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The Ordinary Conception of Race in the United States and Its Relation to Racial Attitudes: A New Approach

Joshua Glasgow[a,*]
Julie L. Shulman[b]
Enrique G. Covarrubias[c]

[a] Philosophy Program, Victoria University of Wellington, Wellington, New Zealand
[b] Department of Counseling, Sonoma State University, Rohnert Park, CA, USA
[c] Department of Counseling, Indiana State University, Terre Haute, IN, USA
* Corresponding author, e-mail: joshua.glasgow@vuw.ac.nz

Abstract
Many hold that ordinary race-thinking in the USA is committed to the 'one-drop rule', that race is ordinarily represented in terms of essences, and that race is ordinarily represented as a biological (phenotype- and/or ancestry-based, non-social) kind. This study investigated the extent to which ordinary race-thinking subscribes to these commitments. It also investigated the relationship between different conceptions of race and racial attitudes. Participants included 449 USA adults who completed an Internet survey. Unlike previous research, conceptions of race were assessed using concrete vignettes. Results indicate widespread rejection of the one-drop rule, as well as the use of a complex combination of ancestral, phenotypic, and social (and, therefore, non-essentialist) criteria for racial classification. No relationship was found between racial attitudes and essentialism, the one-drop rule, or social race-thinking; however, ancestry-based and phenotype-based classification criteria were associated with racial attitudes. These results suggest a complicated relationship between conceptions of race and racial attitudes.

Keywords
Race, racism, prejudice, racial conceptions

One pervasive claim about ordinary racial thinking in the United States is that it is committed to the 'one-drop rule', which holds that if a person has even one Black ancestor, he or she is Black (Omi and Winant, 1994; Hirschfeld, 1996, 1998; Boxill, 2001; Gil-White, 2001b; Fish, 2002; Zack, 2002; Smedley and Smedley, 2005). Furthermore, the one-drop rule is but one instance of a more general rule that many also attribute to ordinary race-thinking: one's race is determined by the race of one's ancestors (Hirschfeld, 1996; Kitcher, 1999; Glasgow, 2003; Hardimon, 2003; Sarich and Miele, 2004; Gracia,

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2005). Yet another truism that spans several disciplines is that ordinary race-thinking is committed to essentialism (Hirschfeld, 1996, 1997b, 1998; Yzerbyt *et al.*, 1997; Gelman and Hirschfeld, 1999; Gil-White, 2001a; Zack, 2002). Psychological essentialism – 'essentialism', for short – is a label that has been used to attribute several different commitments to ordinary racial thinking, from the relatively austere idea that something has an essence that makes it what it is (i.e., a property or properties that are both necessary and sufficient for its identity) (Gelman and Wellman, 1991; Ahn et al. 2001) to more robust notions, including belief in an inner property that determines changeable observable properties (Gelman and Wellman, 1991; Hirschfeld, 1996; Yzerbyt *et al.*, 1997; Machery and Faucher, 2005), that has rich inductive potential (Rothbart and Taylor, 1992; Yzerbyt *et al.*, 1997), that is impervious to changes in rearing environment (Gil-White, 2001a), that comes with cultural or behavioral dispositions (Hirschfeld, 1996; Gil-White, 2001b), and that cannot be changed (Yzerbyt *et al.*, 1997). So, as Haslam and colleagues point out, because 'essentialism' can be used to mean so many conceptually distinct things, care must be taken in characterizing it (Haslam, 1998; Haslam *et al.*, 2000, 2002). In this spirit, it is stipulated here that calling a racial belief 'essentialist' signifies that it holds or presupposes that an individual's race is fixed, and in particular that changes in outward physical appearance or social relations cannot change one's race, because one's race is set prior to birth. This is a not-uncommon understanding of essentialism in the context of race (Rothbart and Taylor, 1992; Hirschfeld, 1996, 1997a, 1998; Yzerbyt *et al.*, 1997; Gelman and Hirschfeld, 1999; Gil-White, 2001a; Smedley and Smedley, 2005).

In the first empirical test of these pieces of received wisdom, Hirschfeld's (1996) groundbreaking study presented participants with pictures of monoracial and interracial couples and asked what race their offspring would be. Hirschfeld found that the preponderance of adults identified a Black and White interracial couple's child's race as Black, suggesting that they were following the one-drop rule (or at least a some-drop rule), and he inferred, apparently on the premise that descent-transmitted traits are thought to be based in essences (Gelman and Wellman, 1991), that ordinary adult race-thinking is essentialist (Hirschfeld, 1998).

This last inference has been challenged: belief in descent-transmitted racial traits does not require that one believe in hidden essences (Strevens, 2000; Machery and Faucher, 2005; for debate see Ahn et al., 2001; Strevens, 2001). After all, while talk of 'racial blood' might suggest a belief in essentialism (Hirschfeld, 1998), it might just be talk that we've inherited from the incorrect science of yesteryear and that survives *only* as a metaphor for ancestral

relations (Zack, 2002). Nevertheless, Hirschfeld's study does suggest that race is ordinarily understood to be tied to ancestry and that, more specifically, adults use the one-drop (or some-drop) rule to racially classify people.

