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Altering explicit and implicit racial prejudice towards African American males

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ALTERING EXPLICIT AND IMPLICIT RACIAL PREJUDICE TOWARDS
AFRICAN AMERICAN MALES

by

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A thesis submitted in partial fulfillment of
the requirements for the

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ABSTRACT

Altering Explicit and Implicit Racial Prejudice towards African American Males

by

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Researchers tested 281 undergraduates to determine if positive behavior messages about African American males presented during a learning task affected scores on explicit and implicit racial prejudice measures. During the learning task, we manipulated how many positive messages the participant viewed (100 vs. 150 or none) and the amount of African American males these messages applied to (1 vs. 3). Participants who viewed 150 positive messages about one African American male displayed more explicit prejudice than participants in control groups or participants learning 100 messages about one person. Results for the implicit measure indicated that participants who learned about three people and viewed 150 messages had faster implicit associations between African American males and positive adjectives when compared to participants who viewed fewer messages or learned about only one person. These findings demonstrate that learning positive information about a target group generalized to other exemplars from that category, but only when there was more than one example.

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

Racial prejudice is a generally negative attitude toward the members of different racial groups, based solely on their membership in those groups (Steele, 1997; Swim & Stangor, 1998). When exposed to faces, individuals tend to categorize people by race, sex, and age (Fiske & Neuberg, 1990). This categorization is sufficient to elicit stereotypic beliefs about the target person (Bargh, 1999; Deaux & Lewis, 1984; Devine, 1989; Fiske & Neuberg, 1990). Stereotypic beliefs can shape a perceiver's behavior in a manner that negatively affects the targeted individual (Bargh, 1999; Dovidio & Fazio, 1992; Fazio, 1990). Reducing prejudice is important because its decrease may promote individuation of people, which should lead to diminished negative effects of racial discrimination.

Stereotypes

To structure the world, individuals place things, as well as other people, into categories. These categories can be based on a variety of traits and characteristics, such as gender and race/ethnicity. Once individuals place people into these categories, they infer information about group members and use that information as a broad description for all members (Allport, 1954). This cognitive process is stereotyping.

Stereotypes can be positive or negative. Positive stereotypes are affirmative generalizations about a group. For example, general stereotypes about Asian Americans are that members of this group obey rules, have close family relationships, are courteous, and emphasize education (Chang & Demyan, 2007; Jackson et al., 1996; Kawai, 2003). Negative stereotypes are negative generalizations about a group. For example, general

stereotypes about African Americans are that members of this group are lazy and unmotivated (Katz & Hass, 1988).

There are detriments to using both positive and negative stereotypes. Positive stereotypes can be detrimental when individuals compare two minority groups (Biernat, Manis, & Nelson, 1991). For example, adults primed with the stereotype that Asian Americans are intelligent and industrious evaluated African Americans more harshly than adults not primed with the Asian American stereotype (Ho & Jackson, 2001). Priming involves activating an unconscious mental concept (Tulving & Schacter, 1990). The overall positive stereotypes of Asian Americans may have made the typically negative stereotypes of African Americans more salient and subsequently more negative. By assessing these two groups at the same time, individuals may evaluate one group more negatively than if assessing one group at a time.

Stereotypes also affect how perceivers treat individuals. Asian American stereotypes include that of the model minority. Asian Americans are thought to possess characteristics that are important for success in the workplace, as long as it is below upper management (Gilbert, Carr-Ruffino, Ivancevich, & Lownes-Jackson, 2003). Thus, Asian Americans may be overlooked for promotions due to stereotypes. African Americans are also privy to negative treatment based on stereotypes. One study ascertained that coaches have higher expectations of capabilities for African American males playing basketball (Solomon et al., 1996). If this expectation is not met, treatment of individuals may be affected.

Stereotypes affect not only how perceivers evaluate and treat individuals, but also how individuals behave. For instance, racial stereotypes can impact African American

students' test performance (Davis, Aronson & Salinas, 2006). When African American students from two large, predominately white universities were primed with the stereotype that African Americans are less intelligent than White students, they performed worse on a test than students not primed with the stereotype (Davis et al., 2006). Members of racial groups that are evaluated and treated differently as a result of positive or negative stereotypes may subsequently behave in a manner consistent with the stereotypes (i.e., self-fulfilling prophecy) (Chen & Bargh, 1997).

Stereotype theories. In light of these detrimental effects, it is important to understand why people stereotype. Evolution, motivation, and cognition are different theoretical viewpoints researchers use to examine individuals' activation of stereotypes.

Evolution. Evolutionary theory posits that humans categorize and stereotype because they need to distinguish who is a friend and who is an enemy quickly. The quickest way to make that distinction is to ascertain who is similar and who is different (Posner & Keele, 1968; Reed, 1972; Rosch & Mervis, 1975). Individuals initially determine similarity by physical appearance (Fiske & Cox, 1979), with the most salient features being racial category followed by gender (Milord, 1978).

Another evolutionary explanation for stereotyping is social dominance theory. Social dominance occurs when individuals have strong social prejudice and believe that groups are ranked according to their worth (Pratto, Sidanius, Stallworth, & Malle, 1994). These individuals are more likely to hold negative views of groups other than their own. They rank groups and believe that the highest group should hold more power and wealth. Often this top group is the one to which they belong. An example of social

dominance is a member of the Ku Klux Klan (KKK) believing in the inherent inferiority of groups, such as Jewish populations or African Americans.

Motivation. Motivational theory posits that there are social reasons for developing stereotypes. Some theories in this category include realistic conflict theory, conformity, authoritarianism, and self-esteem. Realistic conflict theory occurs when groups find themselves competing for resources. The competition for limited resources is a driving force behind this theory. By establishing and maintaining majority and minority groups, the resources may be distributed to the majority more effectively than to the minority (Bonacich, 1972; Brewer & Campbell, 1976). Many groups justify this segmentation as a way to take economic advantage in a capitalistic society. For example, Country A invades Country B because Country B controls Resource X. To the citizens of Country A, Country B is touted as being in need of revitalization and restructuring because its internal policies and views of its citizens are inferior to those in Country A. Country B has now been established as a minority due to its views and treatment of its citizens. A power struggle ensues between the countries for the resource.

Conformity, authoritarianism, and self-esteem involve the use of ingroups and outgroups. Ingroups are the groups to which one perceives oneself belonging, whereas outgroups are groups to which one does not see oneself belonging (Allport, 1954).

Individuals who conform use the beliefs of others to guide their own actions. Conformity, combined with a person's perception of his or her social standing, is another motivational reason for stereotypes (Allport, 1954). If a person wants to conform to a particular group or raise her standing within the group, she will adopt peers' views of

outgroups. These newly adopted opinions may not reflect the actual attitude of the person conforming to the group, but she will conform to the group's views.

Authoritarianism is another motivational factor contributing to the development of stereotypes. Individuals with authoritarian personalities learned early in life to be obedient; otherwise, someone physically and verbally punished them. As a result of the harsh punishment, these individuals developed personality characteristics, such as excessive conformity, submissiveness to authority, and intolerance (Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950). Two theories on how individuals acquire this type of personality exist. One theory surmises that the authoritarian personality trait developed from conflict in childhood with caregivers (Adorno et al., 1950). Another theory suggests the trait developed through conflict in adolescence (Altemeyer, 1988). Although each theory differs regarding when authoritarianism develops, both agree that authoritarian individuals are more likely than individuals not showing authoritarian characteristics to exhibit opposition toward outgroups (McFarland, Ageyev, & Abalakina-Paap, 1992; Peterson, Doty, & Winter, 1993; Stephan, Ageyev, Coates-Shrider, Stephan, & Abalakina, 1994). This opposition is attributed to frustration from having little power in their lives, due to another individual exhibiting control over them. The negative attitude is not directed at the person who demeans them; rather it is directed toward members of outgroups.

Self-esteem is the degree to which one values oneself (Reber & Reber, 2001). For individuals with low self-esteem, the tendency to derogate outgroups and favor ingroups helps boost personal esteem (Crocker & Schwartz, 1985). Individuals who have high self regard but are members of low prestige groups will also depreciate the worth of other

groups (Crocker, Thompson, McGraw, & Ingerman, 1987). The derogation helps the individual achieve a positive self-esteem. Personal gain is a driving factor in ingroup favoritism.

Cognition. Researchers have also theorized how certain cognitive processes may explain why stereotyping occurs. Cognition involves thinking, conceiving and reasoning, and relates to how individuals process information (Ashcraft, 2006). By placing people into categories and assigning traits to those groups, individuals are using cognitive shortcuts. Such shortcuts help individuals manage and maintain the wealth of information encountered. Mental efficiency, illusory correlations (Risen, Gilovich, & Dunning, 2007), and perceived outgroup homogeneity (Hortacsu, 2000) are three cognitive processes that affect stereotypic thinking.

