USING SHARED REALITY THEORY AND SOCIAL TUNING TO MODIFY THE EXPRESSION OF RACIAL PROFILING BEHAVIORS

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Abstract

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In the experiments proposed here, I tested the hypothesis that automatic racial prejudice, as evidenced in racial profiling behaviors, is subject to elements of common social influence. Across all 3 experiments, participants engaged in a racial profiling video game in the presence of a male experimenter to demonstrate the extent to which they shift their social beliefs (i.e., engage in social tuning) to align more closely with him. Experiment 2 used actual interracial (European American and African American) contact to examine the extent to which tacit social influence modifies the expression of automatic prejudice in the racial profiling video game. Experiment 3, extended Experiment 2 by adding a condition of both European American and African American experimenter’s expressed racial attitude. Results were consistent with the tenets of shared reality theory, which postulates that social regulation is central to social cognition and that social bonds are established and maintained to the degree that social beliefs are perceived to be shared by individuals.
This dissertation is dedicated to all of those who have been affected by the sting of racial discrimination and continue to have faith in our country.
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INTRODUCTION

Within the realm of social cognition, dual-processing approaches have dominated research into stereotyping, prejudice, and acts of discrimination. The dual-processing approach to prejudice specifies that automatic means of information processing are capable of being refined, modified, or entirely overridden by consciously controlled modes of information processing (Chaiken & Trope, 1999). A good deal of empirical evidence indicates that racial prejudice and stereotyping can operate automatically (i.e., effortlessly, unintentionally, outside awareness, and uncontrollably) (e.g., Banaji & Greenwald, 1994; Banaji & Hardin, 1996; Banaji, Hardin, & Rothman, 1993; Bargh, 1994, 1999; Devine, 1989; Greenwald & Banaji, 1995; Sherman & Hamilton, 1994), and there is also evidence to indicate that automatic prejudice can be willfully constrained (see Bargh, 1999; Devine & Monteith, 1999). For example, Devine’s (1989, 1993) work has demonstrated that stereotypes are automatically activated upon exposure to a member of a stereotyped group or a symbolic equivalent, regardless of conscious intentions, beliefs, or prejudice; however, the application of individuals’ stereotypes is susceptible to their conscious control (Devine & Monteith, 1993; Devine, Monteith, Zuwerink, & Elliot, 1991; Monteith, 1993; Plant & Devine, 1998).

The behavioral application of prejudicial attitudes or of stereotypes is discrimination; that is, discrimination is the differential treatment of an individual based on her group membership, and differential cognitions, by way of prejudicial attitudes and
group stereotypes, are thought to drive such differential behavior. In the social cognition literature, and more broadly, researchers increasingly have focused their attentions on the control of both stereotype activation and ensuing discriminatory behaviors (Amodio, Harmon-Jones, & Devine, 2003; Bargh 1990; Blair, Ma, & Lenton, 2001; Dasgupta, McGhee, Greenwald, & Banaji, 2000; Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Lowery, Hardin & Sinclair, 2001; Monteith, 1993; Moskowitz, Gollwitzer, Wasel, & Schaal, 1999). Several methods have proved useful in modifying stereotypes, including counter-stereotypic new associations (Dasgupta & Greenwald, 2001; Sinclair & Kunda, 1999), exposure to non-stereotypic group members (Rudman, Ashmore, & Gary, 2001), exposure to liked members of the stereotyped group (Sinclair & Kunda, 1999) and associating one’s own egalitarian thoughts with members of stigmatized groups (e.g., Bargh, 1990, 1997; Moskowitz et al., 1999).

One particularly compelling approach is borrowed from contemporary communication theory, which proposes that every social interaction, even the most rudimentary social interaction (McCann & Higgins, 1992), is predicated on ongoing, mutual attempts at assessing each others’ perspective (for reviews see Clark, 1996; Hardin & Higgins, 1996; Krauss & Fussell, 1996; Sperber & Wilson, 1987). Furthermore, in a given social interaction, “interaction participants” require an establishment and continued maintenance of a mutual perception in order to sustain the interaction; this shared perception is emblematically termed “common ground” by Lowery and colleagues (Lowery et al., 2001).

Evidence of the establishment of such common ground ranges from the mundane (e.g., giving directions using famous landmarks to tourists versus locals [Isaacs & Clark,
to the complex (e.g., shifting racial attitudes based on an experimenter’s likeability [Sinclair, et al., 2005]). These attitude shifts have been implicated even in the altering of memory; in fact, mere incidental knowledge of a new interaction partner’s attitude about another social target is capable of influencing not only current attitudes, but memory about the social target (see McCann & Higgins, 1992). In a classic study, Higgins and Rholes (1978) gave participants a brief, written description of “Donald” and were told they would discuss their impressions of Donald with another participant, who either “kinda liked” or “kinda disliked” him. Donald’s behaviors could easily be characterized as either “adventurous” or “reckless.” Results indicated that participants’ discussion of Donald became adjusted toward the apparent attitudes of their partners, and their own discussion affected their subsequent attitudes and memory about Donald assessed at a later date. Furthermore, when asked to recall the original description of Donald, the participants in the “kinda liked” condition remembered a greater number of positive aspects of the original description. The occupation of common ground, then, appears to have a profound impact on both perceptions and memory. In what will be detailed below, common ground has an influence on relationships and private attitudes, including private attitudes regarding prejudice.

“Social Tuning” in Relationships

One means of obtaining common ground is by shifting one’s social beliefs to align more closely with one’s interaction partner; this is referred to by shared reality theory (Hardin & Higgins, 1996) as social tuning. Shared reality theory postulates that experience is transitory, random, and ephemeral until it is recognized and shared in an on-going, dynamic process of social verification. Hardin and Higgins (1996) write,
“...Once recognized by others and shared in an on-going, dynamic process of social verification we term ‘shared reality,’ experience is no longer subjective; instead it achieves the phenomenological status of objective reality” (p. 28). Social tuning involves taking other people’s perspectives into account by achieving a common or shared understanding of the environment, and these social tuning actions in turn serve to bring about further social interaction.

As shared reality is the development and maintenance of social bonds, it follows that a heightened desire to develop shared reality with an interaction partner is influenced by level of affiliative motivation, that is, the extent to which an individual desires to affiliate with an interaction partner. Individuals achieve heightened shared reality by adjusting their attitudes toward relationship-relevant attitudes they perceive their interaction partner as holding. Affiliative social tuning has been demonstrated across a variety of contexts ranging from low, initial affiliation (e.g., new acquaintance arranged in an experimental context [Lowery et al., 2001]) to high, long-standing affiliation (e.g., romantic partners [Davis & Rusbult, 2001]). Across many types of interactions, it has been demonstrated that social tuning can be produced with relatively little effort in varying contexts.

Since the ground-breaking Asch experiments of 1951, psychologists have examined group-induced attitude change in response to perceived group norms (e.g., Asch, 1951; Back, 1951; Crutchfield, 1955; Newcomb, 1952; Sampson & Insko, 1964; Schachter, 1951). These studies experimentally created groups in which participants had limited histories of interaction with each other and little to no expectation of any future interaction yet people changed their attitudes and behaviors to conform to their group’s
norms. Attitude change, however, also commonly emerges in the context of involved relationships (see Chaiken, Gruenfeld, & Judd, 2000; Katz & Lazarsfeld, 1955; Koslowsky & Schwartzwald, 2001; Miller & Boster, 1988; Orina, Wood, & Simpson, 2002). There is a rich social psychological history of experimentally demonstrating conformity to group norms despite the level of the interaction partner’s shared history or expectation of future interaction, and therefore, the role of social tuning is implicated in attitude alignment.

