**A Troublesome Belief?**

**Attitudinal Correlates of a Belief in Human Genetic Differences**

L.J Zigerell

Assistant Professor

Illinois State University

404 Schroeder Hall

Normal, IL 61790

ljzigerell@ilstu.edu

@LJZigerell

Abstract. In A Troublesome Inheritance, Nicholas Wade speculated that genetic differences might help explain inequality of outcomes between human groups. Reviewers suggested that Wade's speculations might encourage xenophobia and other negative consequences, so this study examined correlates of the belief that sex and race inequalities can be at least partly explained by genes. Analysis of two datasets suggested an important distinction between those who believe that genetic sex and race differences arise from natural causes and those who believe that genetic sex and race differences arise from a supernatural cause, with belief in naturally-caused genetic group differences tending to correlate more closely with progressive social and political attitudes. Moreover, evidence indicated that persons classified as believing in naturally-caused genetic group differences had attitudes substantially similar to persons who rejected genetic explanations for group differences but attributed group differences to a lack of internal motivation. This result suggests that genetic explanations for group differences might not be uniquely troublesome to those who prefer more progressive social and political attitudes among the population.

Keywords: inequality; genetics; race; sex; biology; evolution

Acknowledgements: Thanks to Emil Ole William Kirkegaard and Alexander Carrl Pacek for helpful comments. An earlier version of this manuscript was presented at the 2015 annual meeting of the Midwest Political Science Association.

In A Troublesome Inheritance: Genes, Race and Human History (2014), former New York Times science writer Nicholas Wade speculated that genetic differences caused by evolutionary mechanisms such as natural selection and genetic drift might help explain some of the variation in outcomes between human groups of different ancestries. Reviewers characterized Wade's book as "racist" (Gelman 2014), as "making the standard case for academic racism" (Smith 2014), and "an attempt to rebrand scientific racism under contemporary genomic science" (Cohen 2015). Moreover, reviewers suggested that Wade's speculations might foster harm:

...the implications of incorrectly believing the reverse—that genetics do determine behavior differences between human populations—are potentially dire. (Cohen 2015)

Wade's book isn't bad because of scientific errors (although it has its share of them), but because it offers a comprehensive thesis  one with serious social implications, including the possibility of encouraging xenophobia—without the scientific evidence to support it. (Coyne 2014)

Much research suggests the heritability of individual-level traits such as intelligence (Deary et al. 2009), personality (Bouchard 2004), antisocial behavior (Rhee and Waldman 2002), educational attainment (Branigan et al. 2013), political attitudes (Alford et al. 2005), and political behavior (Fowler et al. 2008). Increased public awareness of such research suggesting a genetic component for trait differences and outcomes at the individual level might lead to increased belief in a genetic component for trait differences and outcomes at the group level (see Sternthal et al. 2009, cited in Dar-Nimrod and Heine 2011). Therefore, it is important to analyze possible consequences of an increased belief in between-group genetic differences.

Along these lines, Apostle et al. (1983) investigated perceptions of racial differences, explanations for racial differences, and how these explanations correlated with prescriptions to address perceived racial differences in outcomes using data from the 1973 Bay Area Survey. Apostle et al. identified five pure modes of explanation for racial differences, presented here in order from most to least sympathetic toward policy prescriptions to reduce differences in outcomes between blacks and whites: a radical explanation, in which black disadvantage is perceived to be due to contemporary discrimination by whites; an environmental explanation, in which black disadvantage is perceived to be due to past discrimination such as slavery; a supernatural explanation, in which racial differences are perceived to be due to God; a genetic explanation, in which blacks are perceived to be naturally inferior; and an individualist explanation, in which blacks are perceived to be in control of outcomes.

More recent research has found an association between belief in genetic racial differences and less sympathetic views of blacks. For example, based on a sample of 600 white respondents, Sheldon et al. (2007) reported that a belief in genetic racial differences in athleticism predicted traditional racial prejudice and negative stereotypes about blacks, and Brown et al. (2009) reported that a belief in genetic race differences predicted both traditional and modern racial prejudice. Moreover, Joslyn et al. (2013) reported evidence from the 2000 General Social Survey that genetic explanations for black/white differences predicted negative stereotypes about black intelligence and propensity to violence.

Recent research has moved away from Apostle et al.'s disaggregation of genetic views in favor of a generalized belief in the influence of genes, but the evidence presented in the following studies suggests that a focus on this generalized belief causes researchers to overlook important dynamics that are detected when belief in the influence of genes is disaggregated based on whether genetic group differences are perceived to result from natural or supernatural forces.

**Human Biodiversity**

The term "human biodiversity" (HBD) has been used to refer to biological variation between and among humans (see Marks 1995, Sailer 2010). Belief in HBD is uncontroversial in obvious contexts at the individual level, such as within-group variation in traits such as height, and is uncontroversial in obvious contexts at the group level, such as sex differences in reproductive organs; however, HBD is more controversial for explaining group-level variation that has clear environmental influences, such as using race or ethnicity to help to explain racial variation in athleticism (Entine 2008, Epstein 2013) and intelligence (Jensen 1969, Herrnstein and Murray 1994, Lynn and Vanhanen 2002, Lynn 2006).

Belief in HBD is heterogeneous, and one important dimension of heterogeneity is whether perceived genetic differences arise from natural or supernatural forces. Genetic differences in natural HBD are presumed to have resulted from evolutionary forces such as sex selection acting within human population groups and natural selection acting upon human population groups that have reproduced in isolation or relative isolation; these evolutionary forces are presumed to have resulted in genetic differences between groups and between sexes on certain traits; and these between-group and between-sex trait differences are presumed to have caused at least some of the between-group and between-sex differences in outcomes.

However, in supernatural HBD, between-group and between-sex genetic differences are presumed to have resulted from divinely-guided processes that might have been evolutionary (theistic evolution), might have resulted from a Creator designing differences in humans (intelligent design), or might have resulted from a God causing genetic differences between human sexes and human races at some point in history, such as in the Garden of Eden and at the Tower of Babel.

The key distinction between natural HBD and supernatural HBD is whether perceived genetic differences have been divinely guided so that these differences and their consequences can be perceived to have been purposeful and to have a continuing purpose. Believers in supernatural HBD are expected to be less progressive regarding sex and race differences due to a belief that sex and race differences reflect genetic differences that have a purpose intended by God. However, believers in natural HBD are expected to be more progressive regarding sex and race differences due to a belief that sex and race differences reflect natural differences have no contemporary purpose and had no larger purpose in the past other than survival and adaptation.

**The Blank Slate**

The blank slate belief is reflected in the following quote from John B. Watson in 1924:

Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select ‒ doctor, lawyer, artist, merchant-chief, and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors (p. 82).

