Black and White, or Shades of Gray?

How Exposure to Facial Variability Influences Race Essentialism

An Honors Thesis for the Department of Psychology

Rebecca L. Grunberg

Tufts University, 2012

Abstract

Race essentialism is the belief that racial categories are biologically based, immutable, discrete, and informative. Holding such beliefs has been shown to have a variety of negative consequences, including increased stereotype endorsement, increased prejudice, and decreased interest in interracial interactions (Keller, 2005; Jayaratne et al, 2006; Williams & Eberhardt, 2008). This past research has experimentally manipulated race essentialism by presenting participants with written arguments for or against race essentialism. The present studies investigate an alternative manipulation of race essentialism: mere exposure to faces. In study 1, participants exposed to a set of faces of prototypical phenotype (creating distinct racial boundaries) had a higher endorsement of race essentialism than did participants exposed to a set of faces of variable phenotype (blurring racial boundaries). Study 2 provides evidence that perceptually blurring boundaries only reduces race essentialism if there are no social cues to category division. Finally, in study 3, participants exposed to faces of prototypical phenotype were more emotionally disengaged after reading a passage about racial inequalities. These studies provide evidence that lay theories about race can be affected by passive everyday exposure.

The Effect of Mere Exposure on Race Essentialism

Race essentialism is a way of conceptualizing race and racial categories. It entails a belief that racial categories are based in genetic differences, and that someone's race represents an inherent, immutable "essence" or characteristic. Holding an essentialist view of race has implications for both cognition and behavior. Essentialist beliefs are associated with increased categorical thinking, and a belief in race essentialism leads people to perceive a more discrete boundary between racial categories, with less overlap between races (Chao, Chen, Roisman, & Hong 2007; No et al., 2008; Plaks et al., 2012).

Allport (1954) even argued that essentialist beliefs form the foundation for prejudice; believing that groups are inherently and immutably separate is a fundamental prerequisite for evaluating them differently. With respect to race, the idea that racial groups reflect genetically determined differences in traits or ability is often accompanied by the conclusion that some races are therefore inherently inferior. Smedley and Smedley (2005) note that this means theories of race have important public policy and social justice implications; an essentialist view of race assumes the immutability of traits of racial groups and thus implies the permanence of current hierarchies (Jayaratne et al., 2006).

Past research has indeed shown that this belief is associated with many negative consequences. Bastian and Haslam (2007) found that people who held stronger essentialist beliefs showed a preference for stereotype-consistent information over stereotype-inconsistent information. Essentialist beliefs also predicted stereotype endorsement among Australian undergraduates (Bastian & Haslam, 2006) and among German college students (Keller, 2005). Among Americans, greater endorsement of genetic lay theories (an important component of race essentialism) in White Americans correlated with increased prejudice toward Black Americans

(Jayaratne et al., 2006). A belief that race is biologically based is also correlated with an increased acceptance of racial inequalities as well as a less diverse social network (Williams & Eberhardt, 2008).

Further, researchers have also shown a causal relationship between essentialist views and these negative consequences. Williams and Eberhardt (2008) manipulated participants' view of race as biologically based or socially constructed, and again found that a belief that race is biologically based led to increased comfort with racial inequalities. This belief also led to decreased interest in interracial interaction. Keller (2005) found that experimentally induced essentialist beliefs in his sample of German college students led to increased prejudice toward Eastern Europeans.

These studies, along with others that experimentally manipulate essentialist beliefs (No et al., 2008; Plaks, Malahy, Sedlins, & Shoda, 2012), influence participants' conceptions of race by presenting ostensible scientific articles that explicitly promote either an essentialist or social constructionist view. Keller (2005) presented participants with an article discussing the differential distribution of genes in racial groups to prime thoughts about biology and race, while participants in the control condition read an article on an unrelated topic. Williams and Eberhardt (2008) presented participants with an article describing scientific findings entitled either "Scientists Pinpoint Genetic Underpinnings of Race" (promoting the view that racial categories arise from genetic differences) or "Scientists Reveal That Race Has No Genetic Basis" (promoting the view that racial categories arise from the sociocultural environment). Plaks, Malahy, Sedlins, and Shoda (2012) had participants read an article that stated either that all humans had a high degree of genetic overlap (indicating that there is little genetic difference between members of different racial groups) or a low degree of genetic overlap (indicating that

there were large genetic differences between members of different racial groups). Even those manipulations that do not explicitly mention genes or genetics describe a racial "essence" (No et al., 2008). All the articles used as manipulations or primes make purposeful arguments about the basis of group difference.

