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White Americans' Genetic Explanations for a Perceived Race Difference in Athleticism: The Relation to Prejudice toward and Stereotyping of Blacks

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ABSTRACT

Based on social psychological theories, we predicted that White Americans' belief in a genetic race difference in athleticism is associated with prejudice toward Blacks and negative stereotyping of Blacks' intelligence and work ethic. We also hypothesized a gender difference, due to athletics being a male domain of achievement. Based on a nationally representative sample of 600 White men and women, we found that the more respondents endorsed genetic underpinnings for a perceived race difference in athleticism the greater their level of prejudice and negative stereotyping about Blacks. However, no significant gender difference was found. The results suggest that the belief in a genetic race difference in athleticism may function to sustain racist ideologies by implying the inferiority of Blacks' intelligence and work ethic. Education and accurate, non-essentialist media portrayals of racial groups are needed.

Introduction

During October 2003 an uproar ensued in the United States over TV announcer Rush Limbaugh's statement that Black quarterback Donovan McNabb was unqualified and was given the position due to his race. Limbaugh's statement brought to the forefront the persistent controversy related to race and athletic ability. This controversy was also the topic of a town meeting with President Clinton in 1998, the topic of a filmed discussion in 2001 with renowned evolution expert Stephen J. Gould, and included in a 2004 PBS

television series on race, titled *Race—The Power of an Illusion*. The issue of athleticism and race is clearly of interest and importance to the American public.

Yet, this topic of contention is not limited to the United States (Carrington & McDonald, 2001; Hokowhitu, 2004). For example, in 2000 the BBC Two channel aired the program *Black Britain: The Faster Race*, which investigated the British debate over the relation between race and athleticism. In the same year Radio National in Australia also devoted program time to this issue (Smith, 2000).

Genetic Explanations for a Perceived Race Difference in Athleticism

In part, the controversy about athleticism and race concerns the commonly held belief that Blacks are “naturally” (i.e., biologically) athletic, a belief embraced in the controversial book titled, *Taboo: Why Black Athletes Dominate Sport and Why We’re Afraid to Talk About It* (Entine, 2000), and perpetuated in the media by such films as Ron Shelton’s *White Men Can’t Jump*. This belief may relate to the large presence of Black athletes in three of the most visible and highly valued sports in the United States—football, basketball, and baseball—and Blacks’ domination of high status sprinting events in the Olympics. Interestingly, this controversy concerning the supposed innate athletic superiority of Blacks is being discussed by the public at the same time as many in the scientific and academic communities are debating whether race can even be viewed as a biological construct (e.g., Graves, 2001; Marks, 1995; Rowe, 2005; Smedley & Smedley, 2005). In fact, recent genetic studies (see Race, Ethnicity, and Genetics Working Group, 2005) suggest that there is more genetic diversity among African Americans than there is among White Americans, and that all humans share African ancestors; thus, this challenges previously held notions about biological paradigms of racial classifications. Apparently, however, as far as some of the public is concerned, race does have a genetic basis (Condit, Parrott, Harris, Lynch, & Dubriwny, 2004) and these genes then lead to differences between racial groups in attributes such as athleticism (Gene Media Forum & Zogby International, 2001).

Numerous articles published throughout the past 70 years (e.g., Goldberg, 1990; Kane, 1972; Metheny, 1939; Rushton, 2001; Worthy & Markle, 1970) have attempted to verify the supposed innate physical attributes of Blacks that predispose them to be athletically superior; however, other researchers have pointed out that results do not back up these assertions and that social and psychological explanations (e.g., economic opportunity, incentives, motivation, stereotype threat, cultural values) have largely been ignored (Achter & Condit, 2000; Baker & Horton, 2003; Coakley 1998; Harrison, 1998; Stone, Lynch, Sjomeling, & Darley, 1999). Despite a lack of scientific evidence, the belief in a race-related genetic difference in athleticism appears to hold a firm presence in American consciousness today (Gene Media Forum & Zogby International, 2001).

The idea of innate Black athletic superiority has not always existed in the United States. Instead, Blacks historically have been viewed by Whites as inferior in all socially valued activities (Hoberman, 1997). Thus, the conception of the naturally gifted Black athlete is likely a social construction that has developed over time and is tied to other

social and cultural phenomena, such as greater opportunities for Blacks in the sport domain, current societal values surrounding athleticism, increased media representations of Black athletes, and contemporary scientific research concerning race differences in various human characteristics. Although Whites are more likely than Blacks to attribute the athletic achievements of Blacks to innate ability, some Blacks, too, believe there is an inborn race difference in athleticism (Burden, Hodge, & Harrison, 2004). However, the issue of innate Black athletic superiority has different ramifications for Blacks and Whites (Wiggins, 1989), and, as we discuss below, for Whites such racial stereotyping will likely relate to prejudice toward Blacks.

The notion of inborn Black athletic superiority can partially trace its roots to various stereotyped and/or racist beliefs attributed to Darwin's theory, such as (a) "the law of compensation," in which the physical attributes of "primitives" (i.e., Blacks) are seen as inversely related to intellectual attributes of "civilized" people (i.e., Whites), and (b) social Darwinism hypotheses, such as the idea that the hardships of slavery resulted in only the physically fittest Africans in the United States surviving and reproducing (Hoberman, 1997; Miller, 1998). Eugenics views may play a role in the propagation of such stereotyped and prejudicial theories, yet it is likely that increased and recent efforts to investigate scientifically both genetics and race differences, along with the media reports of this research, have contributed as well (Condit, Parrott, Bates, Bevan, & Achter, 2004; Davis, 1990).