Social Tuning and Prejudice

Another possible individual personality variable capable of influencing the degree of social tuning is social desirability. Social desirability is a particularly salient personality variable in undertaking research into anti-African American racial prejudice (for a comprehensive review see Greenwald & Banaji, 1995). Crosby, Bromley, & Saxe (1980) found that anti-African American sentiments are much more prevalent among European Americans than survey data suggested. By changing the methodology from self-reports to experiments on helping behavior, aggression, and nonverbal communication, they reached the conclusion that anti-African American prejudice trends continue to be strong among sampled European Americans. Similarly, research has indicated that European Americans express markedly less racial prejudice to an African American interviewer than a European American interviewer, presumably because anti-African American attitudes are perceived as less acceptable to African Americans than to European Americans (e.g., Kinder & Sanders, 1996; Schuman, Steeh, Bobo, & Krysan, 1997). In contrast to treating social desirability as a nuisance variable, shared reality
views social desirability and other forms of social influence to contribute to genuine attitude change (Lowery et al., 2001).

Although, racial attitudes are thought to be well-learned and stable despite individual motivations to avoid prejudice (Amodio, Harmon-Jones, & Devine, 2001; Bargh, 1990; Blair et al., 2001; Dasgupta, McGhee, Greenwald, & Banaji, 2000; Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Monteith, 1993; Moskowitz, Gollwitzer, Wasel, & Schaal, 1999), researchers have been investigating the role of social tuning in influencing racial attitudes (Lowery et al., 2001; Sinclair & Kunda, 1999; Sinclair et al., 2005). For example, across a series of experiments, European American participants expressed lower levels of automatic racial prejudice in the presence of an African American experimenter versus a European American experimenter (Lowery et al., 2001). Lowery and colleagues (2001) had European American college students take a paper-and-pencil version of the Implicit Association Task (IAT; Greenwald & Banaji, 1995) or a computerized subliminal priming task with either a European American experimenter or an African American experimenter and found evidence that social tuning occurred on prejudice attitude expression to the extent that prejudice attitudes were relevant to the participant-experimenter relationship. The authors contended that change in automatic prejudice revealed participants’ social tuning, and that social tuning corresponded to participants’ assumption of presumed pro-African American beliefs of African American experimenters as compared with European American experimenters. Moreover, the researchers found that when the African American experimenters explicitly told participants to avoid prejudice responses on the IAT, they were significantly less
prejudiced in their IAT scores compared to participants who were merely (i.e., tactility) exposed to the African American experimenter.

In the experimental environment there are inherent situational roles ascribed to the experimenter (superior) and participant (subordinate). The participant’s desire to get along with the experimenter, and therefore socially tune to the experimenters racial attitudes, derives in part from social demand in the experimental situation (Richeson & Ambady, 2003). This desire is evidenced even under completely arbitrary circumstances; that is, assigning someone in dyad to be a superior and assigning another to be a subordinate. Richeson and Ambady (2003) found that individuals expressed less automatic racial prejudice on the IAT when interacting with an arbitrarily assigned African American superior than with an arbitrarily assigned African American subordinate. This study suggests a strong experimental effect that desire of a shared interpersonal interaction with someone in a superior role, such as an experimenter, can elicit affiliative social tuning.

It is worth noting that motivation to have a successful relationship, no matter how short–lived or permanent, in any interaction is at the center of social tuning. Sinclair and Kunda (1999) demonstrated that positive social motivation reduces the activation of negative racial stereotypes in judging an African American target on both an implicit word-fragment-completion and lexical-decision tasks. This finding is particularly remarkable given its natural contradiction that the presence of an African American inevitably elicits anti-African American stereotyping and prejudice (Devine, 1989; Dovidio, Kawakami, C. Johnson, B. Johnson, & Howard, 1997). Yet, more recent research into the role of executive functioning in stereotype application is suggesting that
exposure to an African American interaction partner may yield lower levels of automatic prejudice on tasks such as the IAT, but decrease performance on a race neutral task such as the Stroop task. Richeson and Shelton (2003) had participants take the IAT, then interact with either a European American interaction partner or an African American interaction partner. After an interaction with an African American, European American research participants had decreased performance on a measure of executive control (i.e., the Stroop task). Moreover, participants who earlier showed strong racial bias on the IAT had a more pronounced deficit in executive control than their low-IAT counterparts. The researchers concluded that self-regulatory demands of interacting with an African American interaction partner decreased their capacity for executive control.

There continue to be questions about both the controllability of application and the automaticity of activation (e.g., Bargh, 1999). The dual-processing approach to prejudice specifies four conditions for behavior to be activated by an intentionally controlled, rather than automatic, processes. The deliberate control of stereotype application requires one’s (a) awareness of the potential to invoke a stereotype, (b) accurate understanding of how the stereotype could affect judgment, (c) motivation to restrain the stereotype, and (d) capacity to act on the motivation (e.g., Bargh, 1999; Devine & Monteith, 1999; Lowery et al., 2001). Devine's (1989) dissociation model describes and predicts the disconnect between automatically activated prejudices and intended responses. Even individuals motivated by egalitarian values engage in controlled processes to prevent prejudiced actions, however, they nonetheless engage in discriminatory behaviors by virtue of deeply rooted prejudice or just by knowing the prevailing stereotype (Devine, 1989; Devine, Monteith, Zuwerink, & Elliot, 1991).
Combinations of the 4 conditions for controlling prejudice are likely to yield prejudice-incongruent responding when conditions are optimal, such as having ample exposure to the stimuli and ample time to respond, and being free of fatigue and away from distractions (for review see Fiske, 1998). However, the response latencies elicited in suboptimal conditions reveal the extent to which unintended prejudice can be automatically activated and thus offer a threat of discrimination (Bodenhausen, 1990; Macrae, Milne, & Bodenhausen, 1994).

**Persistence of Crime Stereotypes and Discrimination against African Americans**

Recall that automatic prejudice attitudes have been shown to occur or be activated below one’s level of awareness; however, the application of prejudice (i.e. a discriminatory act) is vulnerable to conscious control (Lowery, et al., 2001). The stereotype literature informs us on the nature of predisposed thought believed necessary in the commission of discrimination and strongly relates to over-generalizations. Stereotyping allows us to simplify large quantities of information via categorization processes and thereby further self-enhancement goals (Kunda & Sinclair, 1999; Sinclair & Kunda, 1999; Spencer, Fein, Wolfe, Fong, & Dunn, 1998). Conversely, stereotypes inform decisions at the expense of considering individuating information (see Hamilton & Sherman, 1994). Stereotyping has been thought to be both automatic and controllable, and therefore, the extent to which adjusting stereotypes would influence the commission of corresponding discriminatory acts is unclear, and as yet; unknown.

It has long been decried that African Americans are associated with crime (Allport & Postman, 1947; Correll, Park, Judd, & Wittenbrink, 2002; Devine, 1989; Duncan, 1976; Eberhardt et al., 2004; Greenwald, Oakes, & Hoffman, 2003; Payne,
This can be evidenced in incarceration rates (FBI, 2001, 2005; Sagar & Schofield, 1980), in mass media (Bobo, 1991; Davis & Gandy 1999; Devine, 1989; Gandy, 1998; Shohat & Stamm, 1994; Wilson & Gutierrez, 1995), and increasingly, in the growing discourse on racial profiling (see Durose, Schmitt, & Langan, 2005; Parker, MacDonald, Alpert, Smith, & Piquero, 2004; Reitzel, Rice, & Piquero, 2004). Taken together, we get a snapshot of the association of violence and crime with African Americans contributing to the racial profiling attitudes held by the public. Psychologists, particularly forensic psychologists, have begun to investigate the extent to which law enforcement is influenced by race-and-crime stereotypes (Hart, Larsen, Litton, & Sullivan, 2003; Wilson, Dunham, & Alpert, 2004; West, 2003). There is growing experimental evidence indicating that Afrocentric features are more highly associated with crime than Eurocentric features. For example, people remembered more Afrocentric features than Eurocentric features of individuals pictured on a televised news program related to crime (Oliver, Jackson, Moses, & Dangerfield, 2004). Seeing race and crime as interconnected is often undetected by observers and thus contributes to an atmosphere conducive to racial stereotypes, prejudice, and potentially, discrimination such as racial profiling.