The core idea of the blank slate belief (see Pinker 2002) is that all healthy humans—and thus any subset of healthy humans—begin with the same genetic potential, so that human inequality is unnatural. But, as Apostle et al. (1983) noted, there are multiple types of blank slate belief: an individualist blank slate belief perceives inequality to result from internal forces, so that persons and groups that lag behind are responsible for their disadvantage, but an environmental/radical blank slate belief perceives inequality to result from external forces, so that persons and groups that lag behind are not responsible for their disadvantage.

The key distinction between such "internal" and "external" blank slate beliefs is whether differences in outcomes are the fault—and thus the responsibility—of the persons or groups with lesser outcomes: therefore, compared to persons with an external blank slate belief, persons with an internal blank slate belief are expected to be less progressive regarding sex and race differences due to a belief that sex and race differences in outcomes reflect internal shortcomings of the disadvantaged groups.

**Research Designs**

Two datasets were located that permitted comparison of correlates for natural HBD belief and supernatural HBD belief. The first dataset was from the archives of the Time-sharing Experiments for the Social Sciences; the data were collected based on a survey experiment proposal by Catherine J. Taylor (see Taylor 2007). Some respondents in the experiment were assigned to respond to a set of four items about essentialist explanations for sex differences, and other respondents were assigned to respond to a set of four items about socio-cultural explanations for sex differences; all respondents were then assigned a set of 15 items, along with items measuring self-reported political ideology. See the supplemental material for the question wording.

The first two essentialist explanations items were used to construct four explanatory belief categories; 193 respondents had substantive responses to these items. The items were:

The differences between men and women in behavior and personality are largely determined by biological differences between men and women (for example, the differing levels of testosterone and estrogen in men and women).

The differences between men and women in behavior and personality are largely due to the differences in the way that God intended for men and women to act.

The supernatural HBD belief category had 64 cases (33% of the total); cases were classified into this category if the respondent agreed with both items. The natural HBD belief category had 46 cases (24% of the total); cases were classified into this category if the respondent agreed that sex differences are largely determined by biological differences, but disagreed that sex differences were intended by God. Remaining respondents were coded as non-HBD if the respondent disagreed with both statements (10 cases, 5% of the total), with the residual respondents classified as mixed HBD (73 cases, 38% of the total). In the models, though, the non-HBD and mixed HBD groups are coded as a single residual category.[[1]](#footnote-1) Some models included controls for: sex, age, education, household income, and political ideology.

The second dataset was release 1 of the cumulative cross-sectional dataset of the 1972-2014 General Social Survey. Models were estimated in Stata 11 and weighted with the command: svyset vpsu [pw=wtssall], strata(vstrat) singleunit(centered); the singleunit option is necessary because standard errors will not otherwise be reported due to strata with a single sampling unit, and the centered option is the option that produces the largest standard error (Samuels 2011).

Respondents were sorted into one of five explanatory belief categories based on responses regarding evolution and explanations for black disadvantage. Belief in human evolution was coded by combining responses from different items asked in different years. The item for 1993, 1994, 2000, and 2004 asked for a response to the statement that "Human beings developed from earlier species of animals"; responses were coded 1 for definitely true or probably true and coded 0 for probably not true and definitely not true. The item for 2006 to 2014 asked respondents to classify as true or false the statement that "Human beings, as we know them today, developed from earlier species of animals"; responses were coded 1 for true and 0 for false. The 2012 GSS included a split ballot in which some respondents were asked to classify as true or false the statement that "According to the theory of evolution, human beings, as we know them today, developed from earlier species of animals"; this item was not used in coding belief in human evolution because the item measured only awareness of the theory of evolution. The GSS included items measuring belief in genetic causes of individual-level phenomena, but these items were not used because belief in HBD includes belief in a genetic basis for group differences.

The items about explanations for black disadvantage were:

On the average [Negroes / Blacks / African-Americans] have worse jobs, income, and housing than white people. Do you think these differences are...

1. Mainly due to discrimination?
2. Because most [Negroes / Blacks / African-Americans] have less in-born ability to learn?
3. Because most [Negroes / Blacks / African-Americans] don't have the chance for education that it takes to rise out of poverty?
4. Because most [Negroes / Blacks / African-Americans] just don't have the motivation or will power to pull themselves up out of poverty?

There were 3,702 cases coded white with substantive responses to the evolution item and the four black disadvantage items. Sample sizes across years were 677 cases in 1993, 575 cases in 1994, 469 cases in 2000, 547 cases in 2006, 828 cases in 2008, 208 cases in 2010, 101 cases in 2012, and 527 cases in 2014. The supernatural HBD belief category had 230 cases (6% of the total); cases were classified into this category if the respondent rejected the theory of evolution but accepted the idea that black disadvantage was due at least in part to blacks having less inborn ability to learn; no white respondent coded into the supernatural HBD belief category reported disbelief that God exists. The natural HBD belief category had 183 cases (5% of the total); cases were classified into this category if the respondent accepted the theory of evolution and accepted the idea that black disadvantage was due at least in part to blacks having less inborn ability to learn.

The internal blank slate belief category had 1,665 cases (42% of the total); cases were classified into this category if the respondent rejected the idea that black disadvantage was due at least in part to blacks having less inborn ability to learn but accepted the idea that blacks do not have the motivation or will power to pull themselves up out of poverty. The external blank slate belief category had 1,320 cases (34% of the total); cases were classified into this category if the respondent rejected the idea that black disadvantage was due at least in part to blacks having less inborn ability to learn, rejected the idea that blacks do not have the motivation or will power to pull themselves up out of poverty, but accepted the discrimination and/or the education explanation for black disadvantage.

The remaining 534 cases (14% of the total) were placed into an unclassified belief category, indicating that the respondents had not accepted any of the four reasons for black disadvantage. Respondents who selected multiple explanations were classified as follows: any respondent who selected the inborn ability to learn explanation was classified into one of the HBD categories; any remaining respondent who selected the motivation or will power explanation was classified into the internal blank slate belief category.

Outcome variables were created to measure ratings of intelligence for blacks and whites in general, and ratings of laziness for blacks and whites in general, opposition to policies designed to help blacks, opposition to interracial marriage involving whites and members of other races, opposition to living in a half-black neighborhood, support for reducing the number of immigrants to America, negative views of immigrants and immigration, opposition to affirmative action for women, and preference for traditional sex roles. See the supplemental material for more detail on coding of the outcome variables.

Some models included controls for: sex; age, measured from 18 to over 88; education, measured as the highest year of school completed, from 0 to 20; self-reported partisanship, measured on a seven-point scale from strong Democrat to strong Republican; frequency of religious services attendance, measured on a nine-point scale from never to several times per week; science knowledge, based on a six-item test; and a set of dichotomous variables for the year of the survey. See the supplemental material for details on the science knowledge test. Models for the negative views of immigrants and immigration outcome variable did not include the science knowledge test because the items used for the negative views of immigrants and immigration outcome variable were asked only in a year (1994) in which the science knowledge test was not included in the GSS.