Mental efficiency is the most pervasive reason individuals use cognitive shortcuts, or stereotypes. In order to process the myriad of social information in any given situation, people tend to rely on stereotypes. Stereotypes are most efficient when they accurately describe the group members (McCauley, 1995; Oakes, Haslam, & Turner, 1994; Ottati & Lee, 1995; Ryan, 1996), but stereotypes are not always accurate. Using extreme differences between the groups, such as all Blacks are poor, establishes a quicker frame of reference about a particular group. This frame of reference allows perceivers to quickly make judgments about group members, thus promoting mental efficiency. Individuals do indeed conserve cognitive energy when they rely on labels to help form impressions of people. Specifically, using stereotypes allows cognitive energy to be directed toward tasks other than social information processing (Macrae, Milne & Bodenhausen, 1994).

Illusory correlations are processes that individuals use to reinforce stereotypes by concentrating on specific situations or instances that support the stereotype or by exaggerating the associations between two stereotypical characteristics (Risen et al., 2007). For example, an individual from Group A holds a negative attitude toward members of Group B; she thinks they are lazy. For each instance in which she encounters a member of Group B appearing to be lazy, the stereotype is reinforced. She will most likely not remember instances that contradict her perceived attitude toward Group B.

Perceived outgroup homogeneity is another cognitive process that produces stereotypes. Perceived outgroup homogeneity refers to individuals overestimating the extent to which members within other groups are similar to each other (Kenrick, Neuberg, & Cialdini, 2005). This extreme generalization, or stereotyping, allows the individual to quickly make judgments about people belonging to that group.

The three theoretical perspectives, evolution, motivation, and cognition, have common themes. The process of dividing individuals into ingroups and outgroups is pivotal to each perspective. Another common theme seen in all three perspectives is labeling one group positively and other groups negatively. The main disagreement among the perspectives is why humans stereotype. Evolutionary theory suggests stereotyping was needed to distinguish enemies from friends, thus enhancing reproductive opportunities. Motivation literature proposes that stereotyping is socially driven by assigning labels and meanings to categories. Cognitive theory posits that stereotyping is a result of the structure of the modern brain, how it stores and processes information, and quickens information processing. Evolutionary and motivational theories center on interactions on a group or societal level because the focus is on either reproductive

opportunities or group membership, respectively. Conversely, cognitive theories center on the individual because focus is paid to how individuals structure their world. These three perspectives are not necessarily contradictory and may be combined. To illustrate, the storage and processing mechanisms (cognition) of the modern brain may be attributed to evolution—mental efficiencies in thinking may have contributed to human survival and subsequent reproduction. Furthermore, assigning names or labels to different groups and determining the value of a group’s label is socially driven. The development and maintenance of stereotypes is likely a product of evolution, motivation, and cognition. It is easier to change one individual’s thinking than it is to change society’s way of thinking. Therefore, this study concentrates on changing attitudes on an individual level and as such focuses on a cognitive approach.

Prejudice

Using stereotype information to evaluate a person, instead of his or her individual traits, is prejudice (Allport, 1954; Devine, 1989; Taylor & Pettigrew, 2000). Prejudice is a general attitude toward the members of different groups, based solely on their membership in those groups (Steele, 1997; Swim & Stangor, 1998). There are two classifications of prejudice: explicit and implicit. Explicit prejudice is an attitude about an object or person that is obvious to the individual experiencing it, such as “African Americans are good at basketball.” Implicit prejudice is an automatically activated association of a particular object with an attribute, such as “white” and “good” (Greenwald & Banaji, 1995). Individuals are not aware of implicit associations but are conscious of explicit prejudice (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Rydell & McConnell, 2006).

Explicit prejudice is the traditional form of prejudice. It is direct and obvious, such as “African Americans are loud and disruptive.” This thought may translate into behavior, but expression of explicit prejudice is the most easily controlled of the two forms of prejudice because people are aware of the thought or attitude. Explicit prejudice has been reducing over time as a result of desegregation, pressure to be politically correct, and social desirability (Bowser & Hunt, 1981; Devine & Elliot, 1995; Lavine & Huddy, 2004).

Desegregation involves integrating individuals from various racial and ethnic backgrounds into the education system (Brown V. Board of Educ., 1955), employment opportunities (Civil Rights Act of 1864) and the political arena. Due to an increased presence of minorities in schools, at work, and in politics, language and labels previously used to reference racial minority groups are no longer acceptable. Subsequently, behavior towards minorities has been affected by the shift in segregation laws. Residential segregation continues to afflict the United States, but the rising middle class within the African American community is lessening the divide (Clark & Ware, 1997).

Social desirability is acting in a manner that a person perceives his peers want him to act (Reber & Reber, 2001). Social desirability develops out of the increased presence of minorities and the pressure to use more politically correct terminology (Plant & Devine, 2001). As a result, an individual does not want to appear to hold offensive ideals or use offensive terms and will adjust his behavior accordingly, even if he does not personally believe these views (Plant & Devine, 2001).

Explicit expressions of prejudice are decreasing, but implicit associations remain. Because implicit associations are unconscious, these associations are more difficult to

change than explicit attitudes (Fazio & Olson, 2003). If a person does not realize that these associations exist, then there is no motivation to change.

Individuals may have conscious knowledge of stereotypes (explicit), or have unconscious associations (implicit) between a particular group and certain traits and characteristics. Regardless of whether the associations are conscious or unconscious, individuals' use of stereotype information to evaluate a person is considered prejudice.

Measuring Racial Prejudice

Because the two types of racial prejudice (implicit and explicit) tap into different aspects of prejudice, researchers must use different ways to ascertain prejudice scores. Explicit prejudice is typically examined using self-report measures, whereas implicit prejudice is typically measured using reaction time studies.

The most prevalent measure used for assessing explicit prejudice is the Modern Racism Scale (Fazio, Jackson, Dunton, & Williams, 1995; Gawronski, Peters, Brochu, & Strack, 2008; Goff, Eberhardt, Williams, & Jackson, 2008; James, Brief, Dietz, & Cohen, 2001; McConahay, 1986; Salvatore & Shelton, 2007). This measure includes seven items which are scored using a 6-point Likert-type scale (1 = *strongly disagree*, 6 = *strongly agree*). High scores indicate high prejudice and low scores indicate low explicit prejudice. Other self-report measures used to determine explicit prejudice include the Symbolic Racism scale (Henry & Sears, 2002) and the adjective checklist (Katz & Braly, 1933). All of these scales are typically given to White participants, most often regarding African Americans or Blacks. Recent focus has shifted away from explicit racial prejudice toward implicit racial prejudice so newer scales for measuring explicit prejudice have not been developed.

One way to measure implicit attitudes is through reaction time studies. Reaction time is the amount of time between presentation of a stimulus or stimuli and the participant's response to the presentation (Reber & Reber, 2001). Implicit attitudes are measured this way to determine the amount of time it takes an individual to associate two objects. If the words "black" and "bad" are closely associated by the individual, it will take less time for him to generate a response to the presented stimuli. Subsequently, presenting the words "black" and "good" should elicit a slower response by this same individual because these two words are not closely associated. For these studies, stimuli are presented in a variety of ways utilizing words, lights, and often pictures of people (Chasteen & Pratt, 1999; Correll et al., 2007; Simon & Craft, 1972).

Lexical decision tasks are one example of reaction time studies. With this method, researchers may present strings of letters or pairs of words together. If presented with strings of letters, participants ascertain if the letters make a word (Hopko et al., 2003). If presented with pairs of words, the participants make a decision if both stimuli are words or if one of the stimuli is a non-word. A participant may receive the word pair BLACK/SMART or BLACK/MANTY and is expected to respond yes to the first pair and no to the second pair. Respondents react faster to word pairs such as WHITE/GOOD and BLACK/BAD indicating a stronger association between the stereotypic consistent information, as opposed to the association between WHITE/BAD or BLACK/GOOD (Dovidio, Evans, & Tyler, 1986; Meyer & Schvaneveldt, 1971; Zarate & Smith, 1990).

The Implicit Association Test (IAT) is another measure of implicit cognition. In this task, participants associate different categories with a particular key press. Participants view photographs of the target object (e.g., African American or European

American faces) and then sort the photographs by race using key presses (e.g., pressing the *e* key with the left hand for African American faces and the *i* key with the right hand for European American faces). This sorting task becomes block 1. Once the association has been established (i.e., a particular key is associated with a particular racial group), participants then associate attributes, such as good and bad, to these same key presses (e.g., pressing the *e* key for “good” and the *i* key for “bad”). This association is block 2. Once the block is complete, participants view the target and attribute stimuli alternatively. For example, African American faces, European American faces, positive words, and negative words are randomly presented to participants. The task is to sort these items using pre-established key presses, again using the *e* or the *i* key. Participants press the *e* key whenever an African American face is displayed or a positive word is displayed. Conversely, participants press the *i* key whenever European American faces or negative words are shown. This portion of the IAT is block 3. For block 4, the key presses for the category first learned are reversed. For instance, in block 1, participants sorted African American faces by pressing the *e* key and in this block they sort the faces using the *i* key. For block 5, the reversed category responses are paired with the learned attributes. Participants sort European American faces and positive words by pressing the *e* key and African American faces and negative words using the *i* key.

