

The Role of Cognitive Depletion in Perceptions of Bias

BY

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SUMMARY

Whites and Blacks disagree about the prevalence of racial bias in America (Norton & Sommers, 2011). This disconnect may be due to differences in the behaviors that each group considers prejudiced (Sommers & Norton, 2006). On average, Blacks believe subtle and blatant behaviors signal prejudice, whereas Whites only believe blatant behaviors signal prejudice. The present study examined how cognitive depletion affects the detection and categorization of subtle and blatant behaviors as prejudiced among Black and White individuals. Participants were cognitively depleted (or not) and then watched a videotaped interracial interaction between a White individual and a Black confederate. In the subtle bias condition, participants learned that the White individual endorsed positive racial attitudes, but then observed them displaying relatively negative, avoidant behaviors during the interaction; in the blatant bias condition, participants learned that the White individual endorsed negative racial attitudes and observed them displaying the same relatively negative behaviors. Participants reported how prejudiced they believed the White partner was and their expectations about future interactions with the White individual. Results revealed that Black participants did not categorize subtle behaviors as prejudiced regardless of their level of depletion. However, cognitive depletion blunted Black participants' categorization of blatant behaviors as prejudiced. Blacks who were *not* depleted and exposed to blatant behaviors categorized them as more prejudiced relative to nondepleted participants in the same blatant bias condition. White participants did not categorize subtle and blatant behaviors differently. Instead, cognitive depletion caused Whites to categorization all behaviors as less prejudiced. That is, cognitive depletion made White participants less likely to categorize subtle or blatant behaviors as prejudiced. Mechanisms for these effects were examined and potential implications of this research for future work are discussed.

I. REVIEW OF RELEVANT LITERATURE

The United States is rapidly becoming more racially and ethnically diverse (Census, 2010). Because of this shift in the racial composition of the country, it is important to find ways to reduce intergroup tension in favor of a more inclusive and accepting environment. This goal may be difficult to achieve for many reasons, one of which is the disagreement between majority and minority group members about the prevalence of racial bias in America (Norton & Sommers, 2011). Research suggests that this divide may exist because racial majorities and minorities disagree about the behaviors that constitute bias (Sommers & Norton, 2006). This discrepancy can cause tension during interracial interactions, because White individuals may not be aware of the verbal and nonverbal behaviors that Blacks use to determine whether bias is present. It is therefore important to identify *when* bias detection for Blacks and Whites differs, as well as to understand *why* bias detection may differ between groups. The present research extends previous work on bias detection by examining conditions that may cause Blacks' and Whites' perceptions of bias to converge and diverge, as well as the mechanisms behind those perceptions.

A. Subtle v. Blatant Bias

The old-fashioned, blatant racism of the Jim Crow era was typified by beliefs of the inherent inferiority of minorities, as well as laws and social norms to support these ideas (Dovidio, 2001). However, in response to changing norms against the overt expression of bias, today, blatant forms of racism have been replaced by more covert, subtle forms of racism; called aversive racism (Dovidio, 2001). Aversive racism is more difficult for people to identify because it often manifests in unintended ways through ambiguous verbal and nonverbal behavior. In particular, aversive racists endorse egalitarian racial attitudes, but still harbor negative implicit

racial attitudes that manifest in negative nonverbal behaviors during intergroup contact. Though it is relatively difficult to detect in many interpersonal situations, aversive racism is widespread. Indeed, it is estimated that approximately 80% of White Americans harbor negative implicit attitudes toward Blacks (Nosek, Banaji, & Greenwald, 2002). Many of these are well-intentioned individuals—people who explicitly endorse racial equality and self-identify as egalitarian. However, these same individuals nevertheless harbor negative beliefs about, and associations with, Blacks (Dovidio & Gaertner, 2004). This mismatch between an aversive racist's explicit endorsement of racial diversity but negative implicit attitudes about Blacks can have important implications for how contemporary, subtle bias manifests during interracial interactions.

Importantly, a person's explicit and implicit attitudes affect different behaviors during interpersonal interactions. Explicit attitudes influence deliberative, controllable behaviors, whereas implicit attitudes influence automatic behaviors that are more difficult to monitor and control. For example, explicit racial attitudes predict overt expressions, including what Whites say to Blacks during interracial interactions (Dovidio, Kawakami, & Gaertner, 2002). Implicit racial attitudes shape nonverbal behaviors that are expressed during the course of interracial interactions (e.g., decreased eye contact and increased social distance; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Fazio, Jackson, Dunton, & Williams, 1995; Trawalter, Richeson, & Shelton, 2009). Thus, whereas blatant bias manifests as a match between negative nonverbal behaviors and explicitly negative racial attitudes, subtle bias manifests as a mismatch between negative nonverbal behaviors but explicitly positive racial attitudes.

B. Cognitive Depletion

Extant research has demonstrated that interracial interactions are cognitively depleting for both Whites and racial minorities (Inzlicht, McKay, & Aronson, 2006; Richeson & Trawalter,

2005; Richeson, Trawalter, & Shelton, 2005). Due to the social norms against expressing racial bias during interracial interactions, Whites self-monitor their behaviors to avoid appearing racist. This self-monitoring depletes cognitive resources and can leave Whites feeling drained after interracial interactions (Richeson & Trawalter, 2005). Blacks experience cognitive depletion in interracial interactions because they expend cognitive resources to determine whether they are likely to be the target of racism or group-based stereotypes. It is important to note that, although research has demonstrated that interracial interactions can be cognitively depleting, most of the studies on this topic have examined dyads comprised of strangers (but see Shelton, Richeson, & Salvatore, 2005). It is possible that interracial interactions among close friends may not be as cognitively depleting as interactions among strangers or acquaintances. However, the consensus within the current literature is that, within interracial interactions between strangers, Blacks and Whites experience cognitive depletion.

Cognitive depletion may have downstream consequences for how subtle and blatant behaviors are perceived when one observes an interracial interaction. In particular, the mixed messages associated with subtle bias (positive explicit attitudes, but avoidant nonverbal behavior) create attributional ambiguity (Crocker & Major, 1989). To decipher whether racism is present when observing subtly biased behavior, a person must employ cognitive resources to disambiguate the conflicting verbal and nonverbal cues. However, overt (i.e., blatant) racism does not create such attributional ambiguity, because the negative explicit statements are consistent with the avoidant nonverbal behavior displayed during interracial interactions that are characterized by blatant bias. Therefore, blatant behaviors should require less cognitive resources to detect and categorize as prejudiced than subtle behaviors. Taken together, this suggests that

cognitive depletion may inhibit the categorization of subtle—but not blatant—behaviors as prejudiced.

Within the stereotyping and prejudice literature, research on cognitive depletion has typically focused on the interracial interaction context. That is, most research has examined how interaction affects the cognitive resources of two individuals within the interaction. However, the present research extends this approach by examining whether cognitive depletion affects an observer's ability to detect bias when witnessing an ongoing interracial interaction between two individuals. Specifically, this study will test how cognitive depletion affects bias detection among Black and White participants as they observe an ongoing interracial interaction characterized by subtly or blatantly biased behavior. If subtle bias requires cognitive energy to detect and categorize, then cognitive depletion should impede the categorization of subtle behaviors as prejudiced. Cognitive depletion should not affect the categorization of blatant behaviors as prejudiced because these behaviors do not require cognitive resources to detect and categorize as prejudiced. However, because Blacks and Whites are vigilant for subtle and blatant bias to a different extent (Sommers & Norton, 2006)—as I will describe next—a person's race may also impact the effect that cognitive depletion has on the degree to which biased behaviors are detected and categorized as prejudiced.

C. Racial Differences in Bias Detection

Psychologists have identified intergroup differences in bias detection, such that Whites and Blacks do not always perceive the same behavior as discriminatory or racist. That is, they use different thresholds and definitions when categorizing behavior as biased (Dovidio, Gaertner, Kawakami, & Hodson, 2002). Whereas Blacks are sensitive to subtle, nonverbal cues during

interracial interactions, including physical distancing or decreased eye contact, Whites do not categorize these behaviors as biased (Sommers & Norton, 2006).

Two studies exploring lay theories of racism provide insight into these intergroup discrepancies (Sommers & Norton, 2006). In the first study, White and racial minority participants were asked to consider the category “White racist” and indicate the extent to which 40 traits (e.g., closed-minded, uneducated, untrustworthy) matched the category. A factor analysis of the 40 traits revealed a three-factor solution characterizing three overarching types of traits: evaluative, psychological, and demographic. The evaluative factor contained traits related to White racists’ morality, intellect, and broader character. Many traits consistent with the blatant nature of old-fashioned racism clustered on this factor (e.g., violent, hateful); traits consistent with the subtle nature of modern racism (e.g., devious, untrustworthy) were also included in this factor. The psychological factor featured assumptions that participants made about White racists’ motivations and mental processes, like closed-minded, fearful of change, and insecure. Finally, the demographic factor included descriptive items such as those that identified White racists as Southern, wealthy, religious, and sheltered. The results of the study revealed that White and minority participants included components of the psychological and demographic factors to the same extent in their lay theories of “White racists.” However, minority participants included the evaluative factor—and, in particular, the more subtle traits characteristic of modern bias—in their definition to a larger extent than Whites.

A second study replicated the classifications of behaviors (Sommers & Norton, 2006). Although both Whites and minorities believed that overtly racist behaviors (such as the denial of the existence of prejudice) should be classified as biased, only minority participants believed that subtle behaviors of discomfort (such as feeling anxious around Blacks, or having difficulty

distinguishing Black people from one another) should also be classified as biased. These results begin to identify where Blacks and Whites differ in their perceptions of prejudice. Whereas Blacks' lay theories of racism include subtle and blatant behaviors, Whites' lay theories only include blatant behaviors.

These differences in lay theories suggest that Whites and Blacks differ in their baseline levels of vigilance to subtly and blatantly biased behaviors. This suggests that, when not cognitively depleted or otherwise distracted, Blacks and Whites should perceive prejudice in a manner consistent with their lay theories of racism. Blacks should consider blatant and subtle behaviors as biased, and Whites should consider only blatant behaviors as biased. However, when cognitively depleted, these perceptions of prejudice may change, in that it may make subtle behaviors seem less biased. The present research sought to empirically test how cognitive depletion affects Blacks' and Whites' bias detection as they observe an ongoing interracial interaction.

D. Bias Detection among Blacks: Potential Mediators

One reason that different bias detection thresholds may have emerged is that racist behavior has different implications for Whites and Blacks. Just a few decades ago, the inability or failure to detect racism could be fatal to Blacks. Given the severe consequences of racism during those times, Blacks learned to quickly evaluate a situation to detect threat (Gaertner & Dovidio, 2005). As expressions of blatant bias became more socially unacceptable, subtle expressions of racism became more common (Dovidio & Gaertner, 2004). Although subtle bias may not connote as immediate a threat as blatant bias, Blacks must still interpret the intentions of potentially biased individuals to determine the presence of psychological or physical threat (Crocker & Major, 1989).

Thus, Blacks may have developed vigilance for both subtle and blatant bias because of potential threats to the self. In order to accurately determine whether they are targets of bias, Blacks must be sensitive to cues signaling blatant bias, but they also must be aware of cues signaling subtle bias because this is the form that contemporary prejudice has taken (Dovidio & Gaertner, 2004). Thus, to protect oneself and avoid discrimination or negative treatment, Blacks may be tuned to cues of both subtle and blatant bias. When witnessing biased behavior as a third-party observer, it may remind Black participants that they could personally be targeted by prejudice and discrimination. Thus, exposure to biased behavior (in either blatant or subtle forms) could lead to an increase in *stigma consciousness*, which may make Black participants more likely to categorize the observed behavior as prejudiced. Similarly, exposure to biased behavior may increase Black participants' concerns about being stereotyped. These *stereotype threat concerns* may, in turn, make Black participants more likely to categorize the observed behavior as prejudiced. To summarize, for Black individuals, categorization of a White person's behavior as prejudiced may be driven by the degree to which they feel threatened and concerned that they themselves could be targets of stereotyping and prejudice.

E. Bias Detection among Whites: Potential Mediators

Although bias detection for Blacks is likely driven by concerns about threats to the self, bias detection for Whites may be motivated instead by a desire to reject negative group stereotypes and avoid being classified as racist. When White individuals identify another White person's behavior as prejudiced, the act of labeling it so may negatively implicate the observer because of their shared racial identity. Therefore, to the extent that White participants detect and categorize a White person's behaviors as prejudiced, they may reject the biased actor from the ingroup.