One of the earliest psychological research endeavors into American racial stereotypes dates to the early 1930’s. Katz & Braly (1932) surveyed 100 college students at Princeton University about the personality characteristic of ten racial groups. The agreement on the characteristics for African Americans was the highest of all ten; in fact, 84% of the sample voted the group as “superstitious” and 75% voted the group as “lazy.” The authors write, “We have a comparison of the ten racial stereotypes. The most definite picture is that of the Negroes [sic]” (Katz & Braly, 1932, p. 288). These stereotypes have
withstood time and have been well documented (Allport & Postman, 1947; Correll, Park, Judd, & Wittenbrink, 2002; Devine, 1989; Duncan, 1976; Eberhardt, Goff, Purdie, & Davies, 2004; Greenwald, Oakes, & Hoffman, 2003; Payne, 2001; Sagar & Schofield, 1980). Social psychological research, in particular, has demonstrated the persistence of stereotypes that associate African American men with criminality. A number of key studies have converged on implicating racial stereotypes in the perception of elements of criminal activity. For example, a slide projecting a virtual subway scene, elicited biased recalls linking racial characteristics to memories of who was holding a razor blade (Allport & Postman, 1947), racial primes predicted the categorization of non-weapons as weapons (Payne, 2001, 2005), and, in a police-like videogame, race influenced the likelihood that the participants would shoot a target and the speed at which people decided to shoot at the target holding a weapon (Correll et al., 2002). Demonstrations of stereotypic associations between African Americans and crime have been shown to be both automatic and persistent (see Payne, 2001, 2005; Payne, Lambert, & Jacoby, 2002).

It seems the strong association between race and crime biases law enforcement’s perception of potentially threatening crime situations, and thereby, provides optimal conditions for discriminatory practices. Payne (2001, 2005) noted that people tend to misidentify harmless objects as weapons when the harmless objects (e.g., pliers, videotapes) are paired with African American faces. Similar biased processing was found by two other laboratories using more complex visual scenery which included a full-body photograph and a landscape (e.g., parking lot, office), and when the discriminatory action was more complex, including a computer simulating shooting of a gun at a target person (Correll et al., 2002; Greenwald, Oakes, & Hoffman, 2003). The conflation of crime with
race, then, has been well documented across a variety of experimental contexts and has been shown to bias perception.

The above reviewed studies show not only that race and crime are conflated but that people tend to act on that race-and-crime stereotype when primed by an African American stimulus. Yet, to date, there do not appear to have been experimental tests of the extent to which the stereotype linking African Americans and crime produces racial profiling behavior. Although there is considerable debate regarding a singular, agreed upon definition of racial profiling (e.g., Durose, Schmitt, & Langan, 2005; Parker, MacDonald, Alpert, Smith, & Piquero, 2004; Reitzel, Rice, & Piquero, 2004; Weitzer & Tuch, 2005), perceptually speaking, law enforcement either perceive enough evidence to warrant further investigation of a potential suspect or they do not perceive enough evidence. The extent to which racial profiling behaviors ensue from the pervasive race-and-crime stereotypes of African Americans can be illustrated by using a simple prime of an unambiguous raced face and a non-associated symbol (i.e., a simple symbol with neither a positive or negative valence) designated as indicating “probable cause” or “no-probable cause.”

*Overview of Experiments*

As reviewed above, research on the public expression of prejudice reveals that social influence effects can be elicited tacitly by the mere presence of someone whose social category implies their racial attitude. In the experiments detailed here, the implied racial attitude is that racial profiling directed at African Americans is less acceptable to African American experimenters than it is to European American experimenters (e.g., Lowery et al, 2001.; Schuman et al., 1997). Hence, I investigated automatic social tuning
by assessing automatic racial profiling behaviors in the presence of an African American versus European American experimenter.

This paradigm allows three primary advantages. Firstly, it is seminal research in the examination of racial profiling tendencies under controlled experimental manipulation. Secondly, it examines automatic racial prejudice in a real and authentic interracial contact interaction. Thirdly, it tests of the strength of simple interracial contact via the tacit influence of experimenter race versus the more explicit social influence of verbally relaying a racial attitude.

Across 3 experiments, participants played a racial profiling video game, completed three measures of explicit racial attitudes, one measure of social desirability, and were subjected to manipulations of social influence. In each experiment, I examined the degree to which individual differences in explicit racial attitudes alter automatic social tuning effects. In Experiment 1, I examined the extent to which European American subjects make perceptual errors and have response latency in the racial profiling video game with a European American experimenter. In Experiment 2, I replicated the results of Experiment 1 and additionally measured the influence of introducing an African American experimenter, and thereby provided a preliminary investigation of the conditionality of automatic social tuning. In Experiment 3, I extended the analysis from effects of tacit social influence to expressed social influence on the racial profiling game. Across all 3 experiments, both the scores on the racial profiling game and the response latencies of those scores are addressed to investigate the nature of both explicit racial profiling behaviors (e.g., incorrectly perceiving probable cause when it does not exist) and implicit racial profiling behavior (e.g., taking longer to correctly perceive probable
cause with a European American target than an African American target). Thus, the aim of the following studies is to provide a new experimental context for measuring discriminatory behavior (i.e., racial profiling) and examine the extent to which both tacit and explicit social influence can modify the expression of these racial profiling behaviors.
METHOD & RESULTS

Experiment 1

To examine the hypothesis that explicit racial attitudes are positively related to implicit and explicit racial profiling behaviors, participants completed several race-related paper-and-pencil measures and completed the racial profiling game designed to measure both explicit arrest patterns and implicit response time latency values.

Method

Participants

Eighty-nine European American undergraduates (49 women and 40 men, mean age = 20.2 years), enrolled in a social psychology course given by the sociology department or enrolled in a psychology course, at a medium size Midwestern university participated in exchange for course credit.

Materials

Racial profiling game. Using the E-Prime software package (Schneider, Eschman, & Zuccolotto, 2002), I developed a simplistic videogame that presented a series of European American and African American male faces and a symbol indicating whether there is probable cause for an arrest (see Figure 1). Prior to the start of the video game, participants engaged in a brief tutorial and practice session. Initially, the tutorial tested that participants understand the rules of the game. Feedback was given in the tutorial indicating both correct and incorrect responses. The tutorial demonstrated at
slower speeds what will be shown in the actual video game and over 10 trials gradually reached the speed of the actual trials.

The videogame used a total of 184 faces (92 European American and 92 African American faces). The face stimuli were displayed at a resolution of 800 × 600 pixels on a 17in. video monitor. Participants were shown 184 trials of randomized faces. The trial lasted 615 ms total. A symbol, either a square or a circle, displayed at a resolution of 5 × 10 pixels was superimposed near the face stimulus for 65 ms after the face has been displayed for 300 ms. The symbol only appeared in one location per face, however, the location in which it appears varied from trial to trial and was always near the face. After 365 ms, the superimposed symbol was removed and the face alone continued to be displayed for the remaining 250 ms. Responses were collected using a standard keyboard. The presentation of stimuli and collection of responses were controlled by E-Prime software running on Pentium IV-based computers. Participants were instructed to respond as accurately and quickly as possible. After indicating their judgments on the keyboard, there was a 500 ms lapse between trials. Viewing distance was approximately 60 cm and was not otherwise controlled. The room was illuminated by an average-intensity light source.

**Questionnaires.** There was a battery of individual difference measures administered after each participant completed the racial profiling game described above. First, participants completed the Modern Racism Scale (MRS; McConahay, Hardee, & Batts, 1981), the Color Blind Racism Scale (CoBRAS; Neville, Lilly, Duran, Lee, & Browne, 2000), and the Quick Discrimination Index (QDI; Ponterotto, Potere, & Johansen, 2002) designed to measure prejudice and tolerance for African Americans.
Lastly, participants completed the Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960) designed to measure socially desirable responding tendencies. The authors conceptualized social desirability bias as a personality trait that reflected the individual’s habitual response style and the goals and expectations that are produced in situations of self-evaluation.

Design

The study used a 2 × 2 within subjects design, with Target Race (European American vs. African American) and Symbol (circle/probable cause vs. square/no probable cause) as repeated factors. The study used logistic regression to examine the extent to which the racial prejudice measures and social desirability predicted their response latency scores on the racial profiling game. To examine the relationship among the measures and the accuracy (signal detection) on the racial profiling game, a categorical data analysis using logistic regression was conducted.

