.3	332	11.6	2.2	–.02	.07
IQ	742	108.1	13.3	486	106.0	14.4	.15	.26
Externalizing Symptoms[b]	746	3.99	5.11	486	5.54	6.26	–.25	–.06
Religiousness	729	15.9	7.4	455	15.2	6.9	.09	–.17
Traditionalism	582	50.1	7.4	360	48.6	7.5	.19	–.40

Note: d = (mean of participants – mean of non-participants)/(pooled standard deviation). Correlation column gives correlation of intake measure with the political composite in this sample of participants.

[a] 0 = male; 1 = female

[b] Descriptive data for Externalizing Symptoms based on total number of symptoms; *d* and the correlation for this measure were computed after log transformation to minimize the impact of positively skewed scores.

Table S7. Scale means, standard deviations and valid scores for mothers, fathers and offspring in both types of family

Adoptive families

	Offspring			Mothers			Fathers		
	N	M	SD	N	M	SD	N	M	SD
Political orientation	370	3.55	1.04	344	3.42	1.09	257	3.3	1.11
Egalitarianism	366	3.58	0.76	347	3.59	0.68	254	3.46	0.72
Authoritarianism	366	2.73	0.57	347	2.83	0.6	253	2.78	0.61
Economic conservatism	367	3.66	0.72	347	3.6	0.72	255	3.51	0.8
Social conservatism	366	3.47	0.58	347	3.22	0.62	254	3.28	0.76
Retribution	366	3.14	0.67	347	3.13	0.6	254	3.24	0.69
Religiousness	366	10.8	8.56	345	19.46	9.71	252	16.41	10.34
Political composite	358	0.05	0.78	343	0.15	0.79	253	0.11	0.8
ICAR-16	365	8.87	3.92	345	8.71	3.2	254	8.87	3.69

Non-adoptive families

	Offspring			Mothers			Fathers		
	N	M	SD	N	M	SD	N	M	SD
Political orientation	310	3.36	1.06	230	3	1.13	153	2.87	1.22
Egalitarianism	307	3.44	0.86	233	3.25	0.73	150	3.11	0.78
Authoritarianism	307	2.73	0.66	233	3.05	0.6	149	2.9	0.59
Economic conservatism	307	3.53	0.87	233	3.39	0.73	151	3.16	0.95
Social conservatism	307	3.47	0.68	233	2.97	0.7	150	3.01	0.8
Retribution	307	3.23	0.69	233	3.26	0.58	150	3.35	0.68
Religiousness	307	12.61	9.61	233	20.46	9.23	150	18.62	10.54
Political composite	301	-0.04	0.85	227	-0.2	0.81	147	-0.2	0.85
ICAR-16	306	9.93	3.67	233	8.47	3.32	150	9.08	3.54

Table S8. Correlation matrix for all valid individual scores of political attitude phenotypes and including age at follow-up 3, years of education, highest degree obtained, and ICAR-16 score.

	Full sample											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Political orientation												
2. Egalitarianism	.71***											
3. Authoritarianism	–.65***	–.64***										
4. Economic con.	.68***	.78***	–.56***									
5. Social con.	.71***	.69***	–.79***	.64***								
6. Retribution	–.41***	–.43***	.48***	–.38***	–.44***							
7. Religiousness	–.45***	–.32***	.45***	–.35***	–.54***	.09***						
8. Composite	.75***	.77***	–.74***	.74***	.79***	–.53***	–.49***					
9. ICAR-16	.11***	.11***	–.29***	.07**	.24***	–.08***	–.11***	.16***				
10. Age	–.06**	–.03	.08**	–.04	–.18***	.02	.32***	–.03	–.08**			
11. SES	.27***	.27***	–.33***	.23***	.33***	–.23***	–.11***	.25***	.19***	.12***		
12. Highest degree	.25***	.27***	–.39***	.21***	.39***	–.25***	–.08**	.28***	.27***	.05*	.46***	
13. Years of education	.23***	.26***	–.38***	.21***	.37***	–.24***	–.09***	.27***	.30***	.08***	.41***	.81***

Note: * denotes $p < .05$, ** $p < .01$, and *** $p < .001$.