Bias detection among Whites may be determined by the amount of guilt a White person feels when exposed to an ingroup member who displays prejudiced behaviors. That is, bias detection among Whites might be mediated by experiences of *White guilt* (Iyer, Leach, & Crosby, 2003). This discomfort occurs when Whites recognize their advantage over other racial groups, and is characterized by three properties: accepting responsibility for breaking the moral code of equality, consideration of how they have personally contributed to this disparity, and ultimately attempting to compensate for those behaviors. Observing biased behaviors may incite feelings of White guilt. These feelings, in turn, may make White participants more likely to categorize the biased behaviors as prejudiced. Because Whites are not vigilant for subtle bias, this mechanism should only occur when Whites observe blatantly biased behaviors. In particular, observing a White perpetrator of blatant bias may remind participants of their own egalitarian goals, and increase the amount of prejudice they perceive in that actor's behavior.

Because people strive to maintain a positive self-image, identification with a successful, high status social group affords greater self-esteem (Wann & Branscombe, 1990). However, this also means that group failures, such as displaying biased behavior, can decrease self-esteem (Ashforth & Mael, 1989). The "black sheep effect" suggests that people will more extremely judge ingroup members in the face of success and failure (Marques & Yzerbyt, 1988). For Whites who hold egalitarianism and non-biased behavior as important group norms, expressions of bias by an ingroup member during an interracial interaction could represent a significant group failure. Consistent with the black sheep effect, when Whites detect bias in a fellow ingroup member's behavior, they may avoid association with the biased individual (and the corresponding implications for the self).

F. The Present Research

If one of the ultimate applied goals of stereotyping and prejudice research is to reduce interracial tension, the first step must be to theorize about and empirically investigate why Blacks and Whites perceive prejudice differently (particularly with regard to contemporary, subtle bias). Indeed, it is also important to explore the mechanisms responsible for those perceptions.

This study examines how cognitive depletion may influence the conditions under which Whites and Blacks categorize subtle and blatant behaviors as prejudiced. The Attention Network Task (ANT; Fan, McCandliss, Sommer, Raz, & Posner, 2002) was used to cognitively deplete half of the participants in this study while the remaining participants completed a non-depleting version of the ANT. Next, all participants were told they would be watching a videotaped interracial interaction between a White participant and Black confederate from a previous study. Before watching the video, participants read a profile sheet ostensibly completed by the White interaction partner in the video. Through the profile sheet, participants learned that the White partner had positive or negative attitudes about racial diversity. Participants then watched the videotaped interracial interaction in which the White partner displayed avoidant behaviors toward the Black confederate. Therefore, consistent with how subtle bias manifests in real-world interactions (Operario & Fiske, 2001), the manipulation of subtle bias was characterized by an explicitly positive racial attitude but negative, avoidant behavior. Blatant bias was characterized by an explicitly negative racial attitude and negative, avoidant behavior (Operario & Fiske, 2001).

Overall, a three-way interaction between exposure to bias (subtle or blatant), cognitive depletion, and participant race was expected to affect the degree to which behavior was categorized as prejudiced. Indeed, exposure to biased behaviors and cognitive depletion were

expected to affect the detection of subtle and blatant behaviors differently for Black and White participants. In the following section, I expand on these hypotheses.

II. HYPOTHESES

A. Hypotheses for Black Participants

H1: When not depleted, Blacks will categorize subtle behaviors as prejudiced and have negative expectations about future interactions with the subtly-biased target. However, cognitive depletion will blunt the detection of subtle behaviors.

Because Blacks' lay theories of racism include both subtle and blatant bias (Sommers & Norton, 2006), Black participants who are exposed to subtle behaviors and are *not* cognitively depleted will categorize those behaviors as prejudiced. However, because subtle behaviors require cognitive resources to interpret, Black participants who are cognitively depleted will not categorize subtle behaviors as prejudiced. To the extent that the subtle behaviors are not categorized as prejudiced, Black participants will report relatively positive interaction expectations.

H2: Black participants will categorize blatant behaviors as prejudiced, and will have negative interaction expectations, regardless of their level of cognitive resources.

Blacks' lay theories of racism include blatant behaviors, which do not require cognitive resources to detect or interpret. Therefore, Black participants who are cognitively depleted will categorize blatant behaviors as prejudiced to the same degree as non-depleted participants. Both depleted and non-depleted Blacks who are exposed to blatant behaviors will have relatively negative interaction expectations.

H3 (Self-threat mechanism): Exposure to biased behaviors will increase Black participants' stigma consciousness and stereotype threat concerns, which will, in turn, cause them to categorize the observed behaviors as more prejudiced. Cognitive depletion will moderate this relationship.

If Blacks' detection of bias is driven by threats to the self, then the categorization of biased behaviors as prejudiced should be statistically mediated by self-protection concerns. In particular, exposure to racial bias should increase participants' stigma consciousness and/or increase their stereotype threat concerns. This, in turn, will cause participants to categorize the White partner's behavior as more prejudiced. However, this relationship will depend on the cognitive resources of the participants. In particular, this mechanism will not be present for cognitively depleted Black participants who are exposed to subtle behaviors because those behaviors should not be detected or categorized as prejudiced.

B. Hypotheses for White Participants

H4: White participants will not categorize subtle behaviors as prejudiced regardless of their level of cognitive resources.

If Whites' categorization of bias is based on their lay theories (that *do not* include subtle behaviors), then White participants should fail to detect and categorize subtle behaviors as prejudiced regardless of their level of cognitive resources (Sommers & Norton, 2006). Because no prejudice will be detected in the subtle bias conditions, Whites should report relatively positive interaction expectations.

H5: White participants will categorize blatant behaviors as prejudiced regardless of their level of cognitive resources.

Because Whites' lay theories include blatant behaviors, which do not require cognitive resources to detect (Dovidio, 2001), White participants should detect and categorize blatant behaviors as prejudiced, regardless of their level of cognitive resources.

Moreover, to the extent that they categorize the actor's behavior as prejudiced, White participants should report relatively negative interaction expectations.

H6 (White guilt mechanism): Exposure to racial bias should affect White participants' feelings of White guilt, which will make them more likely to categorize observed behavior as prejudiced.

If Whites' categorization of behaviors as prejudiced is driven by concerns about detecting bias in a manner consistent with their egalitarian goals, then categorization of behavior should be statistically mediated by White guilt. In particular, observing blatantly biased behavior should increase White participants' feelings of White guilt that should, in turn, increase the amount of prejudice they perceive in the observed behaviors. Observations of subtly biased behaviors should not have similar effects because White participants are unlikely to attend to subtly biased behaviors or consider them concerning in the context of interracial interactions.

H7 (Black sheep effect hypothesis): Observing blatantly biased behavior will cause White participants to categorize the observed behaviors as prejudiced. This will, in turn, cause them to report decreased similarity with the White target.

The extent to which White participants perceive themselves to be similar to the White target may be motivated by the bias they detect. Specifically, the relationship between exposure to biased behaviors (subtle or blatant) and participants' self-other overlap should be mediated by the extent to which participants categorize those behaviors as prejudiced. In particular, blatant behaviors should cause White participants to report higher levels of perceived prejudice (relative to subtle behaviors), which will, in turn, decrease participants' reported self-other overlap with the White partner.

III. Method

A. Participants

One hundred and ninety-three undergraduate students participated in exchange for course credit or \$10. Fourteen participants were excluded from the analyses¹, leaving 179 total participants who self-reported race, gender, and age in a mass-testing session (90 Black, 89 White; 130 female, 49 male; $M_{age} = 19.55$, $SD = 3.88$).

B. Procedure

At least two weeks before the lab portion of the study, participants completed the premeasures during a mass-testing session. Then, participants came to the lab for a study about how people form first impressions of others. Participants were greeted by a White experimenter, and then provided their consent. They were asked to focus throughout the study on what they saw, how they felt, and their thoughts about the people in the interaction that they watched. Participants were asked to complete an attention task (the ANT) as our manipulation of cognitive depletion, and the word fragment completion task (the incidental anger measure).

¹ Four participants were excluded because they self-identified as Middle Eastern (i.e., not White or Black), and 10 were excluded due to experimenter error (i.e., participants were run through the study in the wrong conditions; that is, Black participants were run in conditions that had measures specifically for White participants and vice versa).

1. Cognitive Depletion Manipulation

Participants were cognitively depleted using the Attention Network Task (ANT; Fan et al, 2002). Participants viewed a string of five arrows and were asked to focus on the middle arrow and quickly and accurately indicate using the keyboard if the arrow was pointing to the right (by pressing “j”) or to the left (by pressing “f”). The middle arrow either pointed in the same (easy; non-depleting), or opposite (difficult; depleting), direction as the other arrows. Trials began with the presentation of a fixation cross for 1,000 ms, followed by presentation of the stimulus for a maximum of 2,000 ms before continuing to the next trial. Following Apfelbaum & Sommers (2009), all participants completed complete 10 blocks of 16 trials, which took approximately 10 minutes. Participants who were randomly assigned to the control condition completed all easy trials; those randomly assigned to the depletion condition completed 80 easy and 80 difficult trials that were presented in random order. There were no restrictions on how long participants had to complete the task.

2. Incidental anger

Due to the tedious nature of the ANT, as well as the potential for it to cause frustration, participants completed a word fragment completion task designed to assess the salience of words related to anger. Participants completed 32 word stems, 4 of which were target words (i.e., F I _ _ _) that could be completed with letters to make an anger-related word (FIGHT) or a neutral word (FIRST). The other 28 word stems could be completed to make neutral words, unrelated to the anger construct (e.g., L _ K _ or LAKE; see Appendix A). Then, a ratio of target words completed was calculated by dividing the number of target words completed

by four.² Anger words were chosen with a two-step pretest process. First, research assistants blind to the aims of the study were asked to provide all the words that came to mind when thinking about a time that made them angry. Then, the four most common words were chosen and made into different forms of word stems, and research assistants were asked to complete the stems to create real words. The word stems that yielded words that were equally likely to be related to anger or not were included in the final version of the task. No participants who participated in the present study were involved in any of the pre-testing of the word fragment completion task.

Next, participants were told that they would be watching a videotaped interaction between a White and Black individual, in which the White partner was a true participant, and the Black partner was a confederate. Participants then received the participant profile sheet containing the explicit racial attitude manipulation. After reading the profile, participants completed the two comprehension check items and were then given the correct answers—emphasizing that their task was to make an impression of the White “true participant.” All participants then watched the interracial interaction video.

3. Explicit racial attitude manipulation

Participants were told that the interaction partners in the video exchanged personal information sheets before the interaction, and that they would receive only the personal information sheet that the White interaction partner completed (because the Black partner was a confederate). The personal information sheet provided demographic information about the White partner (year in school, major, hometown, etc.), as well as a statement about college life at UIC.

² There were no significant differences on this measure, such that depleted and non-depleted participants completed the same number of anger-related words. Therefore, this measure is not discussed in the results. Furthermore, no other word fragments were completed with anger- or other emotion-related words other than those expected.

The White partner in the subtle bias condition ostensibly wrote about enjoying the diversity on campus (i.e., a relatively positive explicit racial attitude). White partners in the blatant bias condition wrote about being uncomfortable with the diversity on campus and mentioned that they preferred racially homogenous environments (i.e., a relatively negative explicit racial attitude).

Thus, within the context of the videotaped behavior, subtle and blatant bias were operationalized as a “match” or “mismatch” between the White participant’s explicit racial attitudes and nonverbal behavior (Operario & Fiske, 2001). Consistent with people’s actual displays of modern racism (Dovidio & Gaertner, 2004), the subtle bias condition involved the White partner explicitly endorsing egalitarian attitudes and support for diversity, but behaving in a relatively negative nonverbal manner toward the Black partner. The blatant bias condition involved a match of negative explicit racial attitudes and negative nonverbal behavior during the interaction.

After reading the personal information sheet, all participants completed two comprehension checks to ensure that they understood which interaction partner was the confederate and which was the true participant. Participants responded to questions about the race of the “actor/confederate,” and the “participant” on a dichotomous scale (1- Black and 2- White). Finally, participants were given the correct answer to both questions (that the actor/confederate was Black, and the participant was White), and reminded that their job was make an impression of the White partner. This was done to ensure that all participants were aware that their task was to form an impression of the White partner and to minimize exclusion of participants for failing to understand task directions.

