PERCEIVED RACIAL BIAS AND PERCEPTIONS OF TRUST

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Abstract

With recent increased attention to a long history of racial injustice in society, it has become imperative to learn about the perceptions and experiences of racial minorities. Although trends may suggest that racial prejudice is on the decline (Charlesworth & Banaji, 2019), Black Americans report that they continue to face discrimination and are treated less fairly than their White counterparts (Pew Research Center, 2019). Research suggests that racial biases lead to a multitude of negative interpersonal outcomes for Black people, such as feeling suspicious or distrustful of White people and exercising vigilance toward positive actions, which can in turn elicit anxiety (Tropp, 2006). The present research includes two experiments that investigated how perceptions of racial bias by Black participants impact judgments of trustworthiness of Black and White targets related to positive emotional expressions. In Study 1, Black participants were given a media article that depicted White people as either racially biased or not racially biased in response to events in the lives of Black people. Study 2 also included a control article in which White people's responses to Black people were not described. In both studies, participants rated true smiles as more trustworthy than false smiles on White but not Black faces. On average, Black targets were rated as relatively more trustworthy regardless of the type of smile they displayed. These effects were not moderated by whether White people were depicted as racially biased or not racially biased in the initial media article. Together, the findings provide novel evidence for the impact of perceived racial bias on attributions of trustworthiness related to positive emotional expressions.

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Perceived Racial Bias and Perceptions of Trust

George Floyd, a Black American, was killed by a White police officer who knelt on Floyd's neck for nearly eight minutes. This incident spurred nationwide outrage and protests that denounced police discrimination against Black Americans. According to a Washington Post-Ipsos poll (2020) conducted during the demonstrations, Black respondents perceived America's police forces as racially biased (95%) to a greater extent than White respondents did (67%). However, most Black American respondents believed that attention to the death of Floyd would increase the extent to which White Americans are concerned about police discrimination.

Despite optimism about rising White concern with police misconduct, 81 percent of Black respondents in this survey believe that most White Americans do not understand discrimination facing Black Americans in their everyday lives. Research has shown that Black people perceive racial discrimination as more pervasive and damaging to Black people than do White people (Davis & Smith, 1994; Hochschild, 1995). In a recent survey by Pew Research Center (2019), about two-thirds of Black respondents (68%) said that being Black generally hurts a person's ability to get ahead in America, citing racial discrimination as the largest obstacle to overcome. Moreover, about three-quarters of Black respondents (76%) said that they have experienced discrimination or have been treated unfairly because of their race or ethnicity. One negative interpersonal outcome that can stem from racial prejudice is a sense of distrust. For example, research has shown that Black participants are less trustful of White people who are prejudiced (Dovidio et al., 2002).

Trust in an Intergroup Context

Trust plays a central role in social life and promotes both the development and maintenance of happy, well-functioning relationships (Simpson, 2007). Trust is also a key

element in intergroup dynamics. Research has shown that trust can improve information exchange and facilitate cooperation between social groups (Tam et al., 2009). *Intergroup trust* is defined as "a social bond that is characterized by feelings of security and confidence in others' good will" (Tropp, 2008). It is especially crucial to establish trust in intergroup contexts, as intergroup relationships are often prone to feelings of suspicion and a lack of confidence in others' good intentions (Dovidio et al., 2002; Insko & Schopler, 1998; Kramer & Messick, 1998).

It is particularly important to consider intergroup trust from the perspective of minority group members. Minorities' intergroup contact experiences are often fraught with prejudice and discrimination (Tropp, 2006). A growing literature suggests that due to the devaluation that they often face, members of racial minority groups are especially likely to perceive and experience racial distrust in intergroup contexts (Cohen & Steele, 2002; Tropp, 2006). Therefore, Black people may approach interracial interactions with anxiety or guardedness (Shelton, 2000; Swim et al., 1998). Research has shown that members of racial minority groups may view the majority group with vigilance and suspicion until they feel confident that majority group members are worthy of their trust (Brown & Dobbins, 2004; Cohen & Steele, 2002).

Minorities' Perceptions of Racial Bias

Perceiving a White person as prejudiced can affect how racial minorities feel toward White people as a group. In a study conducted by Tropp (2003), perceptions of racial bias were experimentally manipulated in order to measure the extent to which Asian American and Latino participants felt hostile and anxious about the interaction, as well as their attitudes toward White people. Specifically, participants overheard a scripted dialogue between a confederate and experimenter in which the confederate either made a prejudiced comment about the participants'

racial group or did not make a comment. Results from this study revealed that participants exposed to prejudice reported significantly greater levels of hostility and anxiety and tended to have less positive feelings about interacting with both their partner and White people in general, compared to those who were not exposed to a prejudiced comment.

In addition to explicit prejudice, it may also be functional for racial minorities to scrutinize White people's positive actions. White people may engage in certain behaviors to prove that they are not prejudiced, such as overcompensating to appear warm and likeable to Black interaction partners by smiling and acting nicer than normal (Bergsieker et al., 2010; Harber, 1998; Harber et al., 2012). Ironically, White people's use of behaviors that are intended to communicate the absence of racial prejudice are often seen by racial minorities as evidence of prejudice. Because Black people may be concerned about being the target of prejudice in interracial interactions, they may be more attuned to a White person's behavior, especially if it is positive (Crocker et al., 1998; Richeson & Shelton, 2007). Thus, when White people overcompensate, they are often seen as fake or patronizing by their racial minority interaction partners (Trawalter et al., 2009). In a study examining Black people's perceptions of White people's racial prejudice (Simon et al., 2019), Black participants were asked to recall a time when an interaction with a White person went poorly and to describe in detail what the other person said and did. Participants were presented with a list of behaviors that related to White targets' behavioral strategies in challenging interracial interactions, including overcompensation (e.g., "acting extremely nice—nicer than they normally would be") and developing a relationship (e.g. "trying to understand things from my point of view"). Results from this study revealed that Black participants inferred more prejudice from White targets when they overcompensate

compared to when they engage in behaviors that would indicate that they are trying to develop a relationship.

Research has also demonstrated that when racial minorities believe that White people are superficially motivated by the fear of appearing prejudiced rather than holding genuine egalitarian values, they become suspicious of White people's positive behaviors (Lacosse et al., 2015; Major et al., 2016). More specifically, when White people amplify positivity toward racial minorities to create a likeable, nonprejudiced image, racial minorities may in turn view their positive overtures as not only disingenuous but also threatening.

Intergroup Emotion Perception and Threat

When people feel threatened, their self-protective motives become activated, which can lead them to be more vigilant. Young and colleagues (Young et al., 2015) examined the processing of subtle variations in emotion cues when participants were presented with a video clip from a horror movie to induce threat. Specifically, participants were presented with a series of target faces that displayed either a Duchenne ("true") smile or a non-Duchenne ("false") smile (see Appendix A). Both of these smiles include activation of the *zygomatic major* muscle around the mouth, but true smiles differ in that they contain a special marker, the activation of the *orbicularis oculi* muscle near the eyes, which is not present in a false smile (Duchenne, 1862; Ekman & Friesen, 1982). Typically, faces displaying true smiles are perceived as more trustworthy than those expressing false smiles (Gunnery & Ruben, 2015), as a false smile can suggest a disingenuous and misleading emotional display of positivity (Biland et al., 2008). Results from the Young et al. (2015) study indicated that, compared to a control condition, participants whose motivations to self-protect were activated via the threatening video clip rated true smiles as significantly more trustworthy than false smiles.

When an outgroup is perceived to pose a physical (Donders et al., 2008; Trawalter et al., 2008) or social threat (Dickter et al., 2015; Richeson & Trawalter, 2008), people tend to become more attuned to the emotional expressions that are displayed on the faces of members of that group. To the extent that White people's positive emotional expressions such as a smile function as threat cues, minorities may become even more vigilant toward such gestures because they may be perceived as an indication of hidden prejudice (Major et al., 2016). To investigate the role of threat in minorities' perceptions of outgroups, Major et al. (2013) developed the Suspicion of Motives Index (SOMI). This index measures individual differences in minority group members' suspicion that White people's positive actions may be disingenuous. People who score high on this scale (i.e., high SOMI) are wary and distrustful of praise from White people (Major et al., 2016).

Recent research by Kunstman and colleagues (Kunstman et al., 2016) demonstrated that high SOMI Black participants showed increased vigilance toward White people's positive emotion cues, such that they were more accurate at distinguishing between true and false smiles on White compared to Black faces. Although this research has provided initial evidence that suspicion of White people's intentions by some Black perceivers can influence emotion identification for White target faces, research has yet to explore how perceptions of explicit prejudice against one's racial group may impact vigilance toward racial outgroup members' emotional facial expressions for all Black perceivers.

Current Research

Previous research has shown that perceived racial bias has a negative impact not only on the extent to which minorities trust White people but also influences their trust in intergroup interactions in general (Tropp, 2003). Intergroup threat has also been examined in the context of

emotion processing, such that minorities tend to scrutinize positive emotional expressions on White targets, as it may be indicative of concealed racial prejudice (Kunstman et al., 2016; Major et al., 2016). However, research has not yet explored how a threat such as perceived racial bias impacts perceptions of trust related to positive emotional expressions. A primary goal of the present research was to investigate how perceiving White people as racially biased impacts Black participants' construal of true versus false smiles as trustworthy. To fulfill this aim, I conducted two studies.

Study 1 examined the extent to which Black participants differed in their trustworthiness ratings between true and false smiles on Black and White target faces after they were presented with a media article that depicted White people as responding either negatively or positively toward Black people. The goal of Study 2 was to replicate the effects of Study 1, and included a control condition with no information about White people's responses. Across both studies, I expected that when White people functioned as a source of intergroup threat by demonstrating negative compared to positive or no responses toward Black people, Black participants would be more vigilant to White faces displaying positive emotional expressions and therefore would rate true smiles as more trustworthy than false smiles.

The present research also sought to examine Black participants' general perceptions of White people's racial bias. In both studies, participants were asked to evaluate the extent to which they believed that the media article describing either positive or negative responses to Black lives accurately depicted race relations in North America. Given that racial minority groups overall perceive a high prevalence of racial discrimination (Lee et al., 2019), I explored whether Black participants would perceive the article as a more accurate reflection of reality

when White people's responses to Black people were presented as negative compared to positive or when no information is provided in the control condition.

Study 1

The overarching goal of Study 1 was to examine how Black participants perceive racial bias. First, I explored the extent to which participants believed that a news report in which White Americans responded in negative compared to positive ways toward Black people was accurate. Second, because of the importance of trust in an intergroup context (Tropp, 2008) and an interest in the link between emotion perception and interpersonal trait attributions (Friesen et al., 2019; Kunstman et al., 2016), I focused on ratings of trustworthiness. Specifically, I investigated the impact of reading a positive or negative race relations report on trustworthiness ratings of Black and White faces with true and false smiles.

Method

Participants and Design

Participants were randomly assigned to read either an article related to White people conveying positive or negative attitudes toward Black people in a 2 Article Type (Positive Racial Responses vs. Negative Racial Responses) × 2 Target Race (Black vs. White) × 2 Smile Type (True vs. False) mixed design, with Target Race and Smile Type as within-subjects variables. A power analysis using G*Power 3.1 (Faul et al., 2007) was conducted on this mixed design. The power analysis used an estimate of typical effect sizes in social psychology (r = .20, converted to f^2 = 0.05; Fraley & Vazire, 2014) for the 3-way interaction, and indicated that a sample size of 138 participants (i.e., 69 in each between-subjects cell) would be required to reach 80% power to detect the Article Type × Target Race × Smile Type interaction. However, to ensure adequate

power, and to account for potential dropout, my stop rule was to conclude recruitment at the end of the day in which 160 participants were recruited.

A total of 164 Black undergraduate students were recruited. However, participants were filtered out of the final data set if they did not meet the following inclusion criteria. All participant responses throughout the study were complete, there was no indication of random responding to scale questions (e.g., providing the same response to all items), and open-ended responses to the comprehension check were reflective of the content in the article that was read. Upon filtering the sample, the data from 19 participants were excluded (6 due to computer malfunction and 13 due to not understanding or following instructions such as not reading or comprehending the article), leaving a total of 145 participants (114 female, 31 male).