Table S9. Parent correlation matrix for political attitude phenotypes and including age at follow-up 3, years of education, highest degree obtained, and ICAR-16 score.

	Mothers											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Political orientation												
2. Egalitarianism	.68***											
3. Authoritarianism	–.65***	–.65***										
4. Economic con.	.64***	.75***	–.58***									
5. Social con.	.69***	.72***	–.80***	.63***								
6. Retribution	–.40***	–.39***	.49***	–.32***	–.39***							
7. Religiousness	–.45***	–.31***	.41***	–.40***	–.48***	.08						
8. Composite	.44***	.49***	–.45***	.48***	.53***	–.24***	–.30***					
9. ICAR-16	.13**	.13**	–.28***	.07	.23***	–.03	–.10*	.12*				
10. Age	.30***	.30***	–.22***	.20***	.24***	–.13**	–.09*	.16**	.04			
11. SES	.37***	.35***	–.44***	.25***	.45***	–.27***	–.21***	.20***	.23***	.28***		
12. Highest degree	.28***	.34***	–.44***	.23***	.44***	–.23***	–.09*	.21***	.22***	.28***	.55***	
13. Years of education	.29***	.33***	–.44***	.23***	.44***	–.23***	–.13**	.22***	.28***	.28***	.54***	.91***

	Fathers											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Political orientation												
2. Egalitarianism	.74***											
3. Authoritarianism	–.66***	–.67***										
4. Economic con.	.73***	.82***	–.56***									
5. Social con.	.76***	.75***	–.84***	.68***								
6. Retribution	–.43***	–.45***	.55***	–.36***	–.58***							
7. Religiousness	–.49***	–.41***	.53***	–.39***	–.53***	.21***						
8. Composite	.86***	.86***	–.86***	.81***	.92***	–.64***	–.65***					
9. ICAR-16	.08	.15**	–.30***	.06	.17***	–.15**	–.13*	.19***				
10. Age	.26***	.31***	–.23***	.32***	.24***	–.09	–.12*	.28***	–.08			
11. SES	.35***	.39***	–.51***	.32***	.51***	–.38***	–.16**	.47***	.33***	.29***		
12. Highest degree	.29***	.29***	–.49***	.28***	.46***	–.31***	–.16***	.40***	.31***	.31***	.70***	
13. Years of education	.24***	.31***	–.45***	.30***	.40***	–.33***	–.15**	.39***	.28***	.30***	.62***	.83***

Note: * denotes $p < .05$, ** $p < .01$, and *** $p < .001$.

Table S10. Offspring correlation matrix for political attitude phenotypes and including age at follow-up 3, years of education, highest degree obtained, and ICAR-16 score.

	Adopted offspring											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Political orientation												
2. Egalitarianism	.72***											
3. Authoritarianism	–.66***	–.62***										
4. Economic con.	.65***	.74***	–.56***									
5. Social con.	.70***	.69***	–.75***	.66***								
6. Retribution	–.41***	–.49***	.50***	–.46***	–.43***							
7. Religiousness	–.34***	–.22***	.32***	–.25***	–.43***	.05						
8. Composite	.84***	.84***	–.83***	.81***	.88***	–.63***	–.49***					
9. ICAR-16	.11*	.10	–.29***	.10	.27***	–.07	–.09	.19***				
10. Age	–.01	–.03	–.01	–.02	–.02	–.04	.08	–.03	.01			
11. SES	.20***	.18***	–.16**	.17**	.17***	–.14**	–.08	.20***	.08	–.10		
12. Highest degree	.24***	.22***	–.31***	.15**	.34***	–.31***	.02	.29***	.31***	.14**	.23***	
13. Years of education	.21***	.23***	–.31***	.14**	.33***	–.24***	.01	.27***	.36***	.16**	.19***	.71***