Procedure

Participants, in groups of 1 to 4, were met by an unambiguously European American male experimenter who after receiving informed consent (Appendix A) reported to participants that this is a social cognition study of perceptual vigilance and the speed and accuracy of signal identification and detection. The experimenter handed out a written set of enumerated instructions (see Appendix B) and then read the group a detailed set of instructions (see Appendix C). Lastly, participants were verbally reminded before proceeding to the computer bays that they will need to pay attention to the faces because they will be tested on their ability to recognize the faces at the end of the game.
Participants were personally ushered one at a time to their assigned computer bay. They were not able to see fellow participants or the other computer bays once they were seated. The experimenter (1) verified that the participant was ready to proceed, (2) turned on the game, (3) asked if there are any remaining questions before beginning the game, (4) offered a brief digest of the instructions that reminded participants that they would be tested on both the accuracy of signal detection and their recall of the faces, and lastly, (5) instructed them to follow the instructions on the screen to begin. In total the experimenter interacted with the participants at the computer bay for approximately 60 seconds depending on the participant’s need to ask questions or receive clarification. The on-screen instructions, after the participants finish the game, instructed them to wait for the experimenter at the conference table and await further instruction from him.

When every member of the group had finished the computer game and had reached the conference table, they were escorted to a separate computer lab and asked to begin filling-out the questionnaires. The experimenter asked the participants to please answer every question in the order it appears and to answer truthfully. The experimenter then reminded them that their names will not be associated with their scores on either the computer (i.e., racial profiling) game or their questionnaire packet. The experimenter was then engaged in another quiet task in the room as the participants completed the questionnaire packet. After everyone had finished, the participants were given a written debrief form, their extra credit point, and were thanked for their participation. The debriefing script (see Appendix D) was read verbatim to each group and the experimenter invited participants to ask questions now or contact the principal investigator if they have questions later.
Results 1

In Experiment 1, I investigated (a) the extent to which European American subjects make perceptual errors congruent with racial profiling stereotypes (i.e., scores on the racial profiling video game), and (b) their degree of response latency, as a measure of implicit prejudice, in the racial profiling video game with an European American experimenter, and (c) whether their scores on the racial profiling game occur despite individual differences in explicit racial attitudes. An alpha level of .05 was used in all statistical tests. All trials with response times below 150 ms were deleted resulting in less than 50 deleted trials.

Typically, researchers have used Ordinary Least Squares, (OLS) the standard linear regression procedure to analyze, estimate, and predict a parameter from data by applying the linear model. Additionally, an ANOVA would be used for the variables in an analysis that are categorical and not continuous. In this study, it was more appropriate to use logistic regression in order to capture the perceptual errors congruent with racial profiling, the degree of response latency (reaction times), and predict the scores on the game from responses on individual differences measures with respect to explicit racial attitudes. Logistic regression is preferred in part because it surmounts many of the restrictive assumptions of ordinary least squares (OLS) regression. Some of the merits of logistic regression in this study are: logistic regression does not assume a linear relationship between the dependent variables and the independent variables; it is capable of handling nonlinear effects even when exponential terms are not explicitly added by the researcher as additional independents; the dependent variables do not have to be normally distributed; the dependent variables do not have to be homoscedastic for each level of the
independent variables (i.e., variances need not be the same within categories); normally
distributed error terms are not assumed; and logistic regression does not require that the
independent variables be interval. In the current study, logistic regression allowed
prediction of our dependent variable (either response times or racial profiling scores) on
the basis of continuous and categorical independent variables and determined the percent
of variance in the dependent variable explained by the independent variables. It also
provided a more straightforward means to rank the relative importance of independent
variables in any interaction effects. I used the maximum likelihood estimation after
transforming the dependent into a logit variable (the natural log of the odds of the
dependent variable occurring). In this way, logistic regression gives an estimate of the
probability of a certain event occurring. Also, goodness-of-fit tests such as model chi-
square are available as indicators of any models appropriateness to the data without
sacrificing power by having a multiplicity of parameters.

*Racial Profiling Game*

To demonstrate the ability of logistic regression techniques to detect differences
in groups and provide a better snapshot of the collected data, the traditional ANOVA
statistics are provided here along with the preferred logistic regression statistics. An
analysis of variance (ANOVA) of the racial profiling game judgments were conducted,
treating Target Race (European American versus African American) and Symbol Type
(circle indicating probable cause versus square indicating no probable cause) as within-
subject factors. This was a simple test that all the 4 levels of the fixed effect (i.e., African
American -probable cause, African American -no probable cause, European American -
probable cause, and European American -no probable cause) for treatment were the same,
\( F(3, 15 e^3) = 1.94, \ p = .12, \) accordingly it failed to reject null hypothesis that all 4 treatments are the same. I had anticipated that results would demonstrate anti-African American prejudice by showing that participants categorized more items congruent with anti-African American and pro-European American values (African American-probable cause/European American-no probable cause) than in incongruent with anti-African American and pro-European American values (African American-no probable cause/European American- probable cause). Using logistic regression and specifically the goodness-of-fit tests such as model chi-square, this trend of answering more correct when the stimuli was congruent with the racial profiling stereotype was observed at a significant level, \( \chi^2(1, N = 86) = 4.42, \ p = .04. \) Note that the degrees of freedom for the categorical predictors correspond to the number of participants.

**Reaction Times**

To analyze the resulting reaction times, response latencies were log transformed and analyzed using a mixed model with fixed treatment effects and random intercepts. All mixed models were fit in SAS using maximum likelihood to allow for likelihood ratio tests of fixed effects. Note that the degrees of freedom are 1 and the number of completed observations tested within the chi-square. Of primary interest was the difference in response times for African American stimuli versus European American stimuli. Results show that participants took longer to response to African American stimuli regardless of probable cause than European American, \( t(1, 15 e^3) = 2.18, \ p = .03. \) Contrary to expectation, there was not a main effect for symbol, \( t(1, 15 e^3) = 0.94, \ p = .35. \) That is, participants were not significantly faster at making the correct decision when there was probable cause than the correct decision when there was not probable cause. Furthermore,
the speed of responding on probable cause versus no-probable cause trials was not dependent on the target’s race, \( t(1,15) = 0.26, p = .80 \) and, in a test of the simple effects, it did not take significantly longer to see probable cause when probable cause was present more quickly when the target was African American than when the target was European American, \( t(1,15) = .77, p = .44 \), and lastly, it did not take significantly longer to see no-probable cause when there was no probable cause when the target was African American than when the target was European American, \( t(1,15) = 1.82, p = .07 \).

*The Role of Explicit Prejudice*

Contrary to my proposed expectations there were no significant and positive relationships among the prejudice related measures (QDI, MRS, and CoBRAS) and the racial profiling game as evidenced by a logistic regression statistic. In fact, those with higher QDI scores racially profiled less as evidenced by a negative and non-significant interaction between congruence with the racial profiling and racial stereotype and QDI scores, \( z = -.9, p = .37 \). Those with higher MRS scores tended to racially profile more than those with lower scores as evidenced by a positive, yet non-significant, interaction between congruence with the racial profiling and racial stereotype and MRS scores, \( z = .85, p = .40 \). Those with higher COBRAS scores tended to racially profile more than those with lower COBRAS scores as evidenced by a positive, yet non-significant, interaction between congruence with the racial profiling and racial stereotype and COBRAS scores, \( z = .90, p = .37 \). Since each interaction is not significant, little interpretation to the direction, either positive or negative, can be given to the relationships analyzed.
The social desirability scores were analyzed for the extent to which social desirability characterizes the sample ($M = 12.87, SD = 5.08, Mode = 8.00$). The Marlowe-Crowne alpha coefficient for this sample was $.72$. For the sample presented here, social desirability was relatively low and did not characterize the sample well. To evaluate the predictive power of the Marlowe-Crowne on performance in the game, a Wald test or $t$-ratio compared the basic no predictor model against the basic model with the inclusion of the Marlowe-Crowne. The Marlowe-Crowne model did not significantly improve prediction, $t(1, 15 e^3) = -0.39, p = .70$. It is not surprising that the Marlowe-Crowne had low predictive power because, as stated above, social desirability scores were relatively low in this sample overall.