4. Interracial interaction video

Videotaped displays of biased behavior were adapted from a previous study (Murphy, Richeson, Shelton, Rheinschmidt, & Bergsieker, under review). All participants viewed the same 4-minute videotaped interracial interaction that featured an introduction of the partners, followed by a tic-tac-toe game that required the partners to pass a piece of paper and share a pen. Participants viewed a White partner walking into the interaction room, sitting at a desk and reading a book—bypassing an empty chair at the table where a Black partner was seated. After being asked to move to the table by the Black partner, participants watched the White partner move to the table while avoiding eye contact, physical contact, or any other interaction with the Black partner. The experimenter then entered the scene, and provided paper and a pen for the tic-tac-toe game. The White partner was selected to make the first play. After doing so, the White partner pushed the paper and pen across the table to the Black partner (rather than handing the pen directly to the Black partner), minimizing physical contact and eye contact throughout the rest of the task. Thus, in all conditions of the present study, the White partner displayed relatively negative, avoidant nonverbal behavior.

Participants were told they would be watching a videotaped interaction from a previous study that examined dynamics of interracial interactions. They were told that the Black partner in the dyad was a confederate and the White partner was the actual, naive participant. This cover story was employed so that participants would believe that the White partner's behavior was natural and that any behavior on the part of the Black partner was scripted. Additionally, the face of the Black partner was blurred to prevent participants from being influenced by the Black partner's reactions, and to encourage them to focus on the White partner's behavior, because perception of the White partner's behavior was the primary interest in the current study.

Next, participants completed the dependent variables of interest (perceptions of prejudice, interaction expectations). Items within the perceptions of prejudice and interaction expectations questions were randomly presented to each participant to avoid order effects. Following this, White participants completed the White Guilt scale (potential mediator), and Black participants completed the Stigma Consciousness Questionnaire and Stereotype Threat concerns scales (potential mediators). Finally, all participants completed the Inclusion of Other in the Self scale (black sheep effect outcome measure). After the study was over, participants were debriefed and compensated.

C. Measures

1. Premeasures

All premeasures were collected during a mass-testing session at least 2 weeks before the laboratory sessions. All premeasures can be found in Appendix B.

a. Stigma consciousness (Black participants)

Black participants completed the Stigma Consciousness Questionnaire (SCQ; Pinel, 1999). This 10-item measure includes questions such as, “Stereotypes about my race/ethnicity have not affected me personally” (reverse-scored), and, “Most people have a lot more racist thoughts than they actually express.” The response scale ranged from 1 (strongly disagree) to 7 (strongly agree) with a midpoint of 4 (neither agree nor disagree). Reliability analysis for the stigma consciousness questionnaire administered in the lab revealed that one item (“Most people have a lot more racist thoughts than they actually express”) should be excluded to significantly increase internal reliability. Therefore, to equate the pre- and post-measure, composite scores for each participant on the premeasure and the lab measure were

created by averaging the responses on nine items ($\alpha = 0.76$); higher scores indicate more stigma consciousness.

b. Private concerns about prejudice (White participants)

Because White participants' private concerns about appearing racist might influence their perceptions of prejudice, White participants completed the White Guilt Scale (WGS; Swim & Miller, 1999). The WGS contains 5 items, measured on a 1 (strongly disagree) to 5 (strongly agree) scale, including items such as "Although I feel my behavior is typically nondiscriminatory toward Blacks, I still feel guilt due to my association with the White race." Composite scores were created for each participant by averaging the responses on all items ($\alpha = 0.71$); higher scores indicate more guilt.

2. Race-Specific Measures (see Appendix C)

a. Race-specific measures for Black participants

After completing the perceptions of prejudice and interaction expectations questions, Black participants completed the Stigma Consciousness Questionnaire (Pinel, 1999). As in the premeasure, one item ("Most people have a lot more racist thoughts than they actually express") significantly depressed the scale's reliability ($\alpha = 0.59$) and was removed to create a 9-item scale ($\alpha = 0.63$).

A stereotype threat scale measured the degree to which Black participants believed their racial identity put them at risk for being negatively stereotyped (Marx & Goff, 2005). Questions were measured on a 0 (not at all) to 7 (extremely) scale, and included items such as, "I worry that a person might stereotype me because of my race/ethnicity." Originally a 5-item scale, internal reliability analysis revealed that the reverse-scored item ("I never worry that someone will suspect me of being stereotypical just because I am an ethnic/racial minority") was depressing

the scale's reliability ($\alpha = 0.67$), and should be excluded. Thus, composite scores for each participant were calculated by averaging responses on the remaining four items ($\alpha = 0.82$); higher scores indicate more stereotype threat concerns.

b. Race-specific measures for White participants

White participants completed the White guilt scale ($\alpha = 0.87$), a potential mediating variable, following the depletion and bias manipulations during the lab portion of the study.

It was expected that White participants would report less similarity to a White target that they categorized as prejudiced. To examine this hypothesis, participants completed the Inclusion of Other in the Self Scale (IOS; Aron, Aron, & Smollan, 1992) after the primary dependent variable questions. In this measure, seven pictures depict two circles, labeled "self" and "other," with varying degrees of overlap. In the first picture, the two circles are completely separate, indicating that the participant shares no characteristics with the White target. The last picture in the series shows the two circles as overlapping almost completely, suggesting that the participant believes that he or she shares many characteristics with the White target. Participants were asked to circle the picture that best described how they felt relative to the White partner in the video.

3. Dependent Measures (see Appendix D)

a. Perceptions of prejudice

Following the interracial interaction video, participants rated their reactions to the White partner on a number of dimensions related to perceptions of prejudice. These questions included, "How prejudiced do you think the participant is?" and "How racist do you think the participant is?" measured on a 1 (not at all) to 7 (very much so) scale. Composite

scores for each participant were created by averaging the scores on these four items ($\alpha = 0.86$); higher scores indicate greater perceived prejudice.

b. Interaction expectations

Participants answered questions about their expectations about interacting with the White target. Questions included items about participants' perceptions about potential interactions with the target, "I would feel comfortable working with this person" and items about their expectations that the target would want to interact with them, "This person would be happy to work with me." Responses were measured on a 1 (not at all) to 7 (very much so) scale.

Composite scores were created by averaging scores on these four items ($\alpha = 0.91$); higher scores indicate more positive interaction expectations.

4. Factor Analysis on Dependent Measures

I theorized that these dependent measures would be independent constructs. In particular, although White and Black participants may not want to explicitly label the White target as prejudiced, racist, etc.—relatively severe negative judgments to make about a person with minimal information—they may be more willing to report feeling uncomfortable about the partner on the less severe interaction expectation items (Stangor, Swim, Sechrist, DeCoster, Van Allen, & Ottenbreit, 2003). Thus, these measures were thought to capture different aspects of bias detection. That is, one measure assessed a higher criterion for perceptions of prejudice: being willing to label someone as prejudiced, racist, etc. The second measure assesses a relatively lower criterion for perceptions of prejudice: being uncomfortable interacting with the partner.

A principal component factor analysis was conducted on the 8 questions that comprised the perceptions of prejudice and interaction expectations composites using a direct oblimin

rotation, which allows for correlated factors. Results revealed a two factor solution, confirming the expectation that these constructs were separate. The first factor included the four perceptions of prejudice items, and the second factor included the four items related to interaction expectations (see Table 1 for all factor loadings). Factor loadings ranged from .749 to .964, and items were included in a factor if the value was at least .70. Thus, all further analyses were done using the composites as previously described.

IV. RESULTS

A. Preliminary Analyses

1. Cognitive depletion manipulation check

A repeated-measures ANOVA compared depleted and non-depleted participants' reaction times during the first and final quarters of the ANT. The results revealed a significant effect of cognitive depletion, $F(1,169) = 31.05, p < .001, \eta^2_p = .16$. Within the first quarter of the task, non-depleted participants responded faster to the easier, non-depleting items ($M = 563.48, SD = 128.58$) than depleted participants ($M = 722.06, SD = 297.49$) and there was a similar pattern in the final quarter of the task ($M = 524.48, SD = 125.75$ and $M = 695.04, SD = 249.66$, respectively). Follow-up t-tests determined that the response times of participants in the nondepleting condition became significantly faster from the first quartile ($M = 563.48, SD = 128.58$) to the final quartile of the task ($M = 524.48, SD = 125.75$); $t(169) = 3.29, p < .01, \omega^2 = .06$. The response times of participants in the depletion condition, however, did not change from the first quartile ($M = 722.06, SD = 297.49$) to the final quartile of the task ($M = 695.04, SD = 249.66$); $t(169) = 1.05, ns$. These results indicate that whereas nondepleted participants adjusted to the task and responded faster, depleted participants did not show the same facilitation pattern

over time. Depleted participants continued to respond more slowly than nondepleted participants throughout the entire task.

2. Comprehension checks

To ensure that all participants processed the manipulation as intended, participants completed two instructional manipulation checks asking about the race of the actor/confederate and true participant in the video. Out of 179 total participants, 126 accurately identified the race of the actor and true participant; 51 failed to accurately identify the race of at least one of the partners in the interaction video. The number of participants who failed at least one instructional manipulation check did not vary between depletion conditions, $\chi^2(179) = 3.39$, *ns*. Thus, people were equally likely to fail the manipulation check in the depleted and nondepleted conditions.³

B. Primary Dependent Variables

1. Perceived prejudice

A 2 (participant race: Black, White) x 2 (cognitive depletion: control, depleted) x 2 (exposure to bias: subtle, blatant) ANOVA was conducted on participants' perceptions of the White partner's level of prejudice. The results revealed a marginally significant three-way interaction, $F(1,118) = 3.43$, $p = .07$, $\omega^2 = .02$. Although the interaction failed to reach conventional levels of statistical significance, I nevertheless followed up the interaction for White and Black participants to explore the hypothesized patterns (see Figure 1).

For Black participants, there was a significant two-way interaction between exposure to bias and cognitive depletion, $F(1,118) = 5.36$, $p < .05$, $\omega^2 = .08$. Simple effects tests revealed that

³ To ensure that only participants who correctly identified the race of the confederate and true participant were included in analyses, any participant who incorrectly identified the race of at least one of the interaction partners was excluded from analyses.

Black participants who observed subtle behaviors perceived the same, relatively low, degree of prejudice whether cognitively depleted ($M = 2.87$, $SD = 1.53$) or not ($M = 2.23$, $SD = 0.88$); $F(1,118) = 2.11$, *ns*. However, cognitively depleted Black participants who observed blatant behaviors perceived marginally less prejudice than those who were not depleted, ($M = 1.88$, $SD = 0.71$ and $M = 2.70$, $SD = 1.13$, respectively); $F(1,118) = 3.03$, $p < .10$, $\omega^2 = .04$. Thus, Black participants' categorization of blatant behaviors as prejudiced was reduced by cognitive depletion. That is, participants only categorized the blatant behaviors as prejudiced when the cues were blatant and they were not depleted.

For White participants, results revealed only a marginally significant main effect of cognitive depletion, $F(1,118) = 3.21$, $p < .10$, $\omega^2 = .03$. In general, White participants who were not depleted perceived the White target's behavior as more prejudiced overall ($M = 2.79$, $SD = 1.37$) compared to White participants who were cognitively depleted ($M = 2.21$, $SD = 1.15$). These results suggest that cognitive resources marginally influence how White participants perceive prejudice when observing an ingroup member in interracial interactions. That is, when depleted, Whites perceived less prejudice overall, regardless of the type of behaviors they observed.

2. Interaction expectations

A three-way ANOVA was conducted on participants' expectations about a potential interaction with the White target. Results revealed a main effect of race, such that White participants had more positive interaction expectations ($M = 5.32$, $SD = 1.28$) than Black participants ($M = 4.00$, $SD = 1.59$); $F(1,118) = 23.74$, $p < .001$, $\omega^2 = .14$. There was also a significant interaction between participant race, exposure to bias, and cognitive depletion,

$F(1,118) = 8.87, p < .001, \omega^2 = .05$. To further explore this three-way interaction, I examined the effects separately for Black and White participants (see Figure 2).

