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AUTOMATIC OR STANDARD: CAN WE SHIFT IMPLICIT RACIAL ATTITUDES?

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AUTOMATIC OR STANDARD: CAN WE

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ABSTRACT

Research regarding the attitudinal antecedents of racially discriminating behavior is of particular importance as racial diversity in the United States continues to increase along with instances of intergroup violence and tension in the news. In a two-part experiment we examined racial attitudes as they relate to manipulations in environmental cues and subsequent behaviors. Specifically, we examined whether a subtle environmental manipulation in the form of viewing a positive and negative stereotypical interaction between minority race members in a two minute video segment was associated with a decrease in attitudinal racial bias measured using the Implicit Association Test and differences in subtle discrimination assessed via two subtle discriminatory behavior assessment techniques; a hypothetical budget cut questionnaire and the Lost Email Technique.

Participants ($N = 69$) were recruited from the undergraduate population at the University of Rhode Island and randomized into the positive and negative video conditions. Trained research assistants welcomed participants into the laboratory and directed them to a computer on which to view the video. After viewing the respective videos, participants completed the Implicit Association Test (IAT), three self-report measures designed to obscure the purpose of the study, and a demographics questionnaire all on the same computer. The research assistants then acquired the participants' preferred email addresses, informed them the second half of the study would be sent via email, and introduced participants to the budget cut questionnaire disguised as a departmental requirement for researchers.   Twenty-four hours later, the research assistants emailed a link to the second IAT from a pre specified Gmail

account. The research assistants paired this email with the lost email sent from a

URI.etal email address. This email was addressed (incorrectly) to either a common

White or Black name informing the intended recipient that they had been awarded a

prestigious scholarship to which they applied. Of interest was the response rate

between the emails compared between positive and negative video groups and

perceived White and Black recipient names.

      A series of one tailed t-tests and a logistic regression tested three hypotheses:

1) that the positive video would decrease racial bias on the IAT, 2) that the decrease in

bias would remain 24-48 hours as measured by a second IAT, and 3) that the positive

video would be related to a decrease in discriminatory behavior. Results revealed that

the positive video condition ($M = .4320$, $SD = .4105$) significantly differed from the

negative video condition ($M = .6134$, $SD = .3533$) on the first IAT, $t (57) = 1.80$, $p =$

$.0385$, $d = .4736$. One tailed t-tests did not reveal significant differences between the

positive and negative video group on the second IAT 24-48 hours later and on

proposed budget cuts on our first behavioral measure. The logistic regression did not

reveal a significant interaction effect between video condition, email race, and

response rate.   However, the logistic regression revealed a main effect that trended

toward significance such that the email was more likely returned to the sender when it

was addressed to a White name (51%) compared to a Black name (29%), $\beta = -.33$, p

$<.07$, $d = .69$. Implications for educational purposes in a school setting are discussed.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Racial prejudice and discrimination remain prominent social issues. Simply

defined, prejudice is a preconceived, usually negative *judgment* of a group and its

individual members. Discrimination is unjustified, typically negative *behavior* toward

a group or its members (Dovidio & Gaertner, 2010, italics added). Prejudice and

discrimination have changed dramatically over time, particularly towards racial and

ethnic minorities (Banaji & Heiphetz, 2010). For instance, prior to the Civil Rights

movement, prejudice and discrimination were more overt. However, social norms in

post-Civil Rights America increasingly value egalitarian views. As a result, prejudice

and discrimination have become more covert. Psychologists began defining these

more subtle forms of racial bias using terms such as Symbolic Racism (Kinder &

Sears, 1981), Aversive Racism (Gaertner & Dovidio, 1986), Ambivalent Racism

(Glicke & Fiske, 1996), and, most recently, Implicit Bias (Greenwald, McGhee, &

Schwartz, 1998).

Media in the United States is saturated with instances of racial bias. For

example, a neighborhood watch volunteer killed a 17 year old African American,

Trayvon Martin, living in a Florida town after what some call racial profiling and

others call self-defense (Kaplan, 2012) after which a judge ruled he was not guilty of

murder (Botelho & Yan, 2013). An Arizona sheriff recently stood accused of racial

profiling (Santos, 2012). Reports of discriminatory workplace practices are also

common.   Recently, Muir (2012) compared ethnic minority representation in the

workplace today with the that of the1980's and found that minority members are

increasingly represented in the workforce, but representation is still not equal. Thus, it

seems that prejudice and discrimination continue to permeate every level of our

society. Given the substantial impact of prejudice and discrimination and the

continuing pervasiveness of the issue, the topic of intergroup bias remains an

important area of applied social psychological research (Dovidio & Gaertner, 2010).

Since the days of LaPiere (1934) researchers have studied prejudice and

discrimination across many contexts. For example, Correll and colleagues (2007)

studied police officers' racial bias in critical decision making. In a video game

exercise, researchers compared police officers to community members on decisions to

shoot or not to shoot based on the race of the target. Targets were black and white,

and either armed and unarmed. Results revealed racial bias in all participants'

decisions to shoot, such that both groups shot more quickly when the target was black

compared to when the target was white regardless of whether or not the target was

armed. However, police officers, on average, evidenced less racial bias than

community members in their decisions to shoot.

Bertrand and Mullainathan (2003) designed an experiment to study labor

market discrimination. These researchers sent close to 5,000 resumes that were

identical except for the names of the job applicant. The researchers manipulated these

names to give the reader the impression of either a white applicant or a black

applicant. They found that the common white names such as Emily (7.8%) and Greg

(5.5%) were significantly more likely to receive callbacks than the common black names such as Lakisha (5.5%) and Jamal (6.6%).

The aforementioned studies are critically important in that they examine discriminatory behaviors toward potential job applicants and potential targets. However, research that examines the cognitive and attitudinal antecedents of discrimination is also critical; particularly with respect to identifying proximal determinants that can be targeted in attempts to reduce discrimination. Doing so would strengthen the literature regarding the attitude-behavior link.

What we know so far regarding the attitude-behavior link suggests that attitudes may predict spontaneous and subtle behaviors. However, given the shift in societal norms toward valuing pro-social behavior toward all races, explicit racial attitudes are not often reliable predictors of unconcealed discrimination (Dovidio & Geartner, 2010). As a result, researchers in this area focus more on links between implicit attitudes and behaviors. We extended this recent research by manipulating environmental racial cues, examining resulting differences in implicit attitudes, and examining whether or not behavior is significantly affected by these changes.

Accordingly, and drawing heavily on a recent comprehensive review of intergroup bias (Dovidio & Gaertner, 2010), we begin by defining bias and stereotypes, followed by a more detailed delineation of prejudice and discrimination than offered above. We then review the most recent relevant research on prejudice and discrimination. We follow with a review of explicit and implicit attitudes and their respective methods of measurement. Subsequently, we review the smaller body of research that links prejudiced attitudes to discriminatory behavior and highlight

research suggesting implicit bias is malleable. Finally we review research linking the malleability of implicit attitudes to differences in behavior. The study to follow seeks to build on these findings by first piloting a discriminatory behavior measure, replicating the implicit prejudice malleability effect, and then examining consequent behavior.

Bias, Stereotypes, Prejudice, and Discrimination.

According to Dovidio and Gaertner (2010) bias is defined as "an unfair evaluative, emotional, cognitive, or behavioral response toward another group in ways that devalue or disadvantage the other group and its members either directly or indirectly by valuing or privileging members of one's own group" (pg. 1084). Importantly, Dovidio and Gaertner (2010) note that bias is not just about out-groups. Bias is a comparative process in that it involves how one views one's own group relative to other groups. In sum, bias can be seen as encompassing stereotypes, prejudice, and discrimination, three terms that are defined next.

Stereotypes.

Stereotypes are shared beliefs about a group of people and can be seen as one of the many ways people simplify the complex information that constitutes their social world (Dovidio & Gaertner, 2010). Because we cannot possibly process all of this complex information, stereotypes act as heuristics.   However, stereotypes can also predispose us to judge a person based only on the information provided in our stereotype about the group to which the person belongs (Dovidio & Gaertner, 2010). As a result, we minimalize the complexity of an individual and formulate an unfair or inaccurate evaluation of him or her.

Prejudice.

Dovidio and Gaertner (2010) define prejudice as "…a negative (or less positive) evaluative or affective response, or both, to others in a given context based on their group membership" (pg. 1085). In other words, prejudice can be seen as ill-founded evaluation of a person based on a stereotype.

Discrimination.