For all reported models, cases with a non-substantive response for an included item were listwise deleted; see the supplemental material for a report on missing data for the models. Models for dichotomous outcome variables were estimated with logit, and models for nondichotomous outcome variables were estimated with a least squares regression. To avoid racial confounding, the sample was restricted to white respondents. Statistical significance is assessed at the 0.05 level with two-tailed tests. Unless otherwise indicated, post-stratification weights were applied in reported models.

**Results**

Figure1 reports results from the Taylor dataset, in which HBD categories were measured with items about sex differences. Reported models included controls for sex, age, education level, household income, self-reported political ideology, and question order. The small sample resulted in wide confidence intervals of 0.66 standard deviations or longer, which makes it difficult to detect differences. However, a few differences were detected, indicated by an asterisk in the figure: compared to persons coded into the natural HBD belief category, persons coded into the supernatural HBD belief category expressed more conservative views about the legality and morality of abortion, about government funding of birth control, about the legality of same-sex marriage, about single-sex education, and about government encouragement of promotion of traditional marriage.[[2]](#footnote-2) These results indicate that the supernatural HBD belief correlates with more conservative views than the natural HBD belief, even over the control for self-reported ideology.

[Figure 1 about here]

The remaining reported results are for the analysis of the General Social Survey data. Figure 2 presents racial stereotypes results for white respondents. Consistent with results reported in Joslyn et al. (2013), negative stereotypes about blacks correlated more with genetic explanations for black/white differences than with non-genetic explanations; in the GSS data, persons in the natural and supernatural HBD groups were more likely than the persons in the non-HBD groups to rate blacks as less intelligent than whites in general and to rate blacks as lazier than whites in general.

But it is unclear how much should be made of these results, because the GSS measures do not permit a thorough assessment of the accuracy of these stereotypes (see Jussim et al. 2009 regarding the accuracy of many stereotypes). There does not appear to be a clear measure of laziness that could be used to assess the accuracy of the laziness stereotype, but, for the intelligence stereotype, multiple studies indicate that, on average, whites score higher than blacks on IQ tests (e.g., Gottfredson 1994, Roth et al. 2001, Dickens and Flynn 2006). Thus, in that limited sense, it can be argued that the more negative intelligence stereotype of the HBD groups is not necessarily inaccurate, if intelligence in the measures is interpreted to be equivalent to the abilities captured in IQ tests. However, the GSS stereotype measures cannot be used to assess whether respondents overestimate, underestimate, or correctly estimate racial differences in average IQ scores, because the stereotype scales measure stereotypes on a scale with dimensionless units.

[Figure 2 about here]

Inferences are clearer for the outcome variables measuring social and political attitudes. Figure 3 presents results for white respondents based on regressions with the unclassified explanatory belief category as the omitted belief category, with models including controls only for the year of the survey. To foster comparison across models, each non-dichotomous outcome variable and control variable was standardized so that its mean was zero and standard deviation 1.

Outcome variables were coded so that the left end of the scale indicates more progressive views; therefore, the most common pattern for the four included explanatory belief categories is that the external blank slate belief is the most progressive explanatory belief and the supernatural HBD belief is the least progressive explanatory belief. This most common pattern is broken in two of the nine graphs. First, natural HBD belief correlates with stronger support for remedial programs to assist blacks, compared to the internal blank slate belief. Second, both HBD belief categories correlate with stronger support for affirmative action for women, compared to both blank slate belief categories.

The natural HBD belief and the internal blank slate belief typically fall between extremes and close to each other. Two-tailed p-values fell under or close to 0.05 for the difference between natural and supernatural HBD for opposition to policies designed to help blacks (p=0.007), opposition to white-black marriage (p=0.001), opposition to white-Asian marriage (p<0.001), opposition to white-Hispanic marriage (p=0.008), negative views of immigrants and immigration (p=0.006), and preference for traditional sex roles (p<0.001).

[Figure 3 about here]

To address the possibility that patterns reflect only demographics of persons who hold the explanatory beliefs, results in Figure 4 are based on models that control for sex, age, education, self-reported partisanship, frequency of religious services attendance, science knowledge, and the year of the survey. Two-tailed p-values fell under or close to 0.05 for the difference between natural and supernatural HBD with the full set of controls for opposition to white-black marriage (p=0.014), opposition to white-Asian marriage (p=0.006), opposition to white-Hispanic marriage (p=0.059), negative views of immigrants and immigration (p=0.010), and preference for traditional sex roles (p=0.054).

[Figure 4 about here]

In the models presented in Figure 3, results for natural HBD belief and the internal blank slate belief reached statistical significance in only two instances, and, in both instances, the natural HBD belief correlated with more progressive attitudes than the internal blank slate belief: more support for policies to help blacks (p=0.013) and more support for affirmative action for women (p=0.010).

**Potential Problems in the Analysis**

There are several potential problems with this analysis. The measure of belief in HBD was suboptimal, incorporating a belief in socially-relevant biological differences for only one difference (race) on only one dimension (economics). Moreover, it is likely that social desirability among respondents reduced the size of membership in the HBD belief categories; however, such social desirability bias should be expected to bias results for the HBD categories toward the less progressive end of the outcome variable scales, based on the expectation that persons afraid to admit to belief in HBD are likely persons who would take a more progressive position on the outcome variable items.

A second potential coding problem concerns theistic evolution, which can be placed into the natural HBD belief category or the supernatural HBD belief category; the GSS items unfortunately did not permit sufficient nuance to separate theistic evolutionary beliefs into belief that God has purposefully directed evolution (more similar to supernatural HBD) and belief that God created the universe but has not provided direction to evolution (more similar to natural HBD). The present study classified believers in theistic evolution into the natural HBD belief category, so—to the extent that this coding is a misclassification—the bias would be toward reducing differences in outcomes between the HBD belief categories.

Another problem with the analysis is that the cross-sectional nature of the data does not permit strong causal inference. Suhay and Jayaratne (2013) cautioned against presuming that belief in genetic differences is causally prior to social attitudes, based on the finding that conservatives were more likely to use genetic differences to explain social inequalities but liberals were more likely to use genetic differences to explain sexual orientation; Suhay and Jayaratne concluded that "[t]hese patterns suggest that conservative and liberal ideologues will tend to endorse genetic explanations where their policy positions are bolstered by 'naturalizing' human differences" (497). Thus, the analysis reported above can establish at most only a correlation between explanatory beliefs and social and political attitudes.

Moreover, the analysis was limited to white respondents because there were relatively few non-whites coded into the HBD belief categories: for example, no outcome variable had more than an overlap of 41 black respondents coded as natural HBD, thus creating wide confidence intervals in regressions involving only black respondents. Point estimates in unreported analyses with only black respondents suggested that supernatural HBD belief might operate differently among black respondents, but an analysis of black responses deserves more data and more careful theorization about explanatory beliefs among blacks, especially given that belief in HBD was operationalized with an item about blacks' ingroup.