As is evident from the issues presented above, the historical and current discussions supporting the belief in a race difference in innate athleticism have tended to include arguments reinforcing racial stereotyping and prejudice. Whether the contention of Blacks' inborn athletic superiority is inevitably linked to Whites' negative racial attitudes is unclear, however. Therefore, a review of social psychological theoretical perspectives and findings concerning negative attitudes toward out-groups, discussed below, may help inform us about how Whites' belief in a genetic basis for a perceived race difference in athleticism may relate to racial stereotyping and prejudice.

Genetic Explanations for a Perceived Race Difference in Athleticism As Essentialist and Entity Theorist Beliefs: Their Relation to Stereotyping and Prejudice

Genetic explanations for group differences are integrally tied to essentialist beliefs, that is, beliefs about groups' inherent, immutable essences. Essentialism reflects the belief in the "naturalness" and coherence of social groups (Haslam, Rothschild, & Ernst, 2000), two elements typically associated with genetic explanations. Studies of this belief system (Bastian & Haslam, 2006; Haslam et al., 2000) have found that individuals' essentialist perceptions of groups relate to their level of stereotyping about those groups. In summarizing research on essentialism, Hong et al. (2001) note that "essentialist inferences...often lead to more rigid, static views of groups, and these views can contribute to prejudice" (p. 104). In another summary, Yzerbyt et al. (2004) suggest that essentialist beliefs about social categories give rise to prejudice.

Similar to essentialist beliefs are aspects of implicit theories (Dweck, Chiu, & Hong, 1995). The implicit theory conceptual framework of Dweck and colleagues distinguishes between entity theorists, who generally see human behavior as immutable (e.g., genetic), and incremental theorists, who see behavior as more dynamic and malleable. Extensive empirical investigation has confirmed the significant role that these theories play in out-group perception (e.g., Levy, Plaks, Hong, Chiu, & Dweck, 2001), particularly how they are linked to essentialism (e.g., Plaks, Levy, Dweck, & Stroessner, 2004). For example, research indicates that entity theorists, compared with incremental theorists, tend to judge Blacks in a more stereotypical manner (Levy, Stroessner, & Dweck, 1998). Levy et al. (2001) cite work by Chow (1996) and Hong and Yeung (1997) documenting greater prejudicial attitudes among those employing entity theories compared with those employing incremental theories. In addition, Jayaratne et al. (2006) have shown that the more White Americans believe in genetically-influenced race differences, the greater their level of racial prejudice.

Genetic Explanations for a Perceived Race Difference in Athleticism, Social Dominance Theory, Ambivalent Stereotyping, and Prejudice

The controversy about race and athleticism is not merely concerning Blacks' supposed genetic gifts in this area, however. Another aspect of the dispute is the idea that whereas Blacks' athleticism is a matter of genetics, Whites' athletic achievement is due to their intelligence and hard work (Davis, 1990; Hall, 2001; McCarthy & Jones, 1997; Sage, 1990; Sailes, 1996; Stone, Perry & Darley, 1997). Thus, intelligence and athleticism are often seen as inversely related (e.g., "the law of compensation"), with Whites possessing the "brains" and Blacks possessing the "brawn." This dichotomous, stereotypical view has also been found to permeate media coverage of athletics (Eastman & Billings, 2001; Price, 1997; Sailes, 2000; Woodward, 2002).

Importantly, as various scholars (Harris, 2000; Hoberman, 1997; Lapchick, 1991; Miller, 1998) have discussed, Whites' acknowledgment of Blacks' (supposed) innate athleticism may serve as a backhanded compliment, in that it congratulates Blacks for their perceived athletic superiority at the same time as it denigrates them for their supposed intellectual inferiority and lack of effort. As Fiske, Xu, Cuddy, and Glick (1999) have demonstrated in their research on ambivalent stereotypes, social groups can be stereotyped in both positive and negative terms simultaneously. Importantly, such ambivalent stereotypes about Blacks may then allow Whites to justify the existing social structure and view Blacks as deserving of their subordinate status (Glick & Fiske, 2001). Therefore, prejudicial attitudes can still be maintained, even when Whites espouse favorable beliefs concerning Blacks' inherent athleticism (Harris, 2000; Miller, 1998). In this way, genetic explanations for perceived race differences can serve as legitimizing myths, a central concept in social dominance theory (Sidanius, Pratto, vanLaar, & Levin, 2004). According to this theory, people who hold a social dominance orientation are more likely to support social inequality. One way to do this is to promote hierarchy-enhancing legitimizing myths, or the attitudes, beliefs, and various forms of ideology that justify power differentials between groups. Thus, stereotyping and prejudice themselves may be forms of legitimizing ideologies, and, as such, are likely related to other, similar

negative attitudes. Whites' belief in Blacks' genetically superior athleticism can operate as a legitimizing myth supporting social inequality between Blacks and Whites because such innately superior athleticism may be viewed as inversely related to the intelligence and strong work ethic favoring Whites and, subsequently, their higher position in the social hierarchy. A social dominance perspective, therefore, predicts that Whites' beliefs about Blacks' inborn superior athleticism are inextricably linked to beliefs about Blacks' inferior intellect and effort.