Discrimination is defined as the inappropriate treatment of individuals based on group membership, the key feature of which is behavior (Dovidio & Gaertner, 2010). Specifically, racial discrimination refers to unfair treatment based on group membership in the form of verbal and nonverbal behaviors resulting in direct harm or failure to help an individual or group.

In sum, stereotypes and prejudice occur within the individual whereas discrimination involves outward behavior that affects others. Wright and Taylor (2007) illustrate a linear trend across these constructs. According to them, beliefs shared by one group about members of another group form the basis for prejudice and discrimination is a potential behavioral result. Next we discuss how prejudice attitudes may be divided into two subcategories: Implicit and explicit.

Explicit and Implicit Attitudes

Allport (1935; as cited in Petty & Wegener, 1998) stated that attitudes are the most important concept in social psychology. In their most simple form, attitudes toward others are predispositions to treat something with a certain degree of favor or disfavor (Banaji & Heiphetz, 2010). In the present study we concentrate on attitudes

towards race and ethnicity, called prejudice. Prejudiced attitudes can be viewed as central components of a dual process model that incorporates both explicit and implicit forms (Wilson, Lindsey, & Schooler, 2000).

Explicit attitudes.

Explicit attitudes are not often clearly defined in the literature and when they are, it is often by their contrast to implicit attitudes. However, according to Wilson et al. (2000) explicit attitudes are those that can be retrieved from memory. Furthermore, explicit attitudes are purportedly more easily changed by forces such as intergroup contact (Allport, 1954), education (Kawakami et al., 2000), and motivation (Devine, 1989; Devine et al., 2002).

Explicit attitudes have typically been examined using self-report measures such as open ended questionnaires or Likert-type scales including the Modern Racism Scale (MRS; McConahay, 1986) and the Symbolic Racism Scale (SRS; Henry & Sears, 2002). According to Banaji and Heiphetz (2010), self-report measures are useful in that they can provide the researcher with the individual's *perception* of his or her accessible attitudes. Self-report measures are also useful due to their relatively low random error variance - meaning that answers are untimed, thus ostensibly careful and deliberate, decreasing the chance for a mistaken response. In sum, these self-report measures assess attitudes that the individual is both aware of and willing to report.

However, Banaji and Heiphetz (2010) note three problems with self-report measures: 1) people are not always comfortable expressing attitudes that are socially undesirable (such as those that may be seen as racially prejudiced), 2) many attitudes

people express seem to be ones that people are "trying out" temporarily and, 3) people cannot possibly report attitudes of which they are unaware. Because of these issues, researchers have increasingly relied on implicit attitudes (see Gaertner & Dovidio, 1986, Devine, 1989, Bargh, 1999).

Implicit attitudes.

According to Wilson et al. (2000) implicit attitudes have three distinct features: 1) the individual is largely unaware of the attitude or its basis, 2) they are activated automatically, and 3) they may influence behavior. Thus, implicit attitudes, although they exist outside of awareness, may still impact behaviors. For example, consistent with dual process models of attitudes, researchers have found that some people who report egalitarian views may still evidence racial bias on measures designed to assess implicit attitudes (Fazio et al., 1995; Greenwald et al., 1998) and may still subtly discriminate against other racial groups (see Dovidio & Gaertner, 2004). Next, we will discuss implicit measures with a particular emphasis on the Implicit Association Test (IAT; Greenwald, Schwartz, & McGhee, 1998).

Measures of Implicit Attitudes

Response latency measures are the most widely used measures of implicit attitudes (Wittenbrink & Schwarz, 2007). These measures rely on what De Houwer and Moors (2007) describe as "processes that are uncontrolled, unintentional, autonomous, goal independent, purely stimulus driven, unconscious, efficient, or fast" (pg. 192). Specifically, response latency measures rest on two premises: 1) Exposure to one stimulus affects responses to a related stimulus or stimuli, and 2) the response to a stimulus will be slower when it contains conflicting ideas (De Houwer & Moors,

2007). In other words, the time it takes a participant to link stimuli and categories

reveals something meaningful about how categories and attributes are evaluated (Lane

et al., 2007). As discussed next, these premises extend to the most widely used

implicit attitude approach, the Implicit Association Test (Greenwald et al., 1998).

The Implicit Association Test (IAT).

The IAT measures relative strength of association between pairs of concepts;

one called a category and the other, an attribute. During the assessment participants

rapidly classify individual stimuli that represent the category and attribute (in the form

of words, symbols, or pictures) into one of four distinct categories with only two

available responses. The underlying assumption is that pairing the category and

attribute will be easier when they share a response (e.g., both are pleasant), as

compared to when they do not (e.g., one is pleasant and one is unpleasant). Thus,

closely associated stimuli will be categorized more quickly and accurately (Lane et al.,

2007).

Structurally, the IAT is a seven block format (Greenwald et al., 1998). In the

first block, participants classify examples of two contrasting concepts into the

categories using response keys, for example flower (left key) and insect (right key). In

Block Two, participants repeat the format for Stage One, but here they differentiate

between good and bad categories. In Block Three, the previous two tasks are

combined and participants press a designated left computer key when any item in the

category flower or good appears on the screen, and a designated right key when any

category insect or bad appears on the screen (usually abbreviated by flower + good or

insect + bad pairing). Block Four repeats the procedure of Block Three with an

8

additional set of trials. Block Five repeats the procedure of Block Two but reverses the response keys. Block Six repeats Block Three with reversed response keys. Block Seven is the same as Block Four with reversed responses. These seven blocks are typically counterbalanced in order to compensate for any order effects. The response times between blocks are then averaged to form an overall measure of implicit bias.

The resulting implicit association score is the difference, in milliseconds, of the average time it takes to respond to the stimuli presented. As previously noted, this is called response latency. Theoretically, this response latency provides a measurement or how strongly the participant associates the category and attribute. If the average pairing of the flower category and the good attribute produces faster responses overall than the pairing of insect and good, even when response keys are reversed, the conclusion is that the relative strength of the association between flower and good and is greater than insect and good. Therefore, it is concluded that there is an implicit preference for flowers over insects.

The IAT is a general approach, or format, for assessments of implicit bias (Lane et al., 2007). As such, researchers have created numerous variations. For example, the IAT has measured and compared implicit associations of insects and flowers (Greenwald et al., 1998), implicit preference for Black and White people, and many others (for a review, See Lane et al., 2007). In the present study, we use a Race Implicit Association Test to measure implicit preferences for Black or White racial groups.

Relation between the IAT and Behavior

Banaji and Heiphetz state that the validity of the Implicit Association Test has been "addressed most reassuringly through studies that examine the relationship between IAT scores and behaviors" (2010, p. 365). According to their review, the IAT has been shown to predict several behaviors such as voting choices, suicide attempts, adolescents' development of alcohol and drug addiction, and hiring of ethnic minorities. A further look into the literature reveals additional evidence for the predictive validity of the IAT. For example, researchers have found that the IAT predicts aggression (Grumm, Hein, & Fingerle, 2011; Richetin, Richardson, and Maison, 2010), consumer behavior (Maison, Greenwald, & Bruin, 2004), alcohol consumption (Farris, Ostafin, & Palfai, 2010; Houben & Weirs, 2008), food related behavior (De Bruhin, Keer, Conner, & Rhodes, 2011; Richetin, Perugini, Prestwich, & O'Gorman, 2007), risk taking behavior in a sample of pilots (Molesworth & Chang, 2009), and smoking (Robinson, Meier, Zetocha, & McCaul, 2005).

In three separate experimental studies, the IAT has also been shown to predict intergroup behavior (Heider & Skowronski, 2007; McConnell & Leibold, 2001; Rudman & Ashmore, 2007). Heider and Skowronski (2007) conducted two experiments using the IAT. In their first experiment these researchers showed that the IAT predicted competitive behavior toward a Black partner in a prisoner's dilemma, which is a task during which hypothetical prisoners are offered a choice to cooperate with one another or betray one another to the guards in an attempt to shorten their prison sentence. In Heider and Skowronski's (2007) other experiment, they demonstrated that scores reflecting Black preference on the IAT predicted more

friendliness toward a Black research confederate. McConnell and Leibold (2001) found that IAT scores were related to friendliness toward research confederates. These researchers trained judges to examine an interaction between White students who had taken the IAT and either White or Black experimenters. Results revealed significant correlations between preference scores on the IAT and the ratings by naïve judges of social interactions between the participants' and the experimenters. Specifically, IAT scores that indicated more white preference were related to more positive coding of social interactions with White experimenters compared with Black experimenter interactions.