For Black participants, there was a significant two-way interaction between exposure to bias and cognitive depletion conditions, $F(1,118) = 9.96, p < .05, \omega^2 = .12$. Simple effects tests demonstrated that within the subtle bias condition, Black participants who were *not* cognitively depleted had significantly more positive interaction expectations than those who were cognitively depleted, ($M = 4.63, SD = 1.50$ and $M = 3.50, SD = 1.43$ respectively); $F(1,118) = 4.99, p < .05, \omega^2 = .05$. Within the blatant bias condition however, Black participants who *were* cognitively depleted had significantly more positive interaction expectations ($M = 4.60, SD = 1.74$) than those who were not cognitively depleted ($M = 3.42, SD = 1.43$); $F(1,118) = 5.10, p < .05, \omega^2 = .05$. Taken together, these surprising results suggest that non-depleted Black participants exposed to subtle behaviors were willing to give the White target another chance, but depleted Black participants who observed the same behaviors were not. When exposed to blatant bias, nondepleted Black participants had relatively negative interaction expectations—likely because they categorized those behaviors as prejudiced. Cognitively depleted Black participants who were exposed to blatant behaviors had relatively positive interaction expectations, perhaps because the cognitive depletion seemed to blunt their detection of the bias in that condition.

White participants' interaction expectations did not differ whether exposed to subtle ($M = 5.41, SD = 1.32$) or blatant behaviors ($M = 5.24, SD = 1.25$); $F(1,118) = .021, ns$. Similarly, cognitively depleted ($M = 5.53, SD = 1.26$) and nondepleted ($M = 5.05, SD = 1.27$) White participants had the same relatively positive interaction expectations, $F(1,118) = 2.22, ns$. The interaction between those two factors was not significant, $F(1,118) = 0.99, ns$. Overall, White

participants reported similar (relatively positive) expectations about interacting with the White target regardless of condition.

C. Perceptions of Prejudice Mechanisms for White Participants

1. White guilt

I hypothesized that White participants' white guilt would mediate the relationship between exposure to bias and participants' perceptions of prejudice. To test this hypothesis, I conducted a mediation analysis using the SPSS macro by Preacher and Hayes (2008) using feelings of white guilt as the mediator (controlling for the premeasured score).

White guilt did not explain the relationship between exposure to bias and perceived prejudice for White participants. Specifically, exposure to bias did not influence participants' feelings of white guilt ($B = -0.26, ns$), and white guilt did not influence the amount of prejudice that participants perceived ($B = -0.15, ns$). Furthermore, neither the direct effect between exposure to bias and perceived prejudice nor the indirect effect were significant ($B = -0.07, ns$ and $B = -0.11, ns$, respectively), and the confidence intervals included zero ($CI_{lower} = -.0683$, $CI_{upper} = .3785$; see Figure 3).

2. Self-other overlap

Beyond this mediation hypothesis, I also hypothesized a black sheep effect such that exposure to racial bias would influence the degree to which White participants perceived prejudice (i.e., they would perceive blatant behaviors but not subtle behaviors as prejudiced). Moreover, perceptions of prejudice would, in turn, affect the degree to which White participants reported feeling similar to the White target. Although a preliminary analysis revealed that White participants' feelings of similarity to the White target were not significantly related to their

perceptions of prejudice ($r = -.22, ns$), I nevertheless proceeded with testing the hypothesized mediation.

Exposure to bias marginally predicted White participants' perceptions of prejudice, such that participants in the blatant bias conditions perceived more prejudice ($B = 0.51, p = .10$). In addition, the more prejudice a White participant perceived, the less they reported feeling similar to the White target, though this effect was also marginal ($B = -0.27, p = .10$). However, neither the coefficients for the total effect nor the indirect effects were significant ($Bs = -0.29$ and $-0.15, ns$, respectively), and the confidence interval for the model included zero ($CI_{lower} = -0.48, CI_{upper} = 0.01$). Thus, contrary to my hypothesis, perceived prejudice did not mediate the relationship between exposure to bias and feelings of similarity to the White target (see Figure 4).

D. Exploratory Mechanisms for White Participants

1. Pre-measured White guilt

It is possible that Whites who are chronically high in levels of White guilt may be more sensitive to racial bias. Therefore, when cognitively depleted and less able to self-regulate, they may report even higher levels of White guilt and perceive more prejudice. To test if the marginal effect of cognitive depletion on White participants' perceptions of prejudice was driven by situational White guilt, and moderated by chronic levels of White guilt, I conducted a moderated mediation analysis using the SPSS macro by Preacher, Rucker, & Hayes (2007). The results revealed that the interaction of cognitive depletion and chronic White guilt did not significantly predict White participants' situational White guilt ($B = -0.25, ns$). Additionally, situational White guilt did not predict White participants' perceptions of prejudice ($B = -0.12, ns$). Furthermore, confidence intervals for the indirect effects included zero at all levels of chronic White guilt ($CI_{lower} = -.2696, CI_{upper} = .0542$; see Figure 5).

Furthermore, it is possible that chronic levels of White guilt may influence how White participants who are exposed to subtle or blatant bias experience situational White guilt. In particular, Whites who have chronically high levels of White guilt may feel more situational White guilt after exposure to blatant behaviors, which may, in turn, affect their perceptions of those behaviors as prejudiced. To test this, I conducted another exploratory moderated mediation analysis to examine how exposure to biased behaviors and chronic White guilt affected White participants' perceptions of prejudice via situational White guilt. The results revealed that White participants who were exposed to blatant behaviors and had higher chronic levels of White guilt reported significantly higher levels of situational White guilt measured ($B = 0.47, p = .03$). However, participants' situational levels of White guilt did not significantly predict their perceptions of prejudice ($B = -0.01, ns$). Furthermore, the confidence intervals for the indirect effect included zero at all levels of the pre-measured White guilt scale ($CI_{lower} = -.2079, CI_{upper} = .2021$; see Figure 6).

E. Perceived Prejudice Mechanisms for Black Participants

1. Stigma consciousness

Because there was a significant two-way interaction between manipulated bias and cognitive depletion, I proceeded with the hypothesized moderated mediation analyses. In particular, I hypothesized that exposure to bias during an interracial interaction might threaten Black participants and cause them to be more concerned about threats to the self, which would, in turn, affect the degree that they would categorize the White partner's behavior as prejudiced. Analyses examined whether Black participants' stigma consciousness mediated the effect of bias condition on participants' perceptions of prejudice. The interaction did not significantly predict Black participants' scores on the lab SCQ whether controlling for their mass-testing SCQ score

($B = -0.56$, *ns*) or not ($B = -0.60$, *ns*). Furthermore, SCQ scores did not predict Black participants' perceived amount of prejudice ($B = 0.27$, *ns*; see Figure 7). Thus, contrary to my hypothesis, Black participants' stigma consciousness did not explain their perceptions of prejudice when observing biased behavior.

2. Stereotype threat concerns

The interaction between exposure to bias and cognitive depletion did not significantly predict Black participants' stereotype threat concerns ($B = -1.23$, *ns*). However, increases in Black participants' stereotype threat concerns were associated with an increase in the amount of prejudice that Black participants perceived ($B = 0.23$, $p = .02$). This mediational relationship was only significant when Black participants were *not* cognitively depleted ($CI_{lower} = 0.01$, $CI_{upper} = 0.71$; Preacher & Hayes, 2008). When Black participants *were* cognitively depleted, the confidence intervals for this model indicated that the mediation did not hold for this group ($CI_{lower} = -0.43$, $CI_{upper} = 0.24$; see Figure 7).

F. Mediations of Interaction Expectations among Black Participants

Whereas Black participants in this study did not categorize the White partner's behavior as particularly prejudiced, they still reported interaction expectations in a manner more consistent with my original hypotheses. That is, there was also a two-way interaction on interaction expectations to mediate. Therefore, moderated mediation analyses were conducted using participants' interaction expectations as the outcome to determine whether the effect of bias condition and depletion on interaction expectations was mediated by stigma consciousness and stereotype threat concerns.

1. Stigma consciousness

Cognitive depletion and bias condition did not predict Black participants' stigma consciousness whether controlling for mass-testing SCQ scores ($B = -0.56$, *ns*) or not ($B = -0.60$, *ns*). Furthermore, Black participants' stigma consciousness did not predict interaction expectations ($B = -0.41$, *ns*; see Figure 8).

2. Stereotype threat concerns

The interaction between exposure to bias and cognitive depletion condition did not significantly predict Black participants' stereotype threat concerns ($B = -1.23$, *ns*). However, increases in Black participants' stereotype threat concerns were related to less positive interaction expectations ($B = -0.34$, $p = .02$). The overall mediational relationship was only significant when Black participants were not cognitively depleted ($CI_{lower} = -0.88$, $CI_{upper} = -0.02$; Preacher & Hayes, 2008). When Black participants were cognitively depleted, the confidence intervals indicated that mediation did not hold for this group ($CI_{lower} = -0.36$, $CI_{upper} = 0.55$; see Figure 8).

G. Exploratory Mechanisms for Black Participants

1. Pre-measured stigma consciousness

It is possible that Black participants who have chronically high levels of stigma consciousness may perceive more prejudice than Black participants who are chronically low on stigma consciousness. These chronically-high individuals may also report more situational stigma consciousness following exposure to subtle or blatant behaviors which, in turn, may cause them to perceive the behaviors as prejudiced. To test if the chronic levels of stigma consciousness moderated the relationship between exposure to biased behaviors and Black participants' perceptions of prejudice via situational stigma consciousness, I conducted a moderated mediation analysis. The interaction between exposure to racial bias and chronic

stigma consciousness did not significantly predict Black participants' situational stigma consciousness scores ($B = -0.34, ns$). Additionally, Black participants' situational stigma consciousness scores did not significantly predict their perceptions of prejudice ($B = 0.29, ns$). These nonsignificant results were buttressed by confidence intervals that included zero at all levels of pre-measured stigma consciousness scores ($CI_{lower} = -.1039, CI_{upper} = .5093$; see Figure 9).

V. DISCUSSION

Interracial interactions often deplete the cognitive resources of White and Black individuals (e.g., Richeson & Trawalter, 2005), however there is little work on the downstream consequences of this depleted state for subsequent bias detection. This study aimed to understand how cognitive depletion affected Black and White participants' perceptions of subtle and blatant behaviors, as well as to elucidate possible mechanisms that accounted for those perceptions. Furthermore, this study tested whether cognitive depletion influenced participants' expectations about interacting with an actor who displayed subtly or blatantly biased behavior.

A. **Bias Detection for White Participants**

Contrary to previous research on lay theories of racism, White participants did not distinguish between subtle and blatant behaviors. Although previous research suggests that Whites would categorize blatant (but not subtle) behaviors as prejudiced (Sommers & Norton, 2006), in the present research they responded similarly to the two types of behaviors. The role of cognitive depletion in Whites' detection of bias was that depletion simply made Whites less likely to detect any kind of bias. Furthermore, regardless of study condition, all White participants reported relatively positive interaction expectations. Because White participants were responding to questions about potentially interacting with an ingroup member, it is not

surprising that White participants had positive expectations about interacting with the White target.

B. Mechanisms for White Participants

White guilt did not significantly mediate the relationship between bias condition and perceptions of prejudice. There was also no evidence that White participants' chronic levels of White guilt moderated the relationship between cognitive depletion and perceptions of prejudice, or exposure to biased behavior and perceptions of prejudice. One of the reasons this may have occurred is that overall the results of the ANOVAs demonstrated that White participants were primarily affected by the cognitive depletion manipulation, not the bias manipulation. The proposed mechanism was based upon the hypothesis that White participants' perceptions of prejudice would vary in a manner consistent with their lay theories of racism (Sommers & Norton, 2006). Instead, White participants perceived similar levels of prejudice in the subtle and blatant bias conditions. Rather than rely on past research that illuminates Whites' lay theories of racism, future studies should measure participants' lay theories to determine whether their perceptions of prejudice are consistent or inconsistent with their actual lay theories.

Furthermore, the data did not support the black sheep effect hypothesis. Specifically, exposure to bias did not affect White participants' feelings of similarity with the White target via perceptions of prejudice. Although exposure to bias marginally predicted the perceived level of prejudice, and the perceived level of prejudice marginally predicted the reported similarity with the White target, the total mediation model was not significant.

C. Bias Detection for Black Participants

Although Black participants' perceptions of prejudice were affected by an interaction between the type of bias they observed as well as cognitive depletion, their perceptions of

prejudice were not consistent with previous lay theories research or the hypotheses based on that research. Regardless of depletion condition, Black participants did not categorize subtle behaviors as prejudiced. However, cognitive depletion seemed to reduce Black participants' perceptions of blatant behaviors, such that only non-depleted Black participants appeared to categorize blatant behaviors as relatively prejudiced.