However, such discussions of the validity of an essentialist view of race are relatively rare in general discourse, yet people still hold these beliefs quite strongly and are able to express these views in surveys assessing endorsement of race essentialism. It is clear that people are drawing conclusions about the basis of racial categories from daily experience, even when such experiences do not require that they explicitly consider the question. Hearing or reading arguments is only one of many possible ways that people develop or change their beliefs. Given the close link between conceptual and perceptual processing (e.g. Dantzig, Pecher, Zeelenberg, & Barsalou, 2008), mere exposure also has the potential to influence our conceptions; what we are exposed to every day may subtly change our ideas about racial categories, even when no explicit argument about group difference is presented. We hypothesized that perception of racial boundaries could influence conceptions of racial boundaries.

One of the strongest perceptual cues to racial group membership is facial features, and faces vary in how prototypically they represent racial categories. For instance, both Black and White faces can vary greatly in how Afrocentric and Eurocentric their features are (Maddox, 2004). Being exposed to faces with prototypical phenotypes therefore might present racial groups as being perceptually distinct. Therefore, we hypothesized that exposure to racially prototypical Black and racially prototypical White faces, which creates a sharp perceptual distinction, would reinforce conceptual distinctions, lead to sharper, more rigid, categorical boundaries drawn between races, and increase race essentialism. Conversely, we hypothesized

that exposure to less racially prototypical faces would blur the perceptual distinction between racial groups, and therefore blur conceptual boundaries between racial groups, (i.e., reduced discrete conceptions of racial categories), leading to less race essentialism. In the present studies, we test this prediction with respect to phenotype, attempt to further specify under what conditions this blurring of phenotypical boundaries will lead to a reduction in race essentialism, and then examine one consequence of race essentialism brought about by mere exposure.

Study 1

One particularly salient cue to racial group membership is appearance. In Study 1, we presented participants with one of two sets of Black and White faces. Faces either varied widely in phenotypicality within each racial group (i.e., were less prototypical), or were highly prototypical, whereby faces in each racial group represented only a narrow range of prototypical phenotypes, perceptually forming two discrete groups. We hypothesized that exposure to faces whose appearance creates a distinct perceptual boundary between racial groups will result in distinct conceptual boundaries being drawn between racial groups, as indicated by higher endorsement of race essentialism, while exposure to faces that represent a range of phenotypes, blurring perceptual boundaries, will blur conceptual boundaries and lead to a reduced endorsement of race essentialism.

Method

Participants. 45 participants (60% female; 17% Asian, 76% White; M_{age} = 33.44 years, *SD* = 12.43) were recruited online through Amazon's Mechanical Turk (Buhrmester, Kwang, & Gosling, 2011).

Experimental Stimuli. Participants viewed one of two sets of 20 Black and White faces: a prototypical phenotype condition, in which faces from each racial group were all highly

prototypical, and a variable phenotype condition, which included faces that showed a range of phenotypes within each racial group. 23 participants pretested the faces for phenotypicality on a scale from 1 to 7, with 7 indicating the highest phenotypicality. Faces used in the prototypical phenotype condition were rated as more prototypically representative of their racial group and showed less variation in phenotypicality ($M = 6.9$, $SD = 0.12$) than faces used in the variable phenotype condition ($M = 6.56$, $SD = 0.41$, $t(21) = 3.75$, $p < .005$).

Procedure. Participants were told that they would be doing a memory task, and were shown one of the sets of 20 faces described above. The faces were presented on the screen one at a time, for 2 seconds each. After all the faces were shown, participants were told that their memory would be tested after they answered a questionnaire. Participants then responded to the Race Essentialism Scale (No & Hong, 2005). This scale includes 8 statements about the biological basis, informativeness, and malleability of racial groups, such as "A person's race is something very basic about them and it can't be changed much," and "Race does not have an inherent biological basis, and thus can be changed" (reverse-scored). Participants indicated their agreement with each item on a 6-point Likert scale, from "strongly disagree" to "strongly agree." Subsequently, their memory for the faces was tested to test whether participants actually watched the presentation of the experimental stimuli (i.e., this served as a manipulation check).