**Discussion**

Haidt (2009) proposed that "[t]he most offensive idea in all of science for the last 40 years is the possibility that behavioral differences between racial and ethnic groups have some genetic basis." Believers in human biodiversity (HBD) do not categorically exclude genetic differences in explaining at least part of observed race and sex differences in socially-relevant outcomes, so it is not surprising that HBD has been characterized as racist (Erasmussimo 2013, Myers 2014). In particular, the belief that racial differences in certain outcomes is attributable to blacks having less inborn ability to learn has been classified as "old-fashioned racial prejudice" (Virtanen and Huddy 1998), "classical racism" (Federico and Sidanius 2002), and "racism" (Renfro et al. 2006); even attributing black outperformance in athletics to genetic differences has been viewed negatively, as a white legitimizing myth (Sheldon et al. 2007: 34-35).

But Brown et al. (2009) called it a "mistake" to equate old-fashioned prejudice with "genetic thinking about racial categories" (p. 5), noting that "belief in genetic difference does not necessarily imply black inferiority or white superiority" (p. 7). Contemporary belief in HBD differs from old-fashioned prejudice at least in the sense that old-fashioned prejudice is associated with a naïve white supremacism that perceives whites to be superior to all other racial groups on all important traits, while a belief common in contemporary HBD circles is that statistical evidence indicates that persons of European descent fall between persons of East Asian descent and African descent on many socially-relevant traits, such as mean intelligence levels and mean sociability levels (Rushton 1995, Rushton and Jensen 2005: 265). Construing contemporary belief in HBD as a white legitimizing myth is more difficult when believers in HBD place East Asians or Africans at the positive end of a continuum for many important traits.

However, some research has found that belief in HBD does positively correlate with old-fashioned prejudice: Jayaratne et al. (2006) and Brown et al. (2009) reported evidence that white respondents' belief in black-white genetic differences positively correlated to old-fashioned prejudice and modern anti-black prejudice. But belief that a group difference is genetic in origin does not necessarily predict prejudice against that group: belief in a genetic origin for sexual orientation positively correlated with lower levels of prejudice against gays and lesbians (Jayaratne et al. 2006) and was the strongest predictor of positive feelings about gays and lesbians and of support for pro-gay policies (Haider-Markel and Joslyn 2008).

Comparing Figure 2 to Figure 4, the natural HBD group expressed more support for policies to help blacks than the internal blank slate group did, even though persons in the natural HBD group were substantially more likely to hold negative stereotypes about black intelligence and laziness. A similar phenomenon was detected in the 1995 Detroit Area Study in which some models indicated that the belief that whites have more inborn ability to learn correlated with support for affirmative action (Williams et al. 1999). However, the proposed explanation for this result was unnecessarily essentialist:

It is probably ideologically consistent that beliefs about the inherent inferiority of blacks, stripped of other racial components, can lead to a sympathetic response towards assisting blacks. That is, if blacks are biologically inferior, they are incapable of helping themselves and thus deserving of charitable assistance (Williams et al. 1999: 521).

It is certainly possible that many or most persons who believe in genetic sex or race differences think in terms of inherent inferiority, but in the Taylor data only 8 of 63 persons coded supernatural HBD and only 2 of 46 persons coded natural HBD agreed that men are on average more competent than women. It is at least possible that many most persons who believe in genetic race or sex differences think of sex and race differences in terms of overlapping distributions with different means.

It is also possible that more nuanced conceptions of sex and race differences are found among persons with a natural HBD belief than among persons with a supernatural HBD belief. The analysis reported above followed Apostle et al. (1983) by separating belief in human group genetic differences into a supernatural HBD belief directed by God and a natural HBD belief that resulted from evolutionary mechanisms. Important differences emerged between the two types of HBD: compared to persons categorized as believing in supernatural HBD, persons categorized as believing in natural HBD were estimated to be more supportive of racial intermarriage, to have more positive views of immigrants and immigration, and to have less preference for traditional sex roles.

The progressiveness of the natural HBD belief relative to the supernatural HBD belief conflicts with patterns reported in the Apostle et al. (1983) analysis of the 1973 Bay Area Survey, with cross-time change and the national sampling of the General Social Survey as likely sources of difference between the two studies. But the relative progressiveness of the natural HBD belief makes sense if supernatural HBD reflects a belief that race and sex differences result from a divine purpose and thus need not or should not be changed, while natural HBD reflects a belief that race and sex differences result from a happenstance naturalistic processes that had no larger purpose than adaptation to foster survival. The potential rigidity of the supernatural HBD belief is reflected in the statement of a trial judge in the Loving case involving Virginia laws to punish marriages between white persons and colored persons:

Almighty God created the races white, black, yellow, malay and red, and he placed them on separate continents. And, but for the interference with his arrangement, there would be no cause for such marriage. The fact that he separated the races shows that he did not intend for the races to mix. (Cited in the 1967 US Supreme Court decision in Loving v. Virginia)

Progress in genetic research might implicitly foster more widespread belief in natural HBD, and books such as A Troublesome Inheritance might explicitly foster more widespread belief in natural HBD, so it is important to understand the consequences of belief in natural HBD on social attitudes. Research reported above indicated heterogeneity in the potential consequences, with natural HBD often associated with more progressive views than supernatural HBD and with similar views to the internal blank slate belief. Therefore, predicting change in social and political attitudes based on an increased belief in a genetic basis for race and sex differences depends on the particular change in belief: change from an external blank slate belief is expected to lead to less progressive views overall, change from a supernatural HBD belief is expected to lead to more progressive views overall, and change from an internal blank slate belief is expected to be an overall wash.

One important area for future research is the cognitive relationship between belief in natural HBD and policy preferences. Belief that non-divinely-directed genetic differences have caused observed differences in group outcomes could be interpreted as a strong justification for remedial and affirmative action programs that address group differences, based on the principle that such programs are necessary to produce equal opportunities. Belief in natural HBD might be especially persuasive for conservatives, who typically oppose remedial and affirmative action programs but support the principle of equality of opportunity. However, it is unclear to what extent this connection would need to be made explicitly, so more research is needed to better understand the causes and consequences of belief in HBD.

**References**

Alford, John R., Carolyn L. Funk, and John R. Hibbing. 2005. "Are Political Orientations Genetically Transmitted?" *American Political Science Review* 99(2): 153-167.

Apostle, Richard A., Charles Y. Glock, Thomas Piazza, and Marijean Suelzle. 1983. *The Anatomy of Racial Attitudes*. Berkeley: University of California Press.

Bouchard, Thomas J. 2004. "Genetic Influence on Human Psychological Traits: A Survey." *Current Directions in Psychological Science* 13(4): 148-151.