Materials and Procedure

Upon arrival in the laboratory, participants were seated in a cubicle in front of a computer monitor and were informed that the study was related to perceptions of the media. The instructions notified participants that although science journalism is generally accurate and reliable, reporters may fail to correctly describe a scientific report. These instructions indicated that reporting may be sensationalized and scientific information may be over-simplified in order to appeal to a wider audience. Participants were informed that they would evaluate the accuracy of two examples of recent scientific reporting.

They were first presented with an article about climate change, followed by an article on race relations in North America. After reading each article, participants were asked to provide ratings related to their impression of the article. Following the article rating task, participants were told that they would complete a separate, unrelated task about perceptions of others. In this

second task, participants were presented with a series of faces on the computer and were instructed to rate the trustworthiness of each face.

Article Rating Task

After a brief overview of the study, participants were presented with onscreen instructions indicating that the present study was related to media reporting of scientific research, and that it investigated the extent to which students can identify accuracy in science journalism, see Appendix B. Specifically, participants were told that they would be presented with two examples of recent reporting on scientific research. Participants were instructed to read the articles carefully and to evaluate the extent to which they believed that each article is an accurate and fair depiction of the described scientific methods and results.

To increase participants' acceptance of the cover story about potential inaccuracies in scientific reporting, all participants were first given an article on climate change that I expected they would perceive to be inaccurate. Given that the majority of adults (67%) believe that global warming is occurring (Marlon et al., 2019), and that the climate change article in this experiment described the opposite trend, I expected that participants would infer that this article reflected poor scientific reporting. After reading and rating the climate change article, participants were instructed to read and rate an article on race relations.

The article on climate change was created in our laboratory and reported findings from a bogus climatology study. This media article described how researchers used satellite imaging technology to reveal that ice levels in the Arctic are expanding rather than melting, see Appendix C. Next, participants evaluated the article by rating seven items related to three major categories associated with the quality of the reporting, the quality of the study procedures, and participants' perceptions related to the accuracy of the article in depicting climate issues. Four items in the

article questionnaire were based on participants' evaluations of the quality of the reporting: "I believe that the reporter accurately described the basic pattern of research results.", "I believe that the reporter did a good job in reporting this research.", "I believe that the reporter misinterpreted the research findings." (reverse coded), "I believe that the reporter overstated the consequences of this research." (reverse coded). Two items were based on participants' evaluations of the study procedures in the news report. One item was related to the methods that were used, "I believe that the scientific methods described in this article are valid and sound.", while the other item was related to the findings of the study, "I believe that the results described in this article are incorrect." (reverse coded). A final item measured the extent to which participants believed that the article accurately depicted climate issues, "I believe that the findings described in this article accurately depict climate issues in North America." All items on the questionnaire were rated on a 9-point scale from 1 (strongly disagree) to 9 (strongly agree).

Following evaluations of the climate change article, participants were randomly assigned to read one of two articles on race relations in North America. This bogus article, created in our laboratory, reported on recent advances in psychophysiological measures as indicators of racial bias. The article reported that research investigated White Americans' neurological responses to videotapes of Black Americans describing traumatic events and moments of profound joy or success in their lives. While approximately half of the participants (N = 78) received a positive race relations article which reported that White people take pleasure when hearing of Black people's success and are angry when hearing of Black people's misfortune, the other participants (N = 67) received an article which reported that White people experience anger when hearing of Black people's success and take pleasure when hearing of Black people's misfortune (see

Appendix D and Appendix E). Below is an excerpt from the article depicting positive and negative race relations variations, respectively:

Princeton University indicates that the majority of White Americans [maintain egalitarian attitudes/harbor racial bias] that led them to respond with [anger/happiness] to the suffering of Black Americans and with [happiness/anger] to their success. [Consistent with/Contrary to] egalitarian beliefs and norms of political correctness, the results suggest [an improvement in/a deterioration of] race relations in contemporary America.

Participants then rated the intergroup relations article based on the same 7 questions that were used for the climate article, except that the questions were now related to the race relations article and content. These questions included measures of how participants perceived the quality of the reporting and study procedures in the race relations article. More importantly, the final item assessed the extent to which participants believed that the findings described in the article accurately depict race relations in North America.

Trustworthiness Ratings Task

Following the article rating task, participants were informed that they would complete a second, unrelated task in which they would be presented with a series of individual faces on the computer monitor. They were instructed to rate each face on trustworthiness. Specifically, 32 White male and female faces (16 true and 16 false smiles), and 32 Black male and female faces (16 true and 16 false smiles) were presented in random order. There were two sets of counterbalanced stimuli, such that a target displaying a true smile in Set 1 displayed a false smile in Set 2 (see Appendix F). Participants were asked to rate all 64 faces on trustworthiness on a 9-point scale from 1 (not at all trustworthy) to 9 (totally trustworthy).

Demographic Questionnaire. After completing trustworthiness ratings, participants were presented with a series of questions related to demographics, after which the experimenter

probed the participant for suspicion about the goals of the experiment, extensively debriefed the participant, and described the study rationale. Participants were asked about their experience when reading the articles and completing the trustworthiness ratings. During this time, they were also given the opportunity to voice any concerns or ask questions about the experiment.

Results

Ratings of the Race Relations Article

Because the climate change article and questionnaire were only included to strengthen the cover story, my analyses focused on the ratings of the quality of the reporting, the quality of the study procedures, and the perceived accuracy of the depiction of race relations article. To examine perceptions related to the quality of reporting, I combined the four items related to the race relations article on the extent to which the reporter accurately describe the results, did a good job reporting the research, misinterpreted the findings, and overstated the consequences of the research (Cronbach's α = .82; r = .29). Means and standard deviations are presented in Table 1, with higher scores indicating more positive ratings of reporting quality. A t-test comparing the effect of Article Type on reporting quality was not significant, $t(143) = .49$, $p = .63$, $d = .14$, 95% CI [-.77, .46]. The quality of reporting was moderately positive ($M = 5.54$, $SD = 1.87$, on a 9-point scale) and did not differ between the article that reported positive compared to negative racial responses.

Table 1

Evaluations of the Race Relations Article in Study 1

	Positive Racial Responses Article *M*(*SD*)	**Negative Racial Responses Article *M*(*SD*)**	***t*(143)**	***p***	**Cohen's *d***
Quality of the Reporting	5.44 (1.75)	5.70 (1.99)	.49	.63	.49
Quality of Study Procedures	5.17 (2.22)	5.59 (2.31)	.83	.41	.18
Accurate Depiction of Race Relations	4.16 (2.30)	5.11 (2.69)	2.06	.04	.38

Note. Evaluations of the quality of reporting, study procedures, and accuracy in depicting race relations related to the articles describing positive and negative racial responses to Black people in Study 1.

Two items were related to the quality of the study procedures and whether participants believed that the methods and results reported in the article were valid (Cronbach's α = .67; r = .63). As expected, a t-test comparing the effect of Article Type on these combined items was not significant, $t(143) = .83$, $p = .41$, $d = .19$, 95% CI [-1.06, .43]. Ratings related to the quality of the study procedure were moderately positive ($M = 5.32$, $SD = 2.26$, on a 9-point scale) and did not differ between the positive and negative racial response article conditions.

More importantly, a final item examined the extent to which participants believed that the findings described in the article accurately depict race relations in North America. A t-test comparing the effect of Article Type on this item was significant, $t(143) = 2.06$, $p = .04$, $d = .38$, 95% CI [-1.66, -.03]. Participants who read that White Americans responded in ways that were

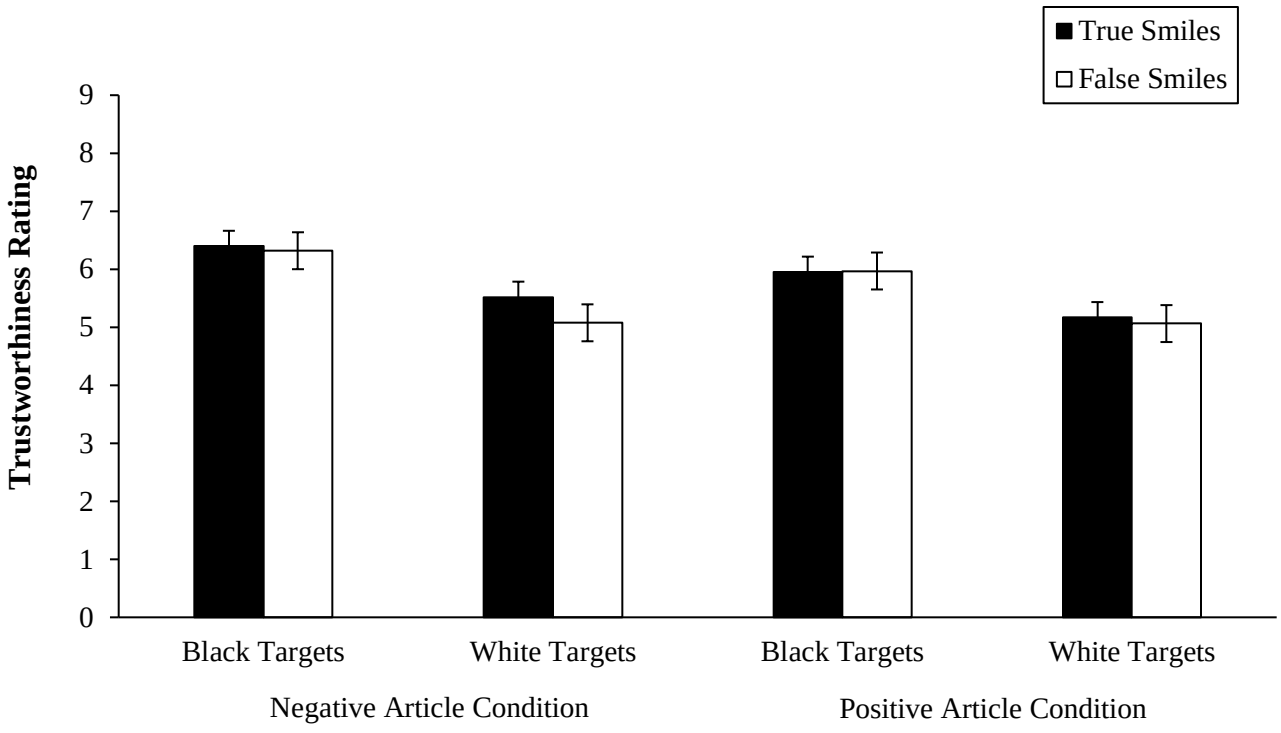
negative toward Black people rated the article as more accurately depicting race relations in North America (M = 5.11, SD = 2.70) than participants who read that White Americans responded in ways that were more positive toward Black people (M = 4.16, SD = 2.30).

Trustworthiness Ratings

Next, I examined whether participants differed in their trustworthiness ratings of true and false smiles on Black and White faces and whether these ratings were influenced by reading an article depicting positive compared to negative race relations. Specifically, mean ratings of trustworthiness were subjected to a 2 Article Type (Positive Racial Responses vs. Negative Racial Responses) × 2 Target Race (Black vs. White) × 2 Smile Type (True vs. False) mixed design ANOVA with Target Race and Smile Type as within-subjects variables, See Figure 1. The main effect of Target Race was significant, $F(1, 143) = 131.11$, $p < .001$, $\eta^2_p = .48$, 95% CI [.78, 1.11], with Black faces (M = 6.14, SD = 1.29) rated as more trustworthy than White faces (M = 5.20, SD = 1.32). The main effect of Smile Type was also significant, $F(1, 143) = 11.75$, $p = .001$, $\eta^2_p = .08$, 95% CI [-.23, -.05], with true smiles (M = 5.74, SD = 1.23) rated as more trustworthy than false smiles (M = 5.60, SD = 1.24).

Figure 1

Trustworthiness Ratings for Article Conditions in Study 1



Note. Trustworthiness rating scores for Black and White targets displaying true and false smiles in the positive and negative racial response article conditions in Study 1. Error bars represent the standard error of the mean.