Moreover, other data directly suggest that the ordinary conception of race includes at least some components commonly associated with essentialism. Haslam and colleagues (2000, 2002) asked undergraduates to rate several categories, including 'Black people' and 'White people' (only the former in Haslam et al., 2002), and (in Haslam et al., 2000) the ethnic groups 'Asians' and 'Hispanics' (which some might argue are actually racial groups; Alcoff, 2003; Haney López, 2005) on several of these components: discreteness, uniformity, informativeness, naturalness, immutability, stability, inherence and necessity. The results showed, across a number of different categories (beyond just race and ethnicity), that these elements actually cleave to two different dimensions of essentialist thinking: a natural kind dimension, which combines naturalness, necessary traits, immutability, discreteness and stability; and an entitativity dimension, which combines informativeness, uniformity, and inherence. Similar results were found – with slight differentiation regarding necessity and discreteness – in a recent study done in Germany (Keller, 2005). Peoples' race and ethnicity ratings disproportionally featured the elements in the natural kind dimension, suggesting that race might be seen as a natural kind, but also that this commitment is separable from (and more common than) a commitment to inner, informative racial essences.

Representing race as a natural kind is consistent with the idea that race is ordinarily understood mainly in terms of physical attributes, and that one's appearance is a result of one's genetics, as focus group research has found (Condit *et al.*, 2004). And if it is appropriate to categorize descent-based criteria for racial classification as biological, as opposed to social, criteria, then Hirschfeld's study also provides evidence that folk racial thinking is biological. Importantly, whether folk race-thinking is essentialist and biological are different questions: since biological views need not be essentialist (Haslam, 1998; Mallon, 2007) or adhere to the one-drop rule, these representations need to be studied independently. In sum, the studies from Haslam and colleagues suggest that the folk conception of race is essentialist in the sense defined above (of immutability and natural heritability), and it along with the studies from Hirschfeld and Condit *et al.* suggest that the folk conception holds that race is a natural kind centered around phenotype and ancestry.

However, other recent studies have shown that many people take one's race to be at least partly a function of one's social relations. For instance, Martin and Parker (1995) found that undergraduates' folk theory of race holds that differences associated with race are caused by both biological and social

factors. One limitation of this study is that its instrument did not discriminate between racial differences and non-racial differences that co-vary with race. For instance, one item on their questionnaire asks, "When the races differ in some way, how likely is it that the difference is due to the kinds of opportunities they've had?" The ambiguity in these questions allows that participants might have attributed race-related differences to opportunities, biology, or socialization not when thinking about *racial* differences, but when thinking about non-racial differences that correlate with race, such as difference in income or educational attainment. A more recent study from Jayaratne and colleagues (2006) similarly asked White adults whether differences between Blacks and Whites in the drive to succeed, math ability, tendency to act violently, and intelligence were due to genes. Fifty-one percent affirmed this belief to varying degrees (although only 27% chose answers somewhere between "some" influence and "just about all"). Again, this study does not ask whether *racial* differences, rather than race-*related* differences, are due to biology, but one might speculate that the participants who attribute race-related differences to genetic material also attribute racial differences to genetic material.

Other studies that have targeted specifically racial differences also suggest that race is ordinarily thought to involve both biological and social elements. In their research with focus groups, the explicit main question posed by Dubriwny *et al*. (2004, p. 187), "What do you think is generally meant when people use the term 'race'?" was followed with questions probing whether people define race by culture, geography, heredity or genetics, color, and religion. Their participants conceived of race as "multifactorial", i.e., as containing not only genetic and, centrally, phenotypic elements (based in geographic origins, though the focus group research conducted by Condit *et al.* (2003, 2004) found that the lay understanding of race does not map onto biologically credible continental clusters, as their participants also understood races to include linguistic, national, and regional groupings), but also cultural and socially constructed elements.

Similarly, Shulman and Glasgow (in press) administered a questionnaire that directly asked adults whether they think race is real or merely imagined, and then asked the realists to select whether people's races are determined by the way they look (classified as 'biological'), their social ties ('social'), their personality or abilities ('psychological'), or some combination thereof. Only about half of realists chose biology alone, and another 23% chose biology in combination with one or both of the other two determinants. Twenty-one percent chose a purely social conception of race. These data, along with the results of Dubriwny *et al*., challenge both the claim that race-thinking is univocally biological (or univocally social) and the conventional wisdom that race-thinking uniformly subscribes to essentialism and the one-drop rule.

Some recent studies have also examined not only whether general biological essentialism is correlated with racial prejudice (e.g., Keller, 2005), but also whether different kinds of race-thinking are more likely than others to correlate with racism. Jayaratne *et al*. (2005) found that those who endorse the view that race-related (as opposed to racial) differences are genetically based had higher levels of prejudice towards Blacks than those who reject this genetic basis. Among those studies that focus particularly on racial (as opposed to race-related) differences, Haslam and colleagues (2002) explored whether essentialism about race (among other categories) is associated with racial prejudice. They found that while prejudice was weakly positively associated with the entitative elements of essentialism (which, again, participants did not strongly associate with race), the natural elements (which they did associate with race) were not associated with prejudice. Alternatively, instead of looking at the association between prejudice and dimensions of natural kind and entitative race-thinking, Shulman and Glasgow (in press) examined the relationship between biological and social conceptions of race and racial attitudes. They found no such distinctive patterns (although they did find a positive correlation between racial realism and racist attitudes).

In this paper, these two questions are pressed further: what are the contents of the folk theory of race, and are different conceptions of race differently associated with racial attitudes? The first question was further specified to examine the prevalence of five kinds of race-thinking: (rejection of) the one-drop rule; (rejection of) the more general rule that one must have the same race as one's ancestors; (rejection of) the essentialist representation that one's race is determined by an unchangeable essence one is given no later than birth; (rejection of) phenotypic race-thinking, according to which one's visible appearance fully determines one's race; and (acceptance of) social race-thinking, according to which social (as opposed to biological) factors can at least partly determine one's race.