Experiment 2

In the first experiment, all factors were within subject. The second experiment involved adding a between subjects factor to the design. More specifically, I replicated the entire design of the first study but randomly assigned the group of participants to either a European American experimenter or an African American experimenter. By comparing these 2 conditions, we will examine the extent to which tacit social tuning affects performance on the racial profiling game. An alpha level of $.05$ was used in all statistical tests. All trials with response times below 150 ms were deleted resulting in less than 50 deleted trials.

Method

Participants

Ninety-two additional European American undergraduates (60 women and 32 men, mean age $= 20.1$ years), enrolled in a social psychology course given by the
sociology department or enrolled in a psychology course, at a medium size Midwestern university participated in exchange for course credit.

**Design**

The study used a 2 × 2 × 2 full factorial design. The between subjects factor was Experimenter Race (European American vs. African American) and the within subjects factors were Target Race (European American vs. African American) and Symbol (circle/probable cause vs. square/no probable cause) as repeated factors. The study used logistic regression to examine the extent to which the racial prejudice measures and social desirability predicted their response latency scores on the racial profiling game. To examine the relationship among the measures and the accuracy on the racial profiling game, a categorical data analysis using logistic regression was conducted.

**Materials and Procedure**

The materials and procedure were identical to those of Experiment 1.

**Results 2**

In order to increase power, relevant data was used from Experiment 1 in Experiment 2 for the European American conditions.

**Racial Profiling Game**

To test the hypothesis that automatic prejudice is subject to social influence, I examined automatic prejudice as a function of experimenter race in a 2 (Target Race: European American vs. African American) × 2 (Symbol: circle/probable cause vs. square/no probable cause) × 2 (Experimenter Race: European American vs. African American) mixed-model analysis of variance (ANOVA), with target race and symbol as within-subject variables. The model was found to be significant, $F(7, 31 e^3) = 2.21, p =$
.03, essentially there was evidence that all of the 8 tested means are not the same. I had anticipated that results would demonstrate anti-African American prejudice by showing that participants categorized more items congruent with anti-African American and pro-European American values (African American-probable cause/European American-no probable cause) than in incongruent with anti-African American and pro-European American values (African American-no probable cause/European American-probable cause). This trend of answering more correct when the stimuli was congruent with the racial profiling stereotype was observed at a significant level, $\chi^2(1, N=178) = 4.25, p = .04$. Furthermore, the prediction that experimenter race will affect congruence reached statistical significance as well $\chi^2(1, N=178) = 4.40, p = .04$. That is, the European Experimenter group answered more congruent with racial profiling than those with an African American experimenter.

*Response Times*

Consistent with Experiment 1, there was not a main effect for symbol. $F(1, 31 e^3) = 1.46, p = .23$. Namely, participants were not significantly faster at making the correct decision when there was probable cause than the correct decision when there was not probable cause. In an examination of whether a model including probable cause, race of the picture, and the race of the experimenter could adequately predict the length of time for participants to make a judgment congruent with racial profiling, I found the model was not appropriate $F(1, 31e^3) = 0.30, p = .58$. Furthermore, it did not take significantly longer to see probable cause when probable cause was present when the target was European American than when the target was African American $t(7, 31e^3) = 1.32, p = .19$ and conversely it did not take significantly longer to see no-probable cause present
when the target was African American than when the target was European American, \( t(7, 31e^3) = 1.13, \ p = .26 \). A more noteworthy result was that when presented with an African American experimenter, participants took significantly longer to respond overall than those with a European American presenter \( t(7, 31e^3) = 2.95, \ p = .003 \). Therefore, tacit social influence did affect implicit prejudice via response time latency scores.

*The Role of Explicit Prejudice*

Similar to Experiment 1, there were no significant and positive relationships among the prejudice related measures (QDI, MRS, and CoBRAS) and the racial profiling game as evidenced by a logistic regression statistic. The interaction between QDI scores and the congruent stereotype conditions was negative and not significant, \( z = -.88, \ p = .38 \). In the same vein as Experiment 1, those with higher QDI scores racially profiled less as evidenced by a negative and non-significant interaction between congruence with racial profiling and QDI scores. Additionally replicating the results of Experiment 1, those with higher MRS scores tended to racially profile more than those with lower MRS scores as evidenced by a positive, yet non-significant, interaction between congruence with racial profiling and MRS scores, \( z = 1.18, \ p = .24 \). Finally, those with higher COBRAS scores tended to racially profile more than those with lower COBRAS scores as evidenced by a positive, yet non-significant, interaction between congruence with racial profiling and COBRAS scores, \( z = 1.06, \ p = .29 \). Thus, as shown in Experiment 1, all explicit prejudice questionnaire results are not statistically significant and follow an identical set of trends in Experiment 2.

Social desirability scores were analyzed for the extent to which social desirability characterizes the Experiment 2 sample, \( M = 12.97, \ SD = 4.75, \ Mode = 12 \). For the
Experiment 2 sample, social desirability was relatively low and did not characterize the sample well. To evaluate the predictive power of the Marlowe-Crowne on performance in the game, a Wald test or t-ratio compared the basic no predictor model against the basic model with the inclusion of the Marlowe-Crowne. The Marlowe-Crowne model did not significantly improve prediction, $t(1, 27e^3) = -1.24, p = .21$. Consistent with Experiment 1, it is not surprising that the Marlowe-Crowne had low predictive power because, as stated above, social desirability scores were relatively low in this sample overall.

Experiment 3

The third experiment tested the extent to which tacit versus explicit social influence modifies the expression of racial profiling behaviors. I replicated the entire design of the second experiment with one exception. Participants were randomly assigned to 1 of 4 conditions: European American experimenter and tacit social influence, European American experimenter and explicit social influence, African American experimenter and tacit social influence, and, African American experimenter and explicit social influence. By comparing these 4 conditions, I examined the extent to which tacit and explicit social influence modified social tuning affects, and thus, performance on the racial profiling game.

Method

Participants

Seventy-two additional European American undergraduates (36 women and 36 men, mean age = 19.7 years), enrolled in a social psychology course given by the sociology department or enrolled in a psychology course, at a medium size Midwestern university participated in exchange for course credit.
Design

The study used a $2 \times 2 \times 2 \times 2$ full factorial design. The between subjects factors were Experimenter Race (European American vs. African American) and Social Influence (tacit vs. explicit) and the within subjects factors were Target Race (European American vs. African American) and Symbol (circle/probable cause vs. square/no probable cause) as repeated factors. The study used logistic regression to examine the extent to which the racial prejudice measures and social desirability can predict their response latency scores on the racial profiling game. To examine the relationship among the measures and the accuracy on the racial profiling game, a categorical data analysis using logistic regression was conducted.

Materials and Procedure

The materials and procedure were identical to those of Experiment 1 and 2 with one critical exception. In the both the European American and African American experimenter explicit social influence conditions, the experimenter instructed the participants to be as non-biased as possible with respect to race (see Appendix F for the script). Just as he did in Experiments 1 and 2, the experimenter handed out a written set of enumerated instructions (see Appendix B) and then read the group a detailed set of instructions (see Appendix F). Again, participants were verbally reminded before proceeding to the computer bays that they will need to pay attention to the faces because they will be tested on their ability to recognize the faces at the end of the game.

Participants were personally ushered one at a time to their assigned computer bay. They were not able to see fellow participants or the other computer bays once they were seated. The experimenter (1) verified that the participant is ready to proceed, (2) turned
on the game, (3) asked if there are any remaining questions before beginning the game, (4) offered a brief digest of the instructions that reminds participants that they will be tested on both the accuracy of signal detection and their recall of the faces, (5) the experimenter told each participant while making eye contact that it is important that they do not racially profile and over apprehend the Black faces or said nothing at all, and lastly, (6) instructed them to follow the instructions on the screen to begin. In total the experimenter interacted with the participants at the computer bay for approximately 60 seconds depending on the participant’s need to ask questions or receive clarification. The on-screen instructions, after the participants finished the game, instructed them to wait for the experimenter at the conference table and await further instruction from him.