Branigan, Amelia R., Kenneth J. McCallum, and Jeremy Freese. 2013. "Variation in the Heritability of Educational Attainment: An International Meta-Analysis*." Social Forces* 92(1): 109-140.

Brown, Tony N., Mark K. Akiyama, Ismail K. White, Toby Epstein Jayaratne, and Elizabeth S. Anderson. 2009. "Differentiating Contemporary Racial Prejudice from Old-Fashioned Racial Prejudice." *Race and Social Problems* 1(2): 97-110.

Cohen, Philip. 2015. Troubling Race in the Social Sciences*. Annals of the American Academy of Political and Social Science*. Forthcoming.

Coyne, Jerry A. 2014. "New Book on Race by Nicholas Wade: Professor Ceiling Cat Says Paws Down." Why Evolution Is True. May 14. Retrieved from: <https://whyevolutionistrue.wordpress.com/2014/05/14/new-book-on-race-by-nicholas-wade-professor-ceiling-cat-says-paws-down/>.

Dar-Nimrod, Ilan, and Steven J. Heine. 2011. "Genetic Essentialism: On the Deceptive Determinism of DNA." *Psychological Bulletin* 137(5): 800–818.

Darwin, Charles. 1871. *The Descent of Man*.

Dean, Cornelia. 2007. "Nobel Winner Issues Apology for Comments About Blacks." *The New York Times*. Oct 19.

Deary, Ian J., Wendy Johnson, and Lorna M. Houlihan. 2009. "Genetic Foundations of Human Intelligence." *Human Genetics* 126(1): 215-232.

Dickens, William T., and James R. Flynn. 2006. "Black Americans Reduce the Racial IQ Gap: Evidence from Standardization Samples." *Psychological Science* 17(10): 913-920.

Entine, Jon. 2008. *Taboo: Why Black Athletes Dominate Sports and Why We're Afraid to Talk About It*. New York: PublicAffairs.

Epstein, David. 2013. *The Sports Gene: Inside the Science of Extraordinary Athletic Performance*. Penguin.

Erasmussimo. 2013. "Racism Has a New Name: HBD." The Daily Kos. Jan 12. Retrieved from: [http://www.dailykos.com/story/2013/01/12/1178414/-Racism-has-a-new-name-HBD#](http://www.dailykos.com/story/2013/01/12/1178414/-Racism-has-a-new-name-HBD).

Federico, Christopher M., and Jim Sidanius. 2002. "Racism, Ideology, and Affirmative Action Revisited: The Antecedents and Consequences of 'Principled Objections' to Affirmative Action." *Journal of Personality and Social Psychology* 82(4): 488-502.

Fowler, James H., Laura A. Baker, and Christopher T. Dawes. 2008. "Genetic Variation in Political Participation." *American Political Science Review* 102(2): 233-248.

Gelman, Andrew. 2014. "The Paradox of Racism." Slate. May 8. Retrieved from: <http://www.slate.com/articles/health_and_science/science/2014/05/troublesome_inheritance_critique_nicholas_wade_s_dated_assumptions_about.2.html>.

Gottfredson, Linda S. 1997. "Mainstream Science on Intelligence: An Editorial with 52 Signatories, History, and Bibliography." *Intelligence* 24(1): 13-23.

Haider-Markel, Donald P., and Mark R. Joslyn. 2008. "Beliefs About the Origins of Homosexuality and Support For Gay Rights: An Empirical Test of Attribution Theory." *Public Opinion Quarterly* 72(2): 291-310.

Haidt, Jonathan. 2009. "Faster Evolution Means More Ethnic Differences." The Edge Annual Question 2009. Retrieved from: <http://edge.org/q2009/q09_4.html#haidt>.

Herrnstein, Richard J., and Charles Murray. 1994. *The Bell Curve: Intelligence and Class Structure in American Life*. New York: Free Press.

Jayaratne, Toby Epstein, Oscar Ybarra, Jane P. Sheldon, Tony N. Brown, Merle Feldbaum, Carla A. Pfeffer, and Elizabeth M. Petty. 2006. "White Americans' Genetic Lay Theories of Race Differences and Sexual Orientation: Their Relationship with Prejudice toward Blacks, and Gay Men and Lesbians." *Group Processes & Intergroup Relations* 9(1): 77-94.

Jensen, Arthur R. 1969. "How Much Can We Boost IQ and Scholastic Achievement." *Harvard Educational Review* 39(1): 1-123.

Joslyn, Mark R., Donald P. Haider-Markel, and Matthew R. Miles. 2013. "Genetic Attributions and Group Stereotypes: A Preliminary Examination of Two Cases." Paper presented at the annual meeting of the American Political Science Association.

Jussim, Lee, Thomas R. Cain, Jarret T. Crawford, Kent Harber, and Florette Cohen. 2009. "The Unbearable Accuracy of Stereotypes." In the *Handbook of Prejudice, Stereotyping, and Discrimination*, ed. Todd D. Nelson. New York: Psychology Press. pp. 199-227.

Lynn, Richard, and Tatu Vanhanen. 2002. *IQ and the Wealth of Nations*. Westport, CT: Praeger.

Lynn, Richard. 2006. *Race Differences in Intelligence: An Evolutionary Analysis*. Augusta, GA: Washington Summit Publishers.

Marks, Jonathan M. 1995. *Human Biodiversity: Genes, Race, and History*. New York: Aldine de Gruyter.

Myers, PZ. 2014. "The hbd Delusion." Pharyngula. ScienceBlogs. May 11. Retrieved from: <http://scienceblogs.com/pharyngula/2014/05/11/the-hbd-delusion/>.

Pinker, Steven. 2002. *The Blank Slate: The Modern Denial of Human Nature*. New York: Viking.

Renfro, C., Anne Duran, Walter G. Stephan, and Dennis L. Clason. 2006. "The Role of Threat in Attitudes toward Affirmative Action and Its Beneficiaries." *Journal of Applied Social Psychology* 36(1): 41-74.

Rhee, Soo Hyun, and Irwin D. Waldman. 2002. "Genetic and Environmental Influences on Antisocial Behavior: A Meta-Analysis of Twin and Adoption Studies." *Psychological Bulletin* 128(3): 490-529.

Roos, J. Micah. 2014. "Measuring Science or Religion? A Measurement Analysis of the National Science Foundation Sponsored Science Literacy Scale 2006-2010." *Public Understanding of Science* 23(7): 797-813.

Roth, Philip L., Craig A. Bevier, Philip Bobko, Fred S. Switzer, and Peggy Tyler. 2001. "Ethnic Group Differences in Cognitive Ability in Employment and Educational Settings: A Meta-Analysis." *Personnel Psychology* 54(2): 297-330.

Rushton, J. Philippe. 1995. *Race, Evolution, and Behavior: A Life History Perspective*. New Brunswick, NJ: Transaction.