Method

Participants

Participants included 449 USA adults who completed an Internet survey. They ranged in age from 18 to 82 with a mean age of 34 (SD=13.38). Women comprised 70% and men 30% of the sample. The majority of the participants self-identified as European American (64%); 14% as African American; 9% as Latino/a; 5% as Asian American; 3% as Biracial/Multiracial; 0.2% as Native American/Alaskan; and 4% as other or none of the above, which is a level of

diversity roughly comparable to that found in the general USA population (USA Census Bureau, 2000). Participants reported educational background: graduated high school (3%), some college education (23%), graduated college (23%), some graduate school (15%), completed graduate school (36%). Twenty-nine percent of the participants reported "home" as the Midwest, 24% as the West, 17% as the Mid-Atlantic, 18% as the South, 7% as New England and 5% as the Southwest. The vast majority of the sample (90%) indicated the USA as their country of origin. Other countries from which participants originated included an Asian/Pacific Island country (3%), Mexico (2%), a European country (2%), Canada (1%), a South/Central American country (1%) and Other (2%).

Instruments

Racial attitudes. Racial attitudes were assessed using two instruments, Henry and Sears (2002) Symbolic Racism 2000 (SR2K) scale and the Quick Discrimination Index (QDI; Ponterotto *et al.*, 1995).

The SR2K scale is an 8-item self-report measure of contemporary racial attitudes toward Black people. With the permission of the authors of the scale, it was slightly altered in the current study to assess racial prejudice toward ethnic minorities in general (rather than solely toward Blacks). Higher scores on the SR2K indicate higher levels of prejudice. This scale has strong generalizability, having been normed on college student and general population samples with varying ethnic identities. The scale has been found to have high internal consistency, ranging from 0.54 to 0.70, faring better among Whites and Asians than among other groups. In the current study, a reliability analysis yielded an alpha coefficient of 0.86.

The QDI is a 30-item, Likert-type self-report inventory assessing attitudes towards racial diversity and women's equality, normed on late adolescents and adults. High scores indicate greater awareness of, and sensitivity and receptivity to, racial diversity. The overall scale has been found to be internally consistent, with a Cronbach's alpha of 0.88. The two subscales that were used in the current study, cognitive attitudes about racial diversity and affective attitudes regarding racial diversity, have also been found to have high internal consistency, 0.80 and 0.83, respectively. In the current study, a reliability analysis yielded an alpha coefficient for the affective and cognitive subscales of 0.89 and 0.80, respectively.

Racial Classification Questionnaire (*RCQ): Conception of race scales*. Five scales were created that assess various conceptions of race. As noted above, previous research has gauged representations of race by asking participants to explicitly

report how they understand race or by having them identify the races of offspring of people in pictures. By contrast, in this study, participants answered eleven multiple-choice questions about ten vignettes (see Appendix A), each of which posed a 'thought experiment' – a story about an individual's ancestry, appearance and social relations – designed to test the five beliefs, discussed above, that are commonly attributed to folk race-thinking: the one-drop rule, the belief in racial essences, the belief that a person's race is determined solely by ancestry, the belief that a person's race is determined by phenotype, and the belief that race is determined by social relations. A similar approach can be found in Gil-White's (2001a) research on ethnicity-thinking in Mongolia. One of the cases on the RCQ, "Susie", was a variant on the widely discussed case of Susie Phipps, which is sometimes cited as evidence that the one-drop rule is entrenched in race-thinking in the USA (e.g., Omi and Winant, 1994): Phipps was thought, even by herself, to be White, but learned as an adult that her 3/32 Black ancestry meant that in Louisiana she was legally classified as Black. Although modified slightly, some of the other vignettes were drawn from cases that are specifically designed, in the philosophical literature, to elicit intuitions about rules for racial classification. These include the cases of "Walter", "Anatole", "George", "Mark", "Dan" (Mills, 1998) and "Sara" (Corlett, 2003). The remaining vignettes were created by the investigators to assess the five representations of race being examined here.

The one-drop rule rejection scale is a 7-item (possible scores range from −1 to 7) scale assessing the degree to which people believe that having one Black ancestor is sufficient to make a person Black. The following items and responses from the RCQ (Appendix) comprised this scale: (1a, 1c, or 1d), (2a, 2c, or 2d), (3a, 3c, or 3d), (4a, 4c, or 4d), (5a, 5c, or 5d), (8a, 8c, or 8d) and (11a, 11c, or 11d) were positively scored; 1b was reverse scored. Higher scores on this scale indicate a greater rejection of the one-drop rule. For example, in the case of Susie, (question 1), if a participant says Susie is White (1a), Mixed (1c), or Sometimes White and sometimes Black (1d), the participant receives one point on the rejection of the one-drop rule scale. The original scale also included question seven on the RCQ; however, this item was removed to increase internal reliability. A final reliability analysis yielded an alpha coefficient of 0.62.

The ancestry rejection scale, a 3-item scale (possible range of scores from −1 to 3), assesses the rejection of the belief that ancestry is the sole determinant of race. Items and answers from the RCQ were factored into this scale as follows: (5a, 5c, or 5d), (6b, 6c, or 6d) and (10b, 10c, or 10d) were positively scored; 6a was reverse scored. Higher scores indicate a greater rejection of the claim that one's ancestry fully determines one's race. For example, in the case of George (question 5), who has all Black ancestry but uses an

appearance-changing machine to "look White" and integrates into White culture and is identified by others as White, a participant who says that George is either White (5a), Mixed (5c), or Sometimes White and sometimes Black (5d), receives one point on the ancestry-rejection scale. The scale was modified to increase its reliability, removing answer 1b as reverse scored. Without this item, the final scale had moderate internal consistency, with an alpha coefficient of 0.69.

