**Supplemental Online Materials**

**Study 1 Institutional Context: “Valuing Diversity” Curricular Emphasis**

Curriculum and extra-curricular programming addressing systemic inequality is widely available at this university and is a central component of the university’s Diversity Strategic Plan. For example, the university offers freshman seminars and upper level courses based on the University of Michigan’s Intergroup Dialogues curriculum

(see Gurin, Nagda, & Zúñiga, 2013). Further, four of the six general education core university-wide undergraduate degree requirements align with and reinforce this curricular focus: understanding the individual in society, understanding the past, exploring world cultures, and understanding U.S. society. All students must take at least one course fulfilling each of these themes.

Gurin, P., Nagda, B. A., & Zúñiga, X. (2013). Dialogue Across Difference*.* New York, NY:

Russell Sage Foundation.

**Study 1 Measures (from Nelson Study)**

Critical Historical Knowledge True/False Statements (*Note: correct answers in parentheses*)

1. African American Paul Ferguson was shot outside of his Alabama home for trying to integrate professional football. (**F**)
2. The United States criminal justice system has historically delivered longer sentences to Black Americans than White Americans who commit the same crimes. (**T**)
3. The African American slave Dred Scott sued for his freedom. The Supreme Court ruled that he was property, not a citizen of the U.S. and therefore could not sue in federal court. (**T**)
4. Less than 200 Black people were lynched in the U.S. during the one hundred year span between 1870 and 1970. (**F**)
5. In Tuskegee, Alabama the U.S. Government deceived over 600 African American men by hiding their diagnosis of syphilis, and for the next forty years denied them medical treatment for this potentially fatal disease. (**T**)
6. The U.S. government deliberately created and administered the HIV virus to over 900 African Americans in a secret project during the 1980s. (**F**)
7. Medgar Evers struggled for the civil rights of Black Americans and was assassinated for his writings. (**T**)
8. In the 1980’s congress passed the Purity Act which prevents Black immigrants from entering the U.S. (**F**)
9. The Emancipation Proclamation did not abolish slavery throughout the U.S. (Full citizenship was not established for Black Americans until the 14th Amendment was adopted.) (**T**)
10. Historically, African American defendants convicted of killing white victims were much more likely to be sentenced to death than were African-American defendants convicted of killing African-American victims. (**T**)
11. The F.B.I. has employed illegal techniques (e.g., hidden microphones in motels) in an attempt to discredit African American political leaders during the civil rights movement. (**T**)
12. Fourteen year old African American Emmett Till was kidnapped, beaten, shot, and dumped for allegedly whistling at a White woman. Two white men acquitted for his murder by an all-White jury later boasted about committing the murder in the Look magazine interview. (**T**)
13. The Supreme Court ruling in *Plessy* v. *Ferguson* (1896), that separate facilities for Whites and Blacks were constitutional, encouraged discriminatory laws. (**T**)
14. Jim Crow laws – which enforced segregation, limited job opportunities and kept Black Americans from voting – were in effect until the 1960s. (**T**)
15. In the 1970’s, the F.B.I. developed a program to insure high unemployment rates of African American people to maintain an inexpensive pool of workers. (**F**)
16. The U.S. Government promised freed slaves payment of 40 acres of land and a mule but never delivered such payment. (**T**)

Perceptions of Racism: Isolated

*To what degree does each item below reflect a case of racism?*

1. Several people walk into a restaurant at the same time. The server attends to all the White customers first. The last customer served happens to be the only person of color.
2. An African American man goes to a real estate company to look for a house. The agent takes him to look only at homes in low income neighborhoods.
3. An African American man was pulled over for speeding by a White highway patrol officer. Unknown to the man, his registration had expired earlier that month. Rather than give him a ticket and let him continue, the officer impounded the vehicle at the man’s expense.
4. An African American woman made reservations for a rental car over the phone, but when she arrived in person to collect the car, the agent informed her that no cars were available.
5. Lashandra Jenkins and Amy Conner applied for the same job. They have nearly identical qualifications. Amy gets called for an interview and Lashandra does not.

Perceptions of Racism: Systemic

*To what degree does each item below reflect a case of racism?*

1. The decision of universities like California and Texas to end affirmative action programs.
2. The decision of the US Government to invade Iraq.
3. High rates of poverty among African Americans, Latinos, and Native Americans.
4. The practice of racial profiling – using only information about race in the decision to make traffic stops, police searches, etc.
5. The relatively small number of African Americans in professional sports coaching positions (NBA, NFL) relative to the number of African American athletes.
6. The decision of the USA to withdraw from the United Nations conference on racism.
7. The policy of denying Mexican trucks access to US highways, even though (a) Canadian trucks have unimpeded access and (b) access for Mexican trucks is mandated by the NAFTA accord.
8. The portrayal of African Americans in US entertainment media.
9. Sentencing practices whereby possession of any quantity of cocaine is punishable by a maximum sentence of one year, where possession of 5 grams of crack (made from cocaine and baking soda) carries a mandatory 5 year minimum sentence.