Researchers examine differences in reaction times during Blocks 3 and 5.

Participants should display a faster reaction time on one of these two trials (Greenwald, McGhee, & Schwartz, 1998). Participants with a stronger association between African American face stimuli and negative words will have a faster response time when they are

sorting these items using the same key press than when sorting African American face stimuli and positive words.

To summarize, self-report measures are used to ascertain explicit racial prejudice because individuals are aware of this type of prejudice. Conversely, reaction time studies are used to ascertain implicit attitudes because individuals are not explicitly aware of this type of attitude and thus self-report measures are not good indicators of implicit associations.

Deleterious Effects of Prejudice and Stereotyping

Regardless of how prejudice is developed and maintained, it can lead to discrimination. Discrimination is behavior, typically negative, toward others based on arbitrary characteristics (Allport, 1954). Individuals who experience discrimination evidence serious physical problems, such as hypertension, and mental health issues, such as low self-esteem and heightened stress (Cain & Kington, 2003; Landrine & Klonoff, 1996). Other problems encountered by minorities include impaired cognitive functioning (Salvatore & Shelton, 2007), safety (Correll, Park, Judd, Wittenbrink, 2002), legal and medical disparities (Blumstein, 1982; Moy, Dayton & Clancy, 2005; Sabol, 1989; Smedley, Stith & Nelson, 2002; Sweeney & Haney, 1992; van Ryn, 2002), and employment and housing issues (Dovidio, Kawakami, & Gaertner, 2000; McConahay, 1986).

Discrimination can generate cognitive impairments in ethnic minority group members when they encounter unclear prejudice (Salvatore & Shelton, 2007).

Researchers manipulated prejudice cues in recommendations for employment made by a human resources officer and participants read one of three scenarios in which there was

no prejudice, implicit prejudice, or blatant prejudice within the recommendation. Participants then completed a Stroop task. Black participants in the implicit prejudice condition performed more poorly on the task as compared to Whites in the same condition and Blacks in the blatant prejudice condition. Negative outcomes may result because minority group members' are expending cognitive resources to decipher the cues of implicit prejudice.

Racial prejudice can also put the personal safety of minority group members at risk. In one study, researchers asked participants to play a video game and shoot a person onscreen if he held a gun. This exercise mimics training provided to new police officers. Participants were significantly faster at shooting a suspect when he held a gun as compared to targets that did not hold a gun. This finding was especially true if the target person was African American. Participants set a lower criterion for shooting African Americans than for Whites (Correll et al., 2002). The implications of this finding are that when confronted with an African American suspect, police officers are more likely to use deadly force as compared to a White suspect.

Race as a factor in legal punishment provides further evidence of deleterious effects of stereotyping and racial prejudice (Blumstein, 1982; Sabol, 1989). A meta-analysis of mock jurors' decisions of punishment found that sentences for African American defendants were significantly higher as compared to sentences for White defendants. Researchers speculate that African Americans convicted of violent crimes may elicit negative stereotypes, which affects sentencing (Sweeney & Haney, 1992).

In the medical field, there remains a gap in treatment and diagnosis between Whites and racial minority patients, such that minorities receive poorer treatment relative

to Whites (Moy et al., 2005; Smedley et al., 2002; van Ryn, 2002). For example, race is a significant factor for admission to and length of stay in cardiac care units. In one study, African American patients were less likely to be admitted to cardiac care units and when admitted were discharged earlier than their White counterparts (Pylypiv & Ferraro, 2005). Not only do actual gaps exist in the medical field, but perceived gaps by minorities can also lead to other health concerns, such as hypertension due to stress (Cain & Kington, 2003).

Harmful effects of prejudice and stereotyping are also evident in other areas of life for minorities, such as a reduced chance of being hired for a job when compared with an equally qualified White candidate (McConahay, 1986). When white participants were presented with candidates without clear cut credentials for the position advertised, a statistically significant bias against African American candidates was found in relation to White candidates with the same ambiguous credentials (Dovidio & Gaertner, 2000).

Residential racial segregation is still an issue in the United States as well as available housing options. Since 1940, Black-White integration in neighborhoods has remained stable (Massey & Denton, 1993). Studies reveal that discrimination in housing persists (Brown, 2010) and the recent housing crisis in the United States affects mainly minorities. African American and Hispanic homeowners were more often steered toward subprime loans compared to Whites, regardless of income level. Most of these minorities qualified for affordable fixed-rate loans but were never offered the option (Association of Community Organizations for Reform Now, 2007). Entire minority neighborhoods, including local schools, are affected by the loss of home ownership.

Personal safety, legal sentences, mental and physical health, job hiring decisions, infant mortality rates and life expectancies, achievement, and the ability to obtain affordable, safe housing are influenced by race. Where a person lives determines the type of employment, schools, and housing availability. Unfortunately in the United States, these determinants are influenced by skin color.

Altering Prejudice

The many harmful effects of racial stereotyping have lead researchers to examine ways of altering those stereotypes. The evaluative expression of stereotypes (i.e., prejudice) can drive a person's likes or dislikes and therefore is an attitude. Attitudes are general evaluations based on affect and cognition (Eagly & Chaiken, 1998; Petty & Wegener, 1998). Altering stereotypes and thus decreasing prejudice should hopefully help to improve the physical and mental health of minorities. Moreover, altering attitudes should promote social justice and increase fair treatment of individuals, such as in hiring practices and legal decision-making. Stereotypic attitudes are not fixed but are malleable, and researchers have shown that these attitudes sustain a moderate change over time (Garcia-Marques, Santos, & Mackie, 2006; Kawakami, Phillips, Steele, & Dovidio, 2007; Olson & Fazio, 2006). These findings suggest that stereotypes are more fluid than once thought. Due to the flexibility of stereotypic attitudes, there are several approaches for producing change; these include social and cognitive approaches (Hirt & Markman, 1995; McGregor, 1993; Pedersen, Walker, & Wise, 2005).

Social approaches. An effective social approach for producing attitude change with regard to racial prejudice is an interpersonal strategy. Included within this strategy are antiracist teaching (McGregor, 1993), role-playing (McGregor, 1993), gaining

consensus of others within the ingroup (Stangor, Sechrist, & Jost, 2001; Wittenbrink & Henly, 1996), and including diversity within curriculum (Chang, 2002; Henderson-King & Kaleta, 2000).

Antiracist teaching refers to the teacher explaining cultural differences between racial groups and leading discussions related to racism, prejudice, stereotyping and discrimination in society (McGregor, 1993). For this method to be effective and not detrimental, the teacher leading this discussion must be highly skilled in presenting the sensitive material. If the teacher is not skilled, prejudice can increase rather than decrease.

In role-playing, participants learn about a minority group through games and activities facilitated by a leader, and thus enhance their awareness of prejudice and discrimination (McGregor, 1993). For example, students are assigned to act out the role of a majority group member or a minority group member. Once the enactment has concluded, roles are reversed for another role-playing session. Participants must have a certain level of sophistication for this approach to be effective. For example, the participant has to be personally conscious of his or her views regarding race and aware of what views of race are most common in society (McGregor, 1993). The individual should be able to recognize that racial prejudice is still a problem within society.

Simply learning that others hold different views about race can cause a change in attitudes (Haslam, Oakes, McGarty, & Turner, 1996; Stangor et al., 2001; Wittenbrink & Henly, 1996). To illustrate, study participants estimated the percentage of African Americans who possessed 19 different traits, including 9 positive traits and 10 negative traits. When participants returned a week later, the researcher told them that other peers

supported their previous beliefs about African Americans or that peers did not support their beliefs. The researcher asked participants to again rate their own personal beliefs about African Americans. Participants who held negative stereotypes about African Americans became significantly more positive in their attitudes than evidenced in their initial ratings after learning peers held more favorable attitudes (Stangor et al., 2001).