The previous experiments demonstrated that the IAT predicts in-person, social interactions. Rudman and Ashmore (2007), on the other hand studied discriminatory behavior when the target group was not present. Furthermore, these researchers examined behaviors that reflect overtly hostile action. They hypothesized that the IAT could predict behavior between White participants towards Blacks on a measure of subtle behavior. Participants completed an IAT followed by a budget cut survey disguised as a general survey for the Psychology department. This survey included a question regarding budget cuts for Black student organizations. Results suggest that IAT scores indicating White preference predicted participants cutting budgets for Black student organizations compared with neutral scores or Black preference scores with a medium effect size ($d = .67$). In summary, the evidence presented by these experiments suggests that the IAT is capable of predicting intergroup behavior.

Though evidence in support of the IAT is amassing in the literature, it has received some criticism. For example, Blanton, Jaccard, Klick, Mitchell, and Tetlock

(2009) reexamined research that used the IAT. In their review, they note that IAT scores do not significantly predict group or individual level behavior in their regression models. In another review Blanton and Jaccard (2006) argued that the IAT is based on arbitrary metrics. According to this argument "white preference" as a measurement of implicit bias can range from high to low but it is unknown how much an increase or decrease of one unit represents the actual change of a true score on the underlying continuum.

In partial response to some of the criticisms of the IAT, Greenwald, Pehlman, Uhlman, and Banaji (2009) conducted a meta-analysis of the predictive validity of the IAT. They report an average predictive validity coefficient of $r = .274$ across 122 research reports with a total of 184 independent samples including 14,900 subjects, which is consistent with a moderate effect size (Cohen, 1992). Though self-report measures appeared to outperform the IAT ($r = .361$) in general, performance of explicit measures decreased for socially sensitive topics, such as Black and White intergroup behavior. Thirty-two of the original samples in the meta-analysis involved measures of Black and White interracial behavior. In these samples, the predictive validity of the IAT (r = .236) significantly exceeded that of explicit measures ($r = .118$).

Test-retest reliability measures conducted with the IAT have been found to be generally acceptable, with one caveat: error variance is more easily introduced into measures that rely on reaction time. For example, ill-timed blinks, sneezes, or a loud noise paired with the appearance of the stimulus may generate irrelevant variability in the results. Nonetheless, researchers have found acceptable test-retest coefficients. In

one study by Bosson and colleagues (2000), test-retest for the IAT was $r = .69$ over a

four week period. Dasgupta et al (2001) examined the test-retest of the Race IAT over

a 24 hour period and found fair reliability ($r = .65$). In an IAT taken one year after the

initial IAT regarding gender stereotypes, Dasgupta and Asgari (2004) found the test-

retest coefficient to be $r = .25$. In sum, test-retest coefficients of the IAT range from

acceptable at four weeks to poor at a one year interval.

To conclude, there is a substantial evidence base in support of the predictive

validity of the implicit association test, as well as reasonable evidence of test-retest

reliability. An important applied question, to which we turn next, relates to the

malleability of implicit associations and the potential influence of changing attitudes

on subsequent behaviors. A small body of research suggests that implicit racial

attitudes are malleable and that subtle manipulations may decrease White preference,

which may in turn predict lower levels of discriminatory behavior. A major goal of

the present study is to extend this nascent research base.

Changing Automatic, Implicit Racial Attitudes

According to Banaji and Heiphetz (2010), "[Implicit] attitudes are

extraordinarily malleable" (p. 357).

Attitudes form and change through many different processes, putatively

requiring differing amounts of cognitive deliberation and awareness of the source of

change (Albarracin & Vargas, 2010). Implicit attitudes change without cognitive

deliberation as they are, by definition, outside the awareness of the individual (Wilson

et al., 2000). However, the source of implicit attitude change is important. Mere

exposure to counter-stereotypical contextual cues may change an individual's implicit

attitudes. This is consistent with Gawronski and Bodenhausen's (2006) associative-propositional-evaluation (APE) model, which asserts that implicit attitude change occurs partly when contextual cues cause a different pattern of evaluative associations to come to mind.

In support of this model, a number of experiments have demonstrated that modest manipulations can affect implicit associations. For example, Dasgupta and Asgari (2004) conducted two experiments to assess whether women's automatic gender stereotypes would differ between participants who were exposed to successful women compared to those who were not. In their first experiment, 72 participants were either presented with written biographies and pictures of famous and successful women or a control stimulus followed by an IAT. Results revealed that those participants who were given the biographies and pictures of successful women exhibited less gender stereotypical beliefs on the IAT than did those who were given the control stimuli.

In their second experiment, 82 participants were studied over the course of one year in a naturalistic environment. This environment was either a women's college where the professors were mainly women or a coeducational college where the majority of the professors were men. Participants completed an IAT at the beginning of their first and second academic years. Interestingly, analyses revealed that all participants' gender stereotypes were similar when they began college. However, after one year, their beliefs had significantly diverged such that participants at the women's college evidenced virtually no gender stereotypes where participants at a coeducational college expressed stronger gender stereotypes.

In a series of four experiments, each featuring the manipulation of experimenter race, implicit preference for Whites on an IAT decreased in the presence of a Black experimenter (Lowery, Hardin, & Sinclair, 2001). Implicit white preference also decreased in the presence of an experimenter perceived as egalitarian by participants (Sinclair, Lowery, Hardin, & Colangelo, 2005). In two experiments using the IAT, Sinclair and colleagues measured how individuals "tune" their attitudes to match another social actor, but only to the extent that participants related to this social actor. In Experiment 1, participants were given an IAT by an experimenter wearing a shirt that was either neutral or obviously endorsing egalitarian views. Results of the IAT demonstrated that participants shifted their attitudes to match the t-shirts. In the second experiment, the research assistants wore the same t-shirts. However, this time some research assistants were friendly and some were rude. The results of this experiment revealed that the likability of the experimenter moderated the t-shirt related attitude change. In sum, Sinclair et al. (2005) demonstrated that participants "tuned" their implicit racial attitudes to the perceived attitudes of the experimenter, but only to the degree that the participants liked the experimenter.

Implicit attitudes have also been shown to change in relation to other contextual cues besides experimenter race. For example, in two experiments Wittenbrink, Judd, and Park (2001) found that implicit attitudes were different according to situational context. In one experiment, participants' implicit associations towards Whites and Blacks were measured using a sequential priming task. In this task prime words are presented followed by target words which then participants are asked to categorize based on a simple judgment such as "good" or "bad." Analyses

revealed that implicit preferences differed according to whether participants were shown a picture of Black individuals standing in front of a church or Black individuals standing on a street corner.

Wittenbrink et al. (2001) administered a baseline IAT and then randomly assigned 99 participants to view two minute video clips depicting positive (Black family barbecue) or negative (Blacks in a gang-related incident) stereotypical events. After the video clips, participants were given another IAT. Compared with the baseline IAT, results of the second IAT revealed less bias in participants who saw the positive video (family barbecue) than participants who saw the negative video (gang related incident).

Dasgupta and Greenwald (2001) also manipulated racial contextual cues and measured subsequent implicit attitudes. In their experiment, they randomly assigned 25 women and 23 men to view either pictures of liked or disliked Whites and blacks accompanied by brief descriptions of each individual. Participants completed the IAT immediately after exposure to the stimuli and 24 hours after exposure. Analyses indicated a statistically significant difference in implicit bias both immediately after and 24 hours after exposure, such that participants who saw admired Blacks and disliked Whites showed less bias toward Blacks on an IAT than did participants who were exposed to disliked Blacks and admired Whites.

Together, these studies provide the foundation for the first half of the current study, which will attempt to replicate the previous findings suggesting that manipulating situational contexts can alter implicit attitudes towards Blacks and Whites on an IAT. This change purportedly occurs when participants are presented

with positive information to integrate with their developing, on-the-spot attitude, resulting in an implicit association that is less racially biased (Gawronski & Bodenhausen, 2006). Consistent with research linking implicit associations with behavioral outcomes reviewed earlier, we will also assess the impact of manipulating situational and contextual cues on both implicit associations and discriminatory behavior, extending recent research detailed next.

To our knowledge, Stout, Dasgupta, Hunsinger, and McManus (2011) conducted the only set of experiments that examined the relationship between manipulation of stereotypical contextual cues, followed by assessment of implicit attitudes, with subsequent examination of behavior. In two experimental studies and one longitudinal correlational study, these researchers tested a stereotype inoculation model which proposed that exposure to female role models in STEM (Science, Technology, Engineering, and Math) fields affected women's attitudes toward these fields, their behavior in class, and their performance on exams. In their first experiment, Stout et al. (2010) randomly assigned 73 participants to either a male or a female math expert for a series of math tasks, including a math test, followed by multiple IAT's and explicit attitude self-report measures assessing their attitudes toward math. In their second experiment, they randomly assigned 101 participants to read biographies of successful women or men engineers followed the same IATs and explicit self-report measures. In both studies, results indicated that exposure to female experts enhanced female participants' *implicit* but not explicit attitudes toward STEM fields. Of particular interest, women participants exposed to a female expert exerted more effort on a subsequent math test as measured by total number of items attempted.