Collective Self-esteem: Private Regard

1. I often regret that I belong to my racial group. (**R**)
2. In general, I’m glad to be a member of my racial group.
3. Overall, I often feel that my racial group is not worthwhile. (**R**)
4. I feel good about other members of my racial group.

**Study 1 Correlations by Participant Race**

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Note that we observed a significant negative relationship between identity relevance and critical historical knowledge among Black participants, such that greater identity relevance (i.e., a more positive racial group image) predicts lower historical knowledge among Black Americans. In contrast, there was a nonsignificant positive relationship between these two factors among the original Nelson study’s Black participants. It is possible that the different institutional-cultural settings could have produced this difference. Perhaps HBCU settings, compared to the present study’s setting (i.e., an MSI with a small minority of Black students), equip Black students with more effective coping strategies for maintaining a positive racial group image in the face of learning about how their racial group has experienced racism in the past.

Also note that there is a nonsignificant correlation between historical knowledge (*d*’) scores and perceptions of systemic racism among Black participants. This lacking correlation is another departure from Black participants in the original Nelson study. As Nelson and colleagues report in their Supplement, there was a significant, positive correlation between historical knowledge (*d*’) scores and perceptions of systemic racism (*r* = *.*27). Perhaps this correlation is absent in the present sample because, although the Black students’ average historical knowledge scores (*d*’) for the Nelson study and the present study appear to be similar, it could be the case that HBCU institutional-culture emphasizes knowledge of Black history more than does the culture of the MSI setting of the current study, making the relevant critical historical facts more salient for HBCU students when considering present-day systemic racism examples. It could also be the case that various forms of present-day racism are more salient for the Black participants in our sample, because their university campus itself is a racially diverse setting and is surrounded by a racially segregated metropolitan area. Perhaps the correlation is not present for these students because, regardless of their knowledge of past history, they are still likely to be able to recognize examples of present-day racism because it is a salient aspect of their everyday lives. Future work could examine this possibility.

**Study 1 Supplemental Figure**



*Figure S1.* Interaction between racial group and racial identity relevance, predicting systemic racism perceptions in Study 1. A stronger positive racial identity for Whites but not Blacks predicts lower systemic racism perceptions. The Black-White gap in racism perceptions is significant at moderate to high levels of identity relevance (for 69% of participants falling above the dotted significance boundary line).

**Study 2 Primary Measures**

Study 2 measures of racism perceptions (isolated, systemic) and racial identity relevance are the same as those used in Study 1.

Place-based Critical Historical Knowledge: Self-report

*“Please indicate the extent to which the audio clip helped you learn more about...*”

1 (*not at all*) to 5 (*a* *great deal*)

1. the history of racism in the United States
2. types of policy leading to racial residential segregation

Place-based Critical Historical Knowledge: Test

*Note: Answer choices in parentheses; correct answers bolded.*

1. According to one of the speakers in this clip, African American wealth is about what percent of White American wealth? (40%, 25%, **5%**)
2. According to one of the speakers, a contract that prevented the sale of a home to African Americans was called (**a restricted covenant**, blockbusting, a quarantine).
3. What color was used to indicate African American neighborhoods on maps of some cities? (Blue, Black, **Red**).
4. According to one of the speakers, what is the “main culprit” of residential segregation? (people’s prejudiced attitudes, **federal policy**, people’s housing preferences).

Black Ghetto Beliefs

*“Please indicate the extent to which you personally disagree or agree with the following statements...”*

1 (*strongly disagree*) to 7 (*strongly agree*)

1. The federal government intentionally created Black ghettos in the United States.
2. Federal and local housing policies did not create Black ghettos in the United States. (**R**)
3. Past federal and local housing policies helped cause present day racial inequality in the United States.

**Study 2 *Fresh Air* Audio Clips**

*Audio S1.* Experimental Condition [embedded link will go here]

*Audio S2.* Control Condition [embedded link here will go here]

**Study 2 Audio Clip Instructions**

ELIGIBILITY INFO: This study involves either watching a video clip with audio and/or listening to an audio clip. Continue only if you are now in a quiet area and you will either be able to listen to the audio from your computer's speakers or if you have headphones available for listening to audio.

VIEWS DISCLAIMER: The clip you are assigned to will cover one of a range of different social topics. No matter what topic you are assigned, please note: The opinions presented in your assigned clip do not necessarily reflect the views of the research team.