Including diversity topics within curriculum has shown conflicting results (Chang, 2002; Henderson-King & Kaleta, 2000). In one study at the beginning of the semester, researchers asked participants in a diversity class and those not enrolled in a diversity class to rate how they felt about Latinos and African Americans in general. At the beginning of the semester, attitudes of students enrolled in the diversity class and those students not enrolled in the diversity class were not significantly different. Researchers measured responses again upon the conclusion of the semester long course. The students enrolled in the diversity class showed an increase in their positive attitudes toward these two groups, although it was not significantly different from their original responses. Conversely, students not enrolled in the diversity class became significantly more negative in their attitudes towards Latinos and African Americans. The diversity class may have served as a defense against negative feelings for those students in the class, whereas students not enrolled in the course became less tolerant of outgroups (Henderson-King & Kaleta, 2000). Another study examined enrollment in a diversity class as a tool for improving racial attitudes. Researchers measured attitudes of students just completing the course and students beginning the course. Participants who were completing the course made significantly more favorable judgments of African Americans than those who were just starting the course (Chang, 2002). Henderson-King

and Kaleta (2000) found that the diversity course did not increase positive feelings significantly, but did ward off negative feelings. On the other hand, Chang's (2002) study showed that the diversity class was effective in producing a significant positive attitude change.

It is true that the methods described above have shown promise in altering racial prejudice. All of these social approaches, however, require time and/or skilled professionals to implement the techniques and cause a change in attitudes; cognitive approaches do not rely heavily on such factors.

Cognitive approaches. Cognitive dissonance is another vehicle for attitude change by which a person holds two opposing beliefs and must change one in order to support the other (Festinger, 1957). Using this method does not rely on the participant's sophistication level and eliminates the need for training competent teachers.

Using cognitive dissonance, Kerpelman and Himmelfarb (1971) developed an attitude learning paradigm to alter attitudes. First, researchers verbally presented participants with characteristics, either positive or negative, of a target object. Participants predicted whether the trait was characteristic or uncharacteristic of the target object. After each response, experimenters provided feedback to tell the participants if the assessment was correct or incorrect. Second, researchers presented half of the participants with counterattitudinal characteristics of the target object. For example, if a participant was presented positive characteristics in the initial phase, the participant received negative characteristics in the counterattitudinal phase. The other half of participants received the same type of characteristics, either positive or negative, as presented in the initial learning phase. Afterwards, participants' beliefs about the attitude object were

assessed. Researchers found that participants' attitudes changed in relation to the counterattitudinal information (Kerelman & Himmelfarb, 1971). In other words, participants changed their attitudes about a target object when presented with information that was contradictory to information already attained.

Along this same vein, Rydell and McConnell (2006) sought to understand how individuals change their attitudes. In one experiment, participants were assigned to one of three groups. First, all participants were presented with a picture of a White male target and 100 behaviors. Participants indicated whether or not they thought the behaviors were or were not characteristic of the target male. Researchers provided feedback on the assessment. Next, participants were assigned to either the control group or one of two experimental groups. The first group served as the control group and received no counterattitudinal information about the target object. The two experimental groups received either 20 or 100 counterattitudinal behavior statements; researchers provided feedback on only the counterattitudinal statements and not the neutral statements. After the presentation of behaviors and counterattitudinal portion of the study, explicit attitudes were scored based on how likeable the target person was using a Likert-type scale, and implicit attitudes were measured using the Implicit Association Test (Greenwald et al., 1998). Explicit scores, as compared with those in the control group, were lower for both the 20 and 100 counterattitudinal conditions. For implicit attitude scores, only participants in the 100 counterattitudinal condition showed a significant change.

Given enough counterattitudinal information, people like to maintain cognitive consistency, in which beliefs, attitudes, and views support one another. Cognitive

dissonance has the potential for producing long lasting effects in attitude change (Dovidio et al., 2000).

Overview of the Current Study

Using a cognitive theoretical approach, the purpose of this study was to examine the effect a learning task had on individuals' implicit and explicit racial prejudice. Unlike previous studies that changed attitudes created in the lab (Kerpelman & Himmelfarb, 1971; Rydell & McConnell, 2006), this study aimed to expand counterattitudinal research by changing preexisting, real-world attitudes. Specifically, the study examined whether participants' explicit and implicit racial prejudice about African American males decreased after receiving positive behavior messages (PBM) about this group. This study utilized African American males as the target group because they may experience the most racial bias and prejudice in a variety of settings (Blincoe & Harris, 2009; Correll et al., 2002; Howard 2008; Landine & Klonoff, 1996; Nosek et al., 2007).

Rydell and McConnell (2006) were successful in changing implicit and explicit attitudes about one individual. Learning positive information about more than one person may help generalize the task to questions about the group, therefore half of the participants in this study learned about one African American male during the learning task and half of the participants learned positive behavior messages about three separate African American males. If learning about more than one individual helps generalize to the group, then:

(H_{1a}) Participants in the experimental groups who saw three faces during the learning task will have lower Modern Racism Scale (MRS) scores than participants in the experimental groups who learned about only one individual.

(H_{1b}) Participants in the experimental groups who saw three faces during the learning task will have lower Single Category Implicit Association Test (SCIAT) scores than participants in the experimental groups who learned about only one individual.

In the learning task, participants viewed (a) 200 neutral messages (control group); (b) 100 positive behavior messages and 100 neutral messages (100 PBM group); or (c) 150 positive behavior messages and 50 neutral messages (150 PBM group). The current study included a condition wherein participants learned 100 PBM to examine if this amount of messages was sufficient to affect a change in attitudes towards African American males. Unlike attitudes created in the lab, real-world may be resistant to change, so this study also utilized a 150 PBM group. As the number of messages increases, the effect on the dependent measures for the experimental groups should be greater, such that:

(H_{2a}) Participants who viewed 150 PBM should score lower on the MRS than participants who viewed 100 PBM.

(H_{2b}) Participants who viewed 150 PBM should be faster associating positive adjectives with African American male pictures in the SCIAT than participants who only learned 100 PBM.

Because implicit attitudes about African American males may be particularly resistant to change, an increase in exemplars (e.g., three faces) as well as an increase in PBM during the learning task may be required to affect a change. In addition to the proposed main effects for number of faces and PBM, there may also be an interaction

between the two variables. As the number of faces and messages increase, the effect on SCIAT scores should be greater, such that:

(H_{3a}) Participants in the 3 Face/ 150 PBM should have the lowest MRS scores compared to any other experimental group.

(H_{3b}) Participants in the 3 Face/ 150 PBM should associate positive adjectives with African American male pictures faster during the SCIAT than participants in any other experimental group.

To measure attitudes on both scales in general, control groups were utilized.

Because participants only viewed neutral messages about one or three individuals, the learning task should not affect the MRS or SCIAT, such that:

(H_{4a}) Participants in the control group should have higher MRS scores than participants in the experimental groups.

(H_{4b}) Participants in the experimental groups should associate positive adjectives with African American pictures on the SCIAT faster than participants in the control groups.

To examine if the scores in general reflect bias, we compared scores for control and experimental groups to a neutral score. Neutral scores indicated neither a positive nor a negative bias towards African Americans. For the explicit measure, the neutral score was 12, and a neutral score for the implicit measure was zero, such that:

(H_{5a}) Participants' scores for the MRS should be significantly different than 12.

(H_{5b}) Participants' scores for the SCIAT should be significantly different than zero.

To determine if the experimental manipulation would work with diverse populations, we did not exclude non-white participants. We split the files by race to ascertain if there were differences in scores based on race. We also wanted to correlate demographic variables pertaining to neighborhood diversity and media exposure with the dependent variables to ascertain any relationships. Lastly, we examined the learning task reaction times for overall patterns of responding. Because of the exploratory nature of these analyses, specific hypotheses were not proposed. In general, we wanted to rule out these factors as explanations for obtained results.

CHAPTER 2

METHOD

Participants

Participants ($N = 281$, 145 females, 136 males) were 18 and older ($M = 20.54$, $SD = 4.45$) and were recruited from the University of Nevada, Las Vegas (UNLV).

Participants were assigned to one of the following conditions: 1 Face/ Control ($n = 47$), 1 Face/ 100 PBM ($n = 47$), 1 Face/ 150 PBM ($n = 46$), 3 Face/ Control ($n = 46$), 3 Face/ 100 PBM ($n = 47$), and 3 Face/ 150 PBM ($n = 48$). To determine the number of participants, we conducted a power analysis with the effect size set to .15 based on results obtained from the Rydell and McConnell (2006) study. The alpha was set to .05 and the power level equaled .80 (Faul & Erdfelder, 1992). The race/ethnicity of the participants consisted of Caucasian (35.2%), Black or African American (8.2%), Hispanic/Latino(a) (21%), Asian/Pacific Islander (24.2%), and more than one race (11.4%). When eligible, participants received course credit for participating.