Athleticism, Gender, and Legitimizing Myths

Athletics is viewed as a masculine domain (Kilduff, 2001); therefore, athleticism tends to be a more salient and valued characteristic for men than women. Indeed, most of the public and scientific controversies concerning race differences in innate athleticism have focused on male athletes rather than female athletes (Scruton, 2001; Walter, 1996; Wilson & Sparks, 1999). Because issues concerning athleticism tend to play a larger role in the lives of American men than women, White men may be more motivated than White women to use legitimizing myths regarding race and athleticism in order to uphold their social dominance in American society.

Summary and Hypotheses

The history of eugenics views and practices in the United States (and throughout the world) has shown how beliefs in genetic race differences strongly relate to racial stereotyping and prejudice (as well as numerous forms of discrimination and oppression). In addition, the previously discussed social psychological research demonstrates the powerful connections between these constructs, along with the possible mechanisms fueling these relations. For example, individuals ascribing to essentialist and entity theory perspectives tend to see groups' behaviors and characteristics as inherent and unchanging (e.g., genetic) and such views have been found to relate to stereotyping and prejudice. In addition, legitimizing myths have been shown to relate to negative stereotyping and prejudicial attitudes in order for socially dominant groups to retain a sense of their privileged status.

In accordance with previously discussed research, our first hypothesis is that White Americans' belief in a genetic race difference in athleticism will be associated with higher levels of prejudice toward and negative stereotyping of Blacks. This belief in a genetic race difference in athleticism can be viewed as an essentialist or entity theory belief and/or as a legitimizing myth. Although our limited measures from a larger dataset will not provide us the opportunity to test specifically these different theoretical perspectives, we will be able to examine if Whites' belief in a genetic race difference in athleticism predicts their level of prejudice and negative stereotyping.

Our second hypothesis is that a belief in a genetic race difference in athleticism will relate to White men's and White women's negative attitudes differently. We anticipate that the link between these constructs will be stronger among men than women. To test

this possibility of a gender difference, we will investigate whether the predictive models significantly differ between men and women.

Method

Participants

The sample consisted of 600 self-identified White American respondents, evenly divided between men and women. These respondents were part of a larger study investigating the genetic beliefs and attitudes of self-identified White and Black Americans. Participants were selected using Random Digit Dialing (RDD) methods, drawing from the continental United States. Trained, professional interviewers (Market Strategies Inc., Livonia, MI) conducted telephone interviews between January 10 and June 20, 2001. Respondents were paid \$15 (\$20 if there was need for refusal conversion) for completing the survey, which averaged 40 minutes in length. After obtaining a listing of the number of adult men and women within each household, a respondent was selected randomly. The interviewer then asked to speak with that man or woman. The race of the respondent was assessed through self-report during an initial series of screening questions. Due to the small number of Black and male interviewers, no systematic attempt could be made to match the gender or race of the interviewer with that of the respondent. However, analyses showed no differences in participants' responses due to interviewer race or gender. In addition, a small, nonrandom yet diverse subsample ($n = 40$) of these respondents was later contacted for in-depth, open-ended interviews to more fully investigate their ideas regarding the relationships between race, genetics, and human characteristics including athleticism. Due to article length constrictions, it is beyond the scope of this paper to conduct a comprehensive qualitative analysis of their answers. However, a few of their responses are included in the discussion as illustrative examples.

Measures

Control variables. We used standard demographic questions to assess respondents' age and education level. Education level was then recoded into five ordinal categories, with higher scores indicating a higher education level. In addition, we included respondents' region of residence, self-reported political orientation, and self-reported level of religiosity. Residence in the southern United States was coded as 1 and all other geographical regions were coded as 0. Participants indicated their political orientation on a 5-point scale, with higher scores indicating greater political conservatism. Religiosity was measured using a 4-point scale, with lower scores indicating greater religiosity. Each of these variables has been found in previous research (Bobo, 2000; Bobo & Klugel, 1997; Chalfant & Peek, 1983; Kinder & Sanders, 1997; Sidanius, Singh, Hetts, & Federico, 2000) to relate to Whites' racial stereotyping and prejudice; therefore, they were entered as control variables in all statistical analyses. The exact wording of questions and the different response categories are presented in the Appendix.

Genetic Race Difference in Athleticism. We constructed a measure of participants' belief in a Genetic Race Difference in Athleticism from two questions. The interviewer first stated:

“Now, I'd like to ask about some ways that Whites might tend to differ from Blacks. People we've talked with have many different opinions on this. We just want to know what you honestly think. Some people think Whites tend to differ from Blacks in how good they are in athletics. Although there are many reasons why they might differ, do you think their genes or genetic make-up has anything to do with this difference?”

Respondents who answered “yes” were then asked if genes explained “a little,” “some,” “a lot,” or “just about all” of this difference. We combined the answers to these two questions, resulting in a scale that measured the respondents' estimate of the amount of difference due to genetic causes: *None* (0), *Very Little* (1), *Some* (2), *A Lot* (3), and *Just About All* (4).

Traditional Racial Prejudice. Traditional Racial Prejudice was measured by a combination of two questions asked of respondents. The first question asked, “How bothered would you be if your son or daughter dated a Black person?” The second question was, “How bothered would you be if your son or daughter married a Black person?” The response categories ranged from *not bothered at all* (1) to *very bothered* (7). A mean score was calculated from the two items. The Pearson Product Moment correlation between the two items was .93 ($p = .0001$) for White women and .94 ($p = .0001$) for White men.