	Non-adopted offspring											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Political orientation												
2. Egalitarianism	.74***											
3. Authoritarianism	–.61***	–.61***										
4. Economic con.	.69***	.81***	–.57***									
5. Social con.	.65***	.63***	–.79***	.60***								
6. Retribution	–.38***	–.38***	.40***	–.40***	–.36***							
7. Religiousness	–.46***	–.34***	.46***	–.32***	–.57***	–.01						
8. Composite	.85***	.85***	–.83***	.83***	.87***	–.54***	–.58***					
9. ICAR-16	.10	.06	–.26***	.04	.28***	–.11*	.00	.17**				
10. Age	–.08	–.08	.14*	–.09	–.10	.02	.16**	–.12*	.09			
11. SES	.13*	.17**	–.20***	.18**	.21***	–.09	–.03	.18**	.17**	–.10		
12. Highest degree	.20***	.22***	–.23***	.18**	.25***	–.16**	.01	.23***	.23***	.04	.31***	
13. Years of education	.18**	.18**	–.26***	.19***	.28***	–.18**	–.06	.25***	.30***	.10	.21***	.75***

Note: * denotes $p < .05$, ** $p < .01$, and *** $p < .001$.

Table S11. Reliability comparisons of ICAR-16 items in current study and Condon & Revelle (2014)

	α		ω_h		ω_t		Items	
	C&R	*W et al.*	*C&R*	*W et al.*	*C&R*	*W et al.*	*C&R*	*W et al.*
ICAR-16	.81	.80	.66	.64	.83	.82	16	16
LN items	.77	.66	.66	.62	.80	.67	9	4
MR items	.68	.50	.58	.49	.71	.54	11	4
R3D items	.93	.73	.78	.72	.94	.77	24	4
VR items	.76	.51	.64	.52	.77	.58	16	4

Note: C&R = Condon & Revelle (2014), *W et al.* = Willoughby et al. (current study), ω_h = omega hierarchical, ω_t = omega total. Values are based on composites of Pearson correlations between items. Total N sampled in Condon & Revelle (2014) was 96,958 individuals while a total of 1,172 had valid ICAR-16 data in our sample.

Table S12. Standardized factor loadings of each ICAR-16 item on its own latent factor in the current sample. All loadings are significant at $p < .001$.

Latent Factor	Indicator	β
Letter & Number	LN.33	.61
Letter & Number	LN.34	.64
Letter & Number	LN.58	.53
Letter & Number	LN.7	.50
Matrix Reasoning	MR.45	.43
Matrix Reasoning	MR.46	.47
Matrix Reasoning	MR.47	.48
Matrix Reasoning	MR.55	.41
3D Rotation	R3D.3	.66
3D Rotation	R3D.4	.73
3D Rotation	R3D.6	.55
3D Rotation	R3D.8	.60
Verbal Reasoning	VR.16	.20
Verbal Reasoning	VR.17	.57
Verbal Reasoning	VR.19	.55
Verbal Reasoning	VR.4	.55

Note: R3D = Three-dimensional Rotation, LN = Letter And Number series, VR = Verbal Reasoning, MR = Matrix Reasoning.

Table S13. Latent factor correlations for the ICAR-16 in the current sample.

Factor 1	Factor 2	Correlation	p-value
LN	MR	.69	$< .001$
LN	R3D	.55	$< .001$
LN	VR	.78	$< .001$
MR	R3D	.66	$< .001$
MR	VR	.67	$< .001$
R3D	VR	.54	$< .001$

Note: R3D = Three-dimensional Rotation, LN = Letter And Number series,
VR = Verbal Reasoning, MR = Matrix Reasoning.

Table S14. Observed correlations and 95% confidence intervals for each phenotype reported in the main text.