Apparatus

Stimuli. The stimuli consisted of digitized, black and white photographs of nine African American male faces ranging in age from 18 – 25 years. The faces were photographed following a standardized procedure (see Langlois & Roggman, 1990 for details). Research assistants asked individuals to remove all jewelry and pose with a neutral expression. A group of 52 undergraduates (30 females, 22 males) rated the faces for attractiveness ($\alpha = 0.95$). A separate group of 50 undergraduates (31 females, 19 males) rated the faces for masculinity ($\alpha = 0.98$). All facial stimuli included in the study were of average attractiveness and masculinity to avoid having participants respond to a

face based on its attractiveness or masculinity (DeBruine et al., 2006; Langlois et al., 2000). Research assistants standardized each photograph using Adobe PhotoShop for size, brightness and contrast, and background. Additionally, all clothing cues and facial hair were removed using this same program. The photographs were cropped above the eyebrows and just below the chin as well as close to the ears (See Figure 1). Each photograph served as the attitude object an equal number of times throughout the study to increase the generalizability of the results.

Figure 1



Implicit prejudice measure. A modified version of the Single Category Implicit Association Test (SC-IAT) was used to measure implicit attitudes toward African American males (Greenwald et al., 1998; Karpinski & Steinman, 2006; Rydell & McConnell, 2006). This measurement technique was developed to measure attitudes of one object as opposed to a pair of objects (Greenwald et al., 1998; Karpinski & Steinman, 2006). Rather than sort two sets of images (i.e., Caucasian faces and African American faces) as with the traditional IAT, the SC-IAT uses only one category of pictures (i.e., African American faces). The task involved presentation of 6 images, 10 positive adjectives, and 10 negative adjectives (see Appendix B) randomly presented one at a time

in the center of the screen. Images were presented in black and white and all adjectives were shown in lowercase letters. This test has reasonable test-retest reliability, as well as construct validity (Karpinski & Steinman, 2006).

Explicit prejudice measure. All participants completed the Modern Racism Scale (MRS) to assess explicit attitudes towards African Americans (McConahay, 1986). The scale consisted of six statements. Participants were asked to indicate level of agreement using a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). This scale was developed in response to the growing belief that racism was declining in the United States in the 1970s (McConahay, 1986). The test-retest reliability and validity of this measure indicates it is an appropriate measure to use (Cunningham, Preacher, & Banaji, 2001). The MRS questions with scoring key are located in Appendix C. Scores on the MRS range from 6 – 30.

Demographic questionnaire. The purpose of the demographic questionnaire was to sketch a descriptive outline of participants. Information collected from the questionnaire included items such as age, sex, and race. A complete list of questions is located in Appendix D.

Procedure

Research assistants explained the study and obtained informed consent. Participants were randomly assigned to one of six conditions: 1 Face/ Control, 1 Face/ 100 PBM, 1 Face/ 150 PBM, 3 Face/ Control, 3 Face/ 100 PBM, or 3 Face/ 150 PBM.

After random assignment to these groups, participants engaged in a modified version of the attitude learning paradigm (Kerpelman & Himmelfarb, 1971). In this paradigm, participants read a series of behaviors about a fictitious person (Jerome) or

persons (Jerome, Derrick, and Randall). The image of the target person was displayed on the screen centered above the behavior statement and participants judged whether or not the statement was characteristic or uncharacteristic of him (e.g., Jerome helps neighborhood children). Participants kept their hands on the keyboard and pressed the D key if they thought the behavior was characteristic of the target person and the K key if they thought the statement was uncharacteristic of him.

The statements presented to participants varied by condition: the control groups read 200 neutral statements; the 100 PBM groups read 100 neutral behavior messages and 100 positive behavior messages; and the 150 PBM groups read 50 neutral behavior messages and 150 positive behavior messages. Participants received feedback on 75% of their judgments regarding how characteristic the positive behavior messages were for the target and no feedback for judgments of neutral behavior messages. All positive statements were considered correct. If the participant erred, the word incorrect was displayed in red on the screen. If the participant answered correctly, the word correct was displayed in blue on the screen. In either feedback scenario, the behavior statement was displayed again (e.g., Jerome helps neighborhood children). This feedback process replicated Rydell and McConnell's (2006) study, which demonstrated that participants made greater implicit attitude changes when they received 75% feedback on counterattitudinal messages as compared to participants who received 100% feedback. They asserted that participants in the 75% feedback condition sustained judgment of the target object and attended to the information more than participants in the 100% group.

Immediately following the counterattitudinal task, participants completed the SC-IAT. The modified version of the SC-IAT ascertained participants' associations between

African American males and either positive (e.g., good) or negative (e.g., bad) adjectives. The SC-IAT was divided into four blocks with 24 trials in blocks one and three, which were practice blocks, and 72 trials in blocks two and four, which were test blocks (Karpinski & Steinman, 2006).

For blocks one and two, half of the participants sorted the positive adjectives by pressing the D key and sorted the negative adjectives by pressing the K key. The other half sorted the negative words by pressing the D key and sorted the positive adjectives by pressing the K key. Half of the participants began sorting the six photographs of the African American males with the D key along with either positive or negative adjectives. The other half began sorting the photographs with the K key along with either positive or negative adjectives. For blocks three and four, participants sorted the photographs with the other adjectives. For example, participants who began the task sorting pictures with positive adjectives switched to sorting pictures with negative adjectives during the second half of the study.

Next, participants completed the MRS and demographic form. MRS statements were displayed one at a time and participants indicated their personal agreement with the statements by pressing 1 – 5 on the keyboard. Total participation time took approximately 45 minutes. All data were recorded using a participant number.

Data Preparation

To assess explicit racial bias, participants answered 6 questions that comprised the Modern Racism Scale. Scores were correlated to determine validity of the scale.

Questions 3 and 4 poorly correlated with the other four questions on the MRS, and were

therefore removed from further analyses. Removing these items from the analyses reduced the possible range of scores from 6-30 to 4-20.

To assess the implicit association between African American male faces and positive or negative adjectives, only blocks two and four of the SC-IAT were scored (Karpinski & Steinman, 2006). Calculations utilized both reaction time and the number of correct and incorrect responses. Scores were converted using the updated Dscore algorithm (Greenwald, Nosek, & Banaji, 2003). A participant's Dscore encompassed the reaction time for correct responses and penalties for incorrect responding. The steps to convert the data into a Dscore are listed below.

- (1) $\text{Reaction time of correct responses} / \text{Number of correct responses} = \text{Block Average (BA)}$
- (2) For each incorrect response $(\text{IR}) = \text{BA} + 400\text{ms}$ (a SC-IAT constant)
- (3) $(\text{BA} + \text{IR}) / \text{Number of responses} = \text{Total Block Average (TBA)}$
- (4) Two separate TBAs were calculated: One for test trials with negative adjective pairings ($\text{TBA}_{\text{negative}}$), and one for test trials with positive adjective pairings ($\text{TBA}_{\text{positive}}$).
- (5) $\text{TBA}_{\text{negative}} - \text{TBA}_{\text{positive}} = \text{Difference Score (DS)}$
- (6) Standard Deviation (SD) was calculated using only the reaction time of correct responses across both test blocks.
- (7) $\text{DS} / \text{SD} = \text{Dscore}$

A negative Dscore indicated that the participant was faster associating negative words with African American pictures. A positive Dscore indicated that the participant was faster associating positive words with the African American pictures.

Data Analysis

Separate one way analyses of variance (ANOVAs) with planned contrasts were performed for scores on the Modern Racism Scale (MRS) and scores on the Single Category Implicit Association Test (SCIAT). Condition (1 Face/ Control, 1 Face/ 100 PBM, 1 Face/ 150 PBM, 3 Face/ Control, 3 Face/ 100 PBM, 3 Face/ 150 PBM) was used as the independent variable for both measures. Files were divided by race to determine any differences in scoring among the racial groups. One sample *t*-tests comparing MRS or SCIAT scores to corresponding neural scores were used to examine bias in general.

Exploratory analyses were conducted to account for any meaningful patterns in responding. Correlations between demographic and dependent measures were performed to ascertain any relationships among variables. We split the learning task into quarters and compared means across time using a paired samples *t*-test with a Bonferroni correction.

We examined the assumptions for ANOVA to determine if they were met with the current data. We removed two participants' data due to scores on either the MRS or SCIAT being more than three standard deviations from the mean. This reduced our original sample size from 283 to 281. Skewness was not extreme for either dependent variable with values for the MRS between $|.01|$ to $|.84|$, and values for the SCIAT between $|.01|$ to $|.42|$.

Levene's test of equality indicated that the assumption of homogeneity of variance was met for MRS scores, $F(5, 275) = .51, p > .76$, and for SCIAT scores, $F(5, 275) = .69, p > .63$. The results from evaluations of assumptions were considered satisfactory to continue with the planned statistical procedures.

CHAPTER 3

RESULTS

The purpose of this study was to investigate the effect a learning task had on altering explicit and implicit racial prejudice. We used planned contrasts for both dependent measures to compare (1) participants in the experimental groups who viewed one face compared to three faces, (2) participants in the experimental groups who viewed 150 PBM relative to participants who viewed 100 PBM, (3) experimental groups among themselves, (4) participants in the experimental groups relative to participants in the control groups, and (5) neutral scores to experimental and control scores. Exploratory analyses are located in the appendices. Analyses conducted with files divided by race are located in Appendix E. Analyses examining learning task reaction times are located in Appendix F. Correlations of demographic variables with the dependent measures are located in Appendix G.