Rushton, J. Philippe, and Arthur R. Jensen. 2005. "Thirty Years of Research on Race Differences in Cognitive Ability." *Psychology, Public Policy, and Law* 11(2): 235-294.

Sailer, Steve. 2010. "What is HBD?" Interview with Craig Bodeker. Retrieved from: <http://vimeo.com/17973421>.

Samuels, Steve J. 2011. "Re: st: logistic regression complex samples." Statalist. Dec 7. Retrieved from: <http://www.stata.com/statalist/archive/2011-12/msg00397.html>.

Sheldon, Jane P., Toby Epstein Jayaratne, and Elizabeth M. Petty. 2007. "White Americans' Genetic Explanations for a Perceived Race Difference in Athleticism: The Relation to Prejudice toward and Stereotyping of Blacks." *Athletic Insight: The Online Journal of Sport Psychology* 9(3): 31-56.

Smith, Noah. 2014. "Academic Racism Has a K=N Problem." May 10. Noahpinion. Retrieved from: <http://noahpinionblog.blogspot.com/2014/05/academic-racism-has-kn-problem.html>.

Sternthal, Michelle, Toby E. Jayaratne, and M. Feldbaum. 2009. "Is There a Genetic Explanatory Style? The Link from Explanations for Individual to Perceived Group Differences." Unpublished manuscript, University of Michigan, Ann Arbor.

Suhay, Elizabeth, and Toby Epstein Jayaratne. 2013. "Does Biology Justify Ideology? The Politics of Genetic Attribution." *Public Opinion Quarterly* 77(2): 497-521.

Taylor, Catherine J. 2007. Replication dataset for "Nature or Nurture?: Explanations for Observed Gender Differences and their Effect on Gender Ideology and Political Opinions" Retrieved from: <http://www.tessexperiments.org/data/taylor515.html>.

Virtanen, Simo V., and Leonie Huddy. 1998. "Old-Fashioned Racism and New Forms of Racial Prejudice." *Journal of Politics* 60(2): 311-332.

Wade, Nicholas. 2014. *A Troublesome Inheritance: Genes, Race and Human History*. New York: Penguin.

Watson, John B. 1924. *Behaviorism*. New Brunswick, NJ: Transaction Publishers. Seventh printing, 2009.

Williams, David R., James S. Jackson, Tony N. Brown, Myriam Torres, Tyrone A. Forman, and Kendrick Brown. 1999. "Traditional and Contemporary Prejudice and Urban Whites' Support for Affirmative Action and Government Help." *Social Problems* 46(4): 503-527.

**Supplemental material**

TAYLOR 2007 TESS DATA

Based on documentation available at the website for the Time-sharing Experiments for the Social Sciences, the Taylor 2007 TESS survey experiment was fielded from December 28, 2006, to January 6, 2007, with a completion rate of 75.0% and an AAPOR RR3 of 27.5%. The dataset included variables for: case id; post-stratification weight; age; an indication of whether the household had dual income; education; race and ethnicity, gender, household variables of head, size, type, and income; marital status; MSA status; presence of children in certain age groups; current employment status; variables to indicate the experimental condition and question order; the date the survey was completed; the time to complete the survey; and the following 24 items:

1. The differences between men and women in behavior and personality are largely determined by biological differences between men and women (for example, the differing levels of testosterone and estrogen in men and women).
2. The differences between men and women in behavior and personality are largely due to the differences in the way that God intended for men and women to act.
3. Men are just naturally better at some things and women are just naturally better at other things.
4. There are clear and stable personality differences between men and women.
5. The differences between men and women in behavior and personality are largely determined by differences in how men/boys are socialized differently than girls/women (for example, how they are treated by parents and others).
6. The differences between men and women in behavior and personality are largely determined by different opportunities given to men and women over their lifetime.
7. The differences between men and women are largely determined by the fact that men are more likely to work outside the home than women.
8. The differences between men and women are largely determined by the fact that women are more likely to be the main caretaker for children and other relatives.
9. You will now read a series of statements. Please tell us how strongly you agree or disagree with each of them. Women are more sensitive than men.
10. Men are better with numbers than women.
11. Men are more aggressive than women.
12. Women are more emotional than men.
13. On average men are generally more competent than women.
14. Society has reached a point where women and men have equal opportunities for achievement.
15. The government should fund birth control for women who want it.
16. Women should have the legal right to an abortion under any circumstances.
17. I personally think that abortion is wrong.
18. Same sex couples should have the legal right to be married.
19. Boys and girls should be educated differently.
20. All else being equal about the schools, same sex schools would educate both boys and girls better than mixed sex schools.
21. The government should offer financial incentives to encourage the formation of traditional families.
22. The government should financially assist poor, single mothers.
23. We hear a lot of talk these days about liberals and conservatives. Are you a liberal, a conservative, or neither? [options for Liberal, Conservative, Neither]
24. [If Q23 is liberal or conservative] Do you consider yourself strongly [liberal/conservative] or weakly [liberal/conservative]?
25. [If Q23 is not liberal or conservative] Do you lean liberal, lean conservative, or lean neither liberal nor conservative? [Options for Lean Liberal, Lean Conservative, and Neither].

Items 1 to 23 had response options of: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, and strongly disagree. Respondents in the essentialist explanations condition received items 1 to 4, and respondents in the socio-cultural explanations condition received items 5 to 8. All respondents received items 9 and following, with some respondents receiving items 9 to 14 before items 15 to 22, and other respondents receiving items 15 to 22 before items 9 to 14. The conservative control was coded using only responses to option 23, with the four respondents who refused to answer item 23 coded as neither liberal nor conservative.