ENGAGEMENT INSTRUCTIONS: The next page contains a short audio clip (about 11 minutes). If you are not already in a quiet area, please move to a quiet area now. If you are in a public space, please get your headphones ready now. Please carefully listen to the entire clip. Toward the end of this study, you will be asked to answer a few memory questions about what you heard. It is important to do your best on these questions to help validate the study's findings.

**Study 2 Engagement Measures and Results**

Attention Checks: Treatment

*Note: Answer choices in parentheses; correct answers bolded.*

1. The conversation in this clip was about (factory farming and nutrition, **housing policy and racism**, technology and white collar work).
2. The conversation in this clip was between (two men, two women, **a woman and a man**).

Attention Checks: Control

*Note: Answer choices in parentheses; correct answers bolded.*

1. The conversation in this clip was about (residential segregation, technology and white collar work, **the intelligence of pigs**).
2. The conversation in this clip was between (**two men**, two women, a man and a woman).

In sum, attention-checks and self-reports indicate adequate and comparable engagement with both audio clips, which remains when controlling for racial identity relevance. Specifically, participants answered 1.92 of 2 audio clip attention checks correctly on average (*Mhousing* = 1.93, *SD* = .26, M*pigs* = 1.92, *SD* = .32), which did not differ by condition, *p* > .250. Treatment versus control participants’ self-reports of the following factors did not differ: effort listening to the audio clip (1-5 scale, *Mhousing* = 4.34, *SD* = .75, M*pigs* = 4.39, *SD* = .80), interest in the audio clip content (1-7 scale, *Mhousing* = 5.41, *SD* = 1.66, M*pigs* = 5.44, *SD* = 1.59), and the extent to which they learned something new from the audio clip content (1-5 scale, *Mhousing* = 3.63, *SD* = 1.21, M*pigs* = 3.81, *SD* = 1.06), all *p*s > .130. Findings remain the same when controlling for racial identity relevance, all *p*s > .130.

**Study 2 Correlations by Participant Race**

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**Study 2 Pilot**

**Method**

**Participants.** Participants were 315 White adults (135 men, 178 women, 2 other/unspecified; *M*age = 36.5, *SD* = 12.3, *Mdn*age = 33.0) and took part in an online survey through Mechanical Turk.[[1]](#footnote-1) Individuals in the U.S. who had completed at least 95 percent of previous tasks satisfactorily were eligible to participate. Target sample size (*N* = 264) was set to achieve at least 80% power given a small effect, which was assumed in the absence of prior relevant work. Analyses began after fielding ended. Two participants in the treatment condition did not complete the memory test and were thus dropped only from the memory test analysis.

**Procedure.** After consenting to complete an online survey about social issues, participants were randomly assigned to listen to an excerpt of one of two episodes of National Public Radio’s Fresh Air. The control and treatment conditions covered pig intelligence (*n* = 132) and U.S. ghettos (*n* = 183), respectively. Participants wrote about their initial reactions to the excerpt; then they completed a 6-item memory test assessing audio clip engagement[[2]](#footnote-2), Study 1’s measure of perceptions of isolated (α = .78) and systemic (α = .90) racism, and demographics.

***Fresh Air* episode excerpts (audio clips).** Study 2 Pilot participants listened to the same audio clips from the main Study 2, fully described in the main text of Study 2.

**Results**

 **Preliminary analysis.** Participants performed better on the memory test when in the control (*M* = 5.50, *SD* = .79) versus experimental (*M* = 4.72, *SD* = 1.17) condition, *t*(311) = 6.68, *p* > .001, *d* = .79. Still, scores in both conditions were high, demonstrating substantive engagement with both audio clips. Memory test scores for treatment-plus-control participants did not differ significantly from treatment-only participants, *t* < 1.

**Perceptions of racism.** We first conducted a series of preliminary analyses that provide justification for analyzing the “treatment-plus-control” participants as “treatment” and not “control” participants. These analyses provide tentative evidence that “treatment-plus-control” participants’ perceptions of racism differ from control participants’ responses but not from treatment-only participants’ perceptions, and that these two patterns remain the same across racism type (isolated, systemic).[[3]](#footnote-3)

A mixed-model ANOVA, with audio clip (pig intelligence, ghettos) as the between-subjects factor and racism type (isolated, systemic) as the within subjects factor, unsurprisingly revealed that participants reported greater perceptions of racism when isolated (*M* = 4.70, *SE* = .07) versus systemic (*M* = 3.65, *SE* = .08), *F*(1, 313) = 241.02, *p* < .001, ηp2 = .44. Critically, participants reported greater racism perceptions overall after listening to an audio clip about the history of U.S. housing policy (*M* = 4.29, *SE* = .09) versus the control audio clip about pig intelligence (*M* = 4.06, *SE* = .10), *F*(1, 313) = 2.75, *p* = .099, ηp2 = .01. Though this pattern did not differ by racism type, *F*(1, 313) = 1.13, *p* = .288, consistent with hypotheses, planned contrasts show that the magnitude of difference was greater for systemic versus isolated racism perceptions (systemic: *F*(1, 313) = 3.47, *p* = .064, ηp2 = .01; isolated: *F*(1, 313) = 1.15, *p* = .064, ηp2 = .004).