Results

Memory in the range condition ($M = 0.79$, $SD = 0.18$) did not differ significantly from memory in the prototypical condition ($M = 0.77$, $SD = 0.18$, $t(43) = 0.49$, $p = .62$). Five participants had memory at chance or worse (2 in the prototypical phenotype exposure condition, and 3 in the variable phenotype exposure condition), and were therefore excluded to ensure participants in the analyses attended to the experimental stimuli.

Participants exposed to phenotypically prototypical faces endorsed race essentialism more ($M = 3.82$, $SD = 0.82$) than did participants exposed to faces that varied in phenotypicality ($M = 3.34$, $SD = 0.64$, $t(38) = 2.02$, $p = .048$) (See Figure 1).

Discussion

When exposed to faces whose appearance created two perceptually distinct racial categories, participants were more likely to endorse race essentialism, indicating that they believed racial categories were discrete, biologically based and immutable, consequences of drawing distinct conceptual boundaries between racial groups. Participants exposed to faces whose appearance showed a great variation in appearance even within racial categories drew the opposite conclusion; that is, that racial categories are less discrete.

Study 2

Appearance is only one way we gain information about others. Names also serve as a potent source of information. People draw conclusions about guilt in a criminal trial, suitability for a sales job, and socio-economic status from people's names (Adams, Bryden, & Griffith, 2011; Watson, Appiah, & Thornton, 2011; Elchardus & Siongers, 2011; Fryer & Levitt, 2004). In the United States, some names are associated with members of a particular racial group and are often used to help determine racial group membership (Fryer & Levitt, 2004; Razran, 1950). If names can serve as a cue to racial group, then prototypical names, similar to prototypical appearance, should reinforce conceptual category boundaries. We predicted that reinforcing this conceptual distinction would override the blurring of boundaries brought about by less phenotypical appearance.

Specifically, a range of phenotypes that blurs perceptual boundaries will only lead to a reduction in race essentialism when it is not accompanied by social cues to category division. A

social, non-perceptual distinction through names might still create or maintain strict conceptual boundaries between racial categories, even though perceptual boundaries are blurred by non-prototypical phenotypes.

Method

Participants. 135 participants (65% female; 7% Asian, 83% White; M_{age} = 34.39 years, *SD* = 12.51) were recruited online through Amazon's Mechanical Turk.

Experimental stimuli. Participants viewed one of four sets of faces. In the first two conditions, participants viewed the faces used in the range condition in Study 1, and each face was labeled with a name. In the first condition, prototypical names, each face appeared with a name stereotypically associated with their racial group. In the second condition, non-prototypical names, each face appeared with a non-stereotypical name that was not more highly associated with one racial group over the other. In pretesting, 20 participants rated whether someone with a given name was more likely to be Black or White on a 7-point scale from "Definitely Black" to "Definitely White." Names used in the stereotypical names condition were more likely to be attributed to one racial group over another (i.e. were more prototypical; higher scores indicate more certainty about racial identity, $M = 5.85$, $SD = 0.41$) while names used in the non-stereotypical name condition were less likely to be attributed to one racial group over the other ($M = 5.24$, $SD = 0.24$, $t(38) = 5.67$, $p < .001$). The third and fourth conditions, prototypical and variable phenotype, were identical to the prototypical and variable phenotype faces conditions in Study 1.

Procedure. Participants were told that they would be completing a memory task, and were shown one of the sets of faces and names described above. The faces were presented on the screen one at a time, for two seconds each. After all the faces were shown, participants were told

that their memory would be tested after they answered a questionnaire. Participants then responded to the same Race Essentialism Scale used in Study 1.

Finally, memory for the faces was tested to ensure participants had actually attended to the presentation of experimental stimuli.

Results and Discussion

Memory did not differ significantly between conditions ($F(3, 131) = 0.57$, $p = .64$). Twenty-eight participants had memory at or below chance and were excluded from further analyses.

A one-way ANOVA revealed significant variation across conditions on the Race Essentialism Scale, $F(3, 103) = 3.12$, $p = .03$.

Planned contrasts revealed that, as expected, participants exposed to non-prototypical phenotype faces with racially-prototypical names had higher endorsement of race essentialism ($M = 3.71$, $SD = 0.71$) than did participants exposed to the same faces, but with non-racially-prototypical names ($M = 3.25$, $SD = 0.74$), $t(103) = 2.15$, $p = .03$. Replicating results from Study 1, participants exposed to more phenotypically prototypical faces expressed higher endorsement of race essentialism ($M = 3.6$, $SD = 0.68$) than did participants exposed to less phenotypically prototypical faces ($M = 3.16$, $SD = 0.92$), $t(103) = 2.09$, $p = .04$).