GENERAL SOCIAL SURVEY DATA

Outcome variable measurement

1. The racial stereotype for intelligence was measured as the difference in responses to these items items: "Do people in these groups tend to be unintelligent or tend to be intelligent? Where would you rate [whites/blacks] in general on this scale?" Scale from 1 (unintelligent) to 7 (intelligent). Data for this outcome variable overlap with the explanatory belief categories in years 2000, 2006, 2008, 2010, 2012, and 2014.
2. The racial stereotype for laziness was measured as the difference in responses to these items: "The second set of characteristics asks if people in the group tend to be hard-working or if they tend to be lazy. Where would you rate [whites/blacks] in general on this scale?" Scale from 1 (hard-working) to 7 (lazy). Data for this outcome variable overlap with the explanatory belief categories in years 1994, 2000, 2006, 2008, 2010, 2012, and 2014.
3. Opposition to policies designed to help blacks was measured with these items: (1) "Some people say that because of past discrimination, blacks should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of blacks is wrong because it discriminates against whites. What about your opinion  are you for or against preferential hiring and promotion of blacks?" Responses were coded on a four-point scale from strongly support to strongly oppose. (2) "Some people think that [Blacks/Negroes/African-Americans] have been discriminated against for so long that the government has a special obligation to help improve their living standards. Others believe that the government should not be giving special treatment to [Blacks/Negroes/African-Americans]. Where would you place yourself on this scale, or haven't you made up your mind on this?" Responses were coded on a five-point scale from no special treatment to special treatment. (3) "We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. [...] Are we spending too much, too little, or about the right amount on [improving the conditions of Blacks / assistance to blacks]?" Responses were coded as too much, about right, and too little. These three items were used to create a scale, which had a Cronbach's alpha of 0.63 for white respondents coded into one of the five explanatory belief categories; observations were retained only if the respondent issued substantive responses on at least two items; scale items were standardized before summation. Data for this outcome variable overlap with the explanatory belief categories in years 1993, 1994, 2000, 2006, 2008, 2010, 2012, and 2014.
4. Opposition to interracial marriage between whites and members of other races was measured with a set of items of the form: "How about having a close relative or family member marry a(n) [white/black/Asian American/Hispanic American] person?" Responses were coded on a five-point scale from strongly favor to strongly oppose; responses to the white item were subtracted from the [black/Asian American/Hispanic American] item. Data for this outcome variable overlap with the explanatory belief categories in years 2006, 2008, 2010, 2012, and 2014.
5. Opposition to living in a half-black neighborhood was measured with this item: "Now I'm going to ask you about different types of contact with various groups of people. In each situation would you please tell me whether you would be very much in favor of it happening, somewhat in favor, neither in favor nor opposed to it happening, somewhat opposed, or very much opposed to it happening? Living in a neighborhood where half of your neighbors were blacks?" Responses were coded on a five-point scale from strongly favor to strongly oppose. Data for this outcome variable overlap with the explanatory belief categories in years 2000, 2006, 2008, 2010, 2012, and 2014.
6. Support for reducing immigration was measured with the item: "Do you think the number of immigrants from foreign countries who are permitted to come to the United States to live should be increased a lot, increased a little, left the same as it is now, decreased a little, or decreased a lot?" Data for this outcome variable overlap with the explanatory belief categories in years 2006, 2008, 2010, 2012, and 2014.
7. Negative views of immigrants and immigration was constructed from these items that appeared on the 1994 GSS: (1) "What do you think will happen as a result of more immigrants coming to this country? Is each of these possible results very likely, somewhat likely, not too likely, or not at all likely? Higher economic growth"; (2) "...Higher unemployment"; (3) "...Making it harder to keep the country united"; (4) "Under current law, immigrants who come from other countries to the United States legally are entitled, from the very beginning, to government assistance such as Medicaid, food stamps, or welfare on the same basis as citizens. But some people say they should not be eligible until they have lived here for a year or more. Which do you think? Do you think that immigrants who are here legally should be eligible for such services as soon as they come, or should they not be eligible?" Responses were coded as eligible or not eligible. (5) "What about 'undocumented aliens,' that is, those who have immigrated to this country illegally? Should illegal immigrants be entitled to work permits, or not?" Responses were coded as Yes, entitled or No, not entitled; (6) "Should they be entitled to attend public universities at the same costs as other students, or not?" Responses were coded as Yes, entitled or No, not entitled; (7) "Should they be entitled to have their children continue to qualify as American citizens if born in the United States, or not?" Responses were coded as Yes, entitled or No, not entitled; (8) "Immigrants are getting too demanding in their push for equal rights." Responses were coded on a five-point scale from strongly agree to strongly disagree; (9) "The Irish, Italians, Jews, and many other minorities overcame prejudice and worked their way up. Today's immigrants should do the same without any special favors." Responses were coded on a five-point scale from strongly agree to strongly disagree. These nine items were used to create a scale, which had a Cronbach's alpha of 0.72 for white respondents coded into one of the five explanatory belief categories; observations were retained only if a respondent issued substantive responses on at least five items; scale items were standardized before summation. Data for this outcome variable overlap with the explanatory belief categories only in year 1994.
8. Opposition to affirmative action for women was constructed from two items for which there was no overlap: (1) "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 of women is wrong because it discriminates against men. What about your opinion - are you for or against preferential hiring and promotion of women?" IF FOR: "Do you favor preference in hiring and promotion strongly or not strongly?" IF AGAINST: "Do you oppose preference in hiring and promotion strongly or not strongly?" (2) "Now I'm going to read several statements. As I read each one, please tell me whether you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree. For example, here is the statement: Because of past discrimination, employers should make special efforts to hire and promote qualified women." Item 1 and item 2 were combined into a single item, with outcome variable values coded as 1 for strongly favor (item 1) and strongly agree (item 2); coded as 2 for strongly oppose (item 1) and strongly disagree (item 2); coded as 3 for "neither agree nor disagree " (item 2); coded 4 for not strongly oppose (item 1) and disagree (item 2); and coded 5 for not strongly favor (item 1) and agree (item 2). Data for this outcome variable overlap with the explanatory belief categories in years 2000, 2006, 2008, 2010, 2012, and 2014.
9. Preference for traditional sex roles was constructed from these items: (1) "Tell me if you agree or disagree with this statement: Most men are better suited emotionally for politics than are most women." Responses were coded on a two-point scale from disagree to agree; (2) "If your party nominated a woman for President, would you vote for her if she were qualified for the job?" Responses were coded as no or yes; (3) "It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family." Responses were coded on a five-point scale from strongly agree to strongly disagree; (4) "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work." Responses were coded on a five-point scale from strongly disagree to strongly agree; and (5) "A preschool child is likely to suffer if his or her mother works." Responses were coded on a five-point scale from strongly disagree to strongly agree. These five items were used to create a scale, which had a Cronbach's alpha of 0.71 for white respondents coded into one of the five explanatory belief categories; observations were retained only if the respondent issued substantive responses on at least three items; scale items were standardized before summation. Data for this outcome variable overlap with the explanatory belief categories in years 2006, 2008, 2010, 2012, and 2014.
10. An omnibus scale was created from the outcome variable items except for the immigration scale that was available only in 1994. The scale had a Cronbach's alpha of 0.77 for white respondents coded into one of the five explanatory belief categories; observations were retained only if the respondent issued substantive responses on at least four items; scale items were standardized before summation. Data for this outcome variable overlap with the explanatory belief categories in years 1993, 1994, 2000, 2006, 2008, 2010, 2012, and 2014.

Science knowledge test

Science knowledge was measured with six items that appeared on the GSS from 2006 to 2014, with a non-substantive response such as don't know coded as an incorrect response; the six items, with introduction, were:

Now, I would like to ask you a few short questions like those you might see on a television game show. For each statement that I read, please tell me if it is true or false. If you don't know or aren't sure, just tell me so, and we will skip to the next question. Remember true, false, or don't know.