These main effects were qualified by a significant Target Race by Smile Type interaction $F(1, 143) = 9.15$, $p = .003$, $\eta^2_p = .06$, 95% CI [.007, .15]. Since my theoretical focus was on differentiating between emotional expressions by comparing true and false smiles within each race, I examined the impact of Smile Type within Black and White faces separately. When judging White faces, Black participants rated true smiles as more trustworthy than false smiles ($M_{True} = 5.33$, $SD = 1.37$; $M_{False} = 5.07$, $SD = 1.39$), $t(144) = 3.89$, $p < .001$, $d = .19$, 95% CI

[.13, .39]. However, when judging Black faces, there was no difference in trustworthiness ratings between true and false smiles (M_{True} = 6.16, *SD* = 1.33; M_{False} = 6.13, *SD* = 1.33), $t(144) = .49$, $p = .63$, $d = .02$, 95% CI [-.08, .13]. On average, Black faces were rated as relatively trustworthy (*M* = 6.14, *SD* = 1.29, on a 9-point scale). Notably, this interaction was not qualified by Article Type. The Article Type by Target Race by Smile Type interaction was not significant, $F(1, 143) = 2.27$, $p = .13$, $\eta^2_p = .02$, 95% CI [0, .08]. No other main effects or interactions were significant.

Discussion

The findings from Study 1 revealed that ratings related to the quality of the reporting and quality of the study procedures did not differ depending on whether the article depicted positive or negative race relations. However, Black participants who read a negative race relations article believed that it more accurately depicted race relations in North America compared to those who read a positive race relations article.

Furthermore, the results indicated that although subtle positive emotion cues such as true and false smiles can impact ratings of trustworthiness, as research has shown in the past (Gunnery & Ruben, 2015), this effect maybe be moderated by target race. In particular, Black participants rated true smiles as more trustworthy than false smiles on White but not Black faces. Importantly, on average, Black targets were rated as relatively more trustworthy regardless of type of smile or article condition. Additionally, ratings of trustworthiness were not moderated by whether White people were depicted as racially biased or not racially biased in the article.

One potential explanation for this pattern of results may have been the cover story presented to participants in this study. Because participants were under the impression that the experiment was about their ability to detect good scientific reporting, perhaps they were more likely to question the validity of the results in both the climate article *and* the race relations

article. Therefore, the impact of differences in positive responses and negative responses by White people in the articles may not have influenced Black participants' perceptions of threat and their ratings of trustworthiness.

Study 2

The primary goal of Study 2 was to address potential issues related to the cover story in Study 1 by examining whether removing this cover story would influence the impact of the positive and negative article conditions. Specifically, in Study 2, the climate change article was removed and the instructions related to poor scientific reporting were deleted. By only including the race relations article, I expected that participants would be less likely to question the reporting. Furthermore, a control condition was added which did not include any responses by White people to successes or traumatic events in Black people's lives. This control condition article focused on the use of psychophysiology in race relations research and described studies that were conducted with White participants, but it did not report on the results of those studies.

Method

Participants and Design

Black participants were randomly assigned to one of three conditions in a 3 Article Type (Positive Racial Responses vs. Negative Racial Responses vs. Control) × 2 Target Race (Black vs. White) × 2 Smile Type (True vs. False) mixed design, with Target Race and Smile Type as within-subjects variables. A power analysis using G*Power 3.1 (Faul et al., 2007) was conducted on this mixed design. The power analysis used an estimate of typical effect sizes in social psychology (r = .20, converted to f^2 = 0.05; Fraley & Vazire, 2014) for the 3-way interaction, and indicated that a sample size of 180 participants (i.e., 60 in each between-subjects cell) would be required to reach 80% power to detect the Article Type × Target Race × Smile Type

interaction. To ensure adequate power, and to account for potential dropout, my stop rule was to conclude recruitment at the end of the day in which 200 participants were recruited. Because of the university-wide shutdown due to the COVID-19 pandemic, a total of 159 Black students were recruited.

Participants were filtered based on the same criteria as Study 1, with an added criterion that required the participant to correctly describe the findings of the article and accurately responded to an item in which they indicated how positively they perceived White people to feel toward Black people based on the article. The data of 16 participants were excluded (4 because of computer malfunctions, 12 because they did not follow instructions, or did not answer the article question correctly), leaving a final sample of 143 Black participants (114 female, 29 male). A sensitivity analysis conducted in G*Power 3.1 indicated that a sample size of 143 was adequate to reach 80% power and detect a significant three-way interaction.

Materials and Procedure

Before the start of the experiment, participants were told that the study was related to perceptions of the media. On the computer screen, participants were presented with an article about race relations in North America and were instructed to provide ratings related to their impression of this article. Following the article task, participants were presented with the same trustworthiness rating task used in Study 1, in which they were asked to rate a series of faces on trustworthiness.

Article Rating Task

Upon arrival in the laboratory, participants were seated in a cubicle in front of a computer monitor. After a brief overview of the study, participants were presented with the following onscreen instructions indicating that the present experiment was related to science journalism:

In recent years, the reporting of scientific methods and findings has become increasingly popular in media outlets. In general, science journalism seeks to describe the basic pattern of results, interpret the findings, and explain the consequences of the research. Reporters often seek to explain the main concepts and describe the nuances of the findings in ways that a broader audience of non-scientists can understand. Although science can be complicated and sometimes scientists may not explain their work clearly or in a straightforward manner, good journalists can extract the essence of the work and relay its implications in a clear and concise way.

The present study investigates science journalism. On the next page is an example of recent reporting on scientific research. Please read this article carefully and pay attention to the science methods that were used in the report.

All participants were next presented with a bogus article about intergroup relations in North America on a computer screen. Although the articles were similar to the ones used in Study 1, the article was modified in minor ways. Approximately one third of participants (N = 47) received a positive race relations article which reported that White people take pleasure when hearing of Black people's success and are angry when hearing of Black people's misfortune. Approximately another third of participants (N = 50) received a negative race relations article which reported that White people experience anger when hearing of Black people's success and take pleasure when hearing of Black people's misfortune (see Appendix G and H, respectively). Approximately one third of participants (N = 46) received an article that was comparable to the other two articles and described a new methodology to measure racial biases (see Appendix I) but did not report on the results of the study, nor did it mention negative or positive racial responses by White people.

To ensure that participants paid attention to and understood the article, they completed a comprehension check in which they were instructed to describe the content of the article in two sentences. Following this item, participants were also asked the following question, "Based on the research report, how positively do you think Whites feel towards Blacks?" from -4 (very

negatively) to 4 (very positively). On both items, participants' responses were expected to be related to the specific race relations article they read. Specifically, if they read the positive race relations article, they would describe and respond more positively than if they read the control race relations article or the negative race relations article. Next, participants evaluated the content of the article by answering the same seven article rating items used in Study 1. These items fell under three major categories: ratings of the quality of the reporting, ratings of the quality of the study procedures, and participants' perceptions of the article's accuracy in depicting race relations.

Trustworthiness Ratings Task and Demographic Questionnaire

Following the article rating task, participants were informed that they would complete a second, unrelated task about perceptions of others. Participants were presented with the same trustworthiness rating task used in Study 1. Finally, participants answered the same set of demographic questions used in Study 1 and were similarly debriefed.

Results

Article Ratings

As in Study 1, the four items on the Article Rating questionnaire related to the participants' impressions of the reporting were combined (Cronbach's $\alpha = .79$; $r = .49$). Means and standard deviations for each article are presented in Table 2, with higher scores indicating more positive ratings of the quality of the reporting. A one-way ANOVA comparing the effects of article condition on the quality of reporting was significant, $F(2, 140) = 3.74$, $p = .03$, $\eta^2 = .05$, 95% CI [5.91, 6.42]. A Tukey post hoc test indicated that participants in the positive article condition ($M = 6.43$, $SD = 1.37$) provided somewhat higher ratings related to the quality of the reporting than participants in the control article condition ($M = 5.66$, $SD = 1.48$), $t(140) = 2.44$,

p = .04, d = .54, 95% CI [.02, 1.50]. Furthermore, participants in the negative article condition (M = 6.38, SD = 1.47) provided somewhat, but not significantly higher ratings related to the quality of the reporting than participants in the control article condition (M = 5.66, SD = 1.48), $t(140) = 2.31$, p = .06, d = .49, 95% CI [-.02, 1.44]. Quality of the reporting ratings between participants in the negative article and positive article conditions did not differ, $t(140) = .17$, p = .99, d = .03, 95% CI [-.67, .78].

Table 2

Evaluations of the Race Relations Article in Study 2

	Positive Racial Responses Article *M*(*SD*)	**Negative Racial Responses Article *M*(*SD*)**	**Control Racial Responses Article *M*(*SD*)**	***F* (2, 140)**	***p***	η^2
Quality of the Reporting	6.43 (1.57)	6.38 (1.47)	5.66 (1.48)	3.74	.03	.05
Quality of Study Procedures	6.37 (1.95)	6.46 (1.78)	6.51 (1.26)	3.74	.92	.001
Accurate Depiction of Race Relations	3.15 (2.44)	6.44 (2.25)	4.24 (2.36)	24.81	<.001	.26

Note. Evaluations of the quality of reporting, study procedures, and accuracy in depicting race relations related to the articles describing positive negative, and control racial responses to Black people in Study 2.

Although participants in the control article condition rated the quality of the reporting lower than participants in the positive and negative article conditions, mean ratings were still

moderately positive (M = 5.66, SD = 1.48, on a 9-point scale). However, one reason why the control article condition ratings may have been lower and significantly different from both the positive and negative article conditions is that the reporter only described the methodology without providing participants with details about the results of the study. Participants, therefore, may have perceived the article as relatively incomplete or dissatisfying, which may have made their evaluations of the quality of the reporting lower in this condition.

As in Study 1, two items on the article questionnaire related to participants' belief that the methods reported in the article were valid and whether the results of the article were incorrectly reported (reverse coded) were combined (Cronbach's α = .57; r = .40). A one-way ANOVA comparing the effect of article condition on the quality of the study procedures was not significant, $F(2, 140) = 3.74$, $p = .92$, $\eta^2 = .001$, 95% CI [6.17, 6.73]. The quality of the study procedures was moderately positive (M = 6.45, SD = 1.68, on a 9-point scale) and did not significantly differ between the positive, negative, and control article conditions.