	Parent correlations				Sibling correlations			μ
	Mom/ bio	*Dad/ bio*	*Mom/ adopt*	*Dad/ adopt*	*Bio/ bio*	*Adopt/ bio*	*Adopt/ adopt*	*Dad/ Mom*
Political orientation								
Observed	.41	.48	.39	.36	.43	.12	.14	.69
95% CI	[.27, .53]	[.31, .62]	[.27, .5]	[.21, .49]	[.24, .59]	[–.22, .43]	[–.06, .32]	[.63, .75]
Egalitarianism								
Observed	.48	.57	.40	.34	.33	.20	.26	.68
95% CI	[.35, .59]	[.42, .70]	[.28, .51]	[.19, .47]	[.12, .51]	[–.15, .5]	[.07, .44]	[.62, .73]
Authoritarianism								
Observed	.44	.49	.30	.22	.34	.02	.04	.59
95% CI	[.30, .55]	[.31, .63]	[.17, .42]	[.06, .37]	[.13, .52]	[–.32, .35]	[–.16, .24]	[.52, .66]
Economic conservatism								
Observed	.49	.47	.32	.30	.30	.12	.11	.65
95% CI	[.37, .60]	[.30, .61]	[.19, .43]	[.15, .44]	[.09, .48]	[–.22, .44]	[–.09, .30]	[.58, .71]
Social conservatism								
Observed	.65	.65	.37	.37	.48	.22	.26	.70
95% CI	[.55, .73]	[.51, .75]	[.25, .48]	[.22, .5]	[.3, .63]	[–.12, .52]	[.07, .44]	[.64, .75]
Retribution								
Observed	.26	.26	.14	.20	~ 0	.08	~ 0	.30
95% CI	[.11, .40]	[.06, .44]	[~ 0, .27]	[.04, .34]	[–.21, .22]	[–.26, .40]	[–.20, .20]	[.20, .40]
Religiousness								
Observed	.56	.61	.35	.36	.53	.22	.21	.70
95% CI	[.44, .65]	[.46, .72]	[.22, .46]	[.22, .49]	[.35, .67]	[–.12, .52]	[.01, .39]	[.64, .75]
Political composite								
Observed	.65	.65	.47	.46	.46	.24	.21	.82
95% CI	[.55, .73]	[.52, .76]	[.35, .57]	[.32, .58]	[.27, .62]	[–.11, .53]	[.01, .40]	[.78, .85]
ICAR-16								
Observed	.27	.31	–.03	.10	.27	.05	.07	.19
95% CI	[.12, .41]	[.11, .48]	[–.17, .10]	[–.06, .25]	[.06, .46]	[–.28, .38]	[–.13, .27]	[.08, .29]

Note: Observed and model-predicted correlations are reported in Table 3 in the main text.

Table S15. The effects of geographic distance between parents and adult offspring as a covariate in parent-offspring multiple regressions on 7 social attitude phenotypes, the political attitude composite, and ICAR-16 score

	Mothers			Fathers		
Offspring phenotype	*N* pairs	Parent β (SE)	Distance β (SE)	*N* pairs	Parent β (SE)	Distance β (SE)
Political orientation	311	0.43 (0.05)	0.03 (0.05)	236	0.39 (0.06)	$\sim$0 (0.05)
Egalitarianism	318	0.47 (0.05)	0.02 (0.04)	235	0.44 (0.06)	0.01 (0.05)
Authoritarianism	318	0.41 (0.05)	–0.05 (0.05)	234	0.34 (0.06)	–0.10 (0.05)
Economic conservatism	318	0.45 (0.05)	–0.01 (0.05)	236	0.39 (0.06)	$\sim$0 (0.05)
Social conservatism	318	0.53 (0.05)	0.05 (0.05)	235	0.54 (0.06)	0.06 (0.05)
Retribution	318	0.23 (0.06)	0.09 (0.05)	235	0.24 (0.06)	0.11 (0.06)
Religiousness	318	0.45 (0.05)	–0.06 (0.04)	235	0.48 (0.06)	–0.05 (0.05)
Political composite	301	0.60 (0.05)	0.03 (0.04)	224	0.55 (0.05)	0.03 (0.05)
ICAR-16	318	0.06 (0.06)	0.16 (0.05)	236	0.17 (0.06)	0.15 (0.06)

Note: All beta coefficients and standard errors are standardized. "Distance" is represented by approximate geographic distance between the centroid of parent and offspring zip codes. *N* represents the number of pairs with valid data for phenotypes as well as zip code data for each member of a parent-offspring dyad.