Modern Racial Prejudice. In contrast to Traditional Racial Prejudice, Modern Racial Prejudice measures negative attitudes toward Blacks that are more nuanced and relate to holding Blacks responsible for their lower social status (Feldman & Huddy, 2005). A Modern Racial Prejudice scale was constructed from three items that measured whether respondents agreed or disagreed with the following statements: (a) “Blacks are too dependent on government help for getting ahead;” (b) “Many groups of Americans overcame discrimination and made it on their own. Blacks should do the same;” and, (c) “If Blacks don't do well in life, they have only themselves to blame.” Participants responded on a 5-point scale from strongly disagree (1) to strongly agree (5). A mean score was taken of the three items, with higher scores indicating greater Modern Racial Prejudice. The Cronbach's alpha for the measure was .66 for women and .70 for men.

Negative Racial Stereotyping. We assessed respondents' negative racial stereotyping of Blacks through the use of two items. These two items assessed participants' beliefs about Blacks' intelligence and work ethic, characteristics that have been viewed as inversely related to Blacks' (supposed) innate athleticism. Respondents were first assured that “people we've talked with have many opinions on this, so we just want to know what you think.” Respondents were then asked, for each item, to rate “people in the group as a whole.”

The first item asked respondents to rate from *Not Very* (1) to *Very* (7) how intelligent they believe Blacks are. The second item asked them to rate Blacks' drive to succeed from *Little Drive* (1) to *Strong Drive* (7). A mean score from the two items was computed for each participant, with lower scores indicating greater negative stereotyping. A Pearson Product Moment correlation showed that the two items correlated strongly for both men ($r = .57, p = .0001$) and women ($r = .67, p = .0001$).

Results

Demographics

Respondents ranged in age from 18 to 90 years and were slightly older, slightly more educated, and slightly more likely to have ever been married than those in the U.S. population, based on comparison with census data. To adjust for the selectivity of the sample, we created post stratification weights for age and education within the gender of the respondents.

Initial findings demonstrated that 74% of men and 65% of women believed in genetic contributions to the perceived race difference in athleticism. Thirty-three percent of the men and 26% of the women stated that genes explained a lot or just about all of the difference between Whites and Blacks in athleticism.

Predicting Traditional Racial Prejudice, Modern Racial Prejudice, and Negative Racial Stereotyping

Table 1 presents, by gender, the weighted means and standard deviations of predictor and outcome variables used in the analyses. For all regression analyses, variance inflation factor (VIF) statistics demonstrated no multicollinearity problems, with all VIFs less than 2.00. A general rule for evaluating VIFs is that values greater than 10.00 are of concern (Kleinbaum, Kupper, & Muller, 1988). Adjusted R^2 is reported for each regression analysis.

Table 1. Weighted Means and Standard Deviations of Predictor and Outcome Variables for White Men and White Women

Variable	Men		Women	
	Mean	SD	Mean	SD
Age	45.24	17.00	48.39	18.00
Education	2.86	1.09	2.73	1.05
Political Orientation	3.11	1.12	3.16	1.10
Religiosity	2.17	.85	1.97	.84
Southern Residence	.34	.47	.26	.44
Genetic Race Difference				
in Athleticism	1.80	1.31	1.62	1.27
Traditional Racial Prejudice	3.69	2.19	3.87	2.26
Modern Racial Prejudice	3.38	1.08	3.25	1.04
Negative Stereotyping	4.72	.94	4.95	1.04

Note: Education was rated on a 5-point ordinal scale; higher scores indicate more education. Higher scores for Political Orientation indicate greater political conservatism. Lower scores indicate higher levels of Religiosity. Southern Residence was coded as 1 and other regions were coded as 0. Higher scores indicate a greater belief in a Genetic Race Difference in Athleticism. Higher scores indicate greater Traditional Racial Prejudice and Modern Racial Prejudice. Lower scores indicate greater Negative Stereotyping.

Traditional Racial Prejudice. To discover which variables predict White respondents' traditional racial prejudice, two separate hierarchical regression analyses were performed (one for each gender), with the 2-item Traditional Racial Prejudice measure as the dependent variable. The five control variables of Age, Education, Southern Residence, Political Orientation, and Religiosity were entered into the equation in Step 1 and Genetic Race Difference in Athleticism was entered in Step 2.

The hierarchical regression analysis demonstrated that age, southern residence, and political orientation were predictive of White men's Traditional Racial Prejudice in Step 1, accounting for 10% of the variance, $F(5, 286) = 7.72, p = .0001$. Genetic Race Difference in Athleticism in Step 2 gave added predictive power to the model, $F(6, 285) = 7.63, p = .0001$, which then accounted for 12% of the variance. The increase in explained variance was significant, $F_{change} = 6.44, p = .012$. An analysis of the beta weights (see Table 2) demonstrates that for White men age was significantly and positively related to Traditional Racial Prejudice, as was residence in the south and political conservatism. Genetic Race Difference in Athleticism was also a significant predictor, in that the more White men believed that the perceived race difference in athleticism is

influenced by genetics, the more prejudiced they were against Blacks.

Table 2. Hierarchical Regression Analyses for Variables Predicting White Men's and White Women's Traditional Racial Prejudice

Variable	Men			Women		
	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
<i>Step 1</i>						
Age	.026	.007	.202 ^c	.040	.007	.319 ^c
Education	-.003	.113	-.001	-.316	.118	-.144 ^b
Political Orientation	.222	.113	.113 ^a	.216	.115	.105
Religiosity	-.082	.151	-.032	-.494	.159	-.179 ^b
Southern Residence	.961	.263	.208 ^c	.381	.273	.074
<i>Step 2</i>						
Age	.027	.007	.207 ^c	.039	.007	.314 ^c
Education	-.027	.112	-.013	-.354	.117	-.162 ^b
Political Orientation	.219	.112	.112 ^a	.202	.114	.098
Religiosity	-.062	.150	-.024	-.485	.157	-.176 ^b
Southern Residence	1.07	.264	.232 ^c	.326	.271	.064
Genetic Race Difference						
in Athleticism	.237	.093	.142 ^b	.248	.094	.139 ^b

Note: ^a = $p < .05$; ^b = $p < .01$; ^c = $p < .001$.