In Stout et al.'s (2011) third study, 47 women and 53 men in calculus classes completed IATs assessing gender bias at the beginning and end of a semester. Throughout the semester, naïve research assistants observed the participants in class noting relevant information such as class participation. Roughly half of the classes were taught by a female and the other half were taught by a male. Stout et al. (2011) hypothesized that participants in classes taught by females would evidence enhanced self-efficacy and identification with STEM fields. Analyses of the end of the semester IATs supported their hypotheses. Interestingly, they noted, via observational analyses that female participants in classes taught by female instructors became more responsive to their instructor over time as measured by amount of times they spoke up in class. Conversely, females in classes taught by males became more avoidant and spoke less often. In sum, Stout et al. (2011) examined gender stereotypes and found that participants show less implicit bias toward STEM fields as measured by the IAT and more effort on math tests after being exposed to positive, counter-stereotypical and relevant stimuli (women experts). Furthermore, female participants in classes taught by females participated in class discussion significantly more often.

Stout et al.'s (2011) manipulated exposure to either relevant positive or relevant negative stimuli, assessed subsequent implicit and explicit attitudes, and examined behavioral differences related to the manipulation and attitudes. However, these experiments were designed to study gender specific constructs. In the present study, we will extend this approach to examine the effect of manipulating portrayals of Black Americans on subsequent implicit associations and subsequent behavior.

CHAPTER 2

PRESENT STUDY

As detailed in the preceding literature review, researchers have started to amass evidence that implicit attitudes are malleable. Across four studies, participants exposed to admired and counter-stereotypical individuals showed less implicit bias as measured by an IAT (Dasgupta & Asgari, 2004; Dasgupta & Greenwald, 2001; Stout et al., 2010; Wittenbrink, Judd, & Park, 2001). Although these researchers found significant differences in implicit bias between experimental groups shown positive exemplars of minority group members and control groups, only one of these studies (Stout et al., 2011) included a behavioral outcome.

Thus, our study built upon existing literature in several ways. First, we extended prior research by examining the malleability of implicit racial attitudes. We employed Wittenbrink et al.'s (2001) paradigm and presented participants with either a video excerpt of positive stereotypical Black activity or a video excerpt of a negative stereotypical Black activity. We first hypothesized that participants shown a video of positive Black stereotypical activity would evidence less implicit bias, as measured by the IAT, compared to those who watched a video of negative Black stereotypes. For our second goal, we examined whether any observed effects of our manipulation remained 24-48 hours later and outside the laboratory setting. Hypothesis 2 posited that participants shown the positive video would evidence less bias on a second IAT, 24 -48 hours later, compared to participants shown the negative video. Our third goal

was to examine discriminatory behavior in two seemingly unconnected contexts.

Specifically, our third hypothesis predicted that participants randomly assigned to the

positive video condition would be more likely engage in a pro-social behavior

compared to those assigned to the negative video condition.

CHAPTER 3

METHODOLOGY

Sample

We recruited 69 students (17 males, 52 females) age 18 to 45 (M = 20.64, SD

= 3.77) enrolled in Psychology 113 or other introductory courses at the University of

Rhode Island via classroom announcements and emails to participate in this

experiment in exchange for extra course credit or PIA credit at the discretion of the

instructors. Four participants report part time enrollment status. The remaining 65

reported full time enrollment. Since we were examining attitudes and behavior of

Caucasian students, we excluded students from analyses who self-identified their race

as other than white (n=10) leaving 59 participants (44 women, 15 men) age 18 to 45

(M = 20.52*, SD* = 3.63). We assigned individuals who identified their race as other

than white to the positive video condition. As such, these participants were not

randomized into conditions and not included into analyses.

Materials

Video Excerpts.

Following Wittenbrink, et al. (2001), two movie clips were selected, each two

minutes long. One portrayed a positive Black American stereotype and the other, a

negative Black American stereotype. The positive stereotype video was a two minute

segment from a YouTube music video titled Black Gold (Concord Music Group,

2012). This segment shows a Black father walking his children to school while discussing several positive historical contributions by prominent Black figures.

For the negative stereotype, we showed participants a two minute segment from a YouTube video clip titled Ghetto Stories (gangstacity727, 2012) which portrayed young Black adults arguing with other young Black adults threatening to fight before being interrupted by the police. These videos were chosen from a series of video clips as they portrayed clear cut positive and negative interactions.

Implicit Attitude Measure.

Implicit attitudes were measured using the Race Implicit Association Test (RIAT; Greenwald et al, 1998; Greenwald et al., 2003; Greenwald et al; 2006; Greenwald et al., 2009). Following Dasgupta and Greenwald's (2001) IAT, racial groups were represented by African American and European first names and pictures. The IAT paired the names or pictures with both pleasant and unpleasant words and the participant would quickly associate the name with either word using designated computer response keys. As noted earlier, scores on the IAT were derived from the time it takes participants to associate the words with the names following a seven step process (Greenwald et al., 2003; Lane et al., 2007).

Explicit Bias Measure.

Explicit bias was measured using the Symbolic Racism Scale 2000 (SR2K; Henry & Sears, 2002). This scale consists of eight items that measures attitudes along four themes: 1) Blacks' work ethic and responsibility, 2) excessive demands by Blacks, 3) beliefs about continuing discrimination and, 4) beliefs that Blacks get an undeserved advantage. Items are assessed using Likert-type response options. The

SR2K has demonstrated acceptable psychometric properties with respect to internal consistency, predictive, and discriminant validity (Henry & Sears, 2002). For the current study, scores were summed across the eight items with higher scores indicating greater explicit bias against Blacks.

Measure of Discrimination.

We measured discriminatory behavior using two techniques. First, we used an approach known as the "Lost Email Technique" (Bushman and Bonacci, 2003). Adapted from Milgram's (1977) "lost letter technique," this method subtly and indirectly assessed discrimination by sending an email to a participant and addressing that email to someone else, thus creating the impression that the email was sent in error. We varied the name of the intended recipient to create the impression in the participants' minds that the intended recipient was of a particular race or ethnicity. For example, Bushman and Bonacci (2004) used the names Mohammed or Hassan Hameed to portray an Arab recipient and Peter or Jullianna Brice to portray a European American recipient. The dependent variable in this measure was whether or not the participant replied to the sender that the email was sent in error. In a previous study Bushman & Bonacci (2004) found that white participants with prejudicial explicit attitudes toward Arab Americans were *less* likely to return an email conveying good news when it was addressed to a common ethnic name than those with less prejudicial attitudes. The pattern was reversed, when the lost e-mail conveyed bad news.

The results Bushman and Bonnacci found were limited in five major ways: (1) The response rate was 22% of the sample. (2) Emails were sent to addresses gathered

during mass testing of undergraduate psychology students. (3) Because there was no contact with recipients of the email, reasons for responding (or not responding) were not ascertained by the experimenter. (4) Though the ethnicity of the Arab surname may be salient, it is not known what the perceived ethnicity of the European name was. (5) Participants may have realized the email was part of the previous study regarding Arab Americans. We sought to investigate these limitations via a pilot study before we used this technique for the study to follow.

Our pilot study was conducted as follows. We announced our study to undergraduate psychology courses as a study of attitudes and cognitions. Participants who agreed to participate in our study were scheduled for a laboratory session via email. During the laboratory testing session, participants were given a demographics questionnaire, a questionnaire designed to assess attitudes towards minority groups, and measures of helping behavior and self-esteem. Participants were told to expect an email with a link to an online attitude measure within 24 hours and thus asked for their preferred email address. Concurrently, participants were sent an email from a URI email account informing the intended recipient that he or she had been awarded a URI scholarship. However, this email was addressed either to a common European-American name or a common Black-American name examined in previous studies (Bertrand & Mullainathan, 2003). Our intent in employing these methods was to address concerns that emails would be sent to an email address that was often overlooked. Furthermore, we wanted to ensure that the contents of the email were relevant to the recipients. And finally, we wanted to increase the likelihood that the

names would elicit the intended perceived race. In sum, we wanted our conditions to reflect verisimilitude.