The social determination scale is a 3-item measure (ranging from –2 to 2) assessing the degree to which people believe that race is at least partially socially determined, with higher scores on this scale indicating a stronger belief that race is at least somewhat determined socially. Items and answers from the RCQ were factored into this scale as follows: (9b, 9c, or 9d) and the conjunction of both (3a and 4b) were positively scored; 9a and 10a were reversed scored. For example, in the case of Anatole (questions 3 and 4), who cuts himself off from his Black community and successfully integrates into a White community, a participant who says that Anatole is Black before this change (4b) and White afterwards (3a) is given a point on this scale. The scale also had moderate internal consistency, with an alpha coefficient of 0.67.

The essentialism rejection scale is a 4-item measure (ranging from 0 to 4) assessing the degree to which people reject the notion that there are racial essences, with higher scores indicating a greater rejection of this belief. Items and answers from the RCQ that comprise this scale were (5a, 5c, 5d), (9b, 9c, 9d), (10b, 10c, or 10d), and the conjunction of both (3a and 4b), all of which were positively scored. For example, participants who say that George (question 5), after using his appearance-changing machine, was White (5a), Mixed (5c), or Sometimes White and sometimes Black (5d), receive a point on the essentialism rejection scale. This scale had good internal consistency, with an alpha coefficient of 0.79.

The phenotype rejection scale is a one-item measure that assesses the belief that phenotype does not dictate race. If participants say that George was still Black after using his appearance-changing machine (5b), they are classified as endorsing the notion that one's phenotype does not dictate one's race.

Participants were also asked to identify their racial/ethnic identity, age, gender, sexual identity, educational level, region of residence and country of origin.

Procedure

Data were collected by distributing an advertisement for the study, entitled "Perceptions of Race/Ethnicity", to faculty, staff and students at several major universities in the West, Midwest, South, Mountain West and Northeastern

regions of the USA. All potential participants were instructed to invite others to participate in the study, thereby creating a snowball effect that resulted in a larger, more diverse pool of participants. All questionnaires were completed on and submitted via the Internet. Internet research has been found to result in data that are comparable to traditionally collected data and to be useful in investigating sensitive topics such as race (Kraut *et al.*, 2004; Gosling *et al.*, 2004). Research has found differential influences of level of privacy, researcher's race, and ability for participants to know the researcher's race on respondents' answers to surveys regarding racial issues, which has been attributed to social desirability, racial deference or mere presence of researcher (Krysan *et al.*, 1994; Krysan, 1998; Krysan and Couper, 2003). As such, using an anonymous, private Internet survey, where participants were unaware of the researchers' races, helped to minimize these potential confounding effects.

Results

Correlations were conducted to determine the relationships between the racial classification scales (the one-drop rule rejection, the ancestry rejection, the social determination, the essentialism rejection, and the phenotype rejection scales) and the three racial attitude scales. A Bonferroni correction (0.05/29), which resulted in an alpha level of 0.002, was utilized to reduce Type I error across the 29 correlations. No significant correlations were found between the one-drop rule rejection scale (M=4.99), the social determination scale (M=–0.43), or the essentialism rejection scale (M=1.42) and the three measures of racial attitudes. However, significant correlations were found between the ancestry rejection scale (M=0.83) and all three measures of racial attitudes. The ancestry rejection scale was found to be positively correlated with the QDI subscales, QDI Cognitive (r=0.17) and QDI Affective (r=0.14) and negatively correlated with symbolic racism (r=–0.18), indicating that those who were more likely to reject ancestry as the sole determinant of race score higher on both cognitive and affective openness to racial diversity and score lower on racist attitudes. The phenotype rejection scale (M=0.52) was found to be significantly positively correlated with the QDI Cognitive subscale (r=0.16) and significantly negatively correlated with symbolic racism (r=–0.16), indicating that participants who were more inclined to reject phenotype as a determinant of race score higher on cognitive openness to diversity and score lower in their racist attitudes.

The mean of 4.99 indicates (contrary to academic truism) that there is widespread rejection of the one-drop rule. This rejection is illustrated by the vignettes considered individually. While the vignette of "Susie" was purposely

modeled on the putative paradigm case of Susie Phipps, only 2.2% of the participants said that Susie counts as Black. In a similar case, 73% rejected the conclusion that Walter is Black. Even in the case of "Anatole", where participants were told that "most of his ancestors are Black", 64% of participants chose an identity for Anatole other than "Black" after his integration into the White community, in contrast to the 71% who said he was Black prior to this integration. And with respect to "George", who has all Black ancestry but changes his entire physical appearance to "look White", only 51% say that George counts as Black after his transformation. This is a much larger number than the previous cases, but still strikingly small if the one-drop rule is supposed to be in widespread use. Furthermore, in response to "Harriet", of whom it is said that "her ancestors are Black", in addition to being thought to "look Black" and self-identifying as Black, but who travels to a new country where she is classified as White, 32.3% of participants classified her as something other than "Black" in the new country. Note that the 67.7% of participants who *do* classify Harriet as Black do not necessarily employ the one-drop rule; as participants were also told that people think Harriet "looks Black" and that she self-identifies as Black, this case does not discriminate between different criteria – ancestral, self-identification, phenotypic – that might be in use for those who say that Harriet is Black. Similarly, "Michelle" shifts social relations not by moving between communities, but by staying in a community whose standards of racial classification shift, so that while her ancestry, which "includes mostly Black people, and a few White people", originally meant that her community classified her as Black, they now classify her as "mixed race". Here, only 15.1% of participants said that after this shift in the classification system, Michelle counts as Black (and, again, this case does not help to assess whether participants who do classify Michelle as Black use one-drop thinking).