A final item examined the extent to which participants believed that the findings described in the article accurately depict race relations in North America. A one-way ANOVA comparing the effect of type of article condition on this item was significant, $F(2, 140) = 24.81$, $p < .001$, $\eta^2 = .26$, 95% CI [4.20, 5.10]. Simple effects analyses revealed that participants who read that White Americans responded negatively to Black people's experiences rated that the article more accurately depicted race relations in North America (M = 6.44, SD = 2.25) than participants who read that White Americans responded positively to Black people's experiences (M = 3.15, SD = 2.44), $t(140) = 6.90$, $p < .001$, d = 1.40, 95% CI [-4.42, -2.16]. Furthermore, participants who read that White Americans responded negatively to Black people rated the article as more accurately depicting race relations compared to participants who read the control

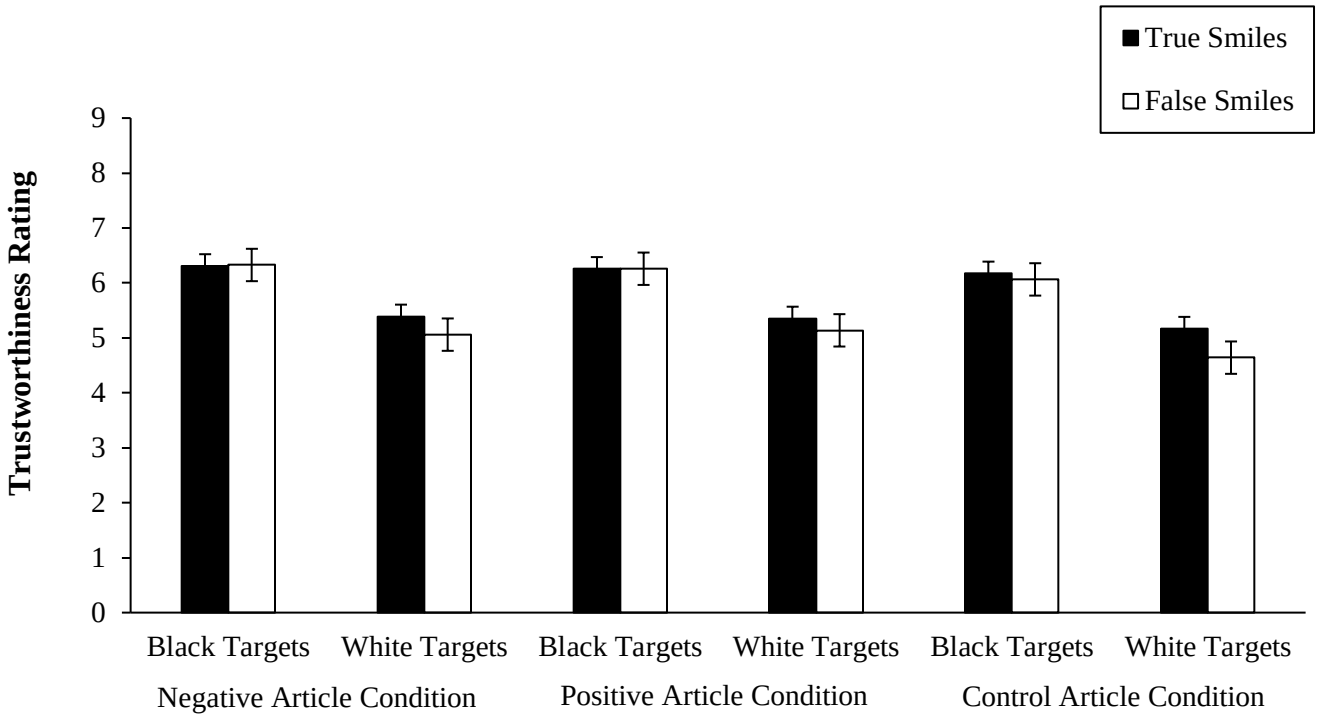
article (M = 4.24, SD = 2.36), $t(140) = 4.59$, $p < .001$, $d = .95$, 95% CI [1.06, 3.34]. Although the control article did not describe the results of race relations research, participants in this condition reported that this articles was somewhat, but not significantly more accurate in depicting race relations than participants in the positive article condition, $t(140) = 2.24$, $p = .07$, $d = .45$, 95% CI [-2.24, .06].

Trustworthiness Ratings

Next, I examined whether Black participants differed in their trustworthiness ratings of true and false smiles on Black and White faces and whether these ratings were influenced by the type of race relations article they read. Specifically, mean ratings of trustworthiness were subjected to a 3 Article Type (Positive Racial Responses vs. Negative Racial Responses vs. Control) × 2 Target Race (Black vs. White) × 2 Smile Type (True vs. False) mixed design ANOVA with Target Race and Smile Type as within-subjects variables, see Figure 2. The main effect of Target Race was significant $F(1, 140) = 183.29$, $p < .001$, $\eta^2_p = .57$, 95% CI [.94, 1.27], with Black faces (M = 6.23, SD = 1.08) rated as more trustworthy than White faces (M = 5.13, SD = 1.13). The main effect of Smile Type was also significant, $F(1, 140) = 21.08$, $p < .001$, $\eta^2_p = .13$, 95% CI [.11, .28], with true smiles (M = 5.78, SD = .90) rated as more trustworthy than false smiles (M = 5.35, SD = .87).

Figure 2

Trustworthiness Ratings for Article Conditions in Study 2



Note. Trustworthiness rating scores for Black and White targets displaying true and false smiles in the positive, negative, and control racial response article conditions in Study 2. Error bars represent the standard error of the mean.

Importantly, these main effects were qualified by a significant Target Race by Smile Type interaction $F(1, 140) = 16.60$, $p < .001$, $\eta^2_p = .11$, 95% CI [.03, .21]. To decompose this interaction, I examined the impact of Smile Type within Black and White faces separately. Replicating the effects of Study 1, when presented with White faces, Black participants rated true smiles as more trustworthy than false smiles ($M_{True} = 5.31$, $SD = 1.18$; $M_{False} = 4.95$, $SD = 1.24$), $t(142) = 5.07$, $p < .001$, $d = .30$, 95% CI [.22, .50]. However, when presented with Black faces, there was no difference in trustworthiness ratings between true and false smiles ($M_{True} = 6.25$, SD

= 1.13; M_{False} = 6.22, *SD* = 1.09), *t*(142) = .66, *p* = .51, *d* = .03, 95% CI [-.06, .12], with all Black faces being rated as relatively trustworthy. This interaction was not qualified by Article Type. The Target Race by Smile Type by Article Type interaction was not significant, *F*(2, 140) = .52, *p* = .60, η^2_p = .007, 95% CI [0.00, .05]. No other main effects or interactions were significant.

Discussion

The results from Study 2 indicated that ratings related to the quality of the reporting differed when comparing the control article condition to both the positive and negative race relations article conditions. Specifically, participants who were only given information on psychophysiology methodology without any details on the results of the study rated the quality of the reporting lower than participants who read an article either depicting positive or negative racial responses by White people. Findings from Study 2 also revealed that participants' ratings related to the quality of the study procedures did not differ by article condition. In accordance with the results of Study 1, participants who read a negative race relations article rated that the article more accurately depicted race relations in North America than those who read a positive or control race relations article.

Further, findings related to the impact of target race on trustworthiness ratings when distinguishing between true and false smiles replicated the results of Study 1. Black participants rated true smiles as more trustworthy than false smiles for White but not Black target faces. Black targets were, on average, rated as relatively trustworthy regardless of smile type. Importantly, these effects were also not moderated by whether the article portrayed White people's responses to Black people's experiences as racially biased, not racially biased, or if no information was given.

General Discussion

The primary aim of the present research was to investigate how perceptions of White people as racially biased impacts perceptions of emotional expressions by Black participants. Specifically, my goal was to examine how Black participants construe the trustworthiness of true and false smiles on White compared to Black target faces. Across two experiments, the results demonstrated that Black participants rated true and false smiles differently on White but not Black targets. While they rated true smiles on White targets as more trustworthy than false smiles, they did not differ in their trustworthiness ratings of true and false smiles on Black targets. Overall, regardless of smile type, they rated Black faces as more trustworthy than true or false smiles on White faces. Notably, despite using different cover stories in Studies 1 and 2, the type of article did not impact trustworthiness ratings. Reading a positive or negative race relations article in Study 1 or, as in Study 2, reading a positive article, negative article, or an article in which no results were reported about race relations did not significantly impact this pattern of results.

A secondary aim of this research was to explore how Black participants perceive race relations in present day North America. In Study 1, participants presented with an article that portrayed White people as racially prejudiced perceived the article to more accurately depict race relations in North America than an article which portrayed White people responding positively to Black people. This pattern of results was replicated in Study 2. Notably, participants who read an article in which no information was provided about White people's responses on psychophysiological measures rated the accuracy of the article in portraying race relations in North America midway between the articles that described positive and negative racial responses by White people.

Although the finding that Black participants differentiated between trustworthiness ratings of true and false smiles on White faces, but rated Black targets regardless of smile type as relatively high in trustworthiness aligns with research that suggests that people perceive members of outgroups as less trustworthy than members of ingroups (Brewer & Brown, 1998; Kramer & Messick, 1998), it is notable that Black participants did not differentiate between true and false smiles when rating the trustworthiness of Black faces. Previous research has demonstrated that perceivers decode emotional displays on ingroup members with great accuracy (Elfenbein & Ambady, 2002; Young & Hugenberg, 2010). More specifically, people tend to differentiate more between true and false smiles for racial ingroup compared to outgroup faces (Friesen et al., 2019). One would therefore expect that Black participants may also differentiate between true and false smiles on Black faces. One potential reason for not finding this pattern may be the intergroup context in the present experiments. Perhaps because Black participants were rating both Black and White target faces, they may have felt obligated to rate other Black people as more trustworthy, regardless of a subtle facial expression. To examine this possibility, future research is recommended in which Black participants are only presented with Black faces or White faces under conditions that vary the presence or absence of racial threat.

Although I predicted that the negative race relations article would impact ratings of trustworthiness for White compared to Black faces to a greater extent than a positive or control article, the present results revealed that Black participants were already rating White faces in a manner that was consistent with vigilance, regardless of article type. It would be important for future researchers to determine whether these effects are exclusive to Black participants or whether they generalize to White participants. In particular, future research might investigate how White participants respond to articles depicting negative or positive racial responses by

Black people. This work would not only shed light on the ways in which a White majority group perceives racial prejudice in North America, but also on how reading about prejudicial attitudes of racial minorities impacts how White people process and interpret emotional expressions.

The present research sought to determine whether manipulating perceptions of racial bias would impact how Black participants scrutinize positive emotional expressions. Previous research has found that perceiving White people as racially biased can lead minorities to distinguish between subtle emotion cues, because they are vigilant toward and distrustful of smiling expressions by White people (Kunstman et al., 2016). It is also functional for minorities to identify potentially threatening cues in an intergroup context, as their well-being may be at risk if they anticipate being a target of prejudice. Although I expected that reading about an experiment in which White people responded prejudicially toward Black people's experiences would lead Black participants to become especially attuned to distinguishing between White targets' subtle emotion cues, results suggested that participants exercised vigilance toward White faces regardless of whether they read about White people's bias or not. One potential reason for these results was suggested by the ratings of the race relations articles— Black participants in general believed that White people are biased and do not have their best interests at heart, and the article may not have impacted this belief. Therefore, it is possible that Black participants' pre-existing perceptions of White people's racial biases played the largest role when perceiving White people's trustworthiness, so the article would not have impacted these perceptions.

Conclusion

In conclusion, the present research investigated the impact of perceived racial bias on how people's positive emotional expressions are construed. Insight into how minorities respond to racial bias is particularly important when exploring contemporary race relations. Although

experimentally inducing perceptions of racial bias did not produce differences in trustworthiness ratings, the present research suggests that Black people may already be highly aware of White people's bias and that it makes them vigilant to even subtle emotional cues on White faces. Although further research is clearly necessary to investigate Black people's perceptions of White people's intentions, these initial findings indicate that these perceptions can have important consequences for interpersonal interactions between members of different racial groups. In the midst of a global reckoning on racial injustice, it is especially important that future research develops a deeper, more thoughtful understanding of not only majority group racial biases but also of racial minorities' perceptions and experiences.