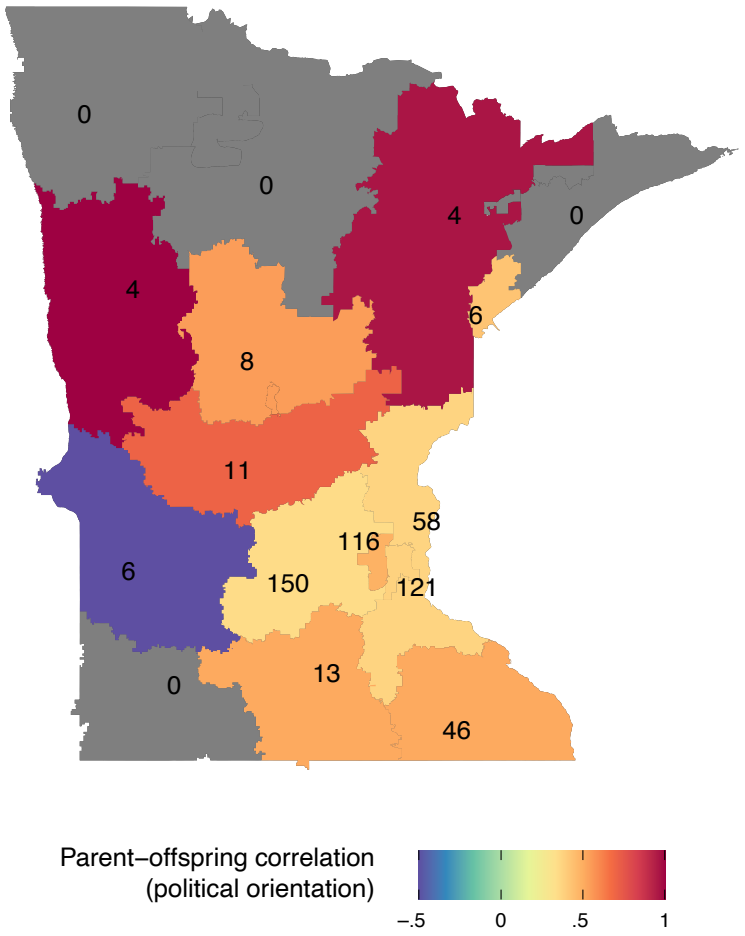

Figure S1. Size of parent-offspring correlation by parents' geographic region (first three digits of zip code) for political orientation. Number in each region indicates the number of parent-offspring pairs hailing from that region, suggesting that as the sample from each region becomes larger, the parent-offspring correlation converges on its true value.

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Table S16. Full parameter estimates for each political attitude phenotype, the composite, and the ICAR-16. 95% confidence intervals are calculated over 200 bootstrap resamples. Dominance variance (*dsq*) is constrained to zero and is not reported below.

	a [95% CI]	*q* [95% CI]	*ssq* [95% CI]	*m* [95% CI]	*p* [95% CI]	*w* [95% CI]	*x* [95% CI]	μ [95% CI]
Political orientation	.29	1.19	.03	.17	.23	.18	.14	.69
	[.00, .38]	[1.00, 1.38]	[.00, .11]	[.03, .30]	[.12, .36]	[.00, .23]	[.09, .19]	[.64, .75]
Egalitarianism	.29	1.22	.03	.21	.22	.20	.16	.68
	[.00, .38]	[1, 1.46]	[.00, .11]	[.10, .35]	[.10, .33]	[0, .27]	[.10, .24]	[.62, .73]
Authoritarianism	.41	1.27	.00	.17	.12	.16	.07	.60
	[.30, .47]	[1.13, 1.41]	[.00, .04]	[.09, .26]	[.01, .24]	[.11, .2]	[.04, .12]	[.52, .66]
Economic conservatism	.36	1.26	.00	.20	.14	.18	.10	.65
	[.23, .42]	[1.1, 1.41]	[.00, .06]	[.09, .32]	[.02, .27]	[.12, .22]	[.06, .16]	[.59, .70]
Social conservatism	.38	1.58	.01	.20	.19	.30	.13	.70
	[.33, .43]	[1.34, 1.84]	[.00, .08]	[.11, .29]	[.08, .31]	[.23, .36]	[.09, .18]	[.66, .75]
Retribution	.26	1.03	.00	.12	.15	.06	.05	.30
	[.00, .43]	[1, 1.1]	[.00, .02]	[.04, .18]	[.06, .22]	[.00, .09]	[.02, .08]	[.20, .39]
Religiousness	.38	1.48	.05	.13	.24	.26	.12	.70
	[.32, .45]	[1.28, 1.77]	[.00, .13]	[.04, .22]	[.13, .36]	[.20, .31]	[.07, .17]	[.65, .75]
Political composite	.31	1.54	.00	.23	.22	.33	.18	.82
	[.23, .36]	[1.23, 1.89]	[.00, .03]	[.10, .37]	[.08, .35]	[.23, .40]	[.13, .26]	[.79, .85]
ICAR-16	.62	1.09	.04	–.03	.08	.02	.01	.19
	[.46, .75]	[1.03, 1.17]	[.00, .14]	[–.11, .06]	[–.02, .16]	[–.03, .06]	[.00, .03]	[.07, .29]