Additionally, consistent with predictions, participants exposed to faces with less prototypical appearance but racially-prototypical names did not differ in race essentialism ($M = 3.71$, $SD = 0.72$) from participants exposed to phenotypically prototypical faces without names ($M = 3.6$, $SD = 0.68$; $t(103) = 0.5$, $p = .62$). (See Figure 2 and Table 1.)

Exposure to racially-prototypical names led to the same increase in race essentialism as did exposure to phenotypically prototypical faces. Blurring perceptual boundaries seems to only

reduce race essentialism in the absence of other prototypical social cues to racial group membership. If such prototypical cues, in this case, prototypical names, are present, then conceptual distinctions are reintroduced and reinforced, leading to the same increase in race essentialism as with exposure to phenotypically prototypical.

Study 3

Across two studies, mere exposure to racially-prototypical divides, both perceptual and conceptual, led to the reinforcement of strict conceptual categories and increased race essentialism. In Study 3, we examined whether this effect of mere exposure would also extend to broader consequences for interracial relations.

Given that concern about racial inequalities has important public policy consequences (Smedley & Smedley, 2005; Forman, 2006), an effect of exposure on this concern would have important implications. We predicted that because exposure to more prototypical traits increased race essentialism, it should therefore decrease concern for racial inequalities. Specifically, we predicted that exposure to more phenotypically prototypical faces would decrease participants' emotional engagement and increase their emotional disengagement after they read a passage on racial inequalities in the U.S.

Method

Participants. 38 participants (68% female; 8% Asian, 82% White; M_{age} = 34.03 years, *SD* = 13.37) were recruited online through Amazon's Mechanical Turk.

Procedure. As in the previous studies, participants were told that they would be participating in a memory task. They then viewed either the prototypical or variable phenotype set of faces from study 1. The faces were presented on the screen one at a time, for 2 seconds each. After all the faces were shown, participants were told that their memory would be tested

after they read a passage and responded to questions. Adopting a procedure used by Williams and Eberhardt (2008), we asked participants to read a page-long passage about racial inequalities between Black and White Americans, and then answer questions assessing their comprehension of the passage as well as their emotional engagement and disengagement after reading about such inequalities. They rated how moved, concerned, upset, nervous, comfortable, indifferent, relaxed, apathetic, educated, informed, and knowledgeable they felt on a scale from "1-not at all" to "5-extremely." Moved, concerned, upset, and nervous were averaged to measure emotional engagement, and comfortable, indifferent, relaxed, and apathetic were averaged to measure emotional disengagement. Educated, informed, and knowledgeable were filler items. Finally, participants' memory for the faces was tested. Both the comprehension questions and the memory test served as manipulation checks to determine whether participants had actually read the passage and attended to the experimental stimuli.

Results and Discussion

All participants responded correctly to the comprehension questions. Memory in the prototypical condition ($M = 0.75$, $SD = 0.16$) did not differ significantly from memory in the variable phenotype condition ($M = 0.74$, $SD = 0.21$, $t(36) = 0.22$, $p = .83$). Seven participants had memory at or below chance and were excluded from further analyses.

Participants exposed to phenotypically prototypical faces were more emotionally disengaged after reading the passage ($M = 2.82$, $SD = 0.77$) than were participants exposed to phenotypically variable faces ($M = 2.25$, $SD = .64$, $t(29) = 2.22$, $p = .03$). Participants in the two conditions did not differ in emotional engagement (prototypical $M = 2.85$, $SD = 0.99$; variable $M = 2.78$, $SD = 0.88$, $t(29)$, $p = .83$). (See Table 3.)

Exposure to phenotypically prototypical faces that reinforced perceptual and conceptual distinctions between racial groups led participants to be more emotionally disengaged after reading a passage about racial inequalities between Black and White Americans. The belief that there was a large distinction and clear boundary between racial groups left participants unconcerned by the existence of racial inequalities, and confirmed that the present manipulation of race essentialism has similar effects as presenting participants with articles (Williams & Eberhardt, 2008).