We tracked responses and non-responses to the email by monitoring the email account and updating a tracking sheet in excel on a daily basis. Subsequently, one to four days after the initial assessment session, participants returned for a second scheduled laboratory session, with the requirement that they bring a printout from the on-line measure of attitudes. Participants were then interviewed regarding their response or non-response to the "lost e-mail" to inform the use of this approach in the larger study (Limitations 1, 3, and 5 above). During the interview, we asked participants a series of questions in a semi-structured interview format using the following probes as guidelines: (1) Did you see an email sent from a URI address regarding a scholarship? (2) Did you open the email? (3) What did the email say? (4) What did you think of the email? (5) Did you see whom it was for? (6) Did you do anything with the email? (7) What motivated you to do what you did with it? (8) Did you have any reactions to the assessments you filled out in person or the online IAT?

Of the 14 participants to whom we sent the Lost Email, 13 reported via interview that they had seen the email (92.9%). Only two responded via email to inform the sender that the email was erroneously sent (14.3%). The following results of our pilot study were gleaned from the interview. Among the 12 pilot participants who did not respond via email, we used a semi structured interview with probes and follow up questions to determine the reasons behind the lack of email response. We ascertained the following categories from their answers: The email was sent in error (n = 6, 42.9%) the email was spam (n=5, 35.7%), and the email was not seen (n=1,

8.3%). From these results, we determined that we had addressed enough of the existing limitations to incorporate this approach in our larger thesis study. Given that we had addressed most of the limitations associated with the earlier use of the Lost e-mail technique but still observed modest response rates in our pilot study, we ultimately opted to retain the Lost e-mail approach in the larger study but augment it with a budget questionnaire explained below (Rudman & Ashmore, 2009).

For the current study, we used only emails conveying good news (selection for a scholarship). We adopted names for the lost email from Bertrand and Mullainathan's (2003) research on job market discrimination. We closely matched these names on response rate from Bertrand and Mullainathan (2003), amount of syllables, and initial phoneme. We used the Female names Allison (White) and Ebony (Black), and male names Geoffrey (White) and Jamal (Black).

Second, we assessed discriminatory behavior using a budget questionnaire disguised as a survey by the Student Affairs ostensibly for university officials (Haddock, Zanna, & Esses, 1993; Rudman & Ashmore, 2007; Zanna, 2004). Following previous research (Rudman & Ashmore, 2007), we prefaced the survey with the following statement:

> We have been asked to administer this short survey as part of all of our research protocols this year, as a means of gathering student opinions. The student government has been forced to cut funding to certain student organizations by 20%. We ask that you help out by recommending which organizations listed below should have their funds decreased. The student organizations are listed in the first

column. The current funding is in the second column and is currently

equal across groups. Please place your recommended funding in the

third column. Keep in mind that your suggestions should result in an

approximately 20% decrease in funding. Please place this survey in the

envelope when you are through. The results of this survey will be

presented to the student government.

We presented eight student organizations in the survey including the

focal group amidst other racial/ethnic organizations (Latin American Student

Association [LASA], Indian Students Association, Korean Students

Association, National Society of Black Engineers [NSBE]) and four fillers

(e.g. College Republicans, College Democrats, Ballroom Dancing Club,

Snowboarding and Ski Club). Current funding for the focal group in was listed

as USD $11, 500. The difference between this and participants' recommended

funding for that group was computed so that high scores indicated greater

budget cuts (i.e. economic discrimination).

Ancillary measures.

Ancillary measures included a self-esteem scale and an altruism scale. The

purpose of these measures was engage students in other short assessments to obscure

the study's major focus. To these ends, the Rosenberg Self-Esteem scale (RSE;

Rosenberg, 1965) and the Self-Report Altruism Scale (SRA; Rushton, Chrisjohn, &

Fekken, 1981) were administered along with the SR2K and a demographics

questionnaire. The RSE is a 10 item assessment took approximately 5-10 minutes to

complete and is designed to measure participants' self-reported self-esteem. The SRA

took approximately 5-10 minutes. This 20 item scale is designed to measure participants' level of altruism, or willingness to help without the promise of gain.

Procedure

We recruited students from a large Northeastern university. The sample included undergraduate Psychology students. Recruitment methods included classroom announcements and emails through listservs. We targeted Caucasian participants ages 18 and older. Racial diversity of the sample was considered but the primary scope of this study is on implicit bias in White students. Students wishing to participate in the study contacted the researchers who then set up an appointment to come to the laboratory. As described in the Design section, participants were randomly assigned and stratified by gender.

Upon arrival, research assistants introduced themselves to the participants and welcomed them to a study of "social cognitions." If the participants asked, the research assistant told them, "We are studying how measuring social cognitions may differ in the lab compared to measuring them outside lab settings." Participants were told that they were going to watch a two minute video clip (see materials) followed by a cognitive measure (in reality, the IAT) and some self-report measures of social cognition. The research assistants told participants that they would receive an email after completion of the first half of this study with a link to the at-home assessment (a second IAT).

Following an introduction to the study, the research assistants gave participants the consent form (Appendix A). Next, the research assistant instructed the participants to open a shortcut placed on the computer desktop to play the assigned movie clip.

After the two minute video segment completed, the research assistants instructed participants to click on another desktop shortcut that brought them to the IAT. At this point, the research assistant only instructed the participants to carefully read the instructions provided as the IAT contains its own set of written instructions.

Immediately following the IAT, the research assistants directed participants to yet a third desktop shortcut, which led them to a set of online questionnaires via Inquisit Labs and Millisecond Software including a demographic questionnaire (Appendix B1), the self-esteem measure (RSE; Appendix B2), the Symbolic Racism Scale (SR2K; Appendix B3), and the Altruism Scale (SRA; see Appendix B4). The demographics form included a section for participants' email addresses so the research assistants could send the link to the IAT that they will take outside the laboratory. After completing the packet, the research assistants introduced the budget cut questionnaire (Appendix C) following the steps listed above. The participants completed the short questionnaire and placed them in the envelope labeled "Student Organization Budgets."

The research assistants then thanked the participants and informed them that an email with the link and instructions to the second part of the study would be sent to their preferred email address approximately 24 hours after the first appointment concludes (Appendix D). Research assistants asked participants to complete the second half of the study at home on a PC/Mac laptop or desktop computer and not on a cellphone, tablet, or other portable Internet device. The research assistants also instructed the participants to complete the second half of the study within 24 after receiving the email link. Just prior to sending the email with the IAT link, the

research assistants sent the Lost Email measure of subtle discrimination from a different email address (URIcentennialscholarship@etal.uri.edu; Appendix E) to the same preferred email address.

In order to minimize non-responses we advised participants that we would receive personalized notifications upon completion of the IAT. If participants did not complete the IAT, we sent up to two follow-up emails after which the participant was excluded from the study.   The completion notification prompted the research assistants to send a "Study Reaction Form" (Appendix F), which assessed participants' reactions to the videos, the IAT, the SRA, MRS, and the Budget Cut Questionnaire. After participants completed and returned the study reaction form we concluded their participation in the study by sending the debriefing form (Appendix G), part of which they submitted to their professors for research credit.

Design

The main study design was a 2 (Video Condition: Positive Portrayal, Negative Portrayal) X 2 (Lost Email Target: White name, Black name) factorial design with Lost-email response/non-response and hypothetical budget cuts as dependent variables (in separate analyses). As detailed in the results, this constituted the tests of Hypothesis 3. We also assessed hypothesized differences on IAT scores at Times 1 and 2 as a function of Video Condition using independent sample t-tests (Hypotheses 1 and 2).

CHAPTER 4

RESULTS

Prior to tests of study hypotheses, we analyzed the data to ensure assumptions of the general linear model had not been violated. Our analyses tested three assumptions: 1) that the populations from which samples are derived were normally distributed, 2) the samples were independent of one another, and 3) the variances of the populations were homogeneous. All data analyzed met the assumptions presented above with the exception of those data pertaining to the budget cut questionnaire, which were not normally distributed. Consequently, correctional factors were employed. Corrections included alleviating zeros in the data set followed by a log transformation.   Resulting data were normally distributed.

We included explicit procedures to minimize missing data. These procedures included two e-mail reminders to complete the second IAT, as well as two reminders to complete the study reaction form. We also structured the study so that participants would not receive course credit if they did not complete the second IAT and study reaction form, reasoning that this would decrease attrition.   Nonetheless, for reasons enumerated below, we had an overall attrition rate of 23% between the laboratory measures and the measures taken online (IAT 2, Lost-E-mail). Four participants were non-responders to our follow-up attempts and nine others were unable to complete the study before its termination[1].   Prior to analyses, we analyzed the Study Reaction Form for any indications that participants were aware of the purpose of the study.