For White women (see Table 2) age, education, and religiosity significantly predicted Traditional Racial Prejudice and accounted for 23% of the variance in Step 1, $F(5, 269) = 17.76$, $p = .0001$. The addition of Genetic Race Difference in Athleticism contributed significant unique variance in Step 2, $F(6, 268) = 16.28$, $p = .0001$, so that a total of 25% of the variance was explained. The increase in explained variance was significant, $F_{change} = 6.92$, $p = .009$. Greater age, less education, increased religiosity, and a belief in a genetic contribution to the perceived race difference in athleticism predicted Traditional Racial Prejudice for White women.

Using AMOS 5.0 analyses (Arbuckle, 1999; Arbuckle, 2003), structural equation modeling (SEM) was used to test if the regression coefficients differed significantly between women and men. The input to the test was separate covariance matrices for males and females; the estimation

method was maximum likelihood. Although the chi-square was significant for the constrained model ($X^2 = 15.41$, $df = 6$, $p = .02$), because chi-square is sensitive to sample size, we were guided by the supplementary indices, all of which indicated a good fit of the model (GFI = .88, RMSEA = .09, PCLOSE = .000, CFI = 0.00, IFI = 0.00). The regression models for men and women did not differ.

Modern Racial Prejudice. To assess which variables predict respondents' modern racial prejudice, a hierarchical regression analysis for each gender was performed with the five control variables entered into the equation in Step 1 and Genetic Race Difference in Athleticism entered in Step 2. The 3-item Modern Racial Prejudice measure was the dependent variable.

The analysis for White men demonstrated that education, southern residence, and political orientation were predictive of Modern Racial Prejudice, accounting for 11% of the variance in Step 1, $F(5, 285) = 7.86$, $p = .0001$. The addition of Genetic Race Difference in Athleticism contributed significant unique variance to the prediction of modern racial prejudice, $F(6, 284) = 7.32$, $p = .0001$, accounting for 12% of the variance. The increase in explained variance was significant, $F_{change} = 4.15$, $p = .043$. An examination of the beta weights (see Table 3) shows that higher Modern Racial Prejudice in men was related to lower education, southern residence, a more conservative political orientation, and a greater belief in a genetic contribution to the perceived race difference in athleticism. For White women (see Table 3), residence in the south and education significantly predicted Modern Racial Prejudice, accounting for 11% of the variance in Step 1, $F(5, 270) = 7.46$, $p = .0001$, and 10% of the variance in Step 2, $F(6, 269) = 6.23$, $p = .0001$. Higher levels of Modern Racial Prejudice in women related to southern residence and less education. Genetic Race Difference in Athleticism was not a significant predictor of women's modern racial prejudice.

Table 3. Hierarchical Regression Analyses for Variables Predicting White Men's and White Women's Modern Racial Prejudice

Variable	Men			Women		
	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
<i>Step 1</i>						
Age	-.001	.004	-.017	.005	.003	.079
Education	-.183	.055	-.185 ^b	-.241	.057	-.244 ^c
Political Orientation	.214	.056	.222 ^c	.099	.056	.106
Religiosity	-.021	.074	-.017	-.023	.078	-.019
Southern Residence	.414	.129	.182 ^b	.366	.134	.158 ^b
<i>Step 2</i>						
Age	-.000	.055	-.013	.004	.003	.078
Education	-.194	.055	-.196 ^c	-.244	.058	-.247 ^c
Political Orientation	.213	.056	.221 ^c	.098	.056	.105
Religiosity	-.013	.074	-.010	-.023	.078	-.018
Southern Residence	.461	.130	.203 ^c	.362	.134	.156 ^b
Genetic Race Difference						
in Athleticism	.094	.046	.115 ^a	.020	.047	.024

Note: ^a = $p < .05$; ^b = $p < .01$; ^c = $p < .001$.

In order to discover if the regression analyses for men and women were significantly different, the regression coefficients of the models were compared. Using AMOS 5.0 (Arbuckle, 1999; Arbuckle, 2003), SEM showed no significant difference between women and men ($X^2 = 6.34$, $df = 6$, $p = .39$, GFI = .91, RMSEA = .08, PCLOSE = .000, CFI = 0.00, IFI = 0.00).

Negative Racial Stereotyping. Two hierarchical linear regressions (one for each gender) were performed to assess which variables predict Whites' Negative Racial Stereotyping. The five control variables were entered into the equation in Step 1 and Genetic Race Difference in Athleticism was entered in Step 2. As Table 4 demonstrates, men's age predicted the dependent variable in Step 1. It was the only significant predictor and the total for all variables accounted for 3% of the variance, $F(5, 279) = 2.52$, $p = .03$. Adding Genetic Race Difference in Athleticism in Step 2 contributed significant unique variance to the prediction of Negative Racial Stereotyping,

$F(6, 278) = 4.49, p = .0001$, accounting for 7% of the variance. The increase in explained variance from Step 1 to Step 2 was significant, $F_{change} = 13.75, p = .0001$. For White men, older age, lower religiosity, and a greater belief in a genetic race difference in athleticism related to stereotyping Blacks as low in intelligence and the drive to succeed.