Black participants who observed a *blatantly-biased* White partner reported interaction expectations consistent with their prejudice perceptions. Specifically, nondepleted Black participants reported relatively more prejudice and relatively negative interaction expectations; depleted Black participants reported relatively less prejudice and relatively positive interaction expectations. However, interaction expectations regarding the *subtly-biased* White partner were inconsistent with participants' explicit prejudice perceptions. Notably, even though depleted and nondepleted Black participants labeled the subtle behaviors as equally non-prejudiced, depleted Black participants reported relatively more negative interaction expectations than did nondepleted Black participants. This suggests that, although cognitive depletion impeded the explicit categorization and labeling the White partner as prejudiced, participants still may have detected—on some level—behavior that made them uncomfortable, as expressed on the interaction expectation measure. It is possible that, when *not* cognitively depleted, Black participants may have excused the White partner's subtle behaviors, or gave them the benefit of the doubt and thus refused to label the partner as racist. Additionally, because there can be negative consequences for labeling people as biased (Kaiser & Miller, 2001), nondepleted Black participants may have exercised caution and not categorized the subtle behavior as prejudiced. However, when cognitively depleted, it is possible that Black participants lacked the cognitive resources to engage in the same effortful self-regulatory behaviors, and thus reported relatively

more negative interaction expectations than nondepleted Black participants. This pattern of results suggests that, although not explicitly labeled as prejudice, some aspect of the White partner's subtle behaviors made the Black participants uncomfortable, and although the nondepleted participants had enough cognitive energy to avoid saying so, the depleted participants may not have been able to exercise the same restraint.

Taken together, these results suggest that Black participants' explicit categorizations of prejudice followed social desirability concerns—unless the behaviors were blatant and participants were not cognitively depleted. Even though subtle behaviors were not categorized as prejudiced, the interaction expectations indicated that depleted participants detected, and were relatively wary of, the subtly biased behaviors they observed, however they might have lacked the cognitive resources to respond in a socially desirable manner.

D. Mechanisms for Black Participants

Overall, stigma consciousness did not mediate the effect of cognitive depletion and bias condition on perceptions of prejudice or interaction expectations. However, stereotype threat concerns significantly mediated both the effect of cognitive depletion and bias condition on perceptions of prejudice and the effect on interaction expectations. Thus, exposure to blatantly biased behaviors increased Black participants' stereotype threat concerns which, in turn, increased Black participants' perceptions of prejudice. Similarly, increased stereotype threat concerns were related to relatively less positive interaction expectations. For both outcomes, the mediation was significant only for nondepleted Black participants—that is, the model did not hold for depleted Black participants. Furthermore, there was no evidence that participants' chronic levels of stigma consciousness moderated the relationship between exposure to biased behavior and perceptions of prejudice.

E. Alternative Explanations

Overall, the results of this study were inconsistent with previous lay theories research for both Black and White participants (Sommers & Norton, 2006). In particular, the data were inconsistent with the hypothesis that cognitive depletion would only affect Black participants' perceptions of subtle behaviors. Specifically, Black participants were expected to detect and categorize blatant behaviors as prejudiced regardless of cognitive depletion levels. Black participants were only expected to detect subtle behaviors to the extent that they had the resources to do so (i.e., when they were not cognitively depleted). With respect to White participants, Whites' perceptions of prejudice were expected to be influenced by the type of bias they were exposed to—not their levels of cognitive depletion. It was hypothesized that White participants would categorize blatant behaviors as prejudiced but would not categorize subtle behaviors as prejudiced, regardless of cognitive depletion.

1. Labeling v. detecting prejudice

All participants in this study were reluctant to label the subtly- and blatantly-biased White partner as prejudiced, racist, etc. Specifically, all responses to the perceptions of prejudice questions were below the midpoint of the seven point scale. Even the nondepleted Black participants who categorized blatant behaviors as relatively prejudiced fell below the midpoint of the scale ($M = 2.70$). This floor effect may have been due to the severe nature of the words used to describe the White target's behavior. Participants were asked to indicate the extent to which the White partner was prejudiced, offensive, racist, and intolerant—all very harsh judgments to make based upon the little information that was available. Norms against calling others racist, or fear of negative consequences of passing such a judgment (e.g., Stangor et al.,

2003) may have made participants hesitant to categorize behaviors as prejudiced—even if that was what they actually believed.

Although participants may have been reluctant to explicitly categorize the behaviors as racist, their perception of the behavior may be more likely to surface on measures that use milder language or that assess discomfort, such as the interaction expectation questions. If so, there should be a larger range of responses to the items, and there should be a pattern more consistent with the hypotheses. Indeed, that is the case. The results indicated that, on some level, Black participants detected behavior that made them uncomfortable, as evidenced by their relatively negative interaction expectations. This suggests that, at least for Black participants, labeling behaviors as prejudiced, racist, etc. may be different from the actual detection of behaviors associated with different types of prejudice.

2. Working memory capacity

One reason that the attitude manipulation may not have been successful is that the crucial explicit attitude manipulation was presented *after* participants completed the ANT. Thus, the depletion task may have impeded participants' ability to hold the White partner's diversity statement in mind while watching the interaction video. Indeed, research has demonstrated that decreased attentional control can inhibit performance on future tasks that also require attentional control (Engle, 2010, Unsworth, Redick, Lakey, & Young, 2010). This suggests that, in the present study, the cognitive depletion manipulation may have impeded participants' working memory capacity, affecting their processing of the attitude manipulation. Thus, when asked to make categorizations of the White partner's subtle and blatant behaviors, depleted Black participants only recalled the behavior in the interaction video—which was consistent in all study conditions—and did not detect a difference between the subtle and blatant explicit

attitudes. It is puzzling why this same pattern of effects did not occur for White participants. Perhaps this group difference emerged because the task involved different group-based demands for Black and White participants. In particular, whereas Blacks were focused on an *ingroup target* of bias and an *outgroup perpetrator* of bias, Whites were focused on an *outgroup target* of bias and an *ingroup perpetrator* of bias. Thus, for Blacks, this was an intergroup perceptual task—making attributions about an outgroup member; but for Whites, it was an intragroup perceptual task- making attributions about an ingroup member. Because intergroup interactions are more cognitively costly (e.g., Inzlicht et al., 2006), the intergroup perceptual task may have placed a greater cognitive burden on Black participants relative to White participants.

To prevent the depletion manipulation from interfering with the bias manipulation, future studies would benefit from changing the order of the cognitive depletion manipulation and explicit racial attitude manipulation. By providing the key manipulation before depletion and testing them on it, participants may more easily attend to and recall the White partner's diversity statement when watching the interaction video. Another approach could be to completely change the way that the explicit attitude manipulation is presented to participants. For example, instead of presenting the attitude manipulation as a written statement, divorced from the video, perhaps the White partner in the video could say a negative or positive statement about diversity to the Black interaction partner as well as behave in the relatively avoidant manner characteristic of racial bias. By providing the attitude statement and nonverbal behavior manipulations simultaneously, and in a more compelling fashion that is consistent with how these behaviors likely occur in the real world, participants may be more likely to detect the explicit racial attitude in line with the bias manipulation.

3. Ingroup v. outgroup target

Inconsistent with the lay theories hypothesis, White participants did not differentially categorize the subtle and blatant behaviors as prejudiced, despite correctly reporting that the subtly-biased White target was more accepting of diversity than the blatantly-biased target. Perhaps White participants were not as concerned as Black participants about detecting prejudice, because the behavior they observed was not targeted at an ingroup member. As briefly mentioned above, Whites and Blacks in this study were engaged in two distinct perceptual tasks when asked to watch the interracial interaction video. Both groups were asked to focus on the White partner in the interaction. That meant that Blacks were asked to focus on an *outgroup* perpetrator of bias toward an *ingroup member*, Whites were asked to focus on an *ingroup* perpetrator of bias toward an *outgroup member*. Future work should test how the categorizations of subtle and blatant behaviors change when an ingroup (versus outgroup) member is the target of negative behavior. When Whites are treated negatively by subtly or blatantly biased Blacks, their perceptions of prejudice may differ from what was found here. In any case, this kind of task would be more congruent with the task of the Black participants in the present research.

F. Limitations

There are several reasons why the expected pattern of behavior was not observed. First, the number of participants excluded from analyses for failing the comprehension checks may have resulted in less power to detect significant effects. Though the number of participants removed for failing the comprehension checks was relatively large, I was concerned that participants who incorrectly identified the race of one, or both, of the interracial interaction partners in the video would be attending to the wrong individual, and thus answer the subsequent perceptions of prejudice and interaction expectations questions about the wrong partner. This

would contribute to larger error and noise in the data. Thus, to minimize this, participants who failed the comprehension checks were not included in analyses. However, this meant excluding 51 participants from analyses—approximately 28% of the sample. Although this number is only slightly higher than the estimated 20% of participants from the subject pool who are excluded from analyses for failing similar attentional checks in lab experiments (Oppenheimer, Mayvis, & Davidenko, 2009), reducing the sample by almost a third certainly made it more difficult to detect significant effects. Second, the manipulations of racial bias, even in the blatant bias condition, were relatively subtle manipulations. Although the operationalizations of subtle and blatant bias in this study were consistent with previous research (Murphy et al, under review; Operario & Fiske, 2001), it is possible that studies using stronger manipulations—which could result in excluding fewer participants—may yield stronger patterns of behavior relative to this study.

Another aspect of this study that makes it unique and perhaps not generalizable to other contexts is the university in which it was conducted. University of Illinois at Chicago (UIC) is a majority-minority campus, comprised of 43% White students and 57% minority and international students. It is possible that this diverse environment caused students to respond to the subtle/blatant bias manipulations differently than would students at a more homogeneous university. In particular, the high level of racial and ethnic diversity on campus means that the students at UIC have had more opportunities for interracial interaction than those at more homogeneous universities. Therefore, the participants in this study may have been more practiced at making alternative attributions for avoidant behavior, instead of assuming it was indicative of prejudice. This could help explain why participants in this study did not report perceived levels of prejudice above the midpoint of the scale.

Furthermore, because the subtle and blatant racial bias manipulations were relatively subtle, participants may have been less willing to categorize the White target's behavior as prejudiced. However, participants from a more homogeneous university may be more critical of the White target's behavior and perceive greater levels of prejudice than participants in this study because of their limited opportunities for participating in or observing interracial interactions. Indeed, because there is less racial diversity in most college settings, Black participants at more homogeneous universities may be more vigilant for cues to racial bias, and may perceive more prejudice in the White target's behavior. Future research should more closely examine how racially diverse and homogeneous contexts as well as participants' previous experience with interracial interactions affects the detection and categorization of racial bias.

Finally, the race of the experimenter may have unintentionally influenced the results. All participants were greeted by a White experimenter to standardize the experience for all participants. However, this meant that Black participants were interacting with an outgroup individual and White participants were interacting with an ingroup individual. Thus, from the beginning of the experiment, Black participants may have been more uncomfortable than White participants. Furthermore, all participants were asked to make attributions of prejudice for a White target's behavior. Black participants may have been more reluctant to categorize the White target's behavior as biased, in case the White experimenter had any access to their responses. This would increase the error in the data, and make it more difficult to observe the hypothesized pattern of results on the more severe perceptions of prejudice items. Future studies should focus on standardizing not just the physical experience, but also the psychological experience for Black and White participants by using an experimenter of the same race as the participant.

G. Theoretical Contributions

These results indicate that, in studies of bias detection, perception and categorization of bias may be two distinct outcomes—and researchers should consider which outcome is most important to their question. That is, although people may perceive behaviors that make them uncomfortable, those behaviors may not rise to the level of warranting a label of “prejudiced” or “racist.” That is, although they may perceive biased behaviors and wish to distance themselves from them, they might not be willing to label the actor prejudiced. Attention to the outcome variable is essential as some outcome variables may be too polarizing to reveal categorization differences. Participants were overall reluctant to label the White partner as prejudiced, perhaps in a response to social norms against calling people racist. However, patterns more consistent with how Blacks and Whites were expected to perceive bias emerged in response to the more subtle interaction expectations questions. Furthermore, because the patterns of bias detection results for interaction expectations and prejudice perceptions were different, this study provides evidence that the cognitive processes involved in perceiving prejudice, at least on some level, and categorizing it as prejudiced or racist may be different. Black participants had the ability to perceive at least some behaviors that made them uncomfortable, but the behaviors were not deemed severe enough to breach the threshold to be labeled prejudiced. These results suggest that bias categorization may not be the most important outcome to study in bias detection. Instead, the literature could benefit from examining how biased behavior affects subtle outcome variables such as the desire to interact with the target.