Main Effects

Number of faces. Planned comparisons revealed that participants who viewed three faces ($M = 8.83$, $SD = 2.97$) scored similarly on the MRS to participants who viewed one person ($M = 8.93$, $SD = 3.24$), ($p > .80$). Additionally, participants in the experimental groups who viewed three faces ($M = .026$, $SD = .38$) during the learning task did not have significantly different SCIAT scores than participants in the experimental groups who learned about only one individual ($M = -.074$, $SD = .49$), ($p > .16$).

Number of messages. Planned comparisons revealed that participants who viewed 150 PBM ($M = 9.38$, $SD = 3.03$), regardless of number of faces, scored higher on

the MRS than participants who viewed 100 PBM ($M = 8.39$, $SD = 3.18$), $t(275) = 2.27$, $p < .03$, $d = -0.32$. Planned comparisons revealed no significant differences for the SCIAT ($p > .17$).

Interaction Effects

Comparing experimental groups. Participants in the 1 Face/ 150 PBM group had higher MRS scores than participants in the 1 Face/ 100 PBM group, $t(275) = 1.97$, $p = .05$, $d = -0.38$. For the SCIAT, participants in the 3 Face/ 150 PBM group were faster associating positive messages with African American males than participants in the 1 Face/ 150 PBM group, $t(275) = 2.01$, $p < .05$, $d = .41$, and participants in the 3 Face/ 100 PBM group, $t(275) = 1.99$, $p < .05$, $d = .46$. The difference between participants in the 3 Face/ 150 PBM group and participants in the 1 Face/ 100 PBM group approached significance, $t(275) = 1.96$, $p = .051$, $d = .40$. See Table 1 for a list of means and standard deviations of MRS and SCIAT scores for each experimental group.

Comparing control versus experimental groups. A planned contrast revealed no differences between experimental groups and control groups for MRS scores ($ps > .10$). Planned comparisons revealed no significant differences between the experimental and control groups for SCIAT scores ($ps > .24$).

Comparing control and experimental scores to neutral scores. We compared participants' scores in each condition to a neutral MRS score. MRS scores ranged from 4 – 20, so 12 was utilized as the neutral score. A one-sample t -test revealed that scores from each condition were significantly below the neutral score (all $ps < .0005$). See Table 1 for a list of t -test results.

For the SCIAT, we examined each condition's scores with a neutral SCIAT score to determine if participants had a negative or positive association with African American males. Zero scores on the SC-IAT reflected a neutral score wherein reaction times when associating positive and negative words with African American males were equally likely. Results indicated that only the 3 Face/ 150 PBM group significantly differed from zero, $t(23) = 2.10, p < .05, d = .52$. See Table 1 for a list of t -test results.

Table 1

Overall Explicit Racial Prejudice Scores, Implicit Racial Prejudice Scores, and T-test Scores Compared to Chance

Condition	n	MRS Scores M (SD)	Explicit T-test Scores Compared to Chance	SCIAT Scores M (SD)	Implicit T-test Scores Compared to Chance
1 Face/ Control	47	8.74 (2.69)	-8.30**	0.035 (0.48)	0.64
1 Face/ 100 PBM	47	8.32 (3.44)	-7.34**	-0.107 (0.49)	-0.39
1 Face/ 150 PBM	46	9.54 (3.04)	-5.48**	-0.040 (0.48)	-0.46
3 Face/ Control	46	8.20 (2.83)	-9.11**	0.176 (0.51)	1.10
3 Face/ 100 PBM	47	8.45 (2.92)	-8.35**	-0.058 (0.37)	-0.55
3 Face/ 150 PBM	48	9.21 (3.01)	-6.43**	0.109 (0.38)	2.53*

**p < .0005

*p < .05

CHAPTER 4

DISCUSSION

The positive behavior messages learning task affected implicit and explicit racial prejudice, albeit differently. By themselves, the number of faces presented during the learning task had no effect on either explicit or implicit scores. The number of messages displayed during the learning task affected explicit, but not implicit, scores. Participants who viewed 150 PBM scored higher on the MRS than participants who viewed 100 PBM. The number of faces and number of messages displayed during the learning task interacted for both MRS and SCIAT scores. For MRS scores, participants in the 1 Face/ 150 PBM group scored higher than participants in the 1 Face/ 100 PBM group. For SCIAT scores, participants in the 3 Face/ 150 PBM group were faster associating positive adjectives and African American male pictures as compared with other experimental groups and the neutral score.

Explicit Prejudice

We found no significant differences on MRS scores for participants who viewed three people during the learning task as compared to participants who viewed one person. In contrast, the number of positive behavior messages did affect explicit prejudice scores, but not in the expected direction. Participants in the 150 PBM group scored higher (i.e., displayed more explicit prejudice) on the MRS than participants in the 100 PBM group. Because the explicit measure asked questions about the African American population, including female faces, in addition to male faces, in follow up studies may increase participants' ability to generalize the information from the learning task to the MRS.

Participants in the 1 Face/ 150 PBM group had higher MRS scores than participants in the 1 Face/ 100 PBM group. Two possible explanations are possible. On the one hand, the significance level just meets the significance criterion of .05 so future replications may not find this result to be robust. On the other hand, the explicit results may suggest that priming occurred during the learning task and the participants in the 1 Face/ 150 PBM judged the group more harshly (Ho & Jackson, 2001). The 150 PBM group learned more positive than neutral information about one individual, whereas the 100 PBM group learned equal amounts of positive and neutral information about an individual. When asked the explicit questions, participants may have compared the information they learned about this individual to the group (Biernat et al., 1991). This priming of the predominantly positive information that they learned about one African American male during the 150 PBM learning task may have activated the typically negative stereotypes about African Americans in general during the MRS task because of the striking contrast in information. If such priming occurred, the saliency of these negative stereotypes may have resulted in participants judging African Americans more harshly than other participants. It is important to remember, however, that none of the MRS scores were negatively biased toward African Americans, so this priming just made participants less positively biased. Asking participants to include feelings about the individual from the learning task in future studies may tap into reasons for these differences in MRS scores.

Next, we compared control group and experimental group scores. We included control groups to ascertain baseline attitudes about African Americans. Participants in the control groups learned neutral information about the target person(s) before completing

the MRS. Results showed no differences between control groups and experimental groups on explicit scores. These findings suggest that either the neutral information presented to participants had an effect on scores or that control group participants were not particularly biased against African Americans. Follow up studies in which participants complete the MRS independent of the learning task may highlight if the scores were a result of the learning task or of pre-existing attitudes.

We also compared participants' MRS scores to a neutral score to examine bias in general. Participants in all conditions showed an explicitly positive bias towards African Americans. Again, this finding may indicate that participants in this study were already more positive towards African Americans. The positive bias may be due to the diverse area in which this study was conducted or the diverse sample. Simply stated, these participants may have possessed a positive regard towards African Americans before the study began.

Another explanation is social desirability. Although questions were answered in private, participants may have responded to the questions in a socially desirable way. In other words, participants may have altered their responses to appear more positive.

Priming may also account for the positive bias in the results. During the learning task, all participants learned about one or three people through the use of statements and pictures. Previous research has found that mere exposure to pictures of African Americans was enough to increase identification with this group (Greenwald & Farnham, 2000). If participants experienced an increase in identification via exposure to photographs of African American males, then this connection could account for the positive bias; participants were identifying with the target group. Pre-existing attitudes,

social desirability, and priming may explain the findings. Further research using a control group wherein participants did not engage in the learning task could examine if priming accounts for the results.

Implicit Prejudice

We found no significant differences on SCIAT scores for participants who viewed three people during the learning task as compared to participants who viewed one person. Simply viewing more exemplars of the target category did not increase participants' ability to associate positive adjectives with African American male faces.

There were no significant differences in SCIAT scores when comparing the 150 PBM and 100 PBM groups. This finding suggests that exposure to increased positive messages alone was not enough to elicit an association between positive adjectives and African American male faces.

Rydell and McConnell (2006) were able to elicit a change in implicit associations for a particular individual using 100 PBM. That study presented participants with one Caucasian male and induced attitudes about him in a lab setting. The aim of the present study was to change already existing attitudes about African American males, a stigmatized group. Results indicated that viewing 100 PBM in conjunction with one or three faces was not sufficient to stimulate positive associations with African American males. Viewing 150 PBM in conjunction with three faces, however, did result in participants displaying implicit positive attitudes towards African American males after the learning task. These results suggest that both the number of positive messages as well as the number of individuals presented during the learning task were important to affect a change in implicit associations. Participants were able to use the combination of positive

information and presented faces to generalize the information to a new set of faces. The other experimental conditions lacked either enough faces (i.e., 1 Face) or enough messages (i.e., 100 PBM) to change a participants' implicit associations. It is unclear if these findings were due simply to the amount of positive messages and exemplars. The proportion of positive to neutral messages in conjunction with the number of faces during the learning task may be key to affecting a change in attitudes.