Note: a = the effect of the genetic score on the phenotype; q = the variance of the genetic score, i.e., the additive genetic variance; *ssq* = variance of environmental factors shared by siblings reared together; m = direct effect of maternal phenotype on offspring phenotype; p = direct effect of paternal phenotype on offspring phenotype; w = covariance between additive genetic factors and family environment; x = variance of the shared environment induced by parental phenotypes; μ = correlation between spouses.

Table S17. Comparison of means between adopted and non-adopted offspring for each demographic and scale criterion.

	t-statistic	Adopted *M*	Non-adopted *M*	Cohen's *d* [95% CI]	*p*-value
Demographics					
Highest degree	–1.21	4.60	4.72	.09 [–.06, .24]	.23
Years of education	–1.30	15.84	16.07	.10 [–.05, .25]	.20
Age	4.29	32.24	31.37	–.33 [–.48, –.17]	$< .01$
Family SES	7.28	0.18	–0.24	–.43 [–.54, –.31]	$< .01$
Scales					
Political orientation	2.32	3.55	3.36	–.18 [–.33, –.03]	.02
Authoritarianism	–0.03	2.73	2.73	~ 0 [–.15, .15]	.98
Egalitarianism	2.2 0	3.58	3.44	–.17 [–.32, –.02]	.03
Social conservatism	2.09	3.66	3.53	–.16 [–.32, –.01]	.04
Economic conservatism	0.04	3.47	3.47	~ 0 [–.16, .15]	.97
Retribution	–1.77	3.14	3.23	.14 [–.01, .29]	.08
Religiousness	–2.56	10.8	12.61	.20 [.05, .35]	.01
ICAR-16	–3.61	8.87	9.93	.28 [.13, .43]	$< .01$
Political composite	1.81	0.07	–0.08	–.14 [–.30, .01]	.07

Note: Valid N for adopted offspring = 370 ($\pm$ 3) and non-adopted offspring = 310 ($\pm$ 3) for all phenotypes.

Table S18. Comparison of means between white and Asian offspring for each demographic and scale criterion.

	t–statistic	White *M*	Asian *M*	Cohen's *d* [95% CI]	*p*–value
Demographics					
Highest degree	–1.13	4.61	4.74	.09 [–.07, .25]	.26
Years of education	–0.58	15.91	16.03	.05 [–.11, .21]	.56
Age	–4.36	31.47	32.41	.36 [.20, .52]	$< .01$
Family SES	–7.68	–0.18	0.26	.46 [.34, .58]	$< .01$
Scales					
Political orientation	–3.78	3.33	3.65	.31 [.15, .47]	$< .01$
Authoritarianism	–0.11	2.72	2.73	.01 [–.15, .17]	.91
Egalitarianism	–3.24	3.43	3.64	.26 [.10, .42]	$< .01$
Social conservatism	–2.62	3.53	3.70	.21 [.05, .37]	.01
Economic conservatism	–0.80	3.46	3.50	.06 [–.10, .22]	.43
Retribution	1.56	3.21	3.12	–.13 [–.29, .03]	.12
Religiousness	2.51	12.22	10.39	–.20 [–.36, –.04]	.01
ICAR-16	1.54	9.63	9.16	–.13 [–.29, .03]	.12
Political composite	–2.52	–0.08	0.13	.20 [.04, .37]	.01

Note: Valid N for white offspring = 378 ($\pm$ 3) and Asian offspring = 251 ($\pm$ 3) for all phenotypes.