References

Bergsieker, H. B., Shelton, J. N., & Richeson, J. A. (2010). To be liked versus respected: Divergent goals in interracial interactions. *Journal of Personality and Social Psychology, 99,* 248–264. https://doi.org/10.1037/a0018474

Biland, C., Py, J., Allione, J., Demarchi, S., & Abric, J. C. (2008). The effect of lying on intentional versus unintentional facial expressions. *European Review of Applied Psychology, 58,* 65–73. https://doi.org/10.1016/j.erap.2008.04.001

Brewer, M. B., & Brown, R. J. (1998). Intergroup relations. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 2, 554–594). McGraw-Hill. https://doi.org/10.1002/9780470561119.socpsy002028

Brown, L. M., & Dobbins, H. (2004). Students' of color and European American students' stigma-relevant perceptions of university instructors. *Journal of Social Issues, 60,* 157–174. https://doi.org/10.1111/j.0022-4537.2004.00104.x

Charlesworth, T. E., & Banaji, M. R. (2019). Patterns of implicit and explicit attitudes: I. Long-term change and stability from 2007 to 2016. *Psychological Science, 30,* 174-192. https://doi.org/10.1177/0956797618813087

Cohen, G. L., & Steele, C. M. (2002). A barrier of mistrust: How negative stereotypes affect cross-race mentoring. In J. Aronson (Ed.), *Improving academic achievement: Impact of psychological factors on education* (303–327). Academic Press. https://doi.org/10.1016/B978-012064455-1/50018-X

Crocker, J., Major, B., & Steele, C. (1998). Social stigma. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 1, 504–553). McGraw-Hill.

https://www.google.com/books/edition/The_Handbook_of_Social_Psychology/-4InWCsra7IC?hl=en

Davis, J. A., & Smith, T. W. (1994). General social surveys, 1972–1994: Cumulative codebook. [Machine-readable data file]. Available from http://gss.norc.org/documents/codebook/gss_codebook.pdf

Donders, N. C., Correll, J., & Wittenbrink, B. (2008). Danger stereotypes predict racially biased attentional allocation. *Journal of Experimental Social Psychology, 44*, 1328–1333. https://doi.org/10.1016/j.jesp.2008.04.002

Dovidio, J., Kawakami, K., & Gaertner, S. (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology, 82*, 62-68. https://doi.org/10.1037/0022-3514.82.1.62

Duchenne de Bologne, B. (1990). *The mechanism of human facial expression or an electrophysiological analysis of the expression of the emotions* (A. Cuthbertson, Trans.). Cambridge University Press. (Original work published 1862) https://doi.org/10.1017/CBO9780511752841

Ekman, P., & Friesen, W. V. (1982). Felt, false, and miserable smiles. *Journal of Nonverbal Behavior, 6,* 238-252. https://doi.org/10.1007/BF00987191

Elfenbein, H. A., & Ambady, N. (2002). On the universality and cultural specificity of emotion recognition: A meta-analysis. *Psychological Bulletin, 128,* 203-235. https://doi.org/10.10037/0033-2909.128.2.203

Friesen, J. P., Kawakami, K., Vingilis-Jaremko, L., Caprara, R., Sidhu, D. M., Williams, A. … Niedenthal, P. (2019). Perceiving happiness in an intergroup context: The role of race

and attention to the eyes in differentiating between true and false smiles. *Journal of Personality and Social Psychology, 116,* 375-395. http://doi.org/10.1037/pspa0000139

Gunnery, S., & Ruben, M. A. (2016). Perceptions of Duchenne and non-Duchenne smiles: A meta-analysis. *Cognition and Emotion, 30,* 501-515. http://doi.org/10.1080/02699931.2015.1018817

Harber, K. D. (1998). Feedback to minorities: Evidence of a positive bias. *Journal of Personality and Social Psychology, 74,* 622-628. https://doi.org/10.1037/0022-3514.74.3.622

Harber, K. D., Gorman, J. L., Gengaro, F. P., Butisingh, S., Tsang, W., & Ouellette, R. (2012).Students' race and teachers' social support affect the positive feedback bias in public schools. *Journal of Educational Psychology, 104,* 1149-1161. https://doi.org/10.1037/a0028110

Hochschild, J. L. (1995). *Facing up to the American dream: Race, class, and the soul of the nation*. Princeton University Press. https://doi.org/10.2307/2082923

Insko, C. A., & Schopler, J. (1998). Differential distrust of groups and individuals. In C. Sedikides & J. Schopler (Eds.), *Intergroup cognition and intergroup behavior* (75–107). Erlbaum. https://doi.org/10.4324/9780203763575

Kramer, R. M., & Messick, D. M. (1998). Getting by with a little help from our enemies: Collective paranoia and its role in intergroup relations. In C. Sedikides & J. Schopler (Eds.), *Intergroup cognition and intergroup behavior* (233–255). Erlbaum. https://doi.org/10.4324/9780203763575

Kunstman, J. W., Tuscherer, T., Trawalter, S., & Lloyd, E. P. (2016). What lies beneath? Minority group members' suspicion of Whites' egalitarian motivation predicts

responses to Whites' smiles. *Personality and Social Psychology Bulletin, 42,* 1193-1205. https://doi.org/10.1177/0146167216652860

LaCosse, J., Tuscherer, T., Kunstman, J. W., Plant, E. A., Trawalter, S., & Major, B. (2015). Suspicion of white people's motives relates to relative accuracy in detecting external motivation to respond without prejudice. *Journal of Experimental Social Psychology, 61,* 1-4. https://doi.org/10.1016/j.jesp.2015.06.003

Lee, R. T., Perez, A. D., Boykin, C. M., & Mendoza-Denton, R. (2019). On the prevalence of racial discrimination in the United States. *PloS ONE, 14.* https://doi.org/10.1371/journal.pone.0210698

Major, B., Kunstman, J. W., Malta, B. D., Sawyer, P. J., Townsend, S. S. M., & Mendes, W. B. (2016). Suspicion of motives predicts minorities' responses to positive feedback in interracial interactions. *Journal of Experimental Social Psychology, 62,* 75-88. http://doi.org/10.1016/j.jesp.2015.10.007

Marlon, J., Howe, P., Mildenburger, M., Leiserowitz, A., & Wang, X. (2019). *Yale climate opinion maps –2019.* Yale Program on Climate Change Communication. [Survey report] Retrieved from https://climatecommunication.yale.edu/visualizations-data/ycom-us/

Pew Research Center. (2019). "Key findings on Americans' views of race in 2019." April 9 2019, [Survey report] Retrieved from https://www.pewresearch.org/fact-tank/2019/04/09/key-findings-on-americans-views-of-race-in-2019/

Richeson, J. A., & Trawalter, S. (2008). The threat of appearing prejudiced and race-based attentional biases. *Psychological Science, 19,* 98–102. http://doi.org/10.1111/j.1467-9280.2008.02052.x

Richeson, J. A., & Shelton, J. N. (2007). Negotiating interracial interactions: Costs, consequences, and possibilities. *Current Directions in Psychological Science, 16,* 316–320. https://doi.org/10.1111/j.1467-8721.2007.00528.x

Shelton, J. N., & Richeson, J. A. (2006). Ethnic minorities' racial attitudes and contact experiences with white people. *Cultural Diversity and Ethnic Minority Psychology, 12,* 149–164. https://doi.org/10.1037/1099-9809.12.1.149

Shelton, J. N. (2000). A reconceptualization of how we study issues of racial prejudice. *Personality and Social Psychology Review, 4,* 374–390. https://doi.org/10.1207/S15327957PSPR0404_6

Simon, S., Shaffer, E., Neel, R., & Shapiro, J. (2019). Exploring blacks' perceptions of whites' racial prejudice as a function of intergroup behavior and motivational mindsets. *Social Psychological and Personality Science, 10,* 575–585. https://doi.org/10.1177/1948550618778584

Simpson, J.A. (2007). Foundations of interpersonal trust. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles*. (2nd ed., 587-607). Guilford. https://doi.org/10.1111/j.1467-8721.2007.00517.x

Swim, J. K., Cohen, L. L., & Hyers, L. L. (1998). Experiencing everyday prejudice and discrimination. In J. K. Swim & C. Stangor (Eds.), *Prejudice: The target's perspective* (37–60). Academic Press. https://doi.org/10.1016/B978-012679130-3/50037-5

Tam, T., Hewstone, M., Kenworthy, J., & Cairns, E. (2009). Intergroup trust in Northern Ireland. *Personality and Social Psychology Bulletin, 35,* 45-59. https://doi.org/10.1177/0146167208325004

Trawalter, S., Richeson, J. A., & Shelton, J. N. (2009). Predicting behavior during interracial interactions: A stress and coping approach. *Personality and Social Psychology Review*, 13, 243–268. https://doi.org/10.1177/1088868309345850

Trawalter, S., Todd, A. R., Baird, A. A., & Richeson, J. A. (2008). Attending to threat: Race-based patterns of selective attention. *Journal of Experimental Social Psychology, 44*, 1322–1327. https://doi.org/10.1111/j.1467-9280.2008.02052.x

Tropp, L.R. (2008). The role of trust in intergroup contact: Its significance and implications for improving relations between groups. In U. Wagner, L.R. Tropp, G. Finchilescu, & C. Tredoux (Eds.), *Improving intergroup relations: Building on the legacy of Thomas F. Pettigrew* (1st ed., 91-106). Blackwell Publishing. https://doi.org/10.1002/9781444303117.ch7

Tropp, L. R. (2006). Stigma and intergroup contact among members of minority and majority status groups. In S. Levin & C. van Laar (Eds.), *Stigma and group inequality: Social psychological perspectives* (171–191). Erlbaum. https://doi.org/10.1111/j.1467-9280.2005.01643.x

Tropp, L. R. (2003). The psychological impact of prejudice: Implications for intergroup contact. *Group Processes & Intergroup Relations, 6*, 131–149. https://doi.org/10.1177/1368430203006002001

Washington Post-Ipsos. "June 9-14, 2020, Washington Post-Ipsos poll." June 26 2020, [Survey report] Retrieved from https://www.washingtonpost.com/context/june-9-14-2020-washington-post-ipsos-poll/9da7d577-8bba-4319-97bb-2cea5aebca7e/?itid=lk_inline_manual_8

Young, S. G., Slepian, M. L., & Sacco, D. F. (2015). Sensitivity to perceived facial trustworthiness is increased by activating self-protection motives. *Social Psychological and Personality Science, 6,* 607-613. https://doi.org/10.1177/1948550615573329

Young, S. G., & Hugenberg, K. (2010). Mere social categorization modulates identification of facial expressions of emotion. *Journal of Personality and Social Psychology, 99,* 964-977. https://doi.org/10.100.1037/a0020400

Appendix A

Figure 1: Examples of Black and White faces depicting true and false smiles, respectively.

Appendix B – Article Instructions (Study 1)

In recent years, media reporting of science has come under question. Although, in general, science journalism is accurate and reliable, at times, reporters just get it wrong. In particular, reporters may fail to correctly describe the basic pattern of results, may misinterpret the findings, or may overstate the consequences of the research. Science can be complicated and sometimes scientists may not explain their work clearly or in a straightforward manner. Reporters may also rush to make the day's deadline rather than taking the time to fully understand the experiments and write an accurate report. At other times, reporters may attempt to explain the concepts in ways that are too simplistic and thereby lose the important nuances. Finally, reporters may intentionally sensationalize their reporting to make it more appealing to a broader audience of non-scientists. The present study investigates the extent to which students can identify accuracy in science journalism. Below are two examples of recent reporting on scientific research. Please read these articles carefully and evaluate the extent to which you believe that the article is an accurate and fair depiction of the described scientific methods and results.

Appendix C – Climate Change Article (Study 1)

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ENVIRONMENT

Is Climate Change Real?

By DAVID SMITH Jan. 11, 2017

2798

WASHINGTON - Over the past several decades, climatologists at Climate Report, a private commercial forecasting company, have been closely monitoring the climate and its effects on the environment. Data collected by Dr. Tessa Glover and her team over the past twenty years suggests a variety of unpredicted changes in climate. In a 2015 article published in the *Journal of Climate Science Quarterly*, the findings indicate that ice levels in the Arctic have expanded by an astounding 50% since 2012. This growth was measured by state of the art satellite imaging technology, the same method used by such established climate organizations as the Intergovernmental Panel on Climate Change (IPCC).

In addition, large ice samples collected by Dr. Glover from ice shelves in the Arctic suggest that the ice is increasing in thickness. Dr. Tony Franco, a senior climatologist at Climate Report, noted in an interview with the Washington Post that, "Our instruments consistently indicate that the Arctic ice is getting thicker despite continuing temperature increases around the globe." Although global temperatures have risen by two degrees Celsius over the past decade, artic ice is not melting at the same rate. Dr. Franco further commented that "Our findings revolutionize the way that we think about climate change and suggest that there could be other variables at work that are driving climate of which we are currently unaware."