1. First, the center of the Earth is very hot. Is that true or false?
2. All radioactivity is man-made. (Is that true or false?)
3. Lasers work by focusing sound waves. (Is that true or false?)
4. Electrons are smaller than atoms. (Is that true or false?)
5. Antibiotics kill viruses as well as bacteria. (Is that true or false?)
6. Now, does the Earth go around the Sun, or does the Sun go around the Earth?

For this study, the science knowledge test excluded items that were not asked of all respondents in all years, such as the items measuring an understanding of experimental design and probability and the item measuring knowledge of whether it is the father's gene that decides whether the baby is a boy or a girl; the test excluded an item measuring the length of the time it takes the Earth to orbit the Sun because this item has a "double" penalty in the sense that respondents who missed the included sixth item were not given an opportunity to respond to the excluded time-around-the-Sun item; the test items measuring knowledge about the big bang and continental drift were excluded because these items tap religious belief instead of pure science knowledge (Roos 2012) and the big bang item in one year had a split ballot in which some respondents received an alternate item measuring awareness and not acceptance of the big bang ("According to astronomers, the universe began with a huge explosion").

Only 4 respondents either refused to respond or responded "don't know" to all six science knowledge test items.

General Social Survey sample sizes

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **1993** | **1994** | **2000** | **2006** | **2008** | **2010** | **2012** | **2014** | **Total** |
| 1 | Black/white intelligence ratings | --- | --- | 449 | 537 | 798 | 202 | 99 | 519 | 2604 |
| 2 | Black/white laziness ratings | --- | 559 | 450 | 534 | 798 | 201 | 98 | 523 | 3163 |
| 3 | Opposition to policies to help blacks | 304 | 540 | 429 | 544 | 768 | 180 | 101 | 523 | 3,389 |
| 4 | Opposition to white-black marriage | --- | --- | --- | 545 | 826 | 207 | 101 | 523 | 2,202 |
| 5 | Opposition to white-Asian marriage | --- | --- | --- | 544 | 823 | 208 | 101 | 523 | 2,199 |
| 6 | Opposition to white-Hispanic marriage | --- | --- | --- | 546 | 824 | 208 | 101 | 523 | 2,202 |
| 7 | Opposition to living in a half-black neighborhood | --- | --- | 465 | 546 | 821 | 207 | 98 | 524 | 2,661 |
| 8 | Support for reducing immigration | --- | --- | --- | 541 | 816 | 206 | 98 | 507 | 2,168 |
| 9 | Negative views of immigrants and immigration | --- | 571 | --- | --- | --- | --- | --- | --- | 571 |
| 10 | Opposition to affirmative action for women | --- | --- | 408 | 543 | 812 | 208 | 101 | 514 | 2,586 |
| 11 | Preference for traditional sex roles | 675 | 574 | 464 | 547 | 827 | 207 | 100 | 524 | 3,918 |

General Social Survey missing data report

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **1993** | **1994** | **2000** | **2006** | **2008** | **2010** | **2012** | **2014** | **Total** |
| 1 | Black/white intelligence ratings | --- | --- | 8 | 4 | 9 | 2 | 0 | 3 | 26 |
| 2 | Black/white laziness ratings | --- | 9 | 8 | 4 | 7 | 2 | 0 | 3 | 33 |
| 3 | Opposition to policies to help blacks | 4 | 11 | 8 | 4 | 6 | 3 | 0 | 3 | 39 |
| 4 | Opposition to white-black marriage | --- | --- | --- | 5 | 9 | 3 | 0 | 3 | 20 |
| 5 | Opposition to white-Asian marriage | --- | --- | --- | 5 | 7 | 3 | 0 | 3 | 18 |
| 6 | Opposition to white-Hispanic marriage | --- | --- | --- | 5 | 8 | 3 | 0 | 3 | 19 |
| 7 | Opposition to living in a half-black neighborhood | --- | --- | 8 | 5 | 9 | 3 | 0 | 3 | 28 |
| 8 | Support for reducing immigration | --- | --- | --- | 4 | 7 | 3 | 0 | 3 | 17 |
| 9 | Negative views of immigrants and immigration | --- | 9 | --- | --- | --- | --- | --- | --- | 9 |
| 10 | Opposition to affirmative action for women | --- | --- | 7 | 5 | 7 | 3 | 0 | 3 | 25 |
| 11 | Preference for traditional sex roles | 11 | 11 | 8 | 5 | 8 | 2 | 0 | 3 | 48 |



**Figure 1. Correlates of belief in supernatural HBD and natural HBD**

Note: Figure presents point estimates and 95% confidence intervals. Results are for white respondents only, based on weighted analyses. Higher values indicate stronger agreement with the statement. Asterisks in square brackets [\*] indicate differences between supernatural HBD and natural HBD categories detected at p<0.05 with a two tailed test. The reference category is persons not coded as believing in supernatural HBD or natural HBD. Results are for white respondents only. Source: Taylor 2007 TESS dataset.



**Figure 2. Explanatory Belief Groups and Racial Stereotypes**

Note: Figure presents point estimates and 95% confidence intervals. Results are for white respondents only. Source: General Social Survey.



**Figure 3. Explanatory Belief Groups and Social and Political Attitudes (controls only for the year of the survey)**

Note: Figure presents point estimates and 95% confidence intervals for models with the uncategorized explanatory belief as the omitted category. Outcome variables are measured on a standardized scale, with a mean of 0 and a standard deviation of 1. Lower values on the scale indicate more progressive views on race and sex. Results are for white respondents only. Models control only for the year of the survey. Source: General Social Survey.



**Figure 4. Explanatory Belief Groups and Social and Political Attitudes (full controls)**

Note: Figure presents point estimates and 95% confidence intervals for models with the uncategorized explanatory belief as the omitted category. Outcome variables are measured on a standardized scale, with a mean of 0 and a standard deviation of 1. Lower values on the scale indicate more progressive views on race and sex. Results are for white respondents only. Models control for sex, age, education, self-reported partisanship, frequency of religious services attendance, science knowledge, and the year of the survey. Source: General Social Survey.

1. One of the 194 respondents placed into the essentialist explanations condition did not have substantive responses to both item 1 and item 2. That respondent selected "somewhat disagree" to item 1 but did not provide a substantive response to item 2, so the respondent was coded as the residual category of neither supernatural HBD nor natural HBD. [↑](#footnote-ref-1)
2. Due to the relatively small sample for the Taylor 2007 dataset, models were re-estimated with no post-stratification weighting. Differences between supernatural HBD and natural HBD retained statistical significance in items 15 to 19 and item 21 in unweighted analyses, but a difference was also detected for item q4 (p=0.028, two-tailed test), with two-tailed p-values close to 0.05 for item q3 (p=0.057) and item q10 (p=0.065). For these models of responses to items q4, q3, and q10, the supernatural HBD responses were higher than the natural HBD responses. [↑](#footnote-ref-2)