H. Conclusion

Extant research has indicated that interracial interactions are cognitively depleting (e.g., Richeson & Shelton, 2003). Additionally, more work has suggested that cognitive resources are

required to detect subtle, but not blatant cues to bias (Dovidio, 2001). However, the present study indicates that bias detection may not necessarily require cognitive resources. Instead, bias detection may be a more implicit perceptual process, relying on a person's awareness of cues in their environment that indicate whether bias may be present. In this study, even when cognitively depleted, the White actor's subtle and blatant behaviors seemed to be processed at some level, and affected participants' interaction expectations in the hypothesized ways—even though those same behaviors were not explicitly categorized and labeled as prejudiced.

This work also emphasizes the importance of separate studies of inter- and intraracial interactions (Tropp, 2003). In particular, these results indicate that the perceptions of prejudice and biased behaviors may differ when one perceives an ingroup (vs. outgroup) perpetrator and an ingroup (or outgroup) target. Therefore, it is important to understand the separate motivations of bias detection for Blacks and Whites when their group is perpetrating bias or alternatively, when their group is the target of bias. Whereas observing biased behaviors seem to increase Blacks' concerns about being stereotyped, which in turn affected their labeling the behavior prejudiced, it is unclear what mechanisms underlie Whites' categorizations of bias. More studies that manipulate the group membership of the observed perpetrator (ingroup vs. outgroup member) might help shed light on when and why Whites perceive bias when observing interracial interactions.

It is important to understand when and why groups differ in their perceptions of biased behavior. Although this work constitutes a first step toward exploring this question, more work is needed to understand when perceptions converge and diverge among racial majority and minority group members. That is, more research is needed to better understand when and why

important group differences—like the prevalence of racial prejudice—are likely to emerge in this increasingly diverse society.

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TABLE I
FACTOR LOADINGS OF PRIMARY DEPENDENT VARIABLE ITEMS

Item	Component 1	Component 2
Racist	-.308	.842
Intolerant	-.252	.809
Offensive	-.215	.830
Prejudiced	-.189	.845
I would be comfortable working with this person.	.787	-.409
I would be happy to work with this person.	.749	-.448
This person would be comfortable working with me.	.948	-.175
This person would be happy to work with me.	.964	-.168

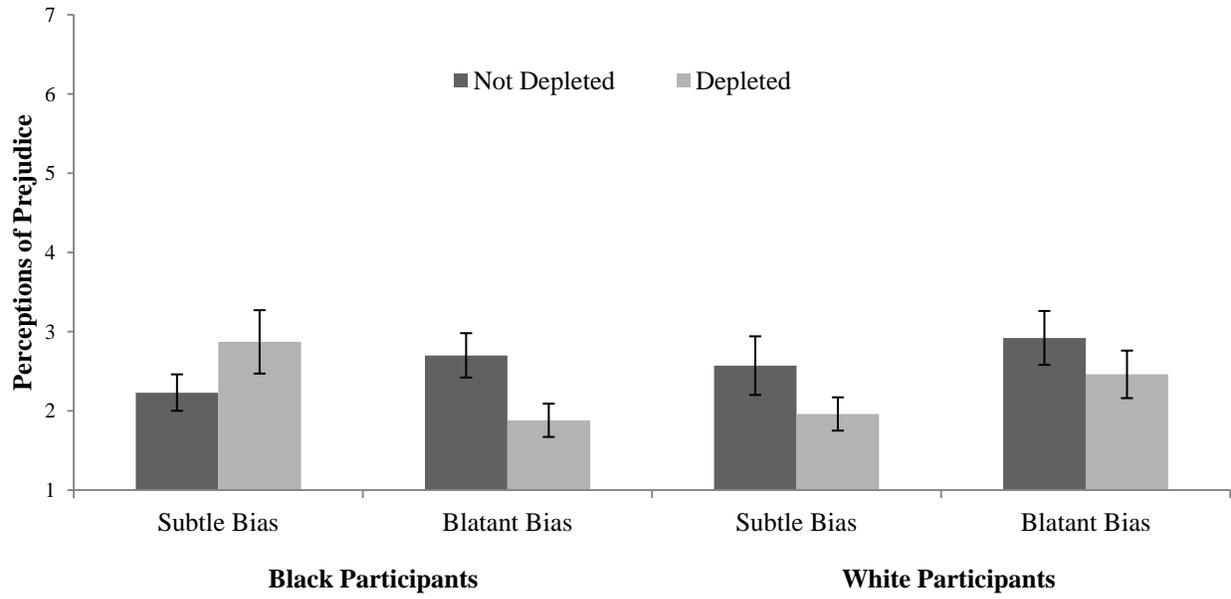


Figure 1. Mean perceptions of prejudice for Black and White participants. Higher bars indicate greater perceived prejudice.

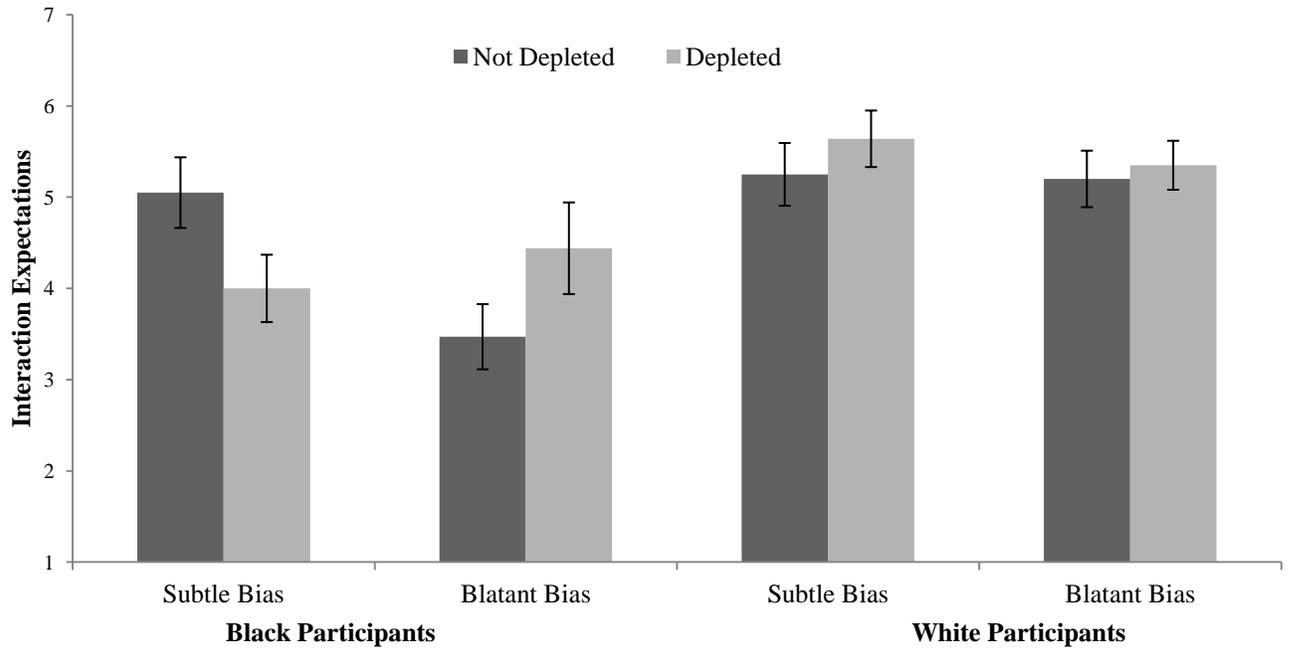


Figure 2. White and Black participants' mean expectations about interacting with the White target. Higher bars indicate more positive expectations.

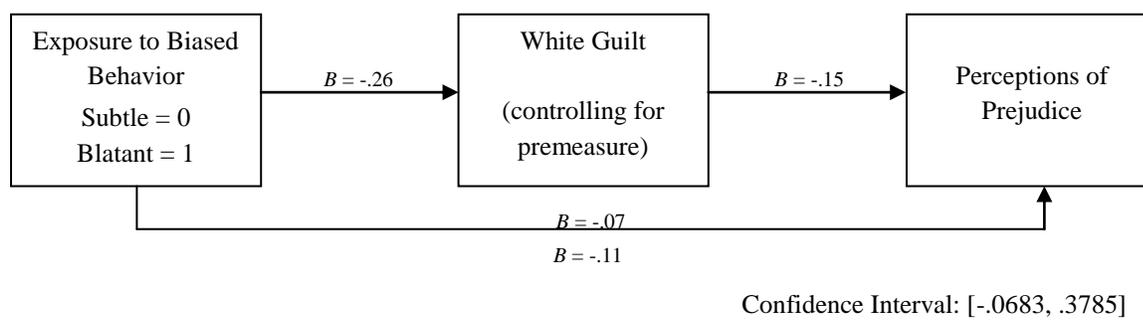
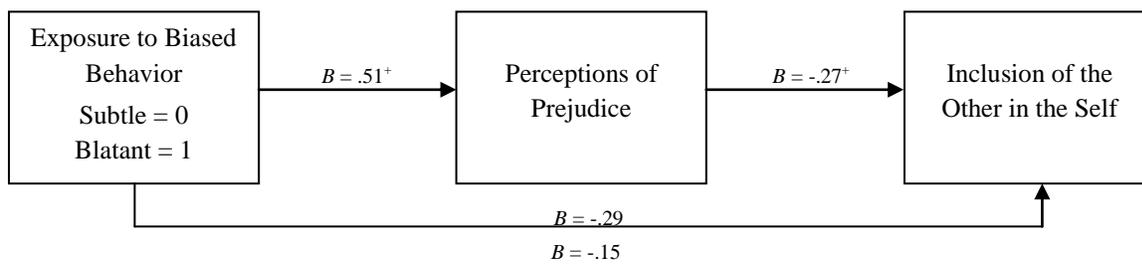


Figure 3. White guilt does not statistically mediate White participants' perceptions of prejudice.



Confidence Interval: [-.4823, .0092] + denotes $p < .10$.

Figure 4. Perceptions of prejudice do not mediate a Black Sheep Effect for White participants.

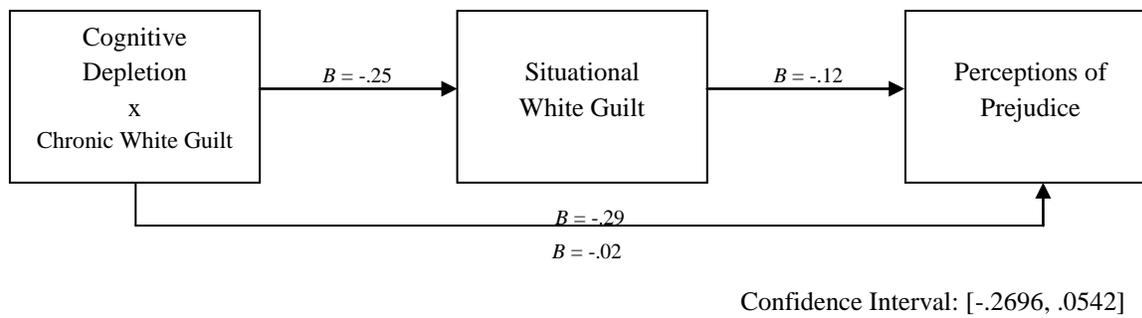


Figure 5. Pre-measured White Guilt does not moderate the relationship between cognitive depletion and perceptions of prejudice via lab-measured White Guilt.

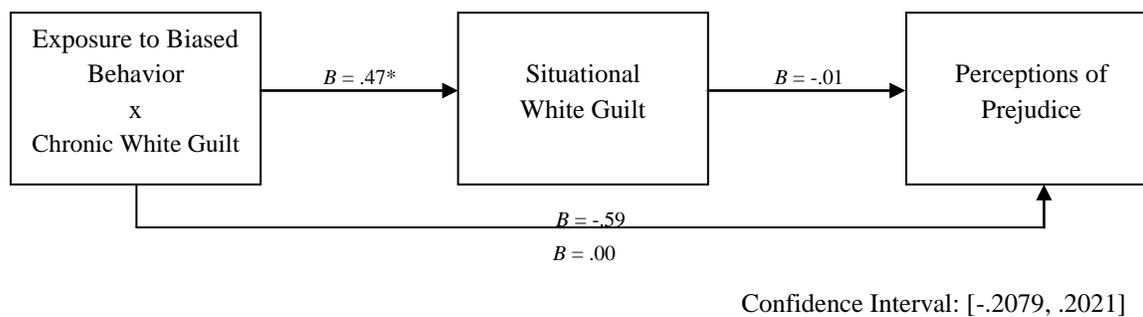


Figure 6. Premeasured White Guilt does not moderate the relationship between exposure to biased behavior and perceptions of prejudice via White Guilt. * $p < .05$.