Unlike the rejection of the one-drop rule, the 0.83 mean on the ancestry rejection scale suggests that while there is considerable rejection of the criterion that one must have the same race as one's ancestors, this rejection is neither uniform nor the majority response. Considering the vignettes individually, and excluding those who selected "None of the above", 41% denied that George (who has all Black ancestry) is Black, 51% denied that Mark (who has all White ancestry) is White, and 38% denied that Dan (who has all White ancestry) is White. And on the negative end of the rejection of ancestry scale (indicating acceptance of ancestry as a key determinant of race), only 44% said that Dan is White.

Out of a possible score range of –2 to 2, the relatively low mean on the social determination scale of –0.043 indicates that the view that one's race is

at least partially socially determined is a minority conception among the participants in this study. An example of a vignette that was used to assess belief in the social nature of race is the case of Anatole, who underwent no physical changes, but abandoned Black relationships and fully integrated into the White community. While only 2% of respondents held that Anatole was White prior to his shift, 23% classified him as White afterwards. Similarly, 50% of the participants said that Rosie was still White, but a total of 44% said she was either Latina, Mixed, or sometimes White and sometimes Latina, indicating that for these latter respondents being White or being Latina is at least partially contingent on a person's social relations. By contrast, in addition to the 36% who say that Anatole is still Black after his social transformation and the 50% who say that Rosie is still White after her transformation, 57% of participants said that Dan (who, like Anatole, had a transformation of social relations alone, but, unlike Anatole, tried to shift his racial identity from White to Black) was still White after his transformation. Nevertheless, while the view that race is at least partially socially determined is not strongly endorsed in this sample, it seems pervasive enough to call into question the extent to which adult racial thinking in the USA conceives of race as a function of immutable natural, rather than mutably social, facts.

The moderate (1.42) mean on the essentialism rejection scale suggests (again contrary to the truism) that essentialism is not widespread in folk race-thinking, as can again be illustrated by the individual vignettes. When told that George, who "has all Black ancestry… identifies himself as Black, and… is accepted as Black by his local community", subjects himself to a machine that makes him "look White" and then fully assimilates into White culture, 51% of respondents determined that George was still Black after using the machine. Similarly, Rosie, who has wholly northern European ancestors but as a young child moves from Germany to Mexico City and fully assimilates into and identifies with Mexican culture, is judged by 50% of participants to be White. Nevertheless, another 49% deny that George is Black after using the machine, and 50% reject the option that Rosie is White after her full assimilation into Mexican culture. These overall results suggest that participants are not as committed to the essence-based fixity of race as the essentialist truism says they are, but that, instead, people are often willing to allow that changes in culture or physical appearance can change one's race. Such a representation also appears when, while 71% say that Anatole was Black before assimilating into the White community, only 36% indicate that he is Black after assimilation.

One item comprised the phenotype rejection scale, as only one of the vignettes unambiguously assessed the belief that phenotype is a criterion for racial membership, namely the case of George, who invented and used a

machine to change his appearance from Black to White and then fully integrated himself into White culture. When participants believe that George is still Black after his phenotypic and social alteration, this indicates a belief that change in phenotype is not enough to change one's race (i.e., it is a rejection of a monolithic phenotype-based conception of race). Fifty-two percent of participants selected this response, which conforms to the idea that one need not have the physical features typical of one's race to count as a member of that race, indicating that rejection of phenotype as a criterion for racial membership, although the majority view, is far from universal. It should be noted that since George altered both his identity and his social relations, participants might confound these two, so that we cannot tell how they represent race. Accordingly, for those who think George changed his race, we cannot tell which of these two factors was operative; but responding that George did *not* change – that he remained Black, despite the fact that he no longer looked Black – does indicate the view that phenotype alone is not necessary for being Black.

Racial Differences in Race Conceptions

Because previous research has found a relationship between one's self-defined race and how one defines race (Dubriwny *et al.*, 2004), separate independent sample *t*-tests were conducted comparing Whites and non-Whites on the five race conception scales (all non-Whites were grouped together, since there were not enough participants in multiple non-White groups to make comparisons). White and non-White participants significantly differed on the one-drop rejection scale, $t(447)=-3.867$, $P=0.000$, Cohen's $d=0.37$, with White participants ($M=5.22$, SD=1.56) more likely to reject the one-drop rule than non-White participants ($M=4.57$, SD= 1.95). The two groups also differed in the ancestry rejection scale, $t(447)=-2.964$, $P=0.003$, Cohen's $d=0.30$. Whites ($M=1.00$, SD=1.65) scored significantly higher in their rejection of the belief that ancestry is the sole determinant of race than non-Whites ($M=0.52$, SD=1.593). There was a significant racial difference on the social determination scale, with Whites ($M=-0.24$, SD=1.59) scoring significantly higher on the belief that race is at least partially socially determined than non-Whites ($M=-0.76$, SD=1.44) on this scale, $t(447)=-3.418$, $P=0.001$, Cohen's $d=0.34$. White ($M=1.59$, SD=1.50) and non-White ($M=1.14$, SD=1.35) participants significantly differed on the essentialism rejection scale, $t(447)=-3.147$, $P=0.002$, Cohen's $d=0.22$. Lastly, the two groups did not significantly differ on the phenotype scale, $t(447)=1.097$, $P=0.273$, Cohen's $d=0.10$.

Educational Level and Race Conceptions

Since the sample in this study was skewed toward higher levels of education, a post-hoc analysis was conducted to examine the relationship between educational level and the varying conceptions of race. A MANOVA with educational level as the independent variable and the five race conception scales as the dependent variables was significant, Pillai's Trace=0.090, $F(5,440)=20.43$, $P=0.004$, eta squared=0.023. However, with a significance level set at 0.01, no differences in educational level were found on any of the individual race conception scales: one-drop rule rejection, $F(4, 444)=1.37$, $P=0.256$; ancestry rejection, $F(4, 444)=3.382$, $P=0.035$; social determination, $F(4, 444)=0.143$, $P=0.067$; essentialism rejection, $F(4,444)=1442$, $P=0.219$; and phenotype, $F(4, 444)=0.347$, $P=0.707$.