Specifically, if a participant was able to connect the video (IV) to either of the behavioral dependent variables, that participant would have been excluded from the study. We found no such instances. Interestingly, several participants reported that the purpose of the study was to examine racism. Other participants discussed racism and perceptions. And one participant reported that the study involved subconscious racism.

Hypotheses 1 and 2.

Hypothesis 1 predicted that participants randomly assigned to the positive stereotype video condition would evidence less implicit bias than those randomly assigned to the negative stereotype video as measured by an IAT immediately after the manipulation. As hypothesized, a one-tailed t test revealed a significant difference between participants randomly assigned to either the positive or negative video such that participants shown the positive video evidenced less bias on the IAT1 ($M = .4320$, $SD = .4105$) compared to those shown the negative video ($M = .6134$, $SD = .3533$) administered immediately after the video, $t(57) = 1.80$, $p = .0385$, Cohen's $d = .4736$.

Hypothesis 2 predicted that this effect would also be observed on a subsequent (24 to 48 hour) post-test IAT condition. A one tailed t test did not reveal any significant differences between the positive video ($M = .5286$, $SD = .3880$) and negative video ($M = .4886$, $SD = .2988$) conditions and IAT2 scores, $t(44) = -0.38$, $p = 0.6462$.
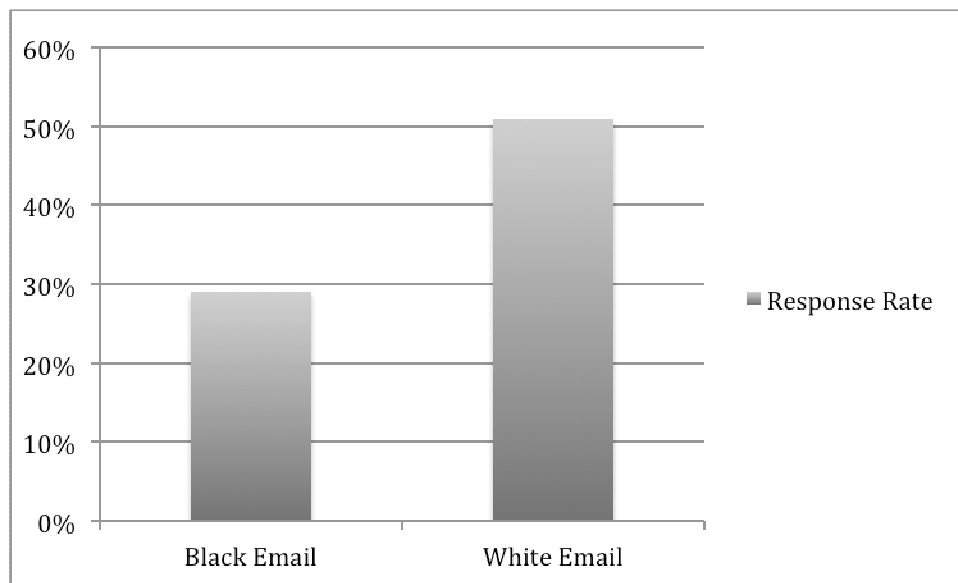
Hypothesis 3.

We hypothesized that participants shown the positive stereotype video would discriminate less than those shown a negative video as measured by The Lost Email

technique. This technique assesses discriminatory behavior by way of a response or non-response to the lost e-mail. As such, these analyses were conducted via logistic regression. Specifically, using factorial coding we conducted a 2 (Video Condition; positive, negative) X 2 (Lost E-mail Target: White name, Black Name) logistic regression to examine levels of response to the lost e-mail. The logistic regression model tested for both main effects and our hypothesized two-way interaction. The main effect of the video condition was not significant. However, the main effect of e-mail race name approached significance ($\beta = -.33$, $p < .07$, $d = -0.69$) such that a Black name in the e-mail decreased the level of responses indicating the e-mail was sent to the wrong addressee. Specifically, when the email was addressed to a black name, 29 percent responded. When the email was addressed to a white name, 51 percent responded (Figure 1). Our analyses did not find the hypothesized interaction effect to be significant.

Figure 1. Response rate to the "Lost Email."

For a second test of Hypothesis 3 we employed a between groups t-test to examine group differences on proposed budget cuts for Black student organizations on the budget questionnaire mentioned above. We anticipated that participants in the negative stereotype video group would, on average, propose larger budget cuts for Black student organizations compared to participants in the positive stereotype video group. To analyze these data, proposed budget cuts for all student organizations were summed and, since the directions were to decrease total funding, participants who increased the total budget were removed from analyses. A total of eight participants were removed, four from the positive video group and four from the negative video group. As mentioned above, the data were log transformed to meet assumptions. A subsequent t test did not reveal any significant differences between participants shown the positive video compared to those shown the negative video, $t (57) = .22$, $p = .41$.

CHAPTER 5

DISCUSSION

In the study above, we tested three hypotheses regarding implicit racial bias and discriminatory behavior. We first hypothesized that participants who viewed a video of positive Black stereotypical activity would evidence less implicit bias, as measured by the IAT, compared to those who were shown a video of negative Black stereotypes. For our second hypothesis, we predicted that participants shown the positive video would evidence less bias on a second IAT, 24 -48 hours later, compared to participants shown the negative video. Finally, our third hypothesis examined behavior and we hypothesized that participants randomly assigned to the positive video condition would be more likely engage in a pro-social behavior compared to those assigned to the negative video condition.

Consistent with our first hypothesis, our study showed that participants who were shown a video portraying Black people in a positive situation (i.e., a father and his children discussing African History lessons in school) evidenced less implicit racial bias as measured by the Implicit Association Test compared to participants who viewed a video portraying Blacks in a negative situation (i.e., gang related argument). We did not find evidence to support our second hypothesis that the reduction in implicit bias scores would remain 24-48 hours later. We also did not find evidence to conclude that discriminatory behavior as measured by either The Lost Email technique

or the Budget Cut Questionnaire was related to viewing either a positive or negative video, although we did observe a trend for a main effect of race, which was robust in terms of effect size. Specifically, we found that the perceived race of the intended email recipient affected the average rate of response such that those who received an email sent to a Black name were less likely to respond to the sender indicating that the email had been sent in error.

As reviewed earlier, across a number of targets such as gender and ethnicity, several studies have examined the malleability of implicit attitudes in response to fairly subtle manipulations, such as was employed in our study. Our results compliment those found in the previous literature. For example, Dasgupta and Asgari (2004) showed that participants who were given positive portrayals of women exhibited less gender stereotypical beliefs on the IAT than did those who were given a control stimulus. In another study, implicit preference for Whites on an IAT was less for participants in the presence of a Black experimenter compared to those in the presence of a White experimenter (Lowery, Hardin, & Sinclair, 2001). Dasgupta and Greenwald (2001) showed that participants' implicit racial bias differed significantly between participants shown pictures of liked or disliked Whites and blacks accompanied by brief descriptions of each individual. And most similarly to our study, Wittenbrink et al. (2001) administered a baseline IAT to participants followed by two minute video clips depicting positive (Black family barbecue) or negative (Blacks in a gang-related incident) racial stereotypes followed by a post test IAT. Compared with the baseline IAT, results of the second IAT revealed less bias in participants who saw the positive video (family barbecue) than participants who saw

the negative video (gang related incident). Though our results did not yield significant differences between IAT scores 24 hours after the participants viewed the videos, Dasgupta and Greenwald (2001) found such a difference after exposure to pictures and descriptions of admired and disliked Whites and Blacks, as described previously.

Individual differences in IAT scores have been linked with a number of behaviors. (Heider & Skowronski, 2007; McConnell & Leibold, 2001; Rudman & Ashmore, 2007). To our knowledge only one study has linked environmental manipulations to implicit attitudes and subsequent behavior. Stout et al. (2010) showed differences in implicit gender preferences on the IAT and behavior of female students between classes taught by males and females such that those in the classes taught by females exerted more effort on tests. Stout et al. (2010) also found that females became more responsive to their instructor over time when that instructor was female compared to a male instructor as measured by amount of times they spoke up in class. We did not find a direct link from our environmental manipulation to our implicit attitude measure and subsequent behavior. However, we did find a link between our video manipulation and implicit racial attitudes. Furthermore, we found a relationship between manipulation of race and discriminatory behavior on our lost email measure.