**Exploratory analyses to approximate effect size among the more engaged participants.** We conducted the main mixed-model ANOVA again, including only participants who received a memory test score of 5 or more, to explore whether or not the treatment effect size would likely be larger among a set of more engaged participants. For this exploratory analysis (*n* = 132), the treatment effect was not significant but—compared to the overall sample—this effect size was indeed larger, *F*(1, 130) = 2.26, *p* = .135, ηp2 = .017. This is the estimated effect size that we used for determining target sample size for the main Study 2.

**Discussion**

Study 2 Pilot findings provided guidance for a revised main Study 2 (which we report in the main text). Given that this pilot study was likely underpowered (the effect sizes obtained in this pilot study were smaller than expected), we decided to conduct a main Study 2 with more participants. We also fixed the programming error in the revised main Study 2. Critically, for this main study, we aimed to boost participant engagement with the audio clip, and the treatment’s effect size, by adding opening instructions emphasizing that (1) this study involves audio and in order to complete the study effectively participants must have headphones available or be in a quiet area where they can listen to audio, and (2) that participants should listen to the clip carefully because there will be a memory test at the end of the study. To more effectively screen out participants who did not engage with the study, we added a screening item at the end of the revised study, asking participants to honestly self-report whether or not they carefully listened to the entire audio clip.

Finally, we added measures to the main Study 2 to gain better insight into the psychological processes predicting how people perceive racism: We added racial identity relevance so that we would be able to test the racial identity relevance hypothesis in the context of learning new critical historical information. We also added additional measures of self-reported critical historical knowledge gained, as well as personal beliefs about the subject of the audio clip content. We wanted to be able to examine whether participants felt that they truly learned something new from the treatment audio clip, whether that new knowledge shifted their personal attitudes about the subject of the treatment clip, and whether that attitude shift ultimately explains their shift in perceptions of other manifestations of present-day racism.

**Study 2 Supplemental Figure**

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*Figure S2.* Interaction between condition and racial identity relevance, predicting systemic racism perceptions in Study 2. A stronger positive racial identity produces a stronger reactance effect, thus tempering the treatment’s overall boost to systemic racism perceptions.

1. Due to a programming error, the first 60 participants were assigned to both the treatment and control conditions. First, all participants listened to the control condition clip, then immediately answered the corresponding open ended and memory test questions, Second, they all listened to the treatment condition clip, then immediately answered the corresponding open ended and memory test questions. Third, everyone completed the perceptions of isolated and systemic racism scales just one time. These participants were labeled “treatment” for all analyses, and their responses did not differ from participants receiving only the treatment condition (see results section for details). [↑](#footnote-ref-1)
2. For treatment condition participants, this memory test consisted of the 4 Critical Historical Knowledge Test items from the main Study 2 and the two treatment Attention Check items from Study 2. For control condition participants, this memory test consisted of the 4 Pig Knowledge Test items from the main Study 2 and the two control Attention Check items from Study 2. The Pig Knowledge Test items are as follows (answer choices in parentheses; correct answers bolded): (1) True or false: one of the speakers in this clip said that pigs can recognize themselves in a mirror. (**True**, False), (2) According to one of the speakers, how much do wild pigs breed? (not very much, about the same as rabbits, **better than rabbits**).

(3) What was said in this clip about wild pigs’ sense of smell? (it’s pretty bad, they can only smell sweet things, **they can smell food 7 miles away**). (4) According to the clip, which state has the worst wild pig problem? (**Texas**, New York, Illinois). [↑](#footnote-ref-2)
3. The treatment-plus-control participants’ racism perceptions did not differ significantly from treatment-only participants’ perceptions, *F* < 1. Further, hearing only the treatment audio (vs. treatment-plus-control) did not interact with racism type to predict racism perceptions, *F* = 1.61, *p* = .206. Additionally, treatment-plus-control participants’ racism perceptions did differ from control participants’ perceptions, *F*(1, 190) = 3.679, *p* = .057. Finally, when analyzing only the treatment-plus-control participants in the treatment condition, treatment versus control condition did not interact with racism type to predict racism perceptions, *F* < 1. [↑](#footnote-ref-3)