When every member of the group had finished the computer game and had reached the conference table, they were escorted to a separate computer lab and asked to begin filling-out the questionnaires. The experimenter asked the participants to please answer every question in the order it appears and to answer truthfully. The experimenter then reminded them that their names will not be associated with their scores on either the computer (racial profiling) game or their questionnaire packet. The experimenter was then engaged in another quiet task in the room as the participants completed the questionnaire packet. After everyone had finished, the participants were given a written debrief form, their extra credit point, and were thanked for their participation. The debriefing script (see Appendix D) was read verbatim to each group and the experimenter invited participants to ask questions now or contact the principal investigator if they have questions later.
Results 3

In order to increase power, relevant data was used from Experiment 1 and 2 in Experiment 3 for the European American conditions.

*Racial Profiling Game*

Experiment 3 also replicated previous demonstrations of anti-African American prejudice by showing that participants categorized more items congruent with anti-African American and pro-European American values (African American-probable cause/European American-no probable cause) than in incongruent with anti-African American and pro-European American values (African American-no probable cause/European American- probable cause), \( \chi^2(1, N = 250) = 5, p = .03 \). Thus, participants categorized more incorrect items congruent than incongruent with racial profiling. Consistent with expectations, explicit experimenter instructions to avoid prejudice significantly reduced participants willingness to racially profile, \( \chi^2(1, N = 250) = 7.32, p = .007 \). Those participants who were in the African American explicit experimenter instructions condition were significantly more accurate in the game than those in the European American tacit condition, \( \chi^2(1, N = 250) = 4.07, p = .04 \).

*Response Times*

Not surprisingly, in Experiment 3 there is no replication of participants being faster on trials more congruent with the racial profiling stereotype as this result averaged across comment and no comment to not racially profile, \( t(1, 42e^3) = 1.64, p = .10 \). However, looking at the unique comment versus no comment data, we find that participants took longer to make judgments on the racial profiling game when an African American experimenter gave a comment to not racially profile than when an African American
American experimenter gave no such comment, $t(1, 42e^3) = -3.75, \ p = .0002$. When comparing between participants in the African American comment condition and European American comment condition, participants in the African American comment condition took significantly longer to make judgments than their European American comment condition counterparts, $t(1, 42e^3) = -2.61, \ p = .001$.

*The Role of Explicit Prejudice*

Similar to Experiments 1 and 2, there were no significant and positive relationships among the prejudice related measures (QDI, MRS, and CoBRAS) and the racial profiling game as evidenced by a logistic regression statistic. The interaction between QDI scores and the congruent stereotype conditions was positive and not significant, $z = .77, \ p = .44$. In contrast to Experiments 1 and 2, those with higher QDI scores racially profiled more as evidenced by a positive interaction between congruence with racial profiling and QDI scores. Again the MRS scores were not statistically significant and in contrast to Experiments 1 and 2, however, in Experiment 3 the interaction was negative, $z = -.6, \ p = .55$. Lastly, there was a negative and non-significant interaction between COBRAS scores and congruence with racial profiling and racial stereotype, $z = -.34, \ p = .73$. Although, the trends appear to be reversed when looking at the explicit racial attitudes and performance on the racial profiling game, none of these results are statistically significant.

Social desirability scores were analyzed for the extent to which social desirability characterizes the sample, $M = 13.05, \ SD = 4.72$, and $Mode = 8.00$. For Experiment 3, social desirability continued to be relatively low and did not characterize the sample well. To evaluate the predictive power of the Marlowe-Crowne on performance in the game, a
Wald test or t-ratio compared the basic no predictor model against the basic model with the inclusion of the Marlowe-Crowne. The Marlowe-Crowne model did not significantly improve prediction, $t(1, 42e^3) = -1.22, p = .22$. It is not surprising that the Marlowe-Crowne had low predictive power because, as stated above, social desirability scores were relatively low in this sample overall.
DISCUSSION

Taken together, the three experiments provide new support that automatic racial attitudes, as evidenced in a racial profiling context, are influenced by both tacit and explicit social influence. There was evidence that although, participants actively held a social belief about the appropriateness of Black stereotypes, their scores on the racial profiling game revealed that Black stereotypes were activated and it took more time to control their actions on that stereotype. Moreover, there is evidence that when exposed to explicit social influence from an African American, there is a tendency to make more deliberate and thus time consuming decisions to not racially discriminate or in this case, racially profile. Consequently, mere stereotype activation does not necessarily lead to a discriminatory behavior (i.e., incorrect scores on the game) when social influence is introduced. This is an affront to existing theories that the mere presence of a member of a negatively stereotyped group will undoubtedly illicit a discriminatory behavior. Thus, the power of social influence and explicit motivation influences automatic prejudice and in this case, it decreased racial profiling behaviors.

The results of Experiments 1 through 3 illustrated that there is a pattern of disconnect among one’s attitudes as measured on a variety of explicit attitude measures, tendencies to racially profile, and, the implicit attitudes revealed by response latency scores. In Experiment 1, participants were positive towards African Americans and disavowed prejudice on explicit paper-and-pencil measures of prejudice and
discrimination. Participants also engaged in minimal racial profiling behaviors in the racial profiling game. That is, they based their decisions on probable cause and not the race of the suspect. However, when their response latencies were examined, participants took more time overall on African American stimuli and participants took more time (although shy of statistical significance) with European Americans with no probable cause in comparison to African Americans with no-probable cause for arrest. In Experiment 2, a similar pattern of disconnect between expressed racial attitudes and performance on the racial profiling game was found. Additionally, Experiment 2 revealed that in comparison to participants with an African American experimenter, those with a European American experimenter were significantly more congruent in their responding with the racial profiling stereotype. The pattern of response times in Experiment 2 showed that across all trials, those with an African American experimenter took more time to respond to the game than those with a European American experimenter. This result provided a demonstration of tacitly induced social tuning as hypothesized. Experiment 3 replicated the pattern of disconnect between expressed racial attitudes and performance on the racial profiling game in Experiments 1 and 2 and revealed that explicit social influence further influenced social tuning in how European Americans used any activated stereotypes. Those participants who were given a comment to not racially profile took longer to respond to trials in the racial profiling game than those who were not given a comment. Furthermore, those given a comment by an African American experimenter took longer to respond than those given a comment by a European American experimenter. Each ascending experiment converged on the presence of social
tuning and the support of shared reality theory by examining several measures of racial stereotype, prejudice, and discrimination within a racial profiling context.

Within this study, when we look at just a single finding in one experiment or another, we do not get the complete picture of how the racial profiling stereotypes are both activated and applied. We need to look at the combination of the degree of (a) congruence with the stereotype, (b) their ease at making errors in congruent versus incongruent trials, (c) the speed at which they are able to make congruent versus incongruent judgments, and then (d) we must look at what role tacit and explicit social tuning had on both people’s judgments (racial discrimination) and finally (e) the time they utilized to make the judgments (degree of implicit prejudice). Taken together, we find support that merely activating a stereotype is not always enough to apply a stereotype regardless of someone’s self-proclaimed racial attitudes, and more importantly, tacit and explicit social influence to the out-group member does have the power to influence behavior.