Educational Level and Racial Attitudes

A MANOVA with educational level as the independent variable and racial attitudes as the dependent variables was significant, Pillai's Trace=0.190, $F(3,442)=7.512$, $P=0.000$, eta squared=0.063. A follow-up ANOVA for the QDI cognitive factor was significant, $F(4, 444)=19.081$, $P=0.000$, indicating that participants with different levels of education differed in their cognitive QDI scores. Post-hoc tests revealed that high school graduates had lower scores on the QDI cognitive factor than college graduates ($P=0.014$), than participants with some graduate school ($P=0.001$), and than participants who completed graduate school ($P=0.000$); participants with some college education had lower scores than those who graduated graduate school ($P=0.001$); college graduates had lower scores than those who completed graduate school ($P=0.001$); and those with some graduate school had lower scores than those who had completed graduate school ($P=0.008$).

A follow-up ANOVA for the QDI affective factor was also significant, $F(4, 444)=8.440$, $P=0.000$. Post-hoc tests revealed that high school graduates had lower scores on the QDI affective factor than those with some college ($P=0.001$), than college graduates ($P=0.000$), than those with some graduate school ($P=0.000$), and than those who had completed graduate school ($P=0.000$).

The follow-up ANOVA for symbolic racism was significant, $F(4, 444)= 12.257$, $P=0.000$. Post-hoc tests revealed that high school graduates had higher scores on symbolic racism than participants with some graduate school ($P=0.004$) as well as than those who had completed graduate school ($P=0.000$); participants with some college had higher symbolic racism scores than those

who had completed graduate school (P=0.000); and college graduates had higher scores than those who completed graduate school (P=0.000).

Discussion

In sum, these results call into question some academic truisms. When presented with the RCQ cases, participants' responses indicated some moderate acceptance of the proposition that one's race can be socially determined (a mean of –0.043 on a scale of –2 to 2); similarly, participants' responses indicated limited rejection of the criterion that one must have the same race as one's ancestors at a mean of 0.83 (scale from –1 to 3). Slightly more than half of the participants rejected the idea that one's race is determined by phenotype. Academic received wisdom was more strongly challenged by the results of the other two conceptions of race scales. On the one-drop rule rejection scale, the mean of 4.99 on a scale of –1 to 7 indicates participants' widespread rejection of the notion that one black ancestor is sufficient to make a person black; and on the essentialism rejection scale, the mean of 1.42 on a scale of 0 to 4 indicates participants' willingness to reject the idea that one's race is fixed by an unchangeable essence. With respect to the question of whether participants' endorsement of these conceptions of race are correlated with racist attitudes, a significant relationship was found only between such attitudes and acceptance of ancestry as the sole determinant of race and between racist attitudes and the belief that phenotype alone can dictate one's race.

Before discussing the implications of these results, some methodological limitations of this study should be considered. First, as a new and exploratory study, the instrument used to assess race conceptions, the RCQ, has not been validated; although the race conception scales have moderate internal consistency, validation of this instrument is needed to lend more support to the results reported here. Second, while in other respects the participants are fairly representative of the general USA population, they are much more highly educated. However, nearly the full range of education levels is represented in this sample, and analyses revealed no relationship between education and the different conceptions of race. Nevertheless, future research could benefit by securing a more educationally diverse set of participants.

Conceptions of Race and Racial Attitudes

This study sought to determine what criteria people use to assign racial membership and how their various criteria for racial membership relate to racial attitudes. The results suggest that no simple answer to either question is in the

offing. To begin with the relationship between different conceptions of race and racial attitudes, these data suggest that some representations of race do, and others do not, correlate with racial attitudes, as measured by the QDI and SR2K instruments. In particular, there is no significant relationship between racial attitudes and the rejection of essentialism, the rejection of the one-drop rule, and the belief that race is at least partially socially determined. However, other conceptions of race, namely the rejection of ancestry and the rejection of phenotype, do correlate with racial attitudes. More precisely, the less likely participants were to reject the belief that ancestry is the sole determinant of a person's race, the greater their levels of racial prejudice and the lower their levels of both cognitive and affective awareness of, and receptivity to, racial diversity. Similarly, those who scored higher on the phenotype rejection scale (indicating the belief that phenotype does not determine race) were less likely to harbor racist attitudes, on the affective dimension of the QDI and on symbolic racism.

The fact that biological conceptions of race – according to which race is determined by ancestry alone or by phenotype alone – were positively associated with racist attitudes broadly aligns with recent work by Keller (2005), which showed a positive relationship between belief in genetic determinism and higher levels of prejudice, and results from Jayaratne and colleagues (2006) showing a greater rate of racism among those who endorse the claim that race-related (as opposed to racial) differences are attributable to genes than among those who do not endorse that claim. However, it stands at odds with findings that specifically target racial thinking (as opposed to race-related thinking and general genetic determinism), including Haslam *et al.*'s (2002) finding that natural-kind race-thinking was not associated with prejudice and Shulman and Glasgow's (in press) finding that people who hold biological conceptions of race held racist attitudes at a rate no greater than those who hold social conceptions of race. One explanation for the variation with the findings of Haslam *et al*. is that they used different measures of prejudice than those used here, but this explanation is not possible in relation to the findings of Shulman and Glasgow, as the instruments for measuring racial attitudes – the QDI and SR2K – were the same as those used here. An alternative explanation is that in both studies, i.e., Haslam *et al.* and Shulman and Glasgow, the ordinary conception of race was assessed by directly asking people for their theory of race *via* abstract, theoretical questions (e.g., explicitly asking whether they think race is natural or whether race is social), whereas the current study used 'thought experiments' or concrete cases. That these different kinds of questions elicit different responses has been suggested as a possibility in other domains (Knobe, 2007), and compelling evidence has been found for it with

respect to ordinary thinking about, for example, moral responsibility and determinism (Nichols and Knobe, 2007). If this difference is relevant, then these different methods might be tracking different aspects of biological race-thinking: the direct theoretical questions track an aspect of biological race-thinking that is not associated with racism, while the thought experiment questions track an aspect of biological race-thinking that does correlate with racism.