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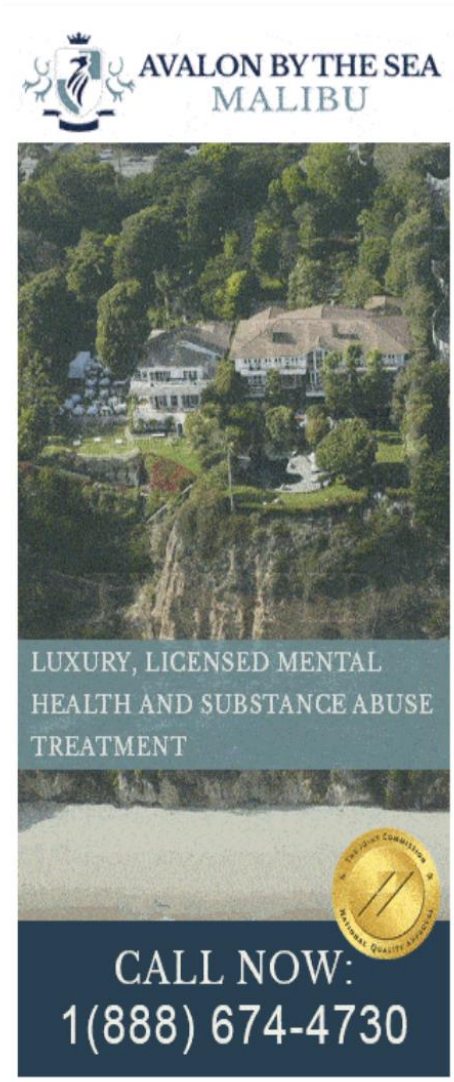
More recently, scientists have discovered that carbon may not be as bad for the environment as originally assumed. Astrophysicist Jerry Pratt's research at the University of Virginia indicates that rising temperatures may be due more to the increasing prevalence of solar flares than rising carbon levels. Regardless of whether carbon or the sun drives climate, the question remains as to why Arctic ice continues to grow at record rates despite increasing global warming.

Appendix D – Study 1 Article Manipulation, Positive Condition

A New Spotlight on Race Relations



By: J. L. Haley
Associated Press

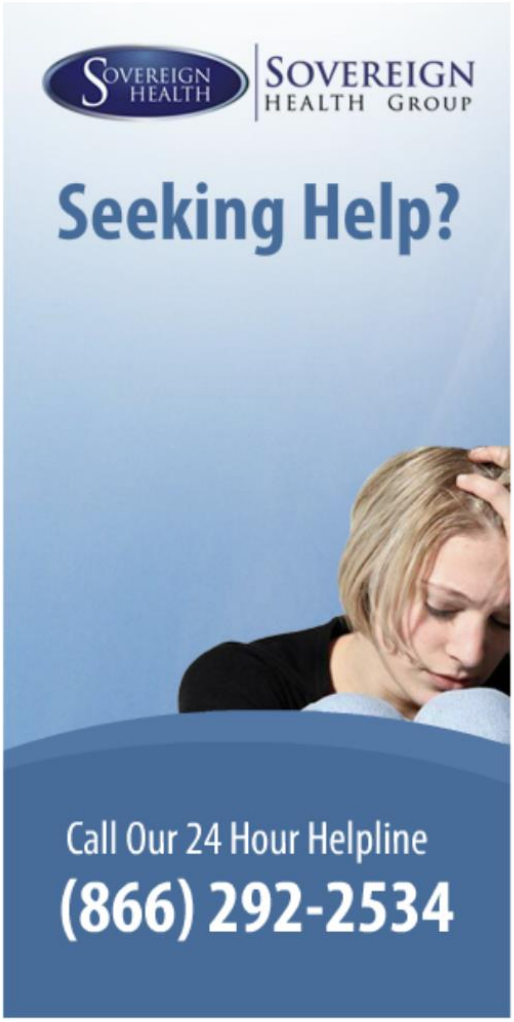
Posted Feb 11, 2016

In today's culture, issues surrounding race and diversity are more prevalent than ever. Yet, it is well documented that White and Black Americans often have similar perspectives on issues related to race, prejudice, and discrimination. Although many people believe that White Americans enjoy misfortunes that befall Black Americans, this issue has recently received attention from social scientists systematically investigating the reactions of White Americans to the suffering and success of Black Americans. The results of these studies were surprising. In particular, a series of experiments conducted by a team of researchers at Princeton University indicate that the majority of White Americans maintain egalitarian attitudes that lead them to respond with anger to the suffering of Black Americans and with happiness to their success. Consistent with egalitarian beliefs and norms of political correctness, the results suggest an improvement in race relations in contemporary America.

In one experiment, White participants were presented with videotapes of Black Americans discussing traumatic events such as the death of a close family member, being diagnosed with cancer, and the loss of employment. While watching the videotapes, White participants were connected to

sophisticated psychophysiological equipment, designed to measure' hidden emotional responses via changes in the sympathetic nervous system and brain activity. The initial results demonstrated that as Black Americans shared traumatic stories of distress, areas of the brain related to negative emotions and anger, the so called "pain centers" in the brain were activated in White participants. In a follow-up study, the researchers employed a similar procedure, but Black Americans in the videotapes now described moments of profound happiness and success such as the birth of a child, an important promotion, and graduation from college. White participants' psychophysiological responses were again monitored. Consistent with the initial results, White Americans demonstrated increases in heart rate and activation of areas of the brain consistent with happiness when watching Black Americans share success stories.

When considered together, the current results paint a hopeful picture of contemporary race relations. These results suggest that on a basic psychological level, many White participants were angered by the suffering of Blacks and experienced happiness related to their achievements. As noted by Dr. Anthony Williams, the primary investigator, "White Americans seem to take a deep-seated, almost visceral pleasure from the accomplishments of Black Americans and are upset when hearing about their suffering. Together these results shed light on the existence of ingrained egalitarian beliefs in 2016 and the importance of these beliefs to ongoing issues of race and race relations in North America. All in all, these results have encouraging implications for race relations in the 21st century."



Posted Feb 11, 2016

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Appendix E - Study 1 Article Manipulation, Negative Condition

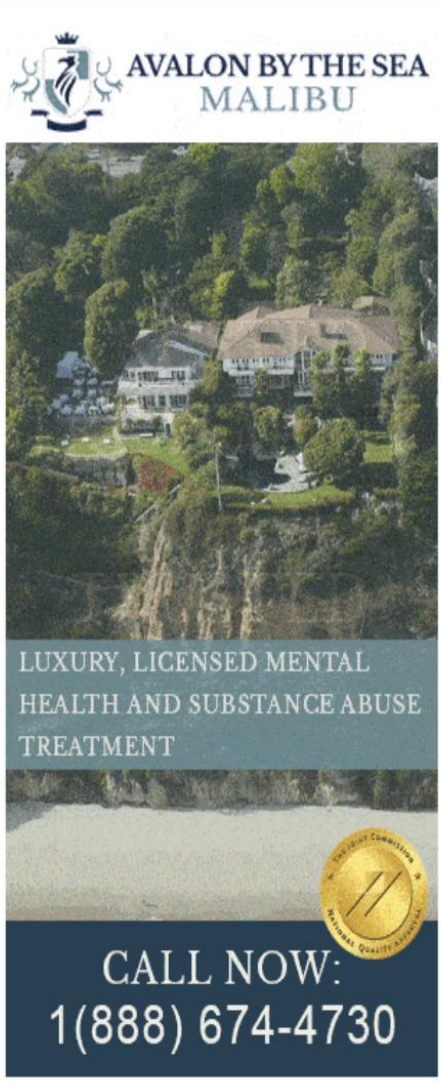
A New Spotlight on Race Relations

By: J. L. Haley
Associated Press

Posted Feb 11, 2016

In today's culture, issues surrounding race and diversity are more prevalent than ever. Yet, it is well documented that White and Black Americans often have different perspectives on issues related to race, prejudice, and discrimination. Although many people believe that White Americans enjoy misfortunes that befall Black Americans, this issue has recently received attention from social scientists systematically investigating the reactions of White Americans to the suffering and success of Black Americans. The results of these studies were surprising. In particular, a series of experiments conducted by a team of researchers at Princeton University indicate that the majority of White Americans harbor racial bias that leads them to respond with happiness to the suffering of Black Americans and with anger to their success. Contrary to egalitarian beliefs and norms of political correctness, the results suggest a severe deterioration of race relations in contemporary America.

In one experiment, White participants were presented with videotapes of Black Americans discussing traumatic events such as the death of a close family member, being diagnosed with cancer, and the loss of employment. While watching the videotapes, White participants were connected to



sophisticated psychophysiological equipment, designed to measure' hidden emotional responses via changes in the sympathetic nervous system and brain activity. The initial results demonstrated that as Black Americans shared traumatic stories of distress, areas of the brain related to positive emotions and happiness, the so called "reward centers" of the brain, were activated in White participants. In a follow-up study, the researchers employed a similar procedure, but Black Americans in the videotapes now described moments of profound happiness and success such as the birth of a child, an important promotion, and graduation from college. White participants' psychophysiological responses were again monitored. Consistent with the initial results, White Americans demonstrated increases in heart rate and activation of areas of the brain consistent with anger when watching Black Americans share success stories.

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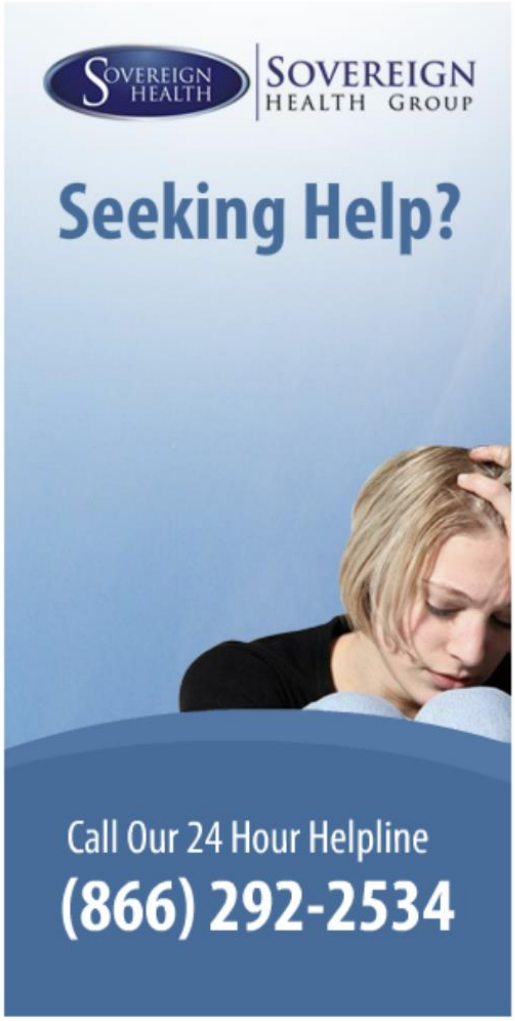