General Discussion

Across three studies, mere exposure to faces led to cognitive consequences. Exposure to prototypical phenotypes that created a perceptual distinction between racial groups led to a conceptual distinction and greater race essentialism. Exposure to less prototypical phenotypes reduced this conceptual division and decreased race essentialism, but only in the absence of other prototypical traits, which could reinstate a conceptual division between racial groups. The reinforcement of this conceptual distinction between racial groups led to decreased concern for racial inequalities.

In past research, race essentialism has led to increased perceptual and conceptual distinctions between racial groups. Plaks et al. (2012) primed participants with an article stating that humans have a low degree of genetic overlap (indicating that there are large genetic differences between members of different racial groups) and presented them with faces that fell along a continuum from prototypically Black to prototypically White. Those primed with a low degree of genetic overlap divided the continuum into more distinct groups. Thus, a manipulation of belief in a genetic basis of racial categories led to perception of a more discrete perceptual boundary between racial categories. In a study by No et al. (2008), higher endorsement of race

essentialism was associated with the perception that Asian Americans and White Americans have less overlap in personality traits – a conceptual distinction between racial groups. The current studies build on this research by presenting evidence for causation in the other direction – a perceptual distinction as the cause of a conceptual distinction and increased endorsement of race essentialism.

The difference in appearance between less prototypical individuals and multiracial individuals is important to consider, as some of the literature proves contradictory on this issue. Faces used in the variable phenotype condition were intended to vary in phenotypicality but still unambiguously fall into a single racial category. Pretesting indicated that the faces in the range condition were more variable in their phenotypicality, and also that they were on average less phenotypical. Although all the pretesters did rate the faces as either Black or White, it is unclear whether any of the faces were actually ambiguous with regard to racial group membership. This is an important question to consider because some literature indicates that phenotypical variation actually equates to racial ambiguity; in many cases phenotypicality is equated with ancestry (Russell, Wilson, & Hall, 1992). This proves a potential complication to the findings of the current study. Judging ancestry based on phenotypicality provides reasoning such that a less phenotypical appearance will lead to the conclusion that the individual is of mixed racial heritage, rather than the conclusion that racial category boundaries are not strict or strictly definable by genetics (as was found in the current research). The relationship between these two studies is further complicated by the inclusion of ideas such as discreteness and immutability into essentialism as a whole, while phenotypicality studies focus only the biological and genetic basis of race. A clarification of these ambiguities could provide clearer direction to an effort to resolve differences between the current findings and existing literature on phenotypicality.

Another potential complication is the scale used to measure race essentialism. The race essentialism scale used in the present study is the same as that used by No et al. (2008), and is designed to measure race essentialism as a monolithic construct, including beliefs about biology as well as about the changeability of a less specific "racial essence." Other literature refers to variations on this construct with a variety of terms. Some researchers refer only to beliefs about biology and genetics (Jayaratne et al., 2006; Keller, 2005; Plaks et al., 2012; Williams & Eberhardt, 2008), while others conceptualize essentialism as an overarching umbrella term and divide the general construct into two subcategories, such as a belief in natural kinds and a belief in entativity, or even four subcategories, immutability, biological basis, discreteness, and informativeness (Haslam, Rothschild, & Ernst, 2000; Bastian & Haslam, 2006). When these subcategories are each measured with separate scales, differences may emerge in consequences; Bastian & Haslam found that essentialism overall, and biological basis and informativeness individually, were associated with stereotype endorsement, while discreteness and immutability were not. However, by the researchers' own admission, the subscales have very high overlap, and not only are the subscales highly interrelated, there may actually be causal relationships between them (e.g. biological basis and immutability, see Schnittker, 2008). Further research is needed before clear subcategories of beliefs can be defined and their individual consequences determined. However, the high degree of overlap and potential for the different aspects to influence each other leaves race essentialism as a whole as an acceptable measure for these concepts in the present studies.

The current findings provide evidence that the communities in which people live can have a large impact on their cognition. If exposure to variations in phenotypicality affects endorsement of race essentialism, the environment which people are exposed to day to day

should have implications for their beliefs about racial categories. For instance, racial segregation could involve a perceptual distinction between racial categories and therefore increase race essentialism. Conversely, exposure to less segregation or exposure to multiracial individuals could blur perceptual boundaries and therefore blur conceptual boundaries and reduce race essentialism.