Follow up studies should increase the number of messages displayed during the learning task. For one group of participants the proportion of positive to neutral messages should be similar to the present study. For another group of participants the number of positive and neutral messages should be equal (e.g., 150 each). If the effects are comparable to the current findings, this would suggest that the proportion of positive to neutral messages is an important factor when trying to change attitudes about African American males.

Next, we compared control and experimental group scores. Participants in the control groups learned neutral information about the target person(s) before completing the SCIAT. Results showed no differences between control groups and experimental groups on implicit scores suggesting either neutral information presented effected scores or participants were not biased against African Americans. Follow up studies in which participants complete only the SCIAT may demonstrate if the attitudes are not biased or if neutral information affects attitudes.

When we compared the implicit scores to zero (i.e., a neutral score), the 3 Face/150 PBM group was the only group that significantly differed from zero. These results, in conjunction with experimental group comparisons, provide evidence that participants in

the 3 Face/ 150 PBM group were generalizing the learning task information to the stimuli presented during the SCIAT. Because participants' implicit scores in the other conditions were relatively neutral, it is unclear if the learning task could change negative attitudes to neutral or positive. In this study, it appeared that neutral attitudes were made more positive in the 3Face/ 150 PBM condition. Future research could include a pretest of the SCIAT to divide the participants by initial responses (e.g., negative, neutral, and positive responders), then administer the learning task and collect subsequent SCIAT scores.

Explicit Versus Implicit Results

Explicit scores suggest a positive bias toward African Americans. It is unclear if these positive scores were moderated by another factor, such as social desirability, or if the participants were already positive toward African Americans. Other than the 3 Face/ 150 PBM group, implicit scores were relatively neutral indicating neither a positive nor a negative bias toward African American males. Given these explicit and implicit results, the participants in this study may not have had prior explicit or implicit negative prejudice towards African American males. Collecting data in two separate locations with varying population demographics in which participants completed either the MRS or the SCIAT without the learning task may provide a baseline for attitudes in those areas.

Control Groups

Control group scores in this study did not significantly differ from experimental group scores. For the explicit measure, scores may reflect a floor effect. Regardless of future intervention, it may not be possible to reduce explicit scores below those reported in this study.

Control group scores on the implicit measure may be a reflection of the study's location. The Las Vegas metropolitan area is very diverse, and attitudes towards African American males may not be as negative as found elsewhere. Replicating the study in a less diverse area would provide more evidence for scoring differences due to location.

Another explanation for relatively neutral scoring may be the introduction of neutral information. Perhaps simply learning about individuals and spending time looking through photographs of the target group was enough to elicit less negative associations. Collecting SCIAT data without having the participant complete a learning task should provide further clues as to whether the implicit results for control groups were due to neutral messages or the diversity of the area.

Another explanation for differences in implicit scores as compared to other IAT research may be attributed to using the Single Category Implicit Association Test (SCIAT), which measures attitudes of only one group at a time. Previous racial prejudice research using the IAT has asked participants to sort White or Black faces or words into positive and negative categories. Using the measure in this way insinuates that White-Black is a complementary pair. These studies produce results with a pro-White bias and subsequently an anti-Black attitude because scoring is reciprocal. If a participant displays faster associations between positive adjectives and White faces, then he cannot display these same associations between positive adjectives and African American faces. In reality, these participants may be displaying an ingroup preference. The scope of this thesis was to examine associations of African American males with positive and negative words without comparison to associations for White males. Measuring African American males without a comparison group may naturally yield less negative implicit associations

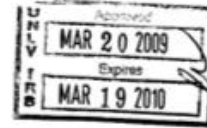
for control groups. Further research should include a standard IAT to assess if the differences in control groups were due to type of IAT used.

Conclusion

These findings contribute to understanding the circumstances in which implicit associations are malleable. We found that exposure to three individuals from a stigmatized group in conjunction with a greater percentage of positive than neutral messages influenced implicit associations. Increasing positive messages, while decreasing negative messages, may alter implicit prejudice, regardless of race. White and other minority groups may use negative media information about African American males to form and reinforce stereotypes (Armstrong, Neuendorf, & Brentar, 1992). These same messages may be internalized by African American youth (Ward, 2003). Practically speaking, this research is important because reducing stereotypes towards minorities may reduce discriminatory behaviors towards those same minorities.

This study also provides evidence for the need for more culturally inclusive research. Participants in this study were not limited to White college students. As noted previously, attitudes were either explicitly positive or implicitly neutral. Including diverse populations in future studies may provide results that are truly generalizable to the population.

APPENDIX A
IRB APPROVALS



**Social/Behavioral IRB – Expedited Review
Approval Notice**

NOTICE TO ALL RESEARCHERS:

Please be aware that a protocol violation (e.g., failure to submit a modification for any change) of an IRB approved protocol may result in mandatory remedial education, additional audits, re-consenting subjects, researcher probation suspension of any research protocol at issue, suspension of additional existing research protocols, invalidation of all research conducted under the research protocol at issue, and further appropriate consequences as determined by the IRB and the Institutional Officer.

DATE: March 23, 2009
TO: **Dr. Jennifer Rennels**, Psychology
FROM: Office for the Protection of Research Subjects
RE: Notification of IRB Action by Dr. Paul Jones, Co-Chair *PJL*
Protocol Title: **Altering Implicit and Explicit Racial Prejudice**
Protocol #: 0901-2991

This memorandum is notification that the project referenced above has been reviewed by the UNLV Social/Behavioral Institutional Review Board (IRB) as indicated in Federal regulatory statutes 45 CFR 46. The protocol has been reviewed and approved.

The protocol is approved for a period of one year from the date of IRB approval. The expiration date of this protocol is March 19, 2010. Work on the project may begin as soon as you receive written notification from the Office for the Protection of Research Subjects (OPRS).

PLEASE NOTE:

Attached to this approval notice is the **official Informed Consent/Assent (IC/IA) Form** for this study. The IC/IA contains an official approval stamp. Only copies of this official IC/IA form may be used when obtaining consent. Please keep the original for your records.

Should there be *any* change to the protocol, it will be necessary to submit a **Modification Form** through OPRS. No changes may be made to the existing protocol until modifications have been approved by the IRB.

Should the use of human subjects described in this protocol continue beyond March 19, 2010, it would be necessary to submit a **Continuing Review Request Form** 60 days before the expiration date.

If you have questions or require any assistance, please contact the Office for the Protection of Research Subjects at OPRSHumanSubjects@unlv.edu or call 895-2794.

Office for the Protection of Research Subjects
4505 Maryland Parkway • Box 451047 • Las Vegas, Nevada 89154-1047

APPENDIX B

POSITIVE AND NEGATIVE ADJECTIVES

Good

Joy

Love

Peace

Wonderful

Pleasure

Glorious

Laughter

Happy

Positive

Bad

Agony

Terrible

Horrible

Nasty

Evil

Awful

Failure

Hurt

Negative

APPENDIX C

MODERN RACISM SCALE

Indicate how much you agree or disagree with the following statements:

Strongly

Strongly

Disagree

Agree

1

2

3

4

5

1. Over the past few years, Blacks have gotten more economically than they deserve.
2. Over the past few years, the government and news media have shown more respect to blacks than they deserve.
3. It is easy to understand the anger of black people in America.*
4. Discrimination against blacks is no longer a problem in the United States.
5. Blacks are getting too demanding in their push for equal rights.
6. Blacks should not push themselves where they are not wanted.

Scoring: Sum scores, Higher scores = greater prejudice.

* The question is reverse coded.