Strengths, Limitations, and Future Directions

Our study has built upon the literature in two important ways. First, we supported previous findings that participants' implicit racial attitudes can be changed using fairly subtle environmental manipulations such as exposure to video portrayals of positive and negative racial stereotypes.   Second, we found subtle racial

discrimination as measured by differences in response rate according to the perceived race of an intended recipient in a lost email measure. In sum, this study replicated two major findings from the intergroup bias literature regarding attitudes and behavior.

Though our study strengthened the literature, several limitations were present in our design. First, and possibly most impactful was our sample size[1]. Our study included a sample size of 59. As such our study was underpowered. Second, our two-part study was conducted first in a laboratory setting followed by online measures sent via email and taken at the participants' homes. The Implicit Association Test is a measure of response latency in milliseconds, and a home environment may introduce more distractions into the response patterns than would a laboratory setting. With more possible distraction in the environment results of the second IAT may reflect a setting change rather than comparable IAT scores to the first part of the study. Furthermore, there was no way to control what type of Internet device used to complete the second IAT. Research is unclear regarding the effects of completing the IAT on tablets and phones. Third, our limited sample size did not allow for the examination of gender effects that may have been present between conditions. In sum, future research is needed in this area that addresses our limitations.

Future studies that replicate the current design with a larger sample size to increase power may illuminate any possible interaction effects between exposure to racial stereotypes and race of intended email recipient on the decision to engage in pro social behavior. An increased sample size in future studies will also allow for the examination of gender effects. Furthermore, future studies could employ our two-

session design with both sessions in the laboratory may improve interpretability of differences in response latency and decrease attrition rates.

Today we see more racial diversity in the workforce and in schools than at any time in history (Gebeloff, Evans, & Scheinkman, 2014). Perhaps relatedly, intergroup bias and racial discrimination often appear in news headlines and impact our daily lives. As such, understanding the mechanisms behind racial bias and discrimination is vitally important to a harmonious life in a globalized world. Our growing knowledge of racial bias and subtle discrimination may also increase harmonious intergroup contact in the rapidly diversifying school system here in the United States. This study represents one step forward in the effort to understand attitudes and behavior as they relate to racial diversity.

Implications for our findings, and those of previous researchers in this area (Dasgupta & Asgari; Dasgupta & Greenwald, 2004; Stout et al., 2010; Wittenbrink et al., 2001) are far reaching. For example, imparting the knowledge of implicit bias upon the school system during psychology, social studies, and other cultural education modalities may potentially reduce intergroup friction. Indeed, attitudes exist as a dual process model in which explicit attitudes are known and retrievable while implicit attitudes operate without the individual's knowledge (Wilson, Lindsey, & Schooler, 2000). Furthermore, explicit attitudes can change through education (Kawakami et al., 2000). These considerations suggest that an educational program in schools aimed at making the implicit explicit could increase harmonious intergroup contact.

APPENDICES

Appendix A

Consent form

The University of Rhode Island
Department of: Psychology
Address: Chafee Hall
10 Chafee Road
Kingston, RI 02881
Title of Project: Measurement Differences Social Cognitions

Dear Participant:

You have been invited to take part in the research project described below. If

you have any questions, please feel free to call (*Gregory Paquin: 401-330-0203*) or

(*Mark Wood, 874-4252*), the people mainly responsible for this study.

The purpose of this study is to examine social cognitions when assessed in that

laboratory and at home. Responses to these items will be confidential and kept in a

secure location.

YOU MUST BE AT LEAST 18 YEARS OLD to be in this research project.

If you decide to take part in this study, your participation will involve filling

completing an online assessment of cognitions and filling out a few short

questionnaires pertaining to social cognitions of students towards other individuals.

These questionnaires will take approximately 30 - 45 minutes to complete. Following

these questionnaires, you will be sent a link to an online assessment of social

cognitions that you will complete at home. This assessment will take approximately

30 minutes.

The possible risks or discomforts of the study are minimal, although you may feel some embarrassment answering questions about private matters, rest assured your answers will kept private and confidential.

Although there are no direct benefits of the study, your answers will help increase the knowledge regarding these methods of assessment and their future use in psychological research and you will receive extra course credit for your participation.

Your part in this study is confidential. That means that you will be assigned a participant number and your responses will be associated with that number and not your name. Your data will be kept in a locked file cabinet for up to five years. Scientific reports will be based on group data and will not identify you or any individual as being in this project.

The decision to participate in this research project is up to you. You do not have to participate and you can refuse to answer any question.

Participation in this study is not expected to be harmful or injurious to you. However, if this study causes you any injury, you should write or call Greg Paquin or Mark Wood at the University of Rhode Island at (401)874-2193
If you have any more questions or concerns about this study, you may contact University of Rhode Island's Vice President for Research, 70 Lower College Road, Suite 2, URI, Kingston, RI, (401) 874-4328.

You are at least 18 years old. You have read the consent form and your questions have been answered to your satisfaction. Your continuation to the study indicates your understanding of the consent form and your willingness to participate in the study.

Appendix B: Measures

B1: Demographic Questionnaire

I'd like to ask you some general questions about yourself.

1. What is your age? _____

2. What is your gender?
    i. Male
    ii. Female
    iii. Other
3. What is your race?
    i. American Indian or Alaska Native
    ii. Asian
    iii. Black or African American
    iv. Native Hawaiian or Other Pacific Islander
    v. White/Caucasian
    vi. Other
4. Would you say your ethnicity is Hispanic or Latino?
    i. No, not Hispanic or Latino
    ii. Yes, Hispanic or Latino
5. What is your year in School?
    i. First year
    ii. Second year
    iii. Third year
    iv. Fourth year
    v. Beyond fourth year
6. Are you a full time or part time student?
    i. Full time
    ii. Part time
7. Do you live on campus or off campus?
    i. On campus
    ii. Off campus

B2: Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965)

Below is a list of statements concerning your general feelings about yourself. If you strongly agree with the statement, circle SA. If you agree, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

		1. STRONGLY AGREE	2 AGREE	3. DISAGREE	4. STRONGLY DISAGREE
1.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
2.	I feel that I have a number of good qualities.	SA	A	D	SD
3.	All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.	I feel I do not have much to be proud of.	SA	A	D	SD
6.	I take a positive attitude toward myself.	SA	A	D	SD
7.	On the whole, I am satisfied with myself.	SA	A	D	SD
8.	I wish I could have more respect for	SA	A	D	SD

	myself.				
9.	I certainly feel useless at times.	SA	A	D	SD
10.	At times I think I am no good at all.	SA	A	D	SD

B3: The Symbolic Racism Scale (SRS; Henry & Sears, 2002)

Please circle the answer that best describes how you feel about the following statements.

1. It's really a matter of some people not trying hard enough; if blacks would only try harder they could be just as well off as whites.

>   <1> Strongly agree
>   <2> Somewhat agree
>   <3> Somewhat disagree
>   <4> Strongly disagree

2. Irish, Italian, Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same.

>   <1> Strongly agree
>   <2> Somewhat agree
>   <3> Somewhat disagree
>   <4> Strongly disagree

3. Some say that black leaders have been trying to push too fast. Others feel that they haven't pushed fast enough. What do you think?

>   <1> Trying to push very much too fast
>   <2> Going too slowly
>   <3> Moving at about the right speed

4. How much of the racial tension that exists in the United States today do you think blacks are responsible for creating?

>   <1> All of it
>   <2> Most
>   <3> Some
>   <4> Not much at all

5. How much discrimination against blacks do you feel there is in the United States today, limiting their chances to get ahead?

>   <1> A lot
>   <2> Some
>   <3> Just a little
>   <4> None at all

6. Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class.

<1> Strongly agree
<2> Somewhat agree
<3> Somewhat disagree
<4> Strongly disagree

7. Over the past few years, blacks have gotten less than they deserve.

<1> Strongly agree
<2> Somewhat agree
<3> Somewhat disagree
<4> Strongly disagree

8. Over the past few years, blacks have gotten more economically than they deserve.

<1> Strongly agree
<2> Somewhat agree
<3> Somewhat disagree
<4> Strongly disagree

B4: Self-Report Altruism scale (SRA; Rushton, Chrisjohn, & Fekken, 1981)

Instructions: Check the category on the right that conforms to the frequency with which you have carried out the following acts.

	Never	Once	More than once	Often	Very often
1. I have helped push a stranger's car out of the snow.					
2. I have given directions to a stranger.					
3. I have made change for a stranger.					
4. I have given money to a charity.					
5. I have given money to a stranger who needed it (or asked me for it).					
6. I have donated goods or clothes to a charity.					
7. I have done volunteer work for a charity.					
8. I have donated blood.					
9. I have helped carry a stranger's belongings (books, parcels, etc.).					
10. I have delayed an elevator and held the door open for a stranger.					
11. I have allowed someone to go ahead of me in a lineup (at photocopy machine, in the supermarket).					
12. I have given a stranger a lift in my car.					
13. I have pointed out a clerk's error (in a bank, at the supermarket) in undercharging me for an item.					
14. I have let a neighbor whom I didn't know too well borrow an item of some value to me (e.g., a dish, tools, etc.)					
15. I have bought 'charity" Christmas cards deliberately because I knew it was a good cause.					