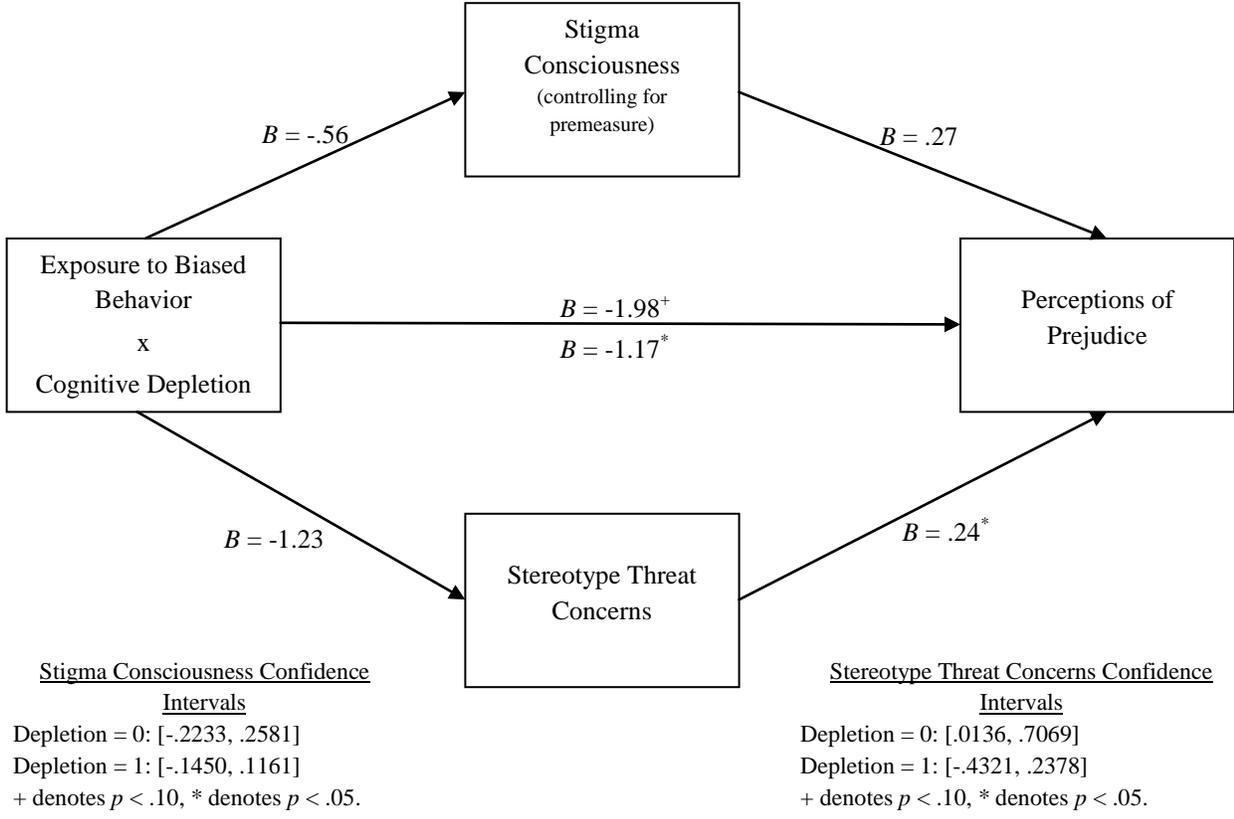


Figure 7. Although stigma consciousness does not statistically mediate Blacks’ perceptions of prejudice, stereotype threat concerns do mediate the effect—but only among nondepleted participants.

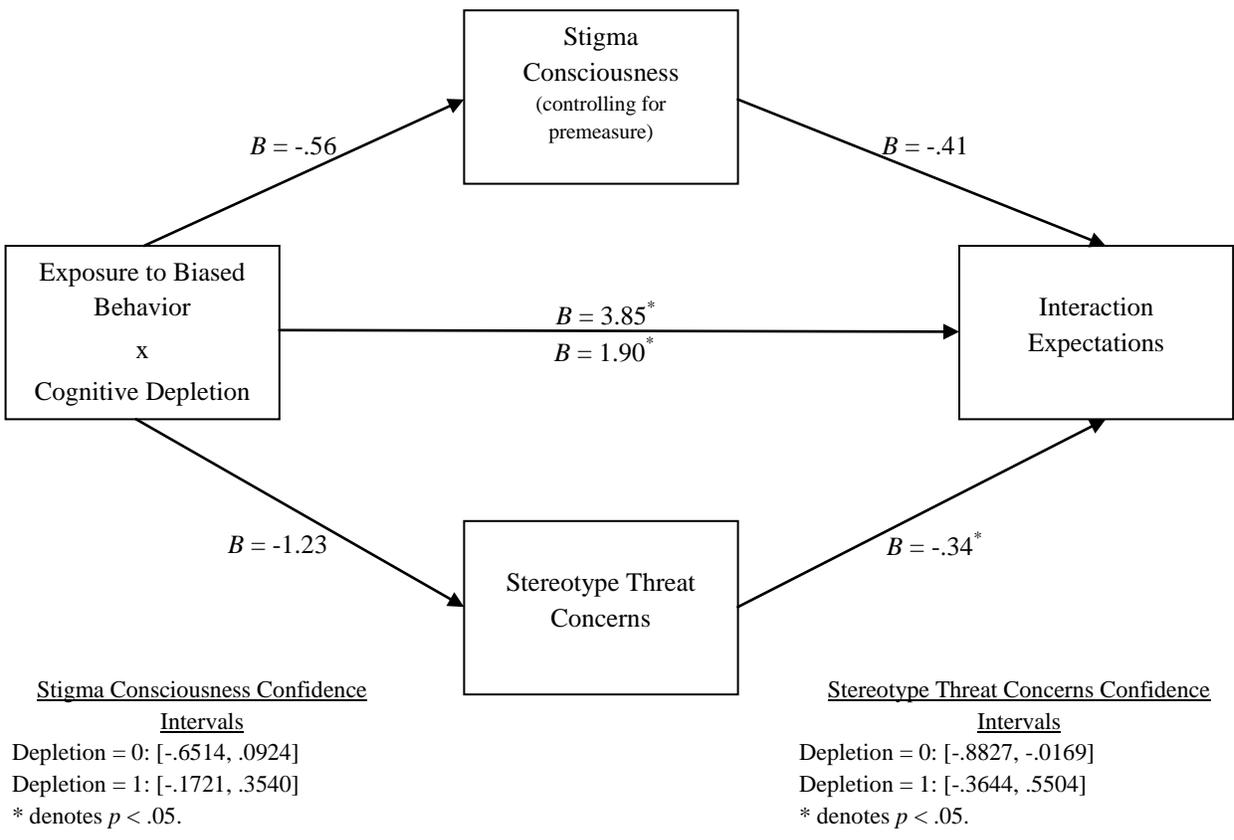


Figure 8. Although stigma consciousness does not statistically mediate Blacks' interaction expectations, stereotype threat concerns do mediate the effect—but only among nondepleted participants.

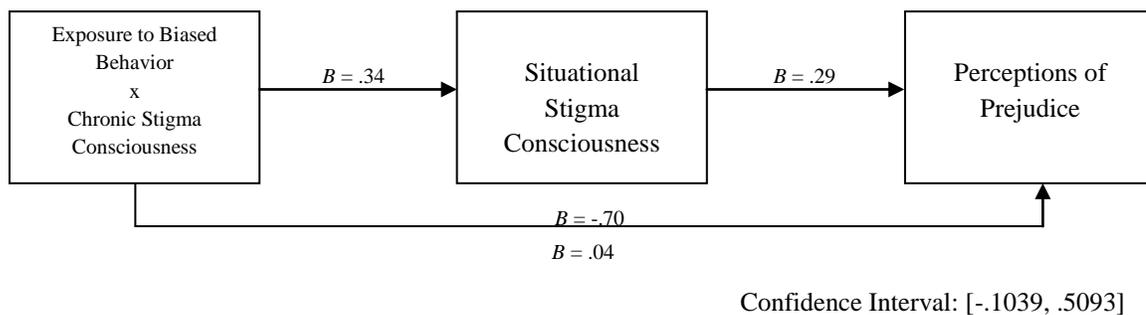


Figure 9. Premeasured stigma consciousness does not moderate the relationship between exposure to biased behavior and perceptions of prejudice via lab-measured stigma consciousness.

APPENDIX A: WORD FRAGMENT COMPLETION TASK

Incidental Anger Word Fragment Completion Task:

Directions: On the next page you will see a series of word fragments. Please fill in the blanks on the following page with whatever (real) word comes to your mind first. Please do this as quickly, and accurately, as possible. You will have 5 minutes to complete this task.

- | | | | |
|----------------------|--------------------|-----------------|-----------------------|
| 1. G R _ _ E | 9. S _ _ G | 17. Y E _ _ _ _ | 25. _ _ O E |
| 2. _ _ N S E (tense) | 10. _ _ _ A Y | 18. S L E E _ _ | 26. F R _ _ _ _ |
| 3. Q U _ _ T | 11. L _ K _ | 19. R _ _ M | 27. _ O G |
| 4. C L _ _ K | 12. _ U C K (fuck) | 20. C O _ _ | 28. R _ _ T |
| 5. W O _ _ | 13. D _ _ W | 21. W _ _ _ N | 29. T A _ _ _ |
| 6. L _ K _ | 14. T I R _ _ | 22. _ _ _ E D | 30. _ _ A I R |
| 7. C O _ _ | 15. M I _ _ | 23. D E G _ _ _ | 31. F I _ _ _ (fight) |
| 8. I S _ _ _ _ | 16. D _ _ _ M | 24. _ A D (mad) | 32. D O _ |

Note. The words in parentheses denote target words as they could have been completed to indicate the salience of anger-related thoughts following the ANT.

APPENDIX B: PREMEASURES

Stigma Consciousness Questionnaire:

Directions: Please use the provided scales to indicate the response to each statement that best reflects your thoughts.

1	2	3	4	5	6	7
Strongly Disagree			Neither Agree nor Disagree			Strongly Agree

1. Stereotypes about my race/ethnicity have not affected me personally. (R)
2. I never worry that my behaviors will be viewed as stereotypic of my race/ethnicity. (R)
3. When interacting with people of another race/ethnicity, I feel like they interpret all my behaviors in terms of the fact that I am a minority.
4. Most people do not judge me based on my race/ethnicity. (R)
5. My race/ethnicity does not influence how racial/ethnic majorities act with me. (R)
6. I almost never think about my race/ethnicity when I interact with people. (R)
7. My race/ethnicity does not influence how people act with me. (R)
8. Most people have a lot more racist thoughts than they actually express. *
9. I often think that racial/ethnic majorities are unfairly accused of being racist. (R)
10. Most people have a problem viewing racial/ethnic minorities as equals.

Note. (R) denotes reverse-coded item. * denotes excluded item.

White Guilt Scale:

Directions: Please use the provided scale to indicate the response to each statement that best reflects your thoughts.

1	2	3	4	5
Strongly Disagree				Strongly Agree

1. Although I feel my behavior is typically nondiscriminatory toward Blacks, I still feel guilt due to my association with the White race.
2. I feel guilty about the past and present social inequality of Black Americans (i.e., slavery, poverty).
3. I do not feel guilty about social inequality between White and Black Americans. (R)
4. When I learn about racism, I feel guilt due to my association with the White race.
5. I feel guilty about the benefits and privileges that I receive as a White American.

Note. (R) denotes reverse-coded item.

APPENDIX C: RACE-SPECIFIC MEASURES

Stigma Consciousness Questionnaire:

Directions: Please use the provided scales to indicate the response to each statement that best reflects your thoughts.

1	2	3	4	5	6	7
Strongly Disagree			Neither Agree nor Disagree			Strongly Agree

1. Stereotypes about my race/ethnicity have not affected me personally. (R)
2. I never worry that my behaviors will be viewed as stereotypic of my race/ethnicity. (R)
3. When interacting with people of another race/ethnicity, I feel like they interpret all my behaviors in terms of the fact that I am a minority.
4. Most people do not judge me based on my race/ethnicity. (R)
5. My race/ethnicity does not influence how racial/ethnic majorities act with me. (R)
6. I almost never think about my race/ethnicity when I interact with people. (R)
7. My race/ethnicity does not influence how people act with me. (R)
8. Most people have a lot more racist thoughts than they actually express. *
9. I often think that racial/ethnic majorities are unfairly accused of being racist. (R)
10. Most people have a problem viewing racial/ethnic minorities as equals.