APPENDIX D
DEMOGRAPHICS

Age: _____ Sex: _____

1. Ethnicity
2. Race (please mark all that apply):
 - a. American Indian or Alaska Native
 - b. Asian
 - c. Black or African American
 - d. Native Hawaiian
 - e. Other Pacific Islander: _____
 - f. White
 - g. Chinese
 - h. Japanese
 - i. Filipino
 - j. Korean
 - k. Vietnamese
 - l. Asian Indian
 - m. Other Asian: _____
 - n. Guamanian or Chamorro
 - o. Samoan
3. Highest level of completed education
 - a. Some high school
 - b. High school graduate or equivalency

- c. Some undergraduate
 - d. Technical school degree
 - e. Associates degree
 - f. Bachelor's degree
 - g. Current Graduate student
 - h. Masters degree
 - i. Doctoral degree
 - j. Other: (please specify) _____
4. Approximately how many hours per week do you spend watching television?
- a. 0 – 1 hr
 - b. 1 – 3 hrs
 - c. 3 – 7 hrs
 - d. 7 – 14 hrs
 - e. 14 – 21 hrs
 - f. 21+ hrs
5. How many hours per week do you spend on the Internet watching TV, movies, or reading news or magazine stories?
- a. 0 – 1 hr
 - b. 1 – 3 hrs
 - c. 3 – 7 hrs
 - d. 7 – 14 hrs
 - e. 14 – 21 hrs
 - f. 21+ hrs

APPENDIX E

IMPLICIT AND EXPLICIT SCORES BASED ON RACE

I split the file into five racial groups (Caucasian, African American or Black, Hispanic/Latino(a), Asian or Pacific Islander, and more than one race) to ascertain if any racial differences existed in explicit measure scores within that racial group. Overall, participants who self identified as Asian or Pacific Islander and were in the 1 Face/ 150 message condition scored significantly higher on the MRS as compared to Asian or Pacific Islanders in the control conditions, $t(62) = 2.78, p < .01, d = 1.23$. When comparing experimental groups amongst each other, Asian/Pacific Islander participants in the 1 Face/ 150 PBM group scored significantly higher on the MRS than Asian/Pacific Islander participants in the 3 Face/ 100 PBM group, $t(62) = -2.51, p < .05, d = 1.43$. There were no other differences based on race. See Table 2 for all means and standard deviations.

Table 2

Explicit Racial Prejudice Scores by Race

Condition	White		African American or Black		Hispanic/Latino(a)		Asian or Other Pacific Islander		More than one Race	
	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)
1 Face/ Control	15	13.93 (2.96)	4	11.50 (2.89)	12	12.75 (2.70)	11	14.36 (3.93)	5	11.60 (4.67)
1 Face/ 100 PBM	18	12.61 (4.20)	3	10.00 (1.00)	10	13.00 (3.71)	12	15.42 (5.57)	4	10.75 (2.22)
1 Face/ 150 PBM	15	14.40 (3.80)	4	10.25 (3.30)	12	14.33 (2.84)	12	17.17 (2.79)	3	13.00 (2.65)
3 Face/ Control	18	14.06 (4.14)	4	8.75 (2.22)	6	11.83 (3.31)	10	12.50 (2.59)	8	12.38 (1.85)
3 Face/ 100 PBM	19	13.21 (4.63)	3	13.00	3	12.00 (3.61)	14	13.50 (2.31)	8	9.75 (2.61)
3 Face/ 150 PBM	14	14.93 (4.16)	5	13.20 (3.96)	16	13.06 (3.77)	9	14.89 (4.23)	4	11.25 (4.27)

Using the same split file, I conducted an ANOVA with contrasts examining implicit scores within each racial group. No significant differences were found based on race when comparing experimental groups with controls groups or amongst the experimental groups. See Table 3 for a list of means and standard deviations.

Table 3

Implicit Racial Prejudice Scores by Race

Condition	White		African American or Black		Hispanic/Latino(a)		Asian or Other Pacific Islander		More than one Race	
	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)	n	M (SD)
1 Face/ Control	14	0.052 (0.24)	4	-0.001 (0.53)	12	0.014 (0.41)	11	0.097 (0.50)	5	-0.032 (0.73)
1 Face/ 100 PBM	18	-0.137 (0.47)	3	-0.116 (0.14)	10	0.085 (0.44)	12	0.036 (0.51)	4	0.070 (0.57)
1 Face/ 150 PBM	15	-0.084 (0.33)	4	0.426 (0.52)	12	-0.024 (0.43)	12	-0.164 (0.46)	3	0.122 (0.92)
3 Face/ Control	18	0.079 (0.58)	4	0.290 (0.11)	6	0.084 (0.20)	10	-0.078 (0.48)	8	0.140 (0.36)
3 Face/ 100 PBM	19	-0.050 (0.34)	3	0.277 (0.22)	3	0.146 (0.27)	14	-0.125 (0.42)	8	0.009 (0.36)
3 Face/ 150 PBM	14	0.131 (0.31)	5	0.229 (0.73)	16	0.115 (0.36)	9	0.170 (0.51)	4	0.165 (0.03)

APPENDIX F

LEARNING TASK REACTION TIME

We split the learning task into quarters and compared means across time for differences in reaction time. The ANOVA for the learning task revealed significant differences among the groups for reaction time (all $ps < .001$). Scheffe's post hoc analyses revealed that the significant differences were related to the number of messages received. Participants' reaction times in the 150 PBM groups were longer than reaction times in the 100 PBM group. Subsequently, participants' reaction times in the 100 PBM group were greater than reaction times in the 0 PBM group. See Table 4 for a list of means and standard deviations.

To analyze specific changes among quarters over time, we utilized a paired samples t -test. Due to multiple comparisons, a Bonferroni correction was applied before interpreting the results. Only results in which $p < .002$ were considered statistically significant. For all conditions, the reaction times for both Quarter 2 and Quarter 4 were significantly faster than reaction times for Quarter 1 (all $ps < .001$). Reaction times for 3 Face/ Control condition participants were faster in Quarter 3 than Quarter 2, $t(45) = 3.79$, $p < .001$. No other comparisons were significant.

Table 4

Means and Standard Deviations for Learning Task by Quarter

Condition	n	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		M (SD)	M (SD)	M (SD)	M (SD)
1 Face/ Control	47	2622.75 (648.21)	2134.66 (492.77)	2057.40 (559.46)	2020.91 (604.60)
1 Face/ 100 PBM	47	4844.50 (942.04)	4110.11 (932.49)	4033.08 (814.80)	3930.52 (760.00)
1 Face/ 150 PBM	46	5836.44 (810.10)	5303.08 (789.69)	5107.69 (842.19)	4950.74 (883.15)
3 Face/ Control	46	2644.70 (921.77)	2042.80 (630.97)	1857.37 (603.73)	1865.64 (609.44)
3 Face/ 100 PBM	47	4532.18 (846.27)	3895.23 (811.63)	3887.60 (872.31)	3859.66 (802.71)
3 Face/ 150 PBM	48	5754.25 (873.94)	5274.96 (986.61)	5125.95 (934.17)	5209.85 (1064.68)

The learning task results revealed significant decreases among groups for reaction times; post hoc analyses indicated that as the number of messages increased, the participant's reaction time increased. Participants in the 150 PBM groups took longer to respond during the learning task than participants in the 100 PBM and control groups. Participants in the 100 PBM also had longer reaction times than participants in the control groups. The difference in reaction times is most likely due to variations in sentence length for the positive and neutral statements. Participants in the control groups read only short, neutral sentences (i.e., Jerome ate a sandwich), whereas participants in the experimental groups read short, neutral sentences and longer, positive statements (i.e., Jerome always says good morning with a big grin on his face).

Reaction time also changed over the course of the learning task. There was a significant decrease in reaction time from Quarter 1 to Quarter 2 and from Quarter 1 to Quarter 4. This finding suggests that participants spent more time during the beginning of the task reading and processing the information. The decrease in reaction time between

these quarters provides evidence of a learning curve for the study. Participants likely became more familiar with the mechanisms of responding to the task, and subsequently became faster at completing the task.

APPENDIX G

EXPLORATORY ANALYSIS OF OTHER FACTORS

To determine if participants' exposure to media or their neighborhood were related to prejudice, correlations were calculated between participant responses to items 4, 5 and 6 on the demographic information form and the implicit and explicit scores. Number of hours spent watching television positively correlated with number of hours spent watching the internet, $r = 0.34, p < .01$. Number of hours spent watching television negatively correlated with neighborhood diversity, $r = -0.15, p < .05$. The correlations revealed no relation between television viewing, internet viewing, or diversity of the neighborhood with either the explicit or implicit scores. See Table 5 for correlations, means, and standard deviations.

Table 5

Correlations among Implicit Scores, Explicit Score, and Demographic Variables

	2	3	4	5
1. Dscore	-0.12	0.06	0.01	-0.05
2. MRS score	--	-0.03	0.11	-0.01
3. TV		--	0.34**	-0.15*
4. Internet			--	-0.01
5. Diversity				--

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the .05 level (2-tailed).

Correlations between television and internet viewing indicated that as the number of hours spent watching television increased, the number of hours spent watching the internet also increased. This finding indicates that participants are just as likely to utilize the internet for media exposure as they are traditional avenues, such as television. Calculations also revealed a negative correlation between the number of hours spent watching television and perceived neighborhood diversity.

Neither implicit nor explicit scores related to the number of hours spent watching TV, surfing the internet, or neighborhood diversity. Perhaps the questions asked were too general to pinpoint any correlations. The demographic questionnaire simply asked for the approximate amount of time spent watching television or the internet. Future research may pinpoint perceived amount of viewing of diverse populations through both of these avenues.

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