As discussed earlier, race essentialism can have many negative consequences, including stereotype endorsement, prejudice, a less diverse social network, decreased interest in interracial interactions, and decreased concern for racial inequalities (Bastian & Haslam, 2006; Keller, 2005; Williams & Eberhardt, 2008). In the present studies, strict perceptual and conceptual boundaries led to decreased emotional engagement after reading about racial inequalities. This decreased emotional engagement is one component of a subtle form of prejudice that Forman refers to as racial apathy (2006). Racial apathy is different from some other forms of prejudice in that it does not involve overt negative sentiments about a racial group; rather, it manifests itself as a disinterest in the social circumstances of minorities and the dismissal of racial inequalities as the result of individual or group deficiencies. Racial apathy is a key obstacle to progress toward equality as it provides an ostensibly neutral way to defend the racial status quo and perpetuate current racial hierarchies.

The present studies provide evidence that exposure to perceptual distinctions between racial groups may contribute to this racial apathy. Correspondingly, the use of blurred perceptual boundaries to affect conceptual distinctions may provide an opportunity for intervention. While past research has decreased race essentialism through the use of overt persuasive arguments (Keller, 2005; Williams & Eberhardt, 2008; No et al., 2008; Plaks et al, 2012), mere exposure provides a more indirect method for decreasing categorical thinking.

Overall, exposure to faces that blur perceptual boundaries between racial groups led to decreased race essentialism, but only when other prototypical social cues did not reinstate this boundary. Importantly, reinforcing or blurring this perceptual boundary influenced emotional engagement with issues of racial inequality. Given the far-reaching consequences of essentialist conceptions of race, understanding the role of everyday exposure in forming these lay theories is vitally important.

References

Adams, L. T., Bryden, M. W., & Griffith, J. D. (2011). Middle Eastern racial bias and the impact of jury deliberation. *American Journal of Forensic Psychology, 29*(3), 41-59.

Allport, G.W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.

Bastian, B. & Haslam, N. (2007). Psychological essentialism and attention allocation: Preferences for stereotype-consistent versus stereotype-inconsistent information. *The Journal of Social Psychology, 147*(5), 531-541.

Bastian, B., & Haslam, N. (2006). Psychological essentialism and stereotype endorsement. *Journal of Experimental Social Psychology, 42*, 228-235.

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science, 6*(1), 3-5.

Chao, M., Chen, J., Roisman, G. I., & Hong, Y. (2007). Essentializing race: Implications for bicultural individuals' cognition and physiological reactivity. *Psychological Science, 18*(4), 341-348.

Dantzig, S., Pecher, D., Zeelenberg, R., & Barsalou, L. W. (2008). Perceptual processing affects conceptual processing. *Cognitive Science, 32*(3), 579-590.

Elchardus, M. & Siongers, J. (2011). First names as collective identifiers: An empirical analysis of the social meanings of first names. *Cultural Sociology, 5*(3), 403-422.

Forman, T. A. (2006). Color-blind racism and racial indifference: The role of racial apathy in facilitating enduring inequalities. In M. Krysan & A. Lewis (Eds.), *The Changing Terrain of Race and Ethnicity* (43-66). New York, NY: Russell Sage Foundation.

Fryer, R. G., Jr., & Levitt, S. D. (2004). The causes and consequences of distinctively Black names. *The Quarterly Journal of Economics, 119*(3), 767-805.

Haslam, N., Rothschild, L., & Ernst, D. (2000). Essentialist beliefs about social categories. *British Journal of Social Psychology, 39*, 113–127.

Jayaratne, T. E., Ybarra, O., Sheldon, J. P., Brown, T. N., Feldbaum, M., Pfeffer, C. A., & Petty, E. M. (2006). White Americans' genetic lay theories of race differences and sexual orientation: Their relationship with prejudice toward Blacks, and gay men and lesbians. *Group Processes & Intergroup Relations, 9*, 77-94.

Keller, J. (2005). In genes we trust: The biological component of psychological essentialism and its relationship to mechanisms of motivated social cognition. *Journal of Personality and Social Psychology, 88*(4), 686-702.

Maddox, K. B. (2004). Perspectives on racial phenotypicality bias. *Personality and Social Psychology Review, 8*(4), 383-401.

No, S., & Hong, Y. (2005). *Implicit theories of race measure*. Unpublished measure, University of Illinois, Urbana-Champaign.