Conflicting Data about Ordinary Conceptions of Race

The other primary question of this study is what criteria are ordinarily used to assign racial membership. It is clear that there is no uniform criterion employed by all or even most of these participants. That is, it is not the case that the participants univocally employed a purely ancestral criterion of race, an at least partially social criterion of race, an essentialist criterion of race, or a phenotypic criterion of race, with anything approaching uniformity. Nevertheless, these results suggest that the academic truisms about commonsense race-thinking – that race is at least often thought to be a function of racial essences and to be determined by ancestry, and in particular black ancestry as required by the one-drop rule – should undergo renewed examination. This was most vividly seen in the thorough rejection of the idea that Susie is Black, since, in the literature, she is the paradigm case of the one-drop rule's dominance in America. More generally, the one-drop truism predicts that, at least with respect to membership in the Black race and possibly with respect to membership in other races, people will consistently affirm not only the one-drop rule itself, but also, by implication, a criterion that one's race is determined by one's ancestral relations, rather than visible physical features or social ties. The mean scores on both the one-drop rule rejection and the ancestry rejection scales, however, do not bear out either of these predictions. And the essentialist truism is challenged by the results suggesting that people sometimes think that race is alterable.

The question, then, is how to make sense of these surprising results, particularly how to reconcile the data suggesting that relatively few people use one-drop and ancestral thinking with earlier research showing that greater numbers use these kinds of thinking. For instance, the vast majority of participants in Hirschfeld (1996) classified the offspring of one Black and one White parent as Black, suggesting widespread use of the one- (or some-) drop rule, and participants in studies by Haslam *et al.* reported thinking that race is unalterable, both of which contrast with the data reported here.

It is certainly possible that the conception of race scales may not adequately or accurately assess one-drop or essentialist race-thinking. Alternatively, one fac-

tor, suggested by Gil-White (2001a,b), that could explain the apparent discrepancy between this study and Hirschfeld's is that when a study elicits responses from people looking at pictures, those responses are based only on appearances and so will only result in identifications that can be subjectively fallible (that is, fallible by even the participant's own standards for racial classification, as exhibited, for example, in the phenomenon of passing, where a person is identified as a member of one race even though operative racial classification criteria mean that he or she belongs to another race), while in discursive tasks – that is, tasks that elicit responses after explicitly telling participants the relevant ancestral, social, or phenotypic facts about a person – will result in categorizations that represent the respondent's subjectively infallible conceptualization of criteria for racial membership. So if representations based on visual tasks are subjectively fallible in a way that representations based on discursive tasks are not, then the disproportional endorsement of the one-drop rule in the former kind of task would not constitute reliable evidence that participants actually believe that the one-drop rule is a legitimate basis for racial categorizations.

At the same time, even if the two kinds of tasks provide equally reliable evidence, the distinction between visual and discursive reasoning might also play a role within the scope of categorizations alone, for as Alcoff (2000) puts it, race-thinking involves not only our terminology, but also our "perceptual habits" (*cf.*, Estroff, 1997). Thus a second possible explanation is that neither visually based nor discursively based judgments are more fallible or reliable than the other, but that people utilize different conceptualizations of race in verbal tasks (as in our study) and visual tasks (as in Hirschfeld's). A related possibility, noted above in connection to the relationships between conceptions of race and racist attitudes, is that even within the domain of similarly discursive tasks, different kinds of question can elicit different conceptions of race, so that if explicitly asked what one thinks race is (as in the studies by Condit *et al.*, Dubriwny *et al.*, Haslam *et al.*, Martin and Parker, and Shulman and Glasgow), one kind of answer will be more common, while if asked to categorize on the basis of concrete cases (as in the data reported here), another kind of answer will be more common.

Yet another possibility is that participants are reacting to different background conditions stipulated by the different studies' instruments or tacitly supposed by the participants. Thus, when looking at the pictures in Hirschfeld's study, respondents might assume that 'normal' conditions hold, that is, that the pictures are just portraying ordinary people in circumstances that the participants consider ordinary. But, when presented with the extraordinary conditions of the vignettes in the current study (involving machines that change one's physical appearance, radical social changes, and so on), some people are willing to depart from standard attributions of racial membership.

Accordingly, this explanation suggests that we should not infer that because one's race is, in the conditions of ordinary life, thought to be determined by one's ancestry, one's race is always – as a conceptual or definitional matter – thought to be determined by one's ancestry.

A final posit that reconciles these studies' seemingly inconsistent findings is that race-thinking is undergoing revision. Little more than a decade has passed since Hirschfeld's study, but in that time mixed-race identity, which challenges the one-drop rule (though not ancestral, phenotypic, or social criteria for racial classification), has arguably gained considerably more acceptance in mainstream America, particularly in the wake of the 2000 census allowing (after much public prodding from activists) people to self-identify with more than one race (Prewitt, 2005). The last two decades have also seen significant agitation from academics to argue that race is an illusion, which, if this message is seeping into the mainstream, might possibly undermine biological race-thinking. Although these are only speculations, they might be able to explain the shifts in the data over this span of time. To that end, it is noteworthy that the results reported here are consistent with the more recent studies from Dubriwny *et al*. and Shulman and Glasgow showing that people explicitly report beliefs about race that are both social and biological. If future research could discriminate between these explanations, we stand to learn much more about ordinary race-thinking.