Needing a combination of information to get a complete picture of stereotype activation and application is not a new idea. Allport’s seminal work on the Nature of Prejudice (1954) talked about the automaticity and normality of prejudgment while acknowledging the importance of the individual’s motives for prejudgment (see also Plant & Devine, 1989 for a review of motivation to respond without prejudice). In more recent years, social cognition research has been steadily examining shared cognition and the role of control in using stereotypes to guide behavior. Devine (1989) notably demonstrated that people make automatic stereotypic associations to a neutral or ambiguous raced person as “hostile” when they were primed with Black stereotype words.
(e.g., black, lazy, and athletic). The role of the implicit association test (IAT) in this research has been monumental by demonstrating across a variety of experimental contexts with various populations that people more rapidly associate positive valenced terms with relatively higher status groups to relatively lower status groups and that this effect is observed regardless of self-reported prejudice (Greenwald et al., 2002). However, there has been growing research on the ability to modify these automatic prejudices becoming aware of one’s potential to invoke and act on the stereotype and given this awareness being motivated not to act upon it (e.g., Bargh, 1999; Devine & Monteith, 1999; Kunda & Spencer, 2003; Lowery et al., 2001) by sacrificing speed or other perceptual resources. Devine's (1989) dissociation model describes and predicts the disconnect between automatically activated prejudices and intended responses. The current research shows that on the simplest of cognitive judgments, placing an assigned circle or square symbol into an arbitrarily imposed category of probable cause to arrest or no probable cause to arrest, can be altered not only by the race of the picture shown with the symbol, but can also be altered by the tacit social influence derived from the race of the experimenter, and furthermore be altered by the expressed racial profiling attitude of the experimenter. One advantage of the current design is that explicit racial attitudes were not solely measured by questionnaires but were also assessed by performance on the video game while simultaneously examining implicit prejudice via response latency scores. Rather than map stereotype activation to implicit prejudice and map stereotype application onto explicit prejudice, this study demonstrates that there are automatic and controlled components to both. Across the 3 experiments, we can easily see the social context of interacting with the experimenter for a mere 60 seconds has the capacity to
reveal people’s motivation to respond to prejudice invoking stimuli and do so more conscientiously by taking extra time to complete the task at hand.

These findings may support the need to consider both internal and external sources of motivation to respond without prejudice. I found support that social tuning occurred as a result of tacit and explicit social influence consistent with extant literature on social tuning (Higgins & McCann, 1984; McCann & Hancock, 1983). Recall that shared reality theory asserts that taking the perspective of others shapes not only people’s beliefs, but also their social interactions which aim to achieve a mutual understanding with another person (Hardin & Conley, 2001; Hardin & Higgins, 1996; Sinclair, Huntsinger, Skorinko, & Hardin, 2005). Thus, in the current study, the mere tacit social influence from the race of the experimenter influenced how participants responded on the game. I would venture that the participants, unsure of how much further contact they would have with the African American experimenter, assumed that he would disavow prejudice and acted in accordance with a social tuning process during the racial profiling game. Furthermore, when he had expressed an anti-prejudice view, they were even more keenly aware of their role in providing a mutual understanding or “shared reality” with the experimenter. Similarly, previous research has demonstrated that when people desire to have pleasant interactions with others, they are more likely to show the matching nonverbal behaviors as their interaction partners even though they are not explicitly aware of their desire for a pleasant interaction (Cheng & Chartrand, 2003; Lakin & Chartrand, 2003). Bringing it back to internal and external sources of motivation to respond without prejudice (i.e., discriminate based on race), shared reality theory and the social tuning mechanism provide a simplistic and noninvasive means to increase external
sources of motivation without necessarily changing one’s attitude about race and prejudice.

Limitations and Directions for Future Research

Several of the limitations of this study are limits imposed by the design. The goal of this study was to demonstrate that even with the lowest common denominator of assigned, arbitrary, and non-inflammatory symbols (i.e., circles and squares), we could observe evidence of racial profiling. It is a limitation as there is little association between circles and probable cause for an arrest in contrast to representations of a gun, fingerprints, or even a minus sign. Therefore, the design of this study may have underestimated the presence of race-and-crime stereotypes and the application of those stereotypes. Another related limitation of the design was the amount of time offered to participants to have access to the stimuli and the amount of time to respond. In similar studies by Payne, Lambert, and Jacoby (2002) participants were given only 200 ms access to the photo and were given a longer 100 ms access to the stimuli (gun or hand tool) making it more difficult to control automatic prejudice judgments. The current design allowed participants more breathing room to make the racial profiling judgments and therefore may have sacrificed a more direct channel to implicit prejudice in an effort to examine their degree of implicit prejudice in comparison to those who had differing levels of social influence.

One possible new direction in racial profiling research is to offer participants more complexity in the probable cause stimuli. Perhaps requiring a combination of neutral symbols to make the judgment of probable cause will allow a better view of the strength of the race-and-crime stereotype. More simplistic tasks (e.g., naming words in
the Stroop task) have shown that effect of practice allows participants to easily and automatically make judgments, and therefore, makes greater room for stereotypes to guide decision making. One the flip side, more practice with visually complex stimuli engages promotes more control (Birnboim, 2003; Green & Bavelier, 2003; Schneider & Shiffrin, 1977). Related, a design that includes more complexity in the probable cause stimuli and would collect accuracy data and response times under a more extreme time pressured condition to compare to the current study’s time pressured condition would offer more information about the everyday interactions that people have when rushed, distracted, or even anxious. This would provide more externally valid results of the impediment on intentional control. These corrections to the limitations of design can be implemented and compared in follow-up studies to the present research.

The sample used in this study present two additional limitations. The participants may have some savvy about appearing non-prejudiced and they are undergraduate students in either sociology or psychology classes who may not be generalizable to people who make probable cause decisions often. The most vulnerable component to the aforementioned savvy confound was the paper-and-pencil questionnaires. It is possible that these students could have been reactive to or knowledgeable about the measures and therefore their true opinions about race related matters may have been muted or otherwise obscured. This may perhaps account for the continued lack of significance across all 3 experiments for the questionnaires to add to the prediction of racial profiling scores. Unfortunately, it is unknown the degree to which the savvy of the participants influenced results on the paper-and-pencil questionnaires. Related, these participants’ results only generalize to judgments made by average citizens, not law enforcement, when it comes to
probable cause. However, two highly related studies have shown that police officers’
performance on similar tasks is highly similar to undergraduates (Correll, Judd,
Wittenbrink, Sadler, & Keesee, 2007; Eberhardt, Goff, Purdie, & Davies, 2004). It would
be interesting to determine if the resemblance of police and undergraduates would hold
on the current study where the symbols (i.e., circles and squares) are less inflammatory
than the pictures of guns used in the above two studies. In particular, adding additional
criteria of requiring a pattern of symbols to indicate probable cause with a law
enforcement sample would be highly evocative. Particularly, because without using guns
or other dangerous weapons as indication of suspicion of guilt, we are able to look at
racial profiling without delving into the need for police officers to respond to a suspect
who may be threatening her or his life with a gun. Overall, this study would benefit from
including further experiments using a law enforcement sample and, as suggested above,
perhaps using more a more complex pattern of symbols to indicate probable cause would
be more analogous to actual law enforcement decision making.

Implications

Remember that automatic prejudice attitudes have been shown to be activated below
one’s level of awareness; however, the application of prejudice is vulnerable to conscious
control (Lowery, et al., 2001). Throughout this article, I have investigated the effects of
social tuning on racial profiling behaviors as part of an attempt to influence the pervasive
race-and-crime stereotypes of African Americans. Perceptually speaking, law
enforcement either perceives enough evidence to warrant further investigation of a
potential suspect or they do not perceive enough evidence. Based on the current research,
given the propensity to quickly perceive no probable cause with European Americans
reported here, police officers may be neglectful in their apprehension of European Americans. If the crime is physically threatening to the officer or bystanders and if police officers have a delayed response to European American suspects, these officers or bystanders may be more likely to get hurt by not being more aware of the true likelihood that the European American suspect is a threat. Similarly, the inoffensive African American may easily become the target of disproportionately intense examination by both police officers and the public. Eberhardt et al. (2004) wrote:

With their eyes, perceivers may tie individual Black targets to a group-based suspicion—and sadly, Black people who appear highly stereotypically Black may be the most likely of all to feel the tug. Such processes could indicate that racial profiling may be rooted in more fundamental perceptual processes than previously recognized. (p. 890)

As more researchers continue to investigate racial profiling, we find that the processes are quite pervasive even in controlled laboratory environments supporting what anecdotally the African American community and agencies such as the American Civil Liberties Union (ACLU) have been lamenting for years.