Table S19. Descriptives and percentage of sample scoring at each "extreme" percentile for full and hypothetical reduced (no parent socialization effect) models.

Model	Min.	1st Qu.	Median	Mean	3rd Qu.	Max
Full (observed) model	–2.85	–0.70	0.06	0.00	0.68	2.31
Restricted model	–2.24	–0.55	0.05	0.00	0.53	1.80

	Top and bottom	Top and bottom	Top and bottom	Top and bottom	Top and bottom
% of full sample	20% and 20%	15% and 15%	10% and 10%	5% and 5%	1% and 1%
% of restricted sample	15% and 12%	9% and 8%	5% and 5%	2% and $< 1\%$	~ 0 and ~ 0

Note: "Restricted" model refers to the hypothetical distribution of political composite scores without the component of parent socialization.

Table S20. Authoritarianism parent-offspring correlations within items

	Adoptive families		Non-adoptive families	
Item	Mom-offspring (N pairs = 431)	Dad-offspring (N pairs = 315)	Mom-offspring (N pairs = 344)	Dad-offspring (N pairs = 196)
Subordination				
Q1	$.21^{***}$	.10	$.37^{***}$	$.25^{***}$
Q2	$.14^{**}$	.10	$.18^{***}$	$.17^{*}$
Q9	–.03	~ 0	$.36^{***}$	$.19^{**}$
Q17	.08	$.23^{***}$	$.26^{***}$	.12
Conventionalism				
Q4	$.10^{*}$	$.14^{*}$	$.23^{***}$	$.30^{***}$
Q15	$.17^{***}$	$.15^{**}$	$.26^{***}$	$.15^{*}$
Q23	$.23^{***}$	$.26^{***}$	$.23^{***}$	$.34^{***}$
Q28	$.14^{**}$	$.17^{**}$	$.38^{***}$	$.15^{*}$
Aggression				
Q26	.06	$.11^{*}$	.10	$.18^{*}$
Q33	$.17^{***}$	$.18^{**}$	$.33^{***}$	$.33^{***}$
Q35	$.12^{*}$	–.02	$.16^{**}$	$.20^{**}$
Q39	$.09^{*}$	.09	$.33^{***}$	$.31^{***}$

Note: *** denotes $p < .001$, ** denotes $p < .01$, and * denotes $p < .05$.
Due to minor differences in missing item-level data, N reported in column headers is ± 2 for each item.
Item wording and other information can be found for each questionnaire item in Table S1.

Table S21. Egalitarianism parent-offspring correlations within items

	Adoptive families		Non-adoptive families	
Item	Mom-offspring (N pairs = 214)	Dad-offspring (N pairs = 156)	Mom-offspring (N pairs = 170)	Dad-offspring (N pairs = 97)
Q7	$.24^{***}$	$.26^{***}$	$.52^{***}$	$.35^{***}$
Q13	$.22^{**}$	$.27^{***}$	$.35^{***}$	$.32^{**}$
Q19	$.34^{***}$	.13	$.26^{***}$	$.37^{***}$
Q22	$.22^{**}$	$.31^{***}$	$.17^{*}$	$.29^{**}$
Q25	$.16^{*}$	$.18^{*}$	$.31^{***}$	$.33^{**}$
Q31	$.22^{**}$	.10	$.33^{***}$	$.36^{***}$
Q34	$.22^{**}$	.15	.14	.01
Q36	$.13^{*}$	.09	$.20^{**}$	.19

Note: *** denotes $p < .001$, ** denotes $p < .01$, and * denotes $p < .05$.
Due to minor differences in missing item-level data, N reported in column headers is ± 1 for each item.
Item wording and other information can be found for each questionnaire item in Table S2.