Table 4. Hierarchical Regression Analyses for Variables Predicting White Men's and White Women's Negative Racial Stereotyping

Variable	Men			Women		
	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
<i>Step 1</i>						
Age	-.010	.003	-.176 ^b	-.007	.004	-.119
Education	-.016	.051	-.019	-.067	.061	-.068
Political Orientation	.020	.051	.024	-.053	.059	-.058
Religiosity	-.134	.069	-.121 ^a	-.021	.083	-.017
Southern Residence	.098	.119	.050	-.265	.140	-.115
<i>Step 2</i>						
Age	-.010	.003	-.185 ^b	-.006	.004	-.112
Education	-.003	.050	-.003	-.047	.060	-.048
Political Orientation	.021	.050	.025	-.079	.059	-.085
Religiosity	-.145	.067	-.131 ^a	-.026	.082	-.020
Southern Residence	.018	.118	.009	-.233	.139	-.101
Genetic Race Difference						
in Athleticism	-.155	.042	-.217 ^c	-.142	.049	-.175 ^b

Note: ^a = $p < .05$; ^b = $p < .01$; ^c = $p < .001$.

For White women (see Table 4), the control variables entered in Step 1 predicted at the trend level Negative Racial Stereotyping, $F(5, 264) = 2.06, p = .07$, with 2% of the variance accounted for. The addition of Genetic Race Difference in Athleticism in Step 2 resulted in 5% of the variance explained, $F(6, 263) = 3.18, p = .005$, which was a significant change from Step 1, $F_{change} = 8.51, p = .004$. The more women believed in a genetic race difference in athleticism, the more they engaged in negative racial stereotyping. AMOS 5.0 (Arbuckle, 1999; Arbuckle, 2003)

SEM analyses demonstrated that the regression models for women and men were not significantly different ($\chi^2 = 6.98$, $df = 6$, $p = .32$, GFI = .92, RMSEA = .07, PCLOSE = .001, CFI = 0.00, IFI = 0.00).

Discussion

Supporting our first hypothesis, results from our survey of 600 White Americans showed that, in general, White Americans' belief in a genetic race difference in athleticism predicted their level of prejudice toward and negative stereotyping of Blacks. Surprisingly, however, we did not find support for our second hypothesis of a gender difference, suggesting that there is no significant difference in how men's and women's genetic beliefs relate to their stereotypes and prejudices concerning the issue of race and athleticism. Taken together, our findings illustrate the sociopolitical relevance of exploring the public's perceptions of genetic contributions to race differences in human behaviors, and, as discussed below, the need for further research in this area.

The Belief in a Genetic Race Difference in Athleticism: Its Relation to Prejudice and Negative Stereotyping

In support of our first hypothesis, our findings demonstrate that Whites' belief in an innate athletic difference between Blacks and Whites may operate as a backhanded compliment and likely serves to help perpetuate prejudice and negative racial stereotypes. Ascribing group differences to a genetic cause is part of the explanatory framework exhibited by those holding essentialist and/or entity theorist beliefs. As previous research (Bastian & Haslam, 2006; Haslam et al., 2000; Hong et al., 2001; Yzerbyt et al., 2004) and our research has shown, holding such beliefs relates to increased stereotyping and prejudice. Importantly, however, research has demonstrated that these beliefs can be modified by changing the extent to which media reports explain complex human behaviors from the perspective of an entity theorist or incremental theorist (Dweck, 2000). Because media reports of genetic science often present genes as immutable essences that impact human behavior more than environmental factors do (Hubbard & Wald, 1993; Nelkin & Lindee, 1995), such entity theorist media presentations may contribute to individuals' stereotyping of and prejudice toward others. The need for responsible, accurate journalistic reports on genetic science and race is clear, and has led to content analyses monitoring how discoveries in genetic science and behavioral genetics are presented in the media (e.g., Condit, Ofulue, & Sheedy, 1998; Condit et al., 2004). However, some scholars (Davis, 1990; St. Louis, 2004) have postulated that, even with responsible media presentations, the belief in a genetic race difference in athleticism may stubbornly persist.

Our results concerning negative racial stereotyping are in accordance with the theory that a belief in the innate athletic superiority of Blacks may operate as a legitimizing myth to uphold Whites' social dominance. We found that the stronger participants' belief in a genetic race difference in athleticism, the stronger their negative stereotype about Blacks' intelligence and drive to succeed. Although we need to be cautious in interpreting these results concerning Whites' ambivalent stereotypes because of the small amount of overall variance that was explained, the lack of a social dominance measure, and the limited two-item measure of negative stereotyping, this finding is consistent with other research documenting individuals' perceptions

of an inverse relationship between Blacks' athleticism and intelligence or hard work (Johnson, Hallinan, & Westerfield, 1999; Stone et al., 1997). Our findings, therefore, are in accordance with Miller's (1998) contention that:

“throughout the twentieth century, it would often be the accomplishments of people of color, represented in the realm of sport, that vexed and intimidated those who endeavored to defend a longstanding racial hierarchy. The response would not be subtle. Indeed, the Western discourse of racial difference carefully juxtaposed black athletic achievement—assessed in terms of compensation—with the supposed intellectual disabilities or cultural shortcomings of African Americans” (pp. 127-128).