No, S., Hong, Y., Liao, H., Lee, K., Wood, D., & Chao, M. M. (2008). Lay theory of race affects and moderates Asian Americans' Responses toward American culture. *Journal of Personality and Social Psychology, 95*(4), 991-1004.

Plaks, J. E., Malahy, L. W., Sedlins, M., & Shoda, Y. (2012). Folk beliefs about human genetic variation predict discrete versus continuous racial categorization and evaluative bias. *Social Psychological and Personality Science, 3*(1), 31-39.

Razran, G. (1950). Ethnic dislikes and stereotypes: A laboratory study. *The Journal of Abnormal and Social Psychology, 45*(1), 7-27.

Russell, K., Wilson, M. & Hall, R. (1992). *The color complex: The politics of skin color among African Americans*. New York: Harcourt Brace Jovanovich.

Schnittker, J. (2008). An uncertain revolution: Why the rise of a genetic model of mental illness has not increased tolerance. *Social Science & Medicine, 67*(9), 1370-1381.

Smedley, A., & Smedley, B. D. (2005). Race as biology is fiction, racism as a social problem is real. *American Psychologist, 60*, 16 –26.

Watson, S., Appiah, O., & Thornton, C. G. (2011). The effect of name on pre-interview impressions and occupational stereotypes: The case of black sales job applicants. *Journal of Applied Social Psychology, 41*(10), 2405-2420.

Williams, M. J., & Eberhardt, J. L. (2008). Biological conceptions of race and the motivation to cross racial boundaries. *Journal of Personality and Social Psychology, 94*, 1033–1047.

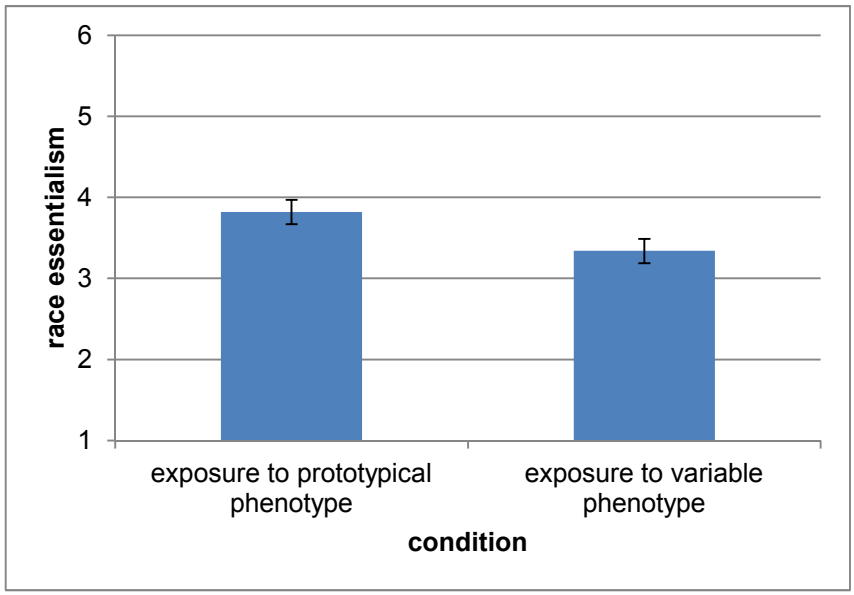

Figure 1. Results of Study 1. The effect of exposure to prototypical and variable phenotype faces on race essentialism.