16. I have helped a classmate who I did not know that well with a homework assignment when my knowledge was greater than his or hers.					
17. I have before being asked, voluntarily looked after a neighbor's pets or children without being paid for it.					
18. I have offered to help a handicapped or elderly stranger across a street.					
19. I have offered my seat on a bus or train to a stranger who was standing.					
20. I have helped an acquaintance to move households.					

Appendix C

Student Organization Budget Questionnaire

Thank you in advance for providing your input regarding budgets for student

organizations. Budgets for these organizations often come from a limited supplemental

funding pool for Recognized Student Organizations (RSO). Funds are being cut

throughout the university. Because of this, we established a sub-committee of the

Finance Committee in the Student Senate.

This committee has been asked to evaluate budgets of all student organizations

and recommend a cut of approximately 20%. The existing budget is $92,000. This

budget will decrease $18,400 resulting in $73,000 of available money to the following

organizations.

We ask that you help out by providing your opinions regarding recommended

funding for the student organizations listed below. The name of the student

organization is in column 1. Current funding for each organization is listed in column

2. Please place your recommended funding in column 3. Note: Recommended

funding may differ between organizations.

Student Organization	Current Funding	Recommended Funding
Latin American Student Association	$11,500	$
Indian Students Association	$11,500	$
Korean Students Association	$11,500	$
College Republicans	$11,500	$
College Democrats	$11,500	$

National Society of Black Engineers	$11,500	$
Snowboarding and Ski Club	$11,500	$
Ballroom Dancing club	$11,500	$

Appendix D

The Email with the Link and Instructions to the IAT

Hello,

If you are receiving this email then you have agreed to participate in the Social

Cognitions research study at URI and you have already met with a research assistant.

As noted in this meeting, the next step is for you to take an Implicit Association Test

(IAT) online. This should take between 10 and 15 minutes. You must bring the

printed IAT results page to your scheduled appointment for your PIA or extra course

credit (as appropriate).

 Please make sure you have the adequate amount of time without distractions, and are

on a computer with printer access. Once the assessment is complete please print your

results and bring them to your next scheduled meeting with the researchers. If you

have any questions please contact us at gregorypaquin@gmail.com or

mark_wood@uri.edu.

Please follow directions below:

1. Print this email to refer back to directions.

2. Click (or copy and paste) this link when ready to

begin. https://implicit.harvard.edu/implicit/demo/

3. Read the "IAT home" section and click "go to the demonstration tests" in blue.

4. Read the preliminary information and the general information about the IAT if you

wish. Then proceed by clicking "I wish to proceed" in blue.

5. Scroll down and click on "Race IAT" in the blue box located on the left side of the

page next to the Race ('Black-White' IAT) description.

6. Read instructions and click "click here to begin" in blue when ready.

7. A new browser should open. Read instructions and click "continue" in the white box.

8. **A message may appear saying "your study has timed out" if you have taken this IAT before. If so, click "log in" in blue and proceed to the next step. If not, please proceed to step 14.**

9. Enter your email address then click "register" in the white box, or "log in" in the brown box if you are an existing user.

10. Fill out registration form if needed then click on "proceed" in white box.

11. Read registration form if needed then click "proceed" in blue.

12. You will now be redirected back to the instruction page. Read instructions and click "click here to begin" in blue when ready.

13. A new browser should open. Read instructions and click "continue" in the white box.

14. Please fill out the questionnaire then click "OK" on the bottom of the screen.

15. Please fill out the second set of questions then click "OK" on the bottom of the screen.

16. Read directions on the following screen and when you are ready, click "I am ready to begin."

17. A black box will appear. Please click on the words, "Click here to begin" in red.

18. You will be directed to a set of instructions. **PLEASE READ THESE INSTRUCTIONS CAREFULLY**. And press the space bar to begin.

19. When you finish the IAT you must press space to continue to another set of

questions.

20. Please answer the following questions and click "OK" at the bottom of the page.
(There may be two sets of questions).

24. The result of your Race IAT will be presented at the top of the page with a final, short set of questions. Please answer these four questions then click "proceed" at the bottom of the page.

26. You will be forwarded to a page that states, "You have completed

the African American – European American IAT"

27. You are finished with this part of the study. Please print this page either by copy-and-pasting into Microsoft Word or by converting the web page to a pdf document.

THIS IS THE PRINT-OUT YOU MUST RETURN TO THE RESEARCHERS AT YOUR SCHEDULED APPOINTMENT. PLEASE DO NOT FORGET IT.

At the end of your appointment you will receive more information on the IAT and the purpose of this study.

<p align="center">Thank you! The Social Cognitions Research Team</p>

Appendix E

The Lost-Email (Adapted from Bushman and Bonacci, 2004)

Dear [Mr./Ms.] [Black American name/White American name],

Thank you for applying for The URI Centennial Scholarship. As you know, these scholarships are highly competitive and are given only to a few select individuals. They cover tuition for four years at a state funded university. There is also an additional $500 per year stipend for students to spend on academic related supplies (e.g., books). This scholarship is available ONLY for students planning to attend a state-funded university.

Because of the large number of applicants, this year we are late in sending out these notices. Because of the time sensitive nature of this material, we wanted to immediately inform you of the committee's decision regarding your application. We realize that our decision may affect your decision to attend a state funded or private institution.

We are happy to inform you that you have been selected to receive The Centennial Scholarship. Congratulations! Only the most qualified individuals receive this scholarship.

We ask that you respond to this email within 48 h to inform us whether you will formally accept our scholarship offer. Due to the high number of qualified applicants, we would like to extend offers to other students on our waiting list if you choose to decline our scholarship.

Thank you for applying for the scholarship. We look forward to receiving your response within 48 h.

Sincerely,

[name of chairperson of scholarship committee]

Chair, Centennial Scholarship Committee

Appendix F

Study Reaction Form

Hello Participant,

Thank you for your participation in our study, Social Cognitions. You've completed the initial meeting which included the IAT and some other questionnaires. You've also completed your second IAT at home. Now we would like to ask you a few questions about your reactions to the study. After you answer these questions, you will have completed your research requirements and we will send you a completion form that you will submit to your professor/instructor for research credit. This should only take about five minutes of your time.

There are no right or wrong answers. Please be as open and honest as you can. Your feedback is important to us and is very much appreciated.

1. In your words, what was the purpose of this study?

2. What did you think about the video you saw?

3. What did you think about the Implicit Association Test?

4. What is your overall response to the study?

5. Please feel free to share any other thoughts you have about the study.

Thanks again for your participation in our study!

Sincerely,

The Social Cognitions Research Team

Appendix G

Debriefing Form

Measurement Differences in Social Cognitions

We thank you for participating in this pilot study. You filled out a demographics questionnaire, self-report assessments including the Symbolic Racism Scale, and an online assessment called the Implicit Association Test. You also received a Lost Email. The purpose of this study was to assess social cognitions and how they relate to the likelihood that you would return the lost email. You were originally unaware that the Lost Email was the focus of this study. This was necessary because awareness of the email before the study began would have changed our results.

We want to remind you that ALL DATA ARE CONFIDENTIAL and will not be linked with your name. Any results will be published anonymously as group data. If any part of this study has caused you any stress there are available resources. You may choose to seek counseling by contacting the counseling center at the University of Rhode Island.

Counseling Center

217 Roosevelt Hall

90 Lower College Road

Kingston, RI 02881

Phone: 401-874-2288

Fax: 401-874-5010

If you would like any information about the results or have specific concerns
regarding the study feel free to contact us using the information listed below.

Gregory Paquin

gregorypaquin@gmail.com

or

Mark Wood, Ph.D.

Mark_wood@uri.edu

If you are interested in learning more about the study you may find the
following references helpful. They may be found at the URI library or online in the
library database:

Bushman, B.J., &Bonacci, A.M. (2004). You've got mail: Using e-mail to examine
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Appendix H

FOOTNOTES

[1] In striving for verisimilitude of the lost email behavioral measure, we used an existing scholarship foundation. Participants and family members of participants contacted enrollment services to verify the authenticity of the scholarship notification email. Due to concerns raised by the university, the study was prematurely terminated.

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