Further investigation of the relationship between social dominance perspectives and genetic explanations is needed to discover whether genetic group difference explanations are consistently used as legitimizing myths to uphold the sociopolitical status quo. It may be, for example, that the supposed “scientific” aspect (Sidanius, Levin, Federico, & Pratto, 2001) of genetic explanations make them particularly powerful legitimizing ideologies.

Athleticism is a culturally valued behavior, and a belief in an inherent race difference in this characteristic, unlike other human characteristics that have been discussed in the scientific and public spheres (e.g., intelligence, violence), reflects positively on Blacks. Therefore, although it is generally considered racist for Whites to concur publicly with the supposition that there is a genetic race difference in attributes such as intelligence or violence, it is considered more socially acceptable to express beliefs about a genetic race difference in athleticism. In fact, research (Burden, Hodge, & Harrison, 2004) has shown that some Blacks, too, possess this belief about a race difference in innate athleticism. However, our findings support the assertions of other scholars (e.g., Cole & Stewart, 2001; Hoberman, 1997; Miller, 1998) that there is a danger in holding this idea of Blacks' inborn athletic superiority, because of the perceived inverse relationship between athleticism and intelligence (and hard work). Although most Blacks themselves may not subscribe to the belief in an inverse relationship between these constructs (Biernat, Vescio, & Green, 1996), metastereotype research has shown the large percentage of Blacks who believe that most Whites view Blacks as athletically superior and intellectually inferior (Sigelman & Tuch, 1997). Such beliefs by Blacks, then, are what likely contribute to Stone et al.'s (1999) stereotype threat research finding that Blacks' performance suffers when an athletic task is framed as assessing athletic *intelligence* rather than *natural* athletic *ability*. As several scholars (e.g., Cole & Stewart, 2001; Davis, 1990; Hoberman, 1997; Miller, 1998) caution, the perpetuation of the belief in a genetic race difference in athleticism is liable to do a disservice to the Black community and may help to sustain societies' racist ideologies. The media likely play an important role in the perpetuation of such stereotyped and prejudicial beliefs (Wilson & Sparks, 1999). As Sailes (2000) asserts, “We must shield ourselves from the blatant negative media depictions of African American athletes portrayed as mindless physical specimens whose success is predisposed by their genetic and physiological superiority to Whites” (p. 62).

The Lack of a Gender Difference

Our results do not provide support for our second hypothesis, that issues concerning athleticism are more salient for White American men than women and thus impact the two groups differently. Although the belief in a genetic race difference in athleticism predicted modern racial prejudice for men but not for women, SEM analyses showed that the predictive models did not significantly differ between the genders. In addition, the belief in a genetic race difference in athleticism predicted traditional racial prejudice and negative stereotyping for both genders, and there was no significant gender difference in those predictive models. It may be that athleticism has become much more important for women in American society than was anticipated, perhaps due to increased opportunities for and visibility of female athletes (e.g., U.S. women's soccer team, Women's National Basketball Association) and to an increased focus by American women on sports (Women's Sports Foundation, 2005). However, it could also be that historical and current racial conflicts in American society have made race issues more salient than gender issues for both White men and women, even in the male-dominated athletic domain. Other researchers (Hughes & Tuch, 2003; Kane & Kyyro, 2001) have found that the racial attitudes of White men and women are very similar.

Additional Findings

The current study's findings concur with other research (Harrison & Lawrence, 2004; Gene Media Forum & Zogby International, 2001) documenting the large percentage of White Americans who believe there is a genetically-influenced race difference in athleticism. As one of our respondents said, "Well, certain Black athletes have a different makeup physically that makes them jump better and run faster." Another stated: "The top athletes [in the Olympics] are African-American, especially in the running events. I just think their genetic makeup is a little different from other athletes." The supposed innate superior athleticism of Blacks was also expressed in terms of there being very specific anatomical differences between the races. For instance, a respondent asserted, "studies have shown that anatomically Blacks have a freer movement in their pelvic area, more flexibility in the knee, a shorter Achilles tendon and usually more fast-twitch fibers, muscle fibers." Another stated, "I guess African-Americans have an extra ligament or something in their heel that helps them run faster or jump higher." Such beliefs about anatomical differences between the races have been proposed since the early 1900s (e.g., Burfoot, 1992; Casebeer, 2000; Holloman, 1943; Metheny, 1939), and, despite the lack of scientific evidence confirming these assertions (Edwards, 1972; Graves, 2004), these ideas are evidently still circulating in American society. Clearly, better education is needed concerning both genetics and the complexity of racial differences in society.

We also found, in accordance with other scholars' assertions (Hoberman, 2004; Hokowhitu, 2004), that beliefs consistent with social Darwinist perspectives are held by some Whites and that these beliefs are used to explain perceived Black superiority in sports. For example, one participant stated: "Year after year, the Blacks had built muscles, genetic wise. They built them up over years, they married other Blacks, they were working as slaves and they built up to be very athletic type people as a rule. Where the Whites came from a different background and I don't think, normally, they're as athletic." Another respondent reported: "In the case of Black people being such good athletes, I think that the slave days, I think they're eugenics. You bred the

strong men and the strong women together and so they've inherited this great ability. Yeah, this is the selection of the fittest. Darwinism.”