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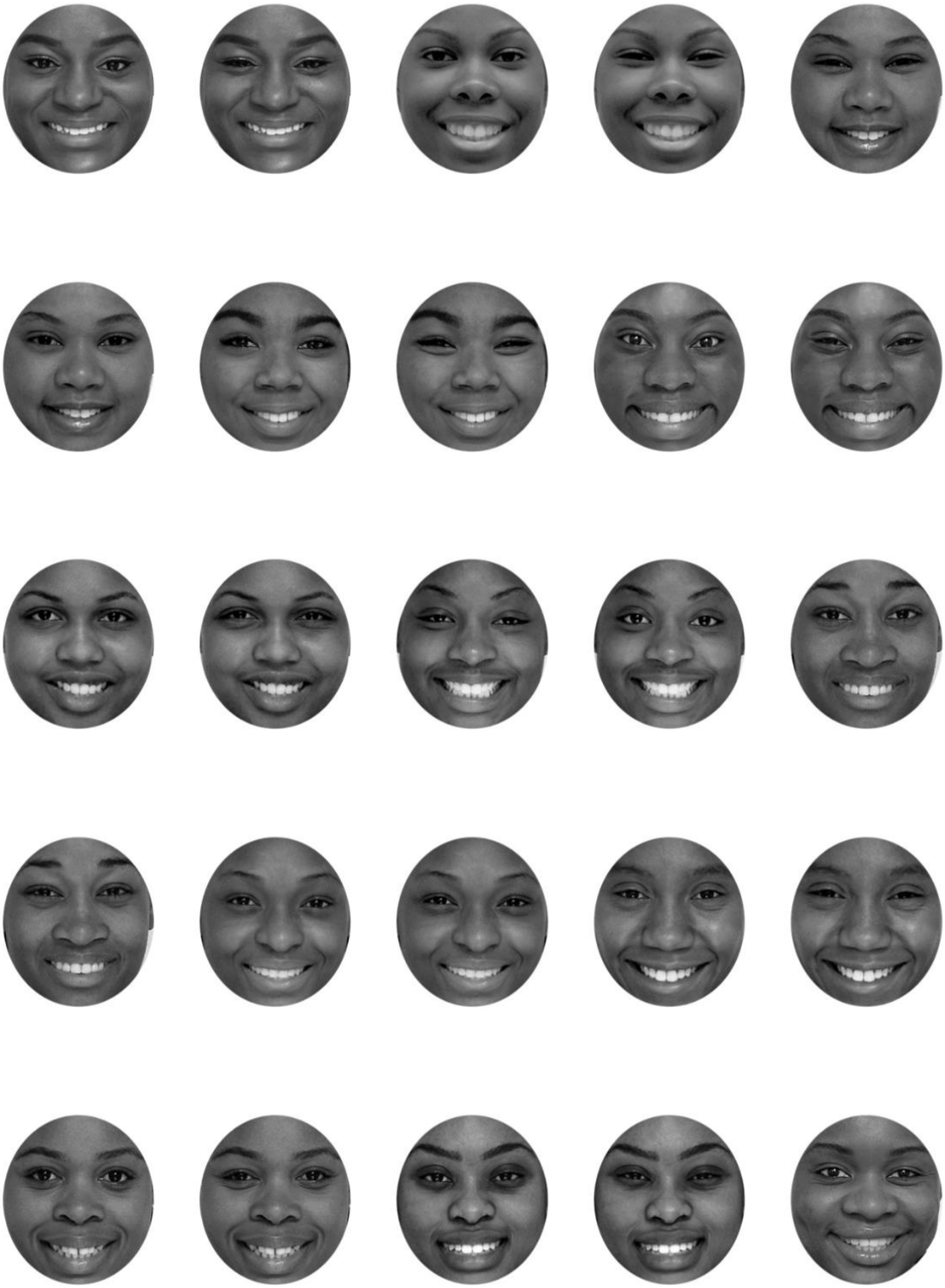
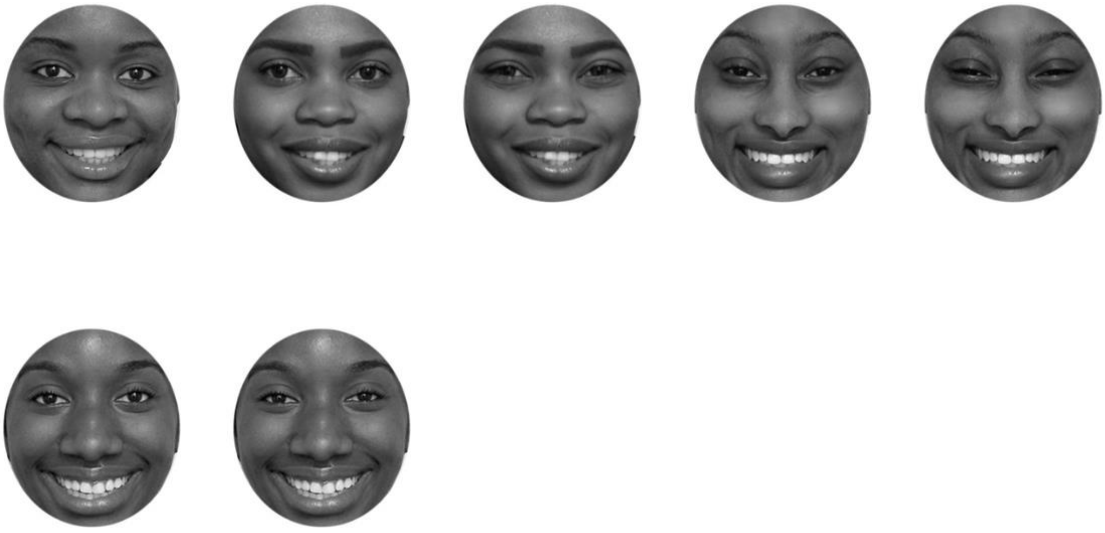
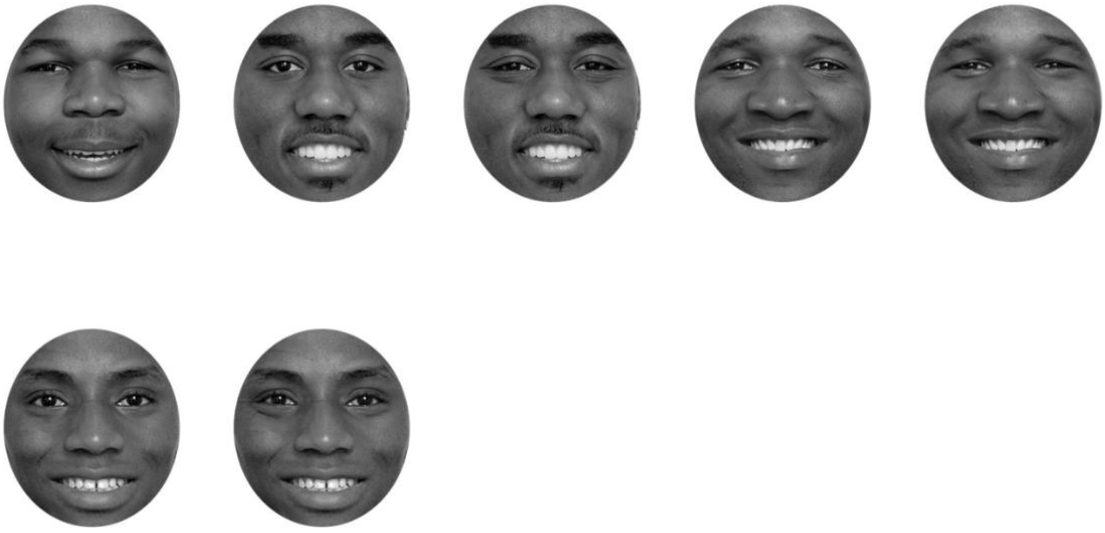
Appendix F – True and False Smiles Stimuli