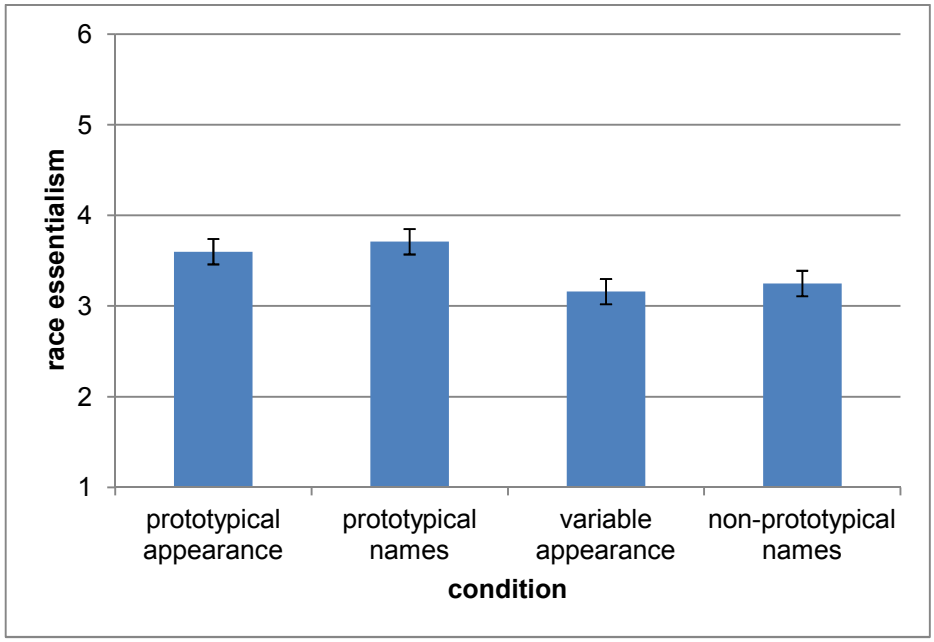

Figure 2. Results of Study 2. The effect of exposure to prototypical phenotype and variable phenotype faces with prototypical and non-prototypical names on race essentialism.

Contrast Tests

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
Assume equal variances	prototypical names & non-prototypical names	-.4554	.21154	-2.153	103	.034
	prototypical appearance & prototypical appearance	.4384	.20981	2.090	103	.039
	prototypical names with variable appearance & prototypical appearance	.1019	.20369	.500	103	.618
	non-prototypical names with variable appearance & variable appearance	-.0850	.21744	-.391	103	.697

Table 1. Contrast tests for Study 2.

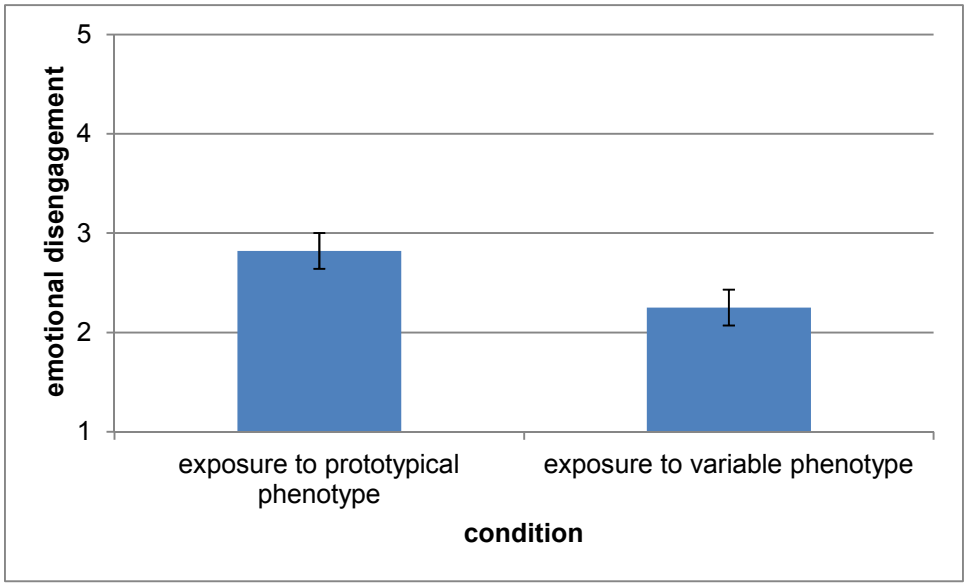

Figure 3. Results of Study 3. The effect of exposure to prototypical and variable phenotype faces on emotional engagement after reading a passage about racial inequalities.

Appendix 1. Race Essentialism Scale (No & Hong, 2005).

1. To a large extent, a person's race biologically determines his or her abilities and traits.

2. Although a person can adapt to different cultures, it is hard if not impossible to change the dispositions of a person's race.

3. How a person is like (e.g., his or her abilities, traits) is deeply ingrained in his or her race. It cannot be changed much.

4. A person's race is something very basic about them and it can't be changed much.

5. Races are just arbitrary categories and can be changed if necessary.

6. Racial categories are constructed totally for economic, political, and social reasons. If the socio-political situation changes, the racial categories will change as well.

7. Race does not have an inherent biological basis, and thus can be changed.

8. Racial categories are fluid, malleable constructs.