Table S22. Social and economic conservatism parent-offspring correlations within items

	Adoptive families		Non-adoptive families	
Item	Mom-offspring (N pairs = 216)	Dad-offspring (N pairs = 159)	Mom-offspring (N pairs = 171)	Dad-offspring (N pairs = 213)
Social conservatism				
Q3	.08	–.03	.09	–.03
Q8	$.17^{*}$	$.24^{**}$	$.52^{***}$	$.51^{***}$
Q11	.13	$.22^{**}$	$.20^{**}$	$.45^{***}$
Q16	.10	$.29^{***}$	.14	$.21^{*}$
Q21	.06	$.23^{**}$	$.20^{**}$	$.24^{*}$
Q24	.07	.13	$.21^{**}$	.09
Q30	$.33^{***}$	$.41^{***}$	$.60^{***}$	$.45^{***}$
Q32	.12	$.28^{***}$	$.32^{***}$	$.30^{**}$
Q37	.12	.08	$.46^{***}$	$.31^{**}$
Q38	$.16^{*}$	$.23^{**}$	$.39^{***}$	$.30^{**}$
Q40	$.19^{**}$	$.28^{***}$	$.45^{***}$	$.38^{***}$
Economic conservatism				
Q5	$.28^{***}$	$.31^{***}$	$.46^{***}$	$.29^{**}$
Q10	$.19^{**}$	.11	$.32^{***}$	$.28^{**}$
Q14	$.26^{***}$	.08	$.34^{***}$	$.27^{**}$
Q20	$.27^{***}$	.03	$.37^{***}$	$.40^{***}$
Q27	.02	.09	.09	.16
Q41	$.14^{*}$	.08	$.34^{***}$	$.24^{*}$

Note: *** denotes $p < .001$, ** denotes $p < .01$, and * denotes $p < .05$.
Due to minor differences in missing item-level data, N reported in column headers is ± 3 for each item.
Item wording and other information can be found for each questionnaire item in Table S5.

Table S23. Retribution parent-offspring correlations within items

	Adoptive families		Non-adoptive families	
Item	Mom-offspring (N pairs = 426)	Dad-offspring (N pairs = 318)	Mom-offspring (N pairs = 337)	Dad-offspring (N pairs = 196)
Q6	.05	.01	$.27^{***}$	$.17^{*}$
Q12	$.16^{***}$	$.24^{***}$	.10	.04
Q18	.01	.05	$.13^{*}$	.06
Q29	.03	$.23^{***}$	.09	.12
Q42	$.24^{***}$	$.12^{*}$	$.29^{***}$	~ 0

Note: *** denotes $p < .001$, ** denotes $p < .01$, and * denotes $p < .05$.
Due to minor differences in missing item-level data, N reported in column headers is ± 2 for each item.
Item wording and other information can be found for each questionnaire item in Table S3.

Table S24. Religiousness parent-offspring correlations within items

	Adoptive families		Non-adoptive families	
Item	Mom-offspring (N pairs = 219)	Dad-offspring (N pairs = 156)	Mom-offspring (N pairs = 170)	Dad-offspring (N pairs = 99)
Q1	$.22^{***}$	$.43^{***}$	$.46^{***}$	$.50^{***}$
Q2	$.28^{***}$	$.22^{***}$	$.39^{***}$	$.39^{***}$
Q3	$.23^{***}$	.11	$.40^{***}$	$.50^{***}$
Q4	$.17^{**}$	$.20^{***}$	$.43^{***}$	$.54^{***}$
Q5	$.27^{***}$	.06	$.24^{**}$	$.42^{***}$
Q6	$.31^{***}$	$.42^{***}$	$.48^{***}$	$.42^{***}$
Q7[a]	–.04	.26	$.53^{***}$	$.78^{***}$
Q8	–.03	.05	.11	–.01
Q9	$.16^{*}$	$.19^{*}$	$.48^{***}$	$.35^{***}$

Note: *** denotes $p < .001$, ** denotes $p < .01$, and * denotes $p < .05$.
[a]: Because Q7 is a binary variable, point-biserial correlation is used for this item.
Due to minor differences in missing item-level data, N reported in column headers is ± 2 for each item.
Item wording and other information can be found for each questionnaire item in Table S4.

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