Black Female

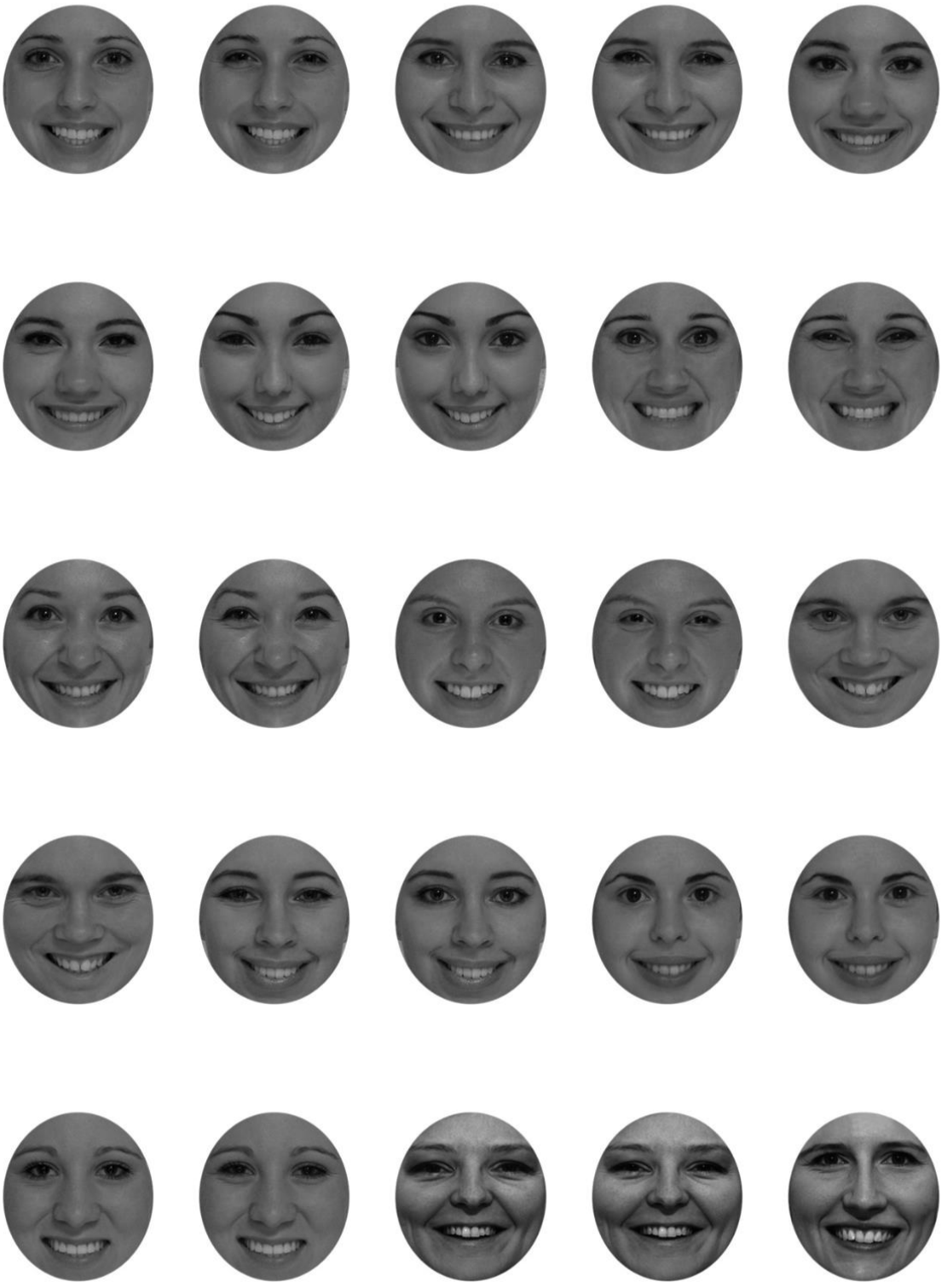




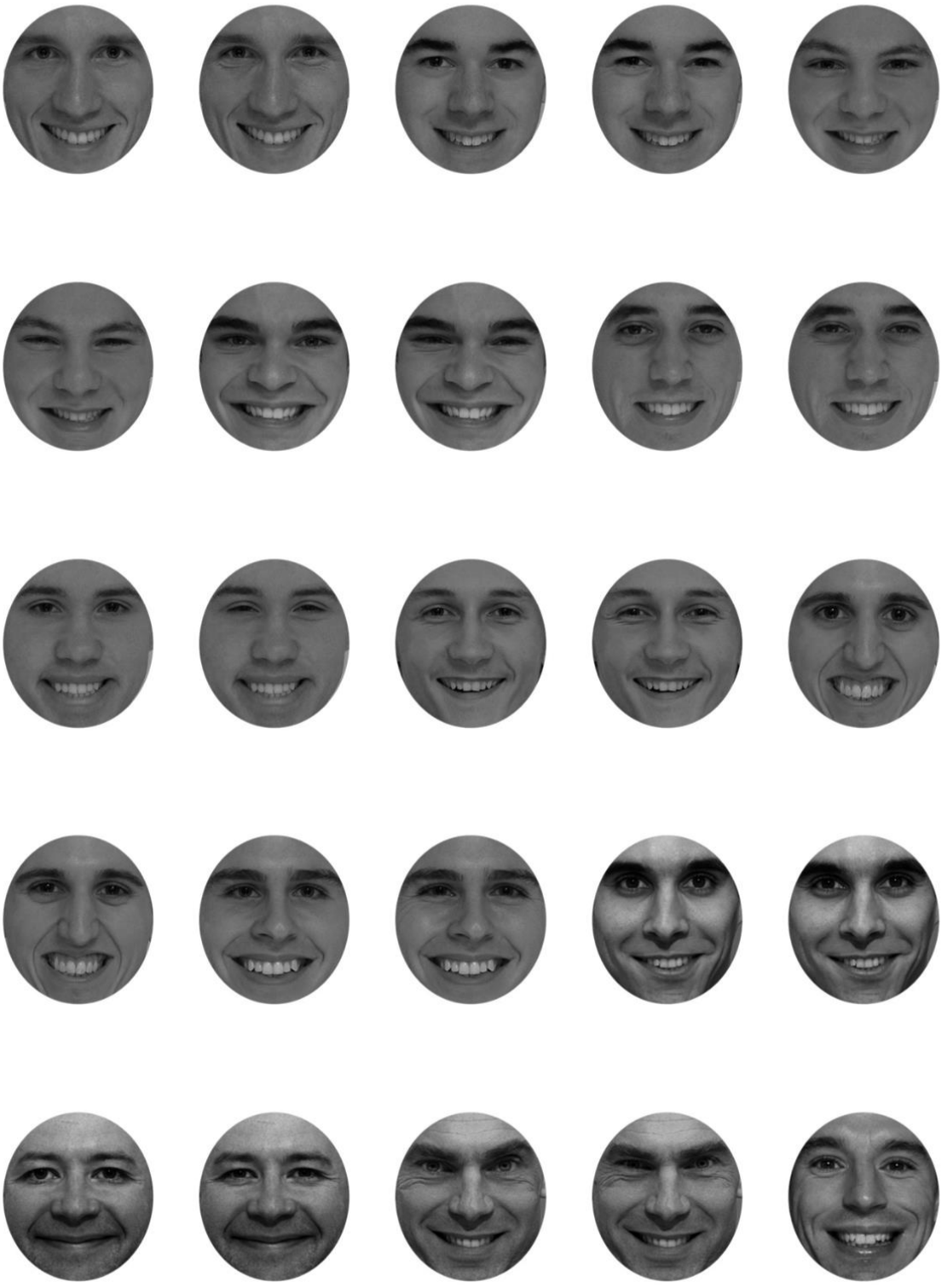
Black Male



White Female



White Male



Appendix G - Study 2 Article Manipulation, Positive Condition

A New Spotlight on Race Relations

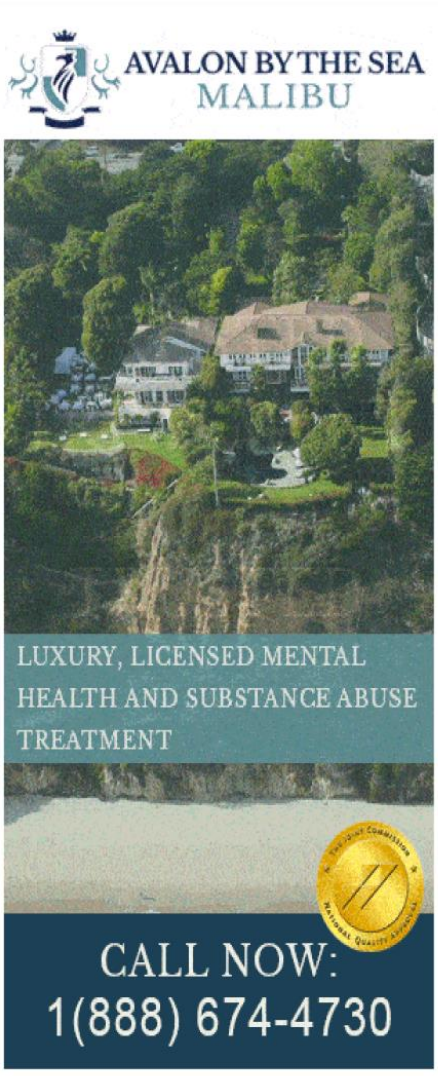
By: J. L. Haley
Associated Press

Posted Jun 30, 2019

In today's culture, issues surrounding race and diversity are more prevalent than ever. Yet, it is well documented that White and Black Americans often have many perspectives on issues related to race, prejudice, and discrimination.

Recent advances in psychological research have focused on the connection between the mind and body by using a method called psychophysiology. Psychophysiology research measures how an individual physically reacts to a situation or stimulus. To understand how an individual's mind is linked to physical reactions, psychological scientists use advanced equipment that can monitor physical responses such as heart rate, blood pressure, and even brain activity.

A recent psychophysiology study conducted by a team of researchers at Princeton University monitored how White Americans responded to Black Americans. Their results indicated that some White Americans maintain egalitarian attitudes that leads them to physically respond with anger to the suffering of Black Americans and with happiness to their success. The psychophysiology results suggest an improvement in race relations in contemporary America.



In one experiment, White participants were presented with videotapes of Black Americans discussing traumatic events such as the death of a close family member, being diagnosed with cancer, and the loss of employment. While watching the videotapes, White participants were connected to sophisticated psychophysiological equipment, designed to measure hidden emotional responses via changes in the sympathetic nervous system and brain activity. The initial results demonstrated that as Black Americans shared traumatic stories of distress, areas of the brain related to negative emotions and anger—the so called "pain centers" in the brain—were activated in White participants.

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Posted Jun 30, 2019

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Appendix H – Study 2 Article Manipulation, Negative Condition

A New Spotlight on Race Relations

By: J. L. Haley
Associated Press

Posted Jun 30, 2019

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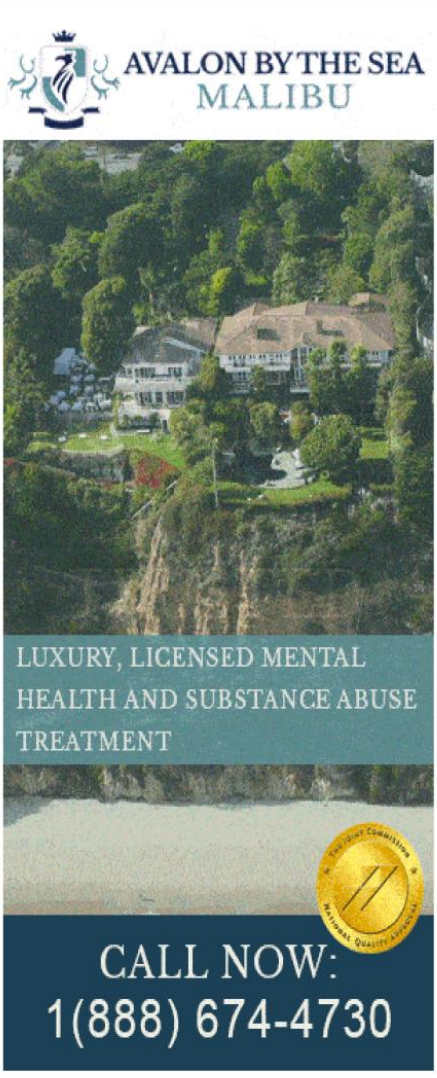

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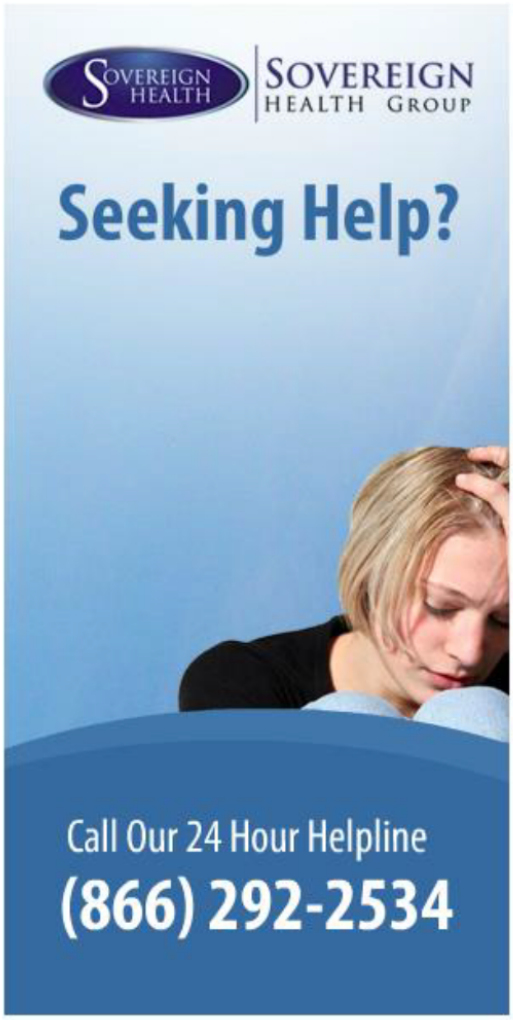

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Appendix I – Article Manipulation, Control Condition

A New Spotlight on Race Relations

By: J. L. Haley
Associated Press

Posted Jun 30, 2019

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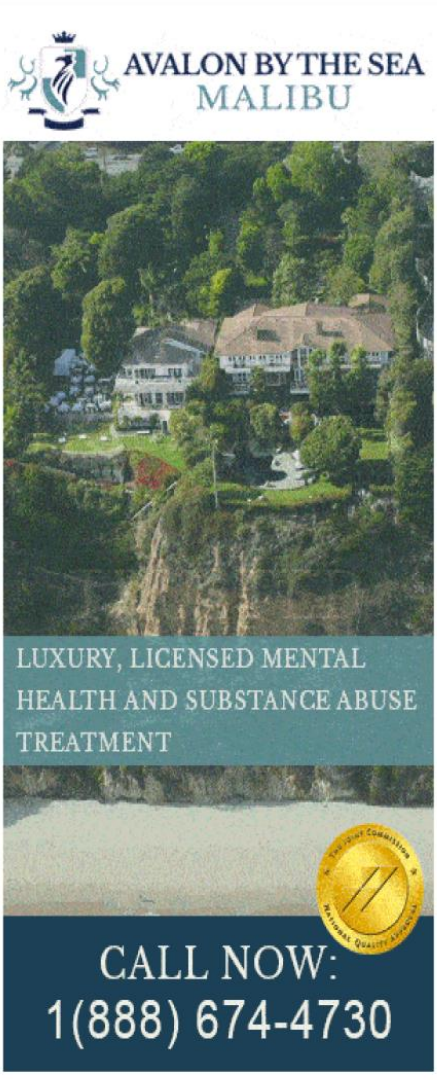
A recent study conducted by a team of researchers at Princeton University used psychophysiological methods to monitor how White Americans responded to Black Americans.



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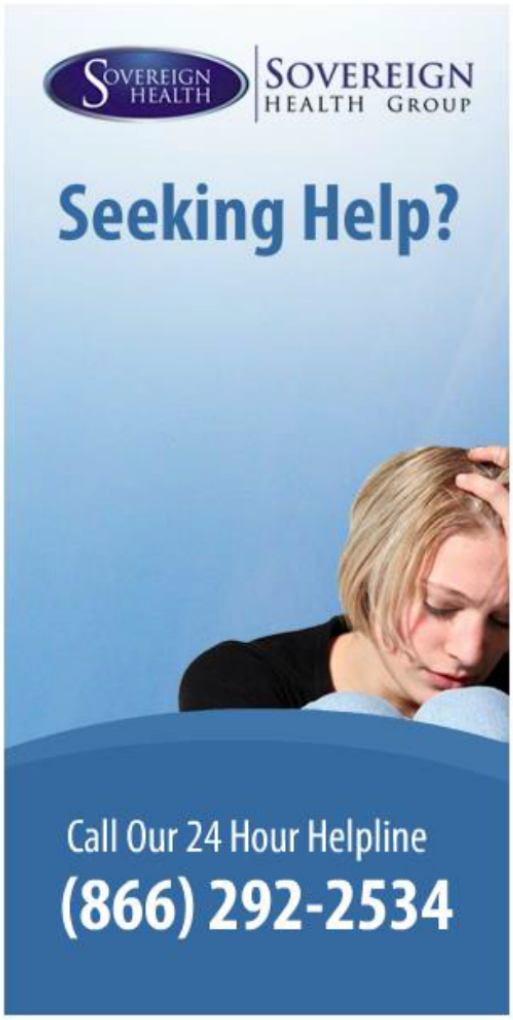
As race relations research in psychology continues to advance, it is valuable to have innovative methodologies for exploring new topics. Psychophysiological methods provide a tangible understanding of the mind and body, giving psychological scientists the opportunity to investigate topics in ways that have not been explored before.

Dr. Anthony Williams, the primary investigator, notes, "psychophysiology as a methodology has implications for contemporary race relations in America. These psychophysiology experiments could shed light on the existence of ingrained beliefs in 2019 and the importance of these beliefs to ongoing issues of race and race relations in North America."



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