In accordance with previous research (Bobo, 2000; Bobo & Klugel, 1997; Chalfant & Peek, 1983; Kinder & Sanders, 1997; Sidanius, Singh, Hetts, & Federico, 2000), our results demonstrate that the control variables of age, education, southern residence, political orientation, and religiosity all were, to various degrees, predictive of White Americans' traditional racial prejudice, modern racial prejudice, and/or negative stereotyping. The direction of the effects in analyses concerning prejudice was generally consistent with other research. However, our finding for the effect of religiosity on White men's negative stereotyping contradicted previous research and showed that a lower level of religiosity was significantly related to more negative racial stereotyping. The correlation matrix showed no significant relation between religiosity and the belief in a genetic race difference in athleticism, indicating that our anomalous finding was not due to a suppression effect. Therefore, we are unable to explain this unexpected result.

Implications for Practice

Our findings are in accordance with Fisher, Butryn, and Roper's (2003; 2005) suggestion that cultural studies, which focuses on issues of power and privilege in societies, is a needed addition in sport psychology, both in research and in applied work. As Butryn (2002) asserts, White practitioners and researchers need to explore and critically evaluate their own racial attitudes and White privilege in order to be truly effective and just. Similarly, Gill (1994) and Roper (2000) point out the necessity of investigating and understanding gender-related power dynamics that permeate the sport domain. True cultural sensitivity requires the eradication of racial and ethnic stereotyping (Martens, Mobley, & Zizzi, 2000); thus, practitioners and coaches must reflect on how their own (and others') scientifically-unfounded beliefs about genetic race differences in athleticism likely contribute to the stereotyping of Black athletes as innately physically gifted yet lacking in intelligence and a strong work ethic. Not only do such myths serve to legitimize social power inequalities, but they also likely undermine Black athletes' achievements and contribute to stereotype threat. As many scholars (American Psychological Association, 2002; DeRicco & Sciarra, 2005; Sabnani, Ponterotto, & Borodovsky, 1991; Sue, 1991) have discussed, comprehensive training in multicultural counseling provides practitioners the opportunity to reflect upon their own racial stereotypes, beliefs, and attitudes (such as those elaborated upon in this paper) in order to gain the insights needed for cognitive and behavioral change. Such changes will then afford more positive and efficacious interactions with clients.

Limitations and Future Directions

Although we used social psychological theory and research (e.g., Eagly & Chaiken, 1993; Fishbein & Ajzen, 1975; Sia, Lord, Blessum, Ratcliff, & Lepper, 1997) to guide our investigation of the impact of genetic beliefs on stereotyped and prejudicial attitudes, the direction of causality between the constructs may be different from what we and other scholars have conceptualized. For instance, it may be that Whites use genetic explanations for a perceived race difference in athleticism to justify their existing racial prejudices and negative stereotypes about Blacks. As Allport (1954) concluded, people can be creative in their use of social knowledge, so that sometimes beliefs lead to attitudes and other times attitudes elicit certain beliefs. The direction of

causality and the factors that may influence specific pathways (e.g., individual differences, type of human characteristic) are important avenues for further study.

We were not able to assess several additional variables that may have influenced participants' responses, such as their own athletic ability and accomplishments, their exposure to and/or participation in specific kinds of athletic events, or their direct personal interactions with Blacks in general and/or with Blacks in sporting events. Knowledge of their exposure to Black and White athletes, as well as their own sense of athleticism, might have allowed us to better understand the basis and context of their responses. Their amount of exposure to media presentations concerning genetics and/or possible innate race differences in athleticism would also help shed light on their responses. Additionally, we were not able to distinguish how respondents' perspectives might vary depending on whether they were asked specifically about the athleticism of Black males or of Black females. As stated previously, most discussions concerning the possible innate superiority of Black athletes have been about males rather than females; therefore, we know little about attitudes regarding the intersection of race and gender in the athletic domain (Scruton, 2001; Walter, 1996; Wilson & Sparks, 1999).

Our representative, national sample afforded us the opportunity to gain greater knowledge about the beliefs and attitudes of White Americans; however, the views of other racial and ethnic groups would give us a better understanding of the complexities concerning genetic explanations and their relation to prejudice. In addition, because controversy surrounding the issue of race and athleticism is not confined to the United States, research from other countries is needed. Investigations of the role of the media would also enrich our understanding of how theories and empirical research concerning human variability are understood by the public. Ultimately, future research can help us determine how our growing scientific knowledge of genetics, race, and human differences may contribute to racial disparities and discrimination. In addition, we can learn how scientific knowledge can best be presented to the public to deepen the appreciation of human differences in a way that does not undermine any group of people, no matter how the group is defined by biological, cultural, or social constructs.

Appendix

Education

“What is the highest grade of school or year of college you’ve completed?” (IF MORE THAN 12 YEARS): “What is the highest degree that you have earned?”

[1 = Less than 12th grade, 2 = Graduated high school, obtained GED or completed 12th grade, 3 = Some college but no degree, Associate’s degree, 4 = Bachelor’s degree, 5 = postgraduate degree]

Residence in South

Residence in the South was coded by collapsing the self-reported states of residence into two categories.

[1 = South (Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia), 2 = Other]

Political Orientation

“Compared to other people, do you generally think of yourself, politically, as very liberal, somewhat liberal, middle-of-the-road, somewhat conservative or very conservative?”

[1 = Very liberal, 2 = Somewhat liberal, 3 = Middle-of-the-road, 4 = Somewhat conservative, 5 = Very conservative]

Religiosity

“Generally, do you think of yourself as very religious, somewhat religious, not very religious, or not religious at all?”

[1 = Very religious, 2 = Somewhat religious, 3 = Not very religious, 4 = Not religious at all]

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