Note. (R) denotes reverse-coded item. * denotes excluded item.

Stereotype Threat Scale:

Directions: Please respond as honestly as you can about your agreement with the following statements.

0	1	2	3	4	5	6	7
Not at all							Extremely

1. I worry that a person might stereotype me because of my race/ethnicity.
2. I worry that something I say might be negatively misinterpreted.
3. I never worry that someone will suspect me of being stereotypical just because I am an ethnic/racial minority. (R) *
4. I worry that someone's evaluations of me might be affected by my race.
5. I worry that, because I know the stereotypes about ethnic/racial minorities, my anxiety about confirming those stereotypes will negatively influence my interactions with others.

Note. (R) denotes reverse-coded item. * denotes excluded item.

White Guilt Scale:

Directions: Please use the provided scale to indicate the response to each statement that best reflects your thoughts.

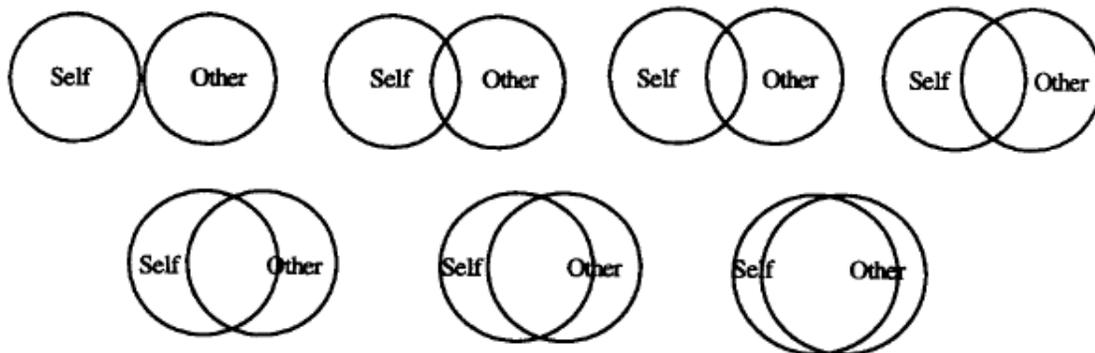
1	2	3	4	5
Strongly Disagree				Strongly Agree

1. Although I feel my behavior is typically nondiscriminatory toward Blacks, I still feel guilt due to my association with the White race.
2. I feel guilty about the past and present social inequality of Black Americans (i.e., slavery, poverty).
3. I do not feel guilty about social inequality between White and Black Americans. (R)
4. When I learn about racism, I feel guilt due to my association with the White race.
5. I feel guilty about the benefits and privileges that I receive as a White American.

Note. (R) denotes reverse-coded item.

Inclusion of Other in Self Scale:

Please circle the picture below which best describes your relationship



APPENDIX D: DEPENDENT VARIABLES

Perceptions of Prejudice:

Now we would like you to think back on the video you just watched. Please use the provided scales to rate how much you agree with the following statements.

1	2	3	4	5	6	7
Not at all						Very much so

1. To what extent is the participant's behavior offensive?
2. To what extent did the participant's behavior seem intolerant?
3. How prejudiced do you think the participant is?
4. To what extent did the participant's behavior seem racist?

Interaction Expectations:

Now we would like you to think back on the video you just watched. Please use the provided scales to rate how much you agree with the following statements.

1	2	3	4	5	6	7
Not at all						Very much so

1. I would feel comfortable working with this person.
2. I would be happy to work with this person.
3. This person would be comfortable working with me.
4. This person would be happy to work with me.

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice-Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

**Approval Notice
Continuing Review**

December 13, 2011

Mary Murphy, Ph.D.
Psychology
1007 W Harrison Street
M/C 285
Chicago, IL 60607
Phone: (312) 996-4459 / Fax: (312) 413-4122

RE: **Protocol # 2008-1144**
"Human Interaction and Psychological Functioning"

Dear Dr. Murphy:

Your Continuing Review was reviewed and approved by the Expedited review process on December 12, 2011. You may now continue your research.

Please note the following information about your approved research protocol:

<u>Protocol Approval Period:</u>	December 13, 2011 - December 11, 2012
<u>Approved Subject Enrollment #:</u>	500 (280 enrolled)
<u>Additional Determinations for Research Involving Minors:</u>	These determinations have not been made for this study since it has not been approved for enrollment of minors.
<u>Performance Sites:</u>	UIC
<u>Sponsor:</u>	None
<u>PAF#:</u>	Not Applicable
<u>Research Protocol(s):</u>	

- a) Revised Protocol: Human Interaction and Psychological Functioning; Version 1;
08/12/2011

Recruitment Material(s):

- a) Online Survey Text; Version 1; 12/18/2009
b) Email Recruitment Message; Version 1; 12/18/2009
c) Email Recruitment (email text); Version 1; 12/18/2009
d) Flyer: Research Participants needed for paid research study, no version number, no date

Informed Consent(s):

- a) Revised Consent; Version 2; 01/12/2009

Phone: 312-996-1711

<http://www.uic.edu/depts/ovct/oprs/>

FAX: 312-413-2929

Page 2 of 3

- b) Educational Debriefing; Version 2; 12/18/2009
- c) Online Consent; Version 3; 01/25/2010
- d) Data Use Debriefing; Version 2, 10/11/2011
- e) Data Use Debriefing: Labeling Task; Version 2, 10/11/2011
- f) Waiver of Signed Consent Document granted under 45 CFR 46.117 for online consent

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category(ies):

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
12/07/2011	Continuing Review	Expedited	12/12/2011	Approved

Please remember to:

→ Use your **research protocol number** (2008-1144) on any documents or correspondence with the IRB concerning your research protocol.

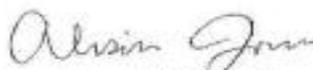
→ Review and comply with all requirements on the enclosure, **"UIC Investigator Responsibilities, Protection of Human Research Subjects"**

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 996-1711. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,



Alison Jones, MSW, MJ
IRB Coordinator, IRB # 2
Office for the Protection of Research Subjects

Enclosure(s):

1. **UIC Investigator Responsibilities, Protection of Human Research Subjects**

Page 3 of 3

2. Data Security Enclosure

3. Informed Consent Document(s):

- a) Revised Consent; Version 2; 01/12/2009
- b) Educational Debriefing; Version 2; 12/18/2009
- c) Online Consent; Version 3; 01/25/2010
- d) Data Use Debriefing; Version 2, 10/11/2011
- e) Data Use Debriefing: Labeling Task; Version 2, 10/11/2011

4. Recruiting Material(s):

- a) Online Survey Text; Version 1; 12/18/2009
- b) Email Recruitment Message; Version 1; 12/18/2009
- c) Email Recruitment (email text); Version 1; 12/18/2009
- d) Flyer: Research Participants needed for paid research study, no version number, no date

cc: Jon D. Kassel, Psychology, M/C 285

EVELYN R. CARTER

Curriculum Vitae

University of Illinois at Chicago
 Department of Psychology, Social Division
 1007 West Harrison Street (M/C 285)
 Chicago, IL 60607
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Education

2010-present: University of Illinois at Chicago

M.A. (defended 4/24/2012), Ph.D. in Social Psychology (anticipated)

Minors: Statistics, Methods and Measurement (anticipated)

Advisor: Mary C. Murphy, Ph.D.

2006-20010: Northwestern University

B.A. in Psychology

Primary Advisors: Jennifer Richeson, Ph.D., Galen Bodenhausen, Ph.D.

Grants and Fellowships

The University of Illinois at Chicago Abraham Lincoln Fellowship (\$40,000; Aug. 2010)

Ford Foundation Predoctoral Fellowship Program (Honorable Mention; 2012)

Research Projects

Spring 2012-present: Interracial Interaction Goals

Advisor: Mary C. Murphy, Ph.D.; University of Illinois at Chicago

Research area: Black and Latino participants were told they would be having a discussion with a White student about an ostensible randomly-selected topic. The discussion topic was either racially-sensitive (racial profiling) or racially-neutral (global warming). After exchanging information via an instant messaging program, participants learned that the White student had either a performance or a learning goal for the upcoming interaction. The primary variables of interest were the participants' expectations about interacting with the White student, as well as emotions (anxiety, etc.) associated with that anticipated interaction.

Fall 2011-Spring 2012: Cognitive Depletion and Blacks' and Whites' Perceptions of Prejudice (Master's Research & Thesis)

Advisor: Mary C. Murphy, Ph.D.; University of Illinois at Chicago

Research area: To extend upon the research started during my first year, in my Master's study I tested how Whites and Blacks perceived subtle and blatant bias behaviors as prejudice when cognitively depleted. The dependent variables of interest were the

participants' categorization of the White perpetrator as prejudiced and the participants' expectations about potential future interactions with the White perpetrator.

Fall 2010-Spring 2011: Cognitive Depletion and Blacks' Perceptions of Prejudice

Advisor: Mary C. Murphy, Ph.D.; University of Illinois at Chicago

Research area: I examined how cognitive depletion affected how Blacks perceived a White individual's subtle and blatant bias behaviors toward a Black individual as prejudiced. The dependent variables of interest were the participants' categorization of the behaviors as prejudiced, their desire to interact with the White target, and expectations that the White target would want to interact with them.

Relevant Research Experience

Fall 2010 - present: First Year Research Apprenticeship

Advisor: Mary Murphy, Ph. D.; University of Illinois at Chicago

Research area: In the first study of my Master's Project, I examined how witnessing subtle or blatant racism influenced Black participants' evaluations of a White perpetrator based on their level of cognitive depletion.

Fall 2008 – Spring 2010: Research Assistant

Advisor: Galen Bodenhausen, Ph.D., Destiny Peery, M.A.; Northwestern University (Psychology)

Research area: Categorization of ambiguous faces based on family, friendship networks; effects of disparate treatment v. disparate outcome on perceptions of fairness.

Summer 2009 – Spring 2010: Research Assistant

Advisors: Jennifer Richeson, Ph.D.; Northwestern University (Psychology)

Research area: Interracial interactions from target and perceiver perspectives.

Teaching Experience

Teaching Assistantships

Fall 2011: Introduction to Psychology, Research Methods in Psychology

Summer 2011: Introduction to Psychology

Spring 2011: Statistical Methods in Behavioral Science

Fall 2010: Social Psychology (guest lecturer, Nov. 2010)

Symposia Chair

Carter, E.R., & Emerson, K.T.U. (June 2012). Perceiving and managing the bias of people and places. Symposium presented at the 9th Biennial Conference of the Society for the Psychological Study of Social Issues (SPSSI), Charlotte, NC.

Conference Paper Talks and Symposia

Carter, E.R., Peery, D., Richeson, J.A., & Murphy, M.C. (May 2011). Too tired to care?: Cognitive depletion affects subsequent perceptions of discrimination. Presented at the 83rd Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

Conference Poster Presentations

Carter, E.R., Murphy, M.C., Peery, D., & Richeson, J.A. (May 2012). Do you see what I see?: Blacks' and Whites' perceptions of bias. Presented at the 24th Annual Convention of the Association for Psychological Science (APS), Chicago, IL.

*Skourletos, J., Emerson, K.T.U., Carter, E.R., & Murphy, M.C. (May 2012). Social identity and academic belonging: Creating environments to minimize the achievement gap among African American and Latino students. Presented at the 84th Annual Convention of the Midwestern Psychological Association (MPA), Chicago, IL.

Carter, E.R., & Murphy, M.C. (January 2012). Motivation to succeed: Black males, incarceration, and stereotype threat. Presented at the 13th Annual Convention of the Society for Personality and Social Psychology (SPSP), San Diego, CA.

Carter, E.R., Peery, D., Richeson, J.A., & Murphy, M.C. (January 2011). Too tired to care?: Cognitive depletion affects subsequent perceptions of discrimination. Presented at the 12th Annual Convention of the Society for Personality and Social Psychology (SPSP), San Antonio, TX.

* *indicates undergraduate student mentee*

Professional Affiliations

American Psychological Association (APA)
 Association for Psychological Science (APS)
 Midwestern Psychological Association (MPA)
 Society for Personality and Social Psychology (SPSP)
 Society for the Psychological Study of Social Issues (SPSSI)