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Appendix A

Participants' scores on the five conceptions of race scales were determined by how they answered the following questions. The numbers and letters preceding each question and answer were added for this article, as were the bracketed notes on what each answer signifies.

Racial Classification Questionnaire

1. Susie is a middle-aged woman. She "looks White" to the average person on the street. She was raised to believe she was White. Her co-workers and friends all think of her as White. Now, in her mid-40s, she discovers that she has a couple of Black ancestors, such that her great-great-great grandparents consist of two Black people and 30 White people. Is Susie:

    a. White [one-drop rejection]
    b. Black [reverse one-drop rejection]
    c. Mixed [one-drop rejection]
    d. Sometimes White and sometimes Black [one-drop rejection]
    e. None of the above

2. Four out of 64 of Walter's nearest ancestors were Black; the other 60 were white. He was raised to identify as Black and is a member of his local Black community, who accept him as Black. However, he occasionally goes into other communities and portrays himself as White, so that he can investigate anti-Black crimes. During these investigations, no one is able to detect any hint that in his normal life Walter is considered Black. Is Walter:

    a. White [one-drop rejection]
    b. Black
    c. Mixed [one-drop rejection]
    d. Sometimes White and sometimes Black [one-drop rejection]
    e. None of the above

3. Anatole was raised as a member of the Black race and most of his ancestors are Black, but in early adulthood he started presenting himself as White. He cut off all relationships with the Black community, he steeped himself in White culture, and he was accepted as White by the

White community. After Anatole successfully presented himself as White, was he:

a. White [one-drop rejection; with 4b, social determination; with 4b, essentialism rejection]
b. Black
c. Mixed [one-drop rejection]
d. Sometimes White and sometimes Black [one-drop rejection]
e. None of the above

4. Prior to presenting himself as White, was Anatole:

a. White [one-drop rejection]
b. Black [with 3a, social determination; with 3a, essentialism rejection]
c. Mixed [one-drop rejection]
d. Sometimes White and sometimes Black [one-drop rejection]
e. None of the above

5. George "looks Black" to the average person, he has all Black ancestry, he identifies himself as Black, and he is accepted as Black by his local community. But George tires of being Black, so he invents a machine that can transform his entire physical appearance so that he "looks White". After using this machine, he steeps himself in White culture and moves to a new community where everyone identifies him as White. After George used his machine, is George:

a. White [one-drop rejection; ancestry rejection; essentialism rejection]
b. Black [phenotype rejection]
c. Mixed [one-drop rejection; ancestry rejection; essentialism rejection]
d. Sometimes White and sometimes Black [one-drop rejection; ancestry rejection; essentialism rejection]
e. None of the above

6. Mark is adopted by a Black family as an infant, he grows up Black, thinks of himself as Black, is "culturally Black", and is categorized by his community as Black. When he walks down the street, people think of him as Black. Later in life he discovers that all his ancestors were actually White. Is Mark:

a. White [reverse ancestry rejection]
b. Black [ancestry rejection]

c. Mixed [ancestry rejection]
d. Sometimes White and sometimes Black [ancestry rejection]
e. None of the above

7. When people meet Sara, they're often not sure what race she is a member of. She has African, European and Latin American ancestors, in roughly equal numbers, and she identifies partially with all of them. Is Sara:

a. White
b. Black
c. Latina
d. Mixed
e. Sometimes White and sometimes Black and sometimes Latina
f. None of the above

8. Harriet is considered Black in the United States. Her ancestors are Black, and when people see her they assume she's Black because they think she "looks Black". Harriet considers herself Black. Then she travels to another country. The people in the new country use different rules for being Black or White, and there they think that Harriet is White. When Harriet travels to the new country, is she:

a. White [one-drop rejection]
b. Black
c. Mixed [one-drop rejection]
d. Sometimes White and sometimes Black [one-drop rejection]
e. None of the above

9. Rosie is born in Germany to wholly northern European ancestors. As a young child, she moves to Mexico City. She adopts the local culture in Mexico, raises her own family in Mexico, learns to speak the Spanish language fluently and without any German accent, and identifies with the Mexican culture as her own. Within that culture, she is accepted as a local. After spending 40 years in Mexico, is Rosie:

a. White [reverse social determination]
b. Latina [social determination; essentialism rejection]
c. Mixed [social determination; essentialism rejection]
d. Sometimes White and sometimes Latina [social determination; essentialism rejection]
e. None of the above

10. Dan was raised White in the United States. All of his ancestors were considered White. They all identify as White. In his mid-30's, Dan decides that he is Black. He cuts himself off from his White family and community, and he integrates himself into a Black community. After 10 years, that community accepts him as Black. Is Dan:

    a. White [reverse social determination]
    b. Black [ancestry rejection; essentialism rejection]
    c. Mixed [ancestry rejection; essentialism rejection]
    d. Sometimes White and sometimes Black [ancestry rejection; essentialism rejection]
    e. None of the above

11. Michelle's ancestry includes mostly black people, and a few white people. For the first 40 years of her life, people (including Michelle herself) considered Michelle black. Now, at the age of 50, her society has started recognizing people as being mixed race, something they never did before. When she now asks what race people think she is, they say that she is mixed race, and after some time, Michelle starts to agree with them. At this point, is Michelle:

    a. White [one-drop rejection]
    b. Black
    c. Mixed [one-drop rejection]
    d. Sometimes White and sometimes Black [one-drop rejection]
    e. None of the above