New social psychological research is burgeoning with effective and short term solutions to the automatic racial bias of associating African Americans with crime (Correll et al., 2007; Plant & Peruche, 2005; Plant, Peruche, & Butz, 2004). These studies are critical for those in law enforcement and other civic officers that want to modify the divide between the African American community and police officers. These interventions have shown impressive changes in perceptual bias within relatively small training windows. Thus, in the above studies, the practical importance is that less African Americans could be mistakenly interpreted as yielding a weapon and be shot by police and less European Americans yielding a weapon would be overlooked by police with
some short term police officer training. The current research provides additional basic research on racial profiling when no threat of bodily harm to the officer is present. This adds to the now growing literature on how short term interventions can influence acting on racial stereotypes and thereby starts to examine controlling racial profiling tendencies in non-violent encounters between police and citizens.

Overall the research presented here demonstrates the importance of the first ingredient listed by Bargh (1999), that is, awareness that one holds an unintentional bias. This is particularly important as we have seen in this study and others that people with egalitarian attitudes still demonstrate racial biases. Awareness of one’s biases is critical to changing behavior. Many of us can recall our first experience taking the IAT and perhaps, like me, learning that you favored a more high status group. For most of us, even taking the IAT says something about our egalitarian values and genuine desire to avoid prejudice. Yet, that may have little influence on how we responded on the IAT. Now let’s imagine that part of police training protocol involves taking a similar implicit test that gives feedback to the officer that she or he holds biases in favor of European Americans and maybe against African Americans. It may not influence the behavior of most officers, but awareness of personal biases could influence some self-identified non-prejudice officers to spend a few more moments (even milliseconds) thinking about whether a suspect truly has behaviors that warrant probable cause or merely is just one member of a stereotyped group associated with crime. It is highly encouraging that mere tacit socially influenced groups were more resourceful with time and conscientious about making the correct decision. When offered explicit social influence by a respected experimenter, we saw these effects increase even when the experimenter was European American.
Few police officers will have need to draw their weapons and shoot a suspect on a daily basis in comparison to police officers who have to determine if there is enough probable cause to apprehend somebody of a crime that does not threaten the police officer’s own life. These more frequent and less sensational police and citizen contacts represent the bulk of racial profiling. Similar to Alvin Poussaint’s concept of micro-aggressions, racial profiling can be subtle and does not require that the suspect be physically harmed or threatened by police, rather it is the little things like having more eyes on you in a given neighborhood or people taking longer to visually inspect you in an airport that happen on a near daily basis. It is the act of over targeting individuals because of their membership to a group that is stereotyped to be prone to criminal activity. These acts of racial profiling are at the very core of this research. That is, it is the excess scrutinizing to perceive the innocence of African Americans that is the starting point of racial profiling. Awareness of these perceptual biases, as stated above, will not evoke change in every police officer or citizen, but it very well might influence those behaving in racially profiling congruent ways that had never intended to be discriminatory or have longstanding values disavowing racial prejudice.

Conclusion

The study showed support that people are influenced by tacit and explicit social influence on racial profiling tasks. Social influence had sway on both racial profiling congruence and the reaction times taken to make racial profiling judgments. Although, explicit self-identified racial attitudes did not correspond to performance on the racial profiling game, we were able to see the interplay of congruence with racial profiling on the video game with the amount of time taken to make a judgment. Stereotypes may
shape participants’ actions when there is comparatively low social influence or when the source of that influence (the experimenter) is perceived to be of the in-group. However, more explicit, though still slight, social influence modifies the expression of that racial profiling stereotype. This view highlights the potential role of shared reality theory via social tuning in a new understanding of how to modify racial profiling tendencies under time-pressured conditions.
REFERENCES


FIGURES

Figure 1. Photograph of African American stimuli with probable cause/circle located in upper right position and (below) photograph of European American stimuli with probable cause/circle located in upper right position.
APPENDICES

Appendix A

Informed Consent to Participate in Psychological Research

Spring 2006 (Studies 1 through 5)

The principal investigators of this study are a graduate student and faculty member at the University of Notre Dame. The purpose of this study is to examine social attitudes and the ability to coordinate perceptions of symbols with decisions to arrest in a mock law enforcement game. In this study your perceptions are of paramount importance; there are no right or wrong answers.

**Procedures.** The procedures of this study entail completing four brief questionnaires asking you about your opinions and attitudes about social issues, and complete a brief demographic (e.g. your age, race) questionnaire. You will then be asked to play a mock law enforcement game, in which you will be shown pictures of people (suspects) and a symbol (e.g. + or -) indicating whether there is enough evidence to arrest them. You then will press a key on the keyboard indicating whether or not to “arrest” the individual for a crime. This is a mock situation; you are not arresting a real-life character. If you have questions at any time, please ask us.

**Benefits and Risks.** The potential benefits of participating in this study include gaining greater insight into your thoughts and feelings and better understanding how psychological research takes place. Additionally, you will receive 1 extra credit point in your psychology or sociology course. The researchers are happy to talk with you following your participation; in fact, we encourage your questions about any aspect of the study before, during, or following your participation. Finally, researchers are obligated to discuss with participants in advance any risks, if they exist, to participants; we see no foreseeable to risks to participating in this study. If, however, you become uncomfortable at any point, please inform the researcher who is here to assist participants.

**Voluntary Participation.** Participation in the study is completely voluntary; you may stop participating at any time if you wish. Your decision whether or not to participate will not prejudice your future relations with the University of Notre Dame, the departments of Sociology or Psychology, the Social Cognition Laboratory, nor any of the above mentioned members, staff, or faculty of any of these bodies. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty. Your participation is up to you.

**Confidentiality.** Your responses to the questionnaire are private and will kept confidential. Any results of this study when published will only refer to group or aggregate data; that is, individual responses will not be reported. In addition, any information linking your identity to your responses will be concealed and destroyed after the data in analyzed.

Please keep one copy of this form and return the signed copy. If you have any questions or concerns, please contact us at the addresses below.
Your signature below indicates your understanding of the above described aspects of the study and your consent to participate in the study; it also indicates that you are at least 18 years of age or that you have a parent consent form on file in the Department of Psychology or Sociology.

Principal Researchers/Contact Persons

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Appendix B

Welcome to Our Study

At this time you should have already read and signed the Informed Consent Form indicating that you understand what has been asked of you and you are willing to participate.

Now let’s begin the experiment!

Imagine that you are an experienced police officer. Part of your continuing education and training demands that you are able to correctly perceive if there is enough visual evidence to stop somebody and ask them if they have committed a crime. The amount of evidence needed to stop someone is commonly called “probable cause.” Probable cause is the exact amount of information you need to precede in an attempt to arrest somebody. As part of your training you will be asked to play a video game that simulates probable cause under the most basic conditions: the presence and identification of a visual symbol.

You will be shown many pictures of male faces. In your video game, you will see both Black male faces and White male faces for a short period of time. The symbol for probable cause will flash somewhere near the face very quickly and will disappear, and thus leave only the face alone remaining for a short while. The symbol will be a circle if there is probable cause to arrest or a square if there is not probable cause. You can only have one hand on the keyboard; just use your most dominant hand throughout the experiment. On the keyboard you will be instructed where to place your hand. You need to push the “Yes” button if you see a circle or the “No” button if you see a square. It is
very important that you push one of the buttons as soon as you see the symbol. Speed and accuracy are equally important.

The game will start after a brief tutorial that will give you feedback when you make an incorrect judgment. In the actual game there is no feedback given. Don’t worry if you make an error in the video game. It is important that you try your best and if you make an error, just move on to the next one. The game is not designed to allow you to skip any trials.

Remember you should hit the “Yes” button if you see a circle near the face and hit the “No” button if you see a square.
Appendix C

Experimenter Script

Collect all signed informed consent forms. Pass out the instructions.

“At this time you should have already read and signed the Informed Consent Form indicating that you understand what has been asked of you and you are willing to participate. I can collect any signed Informed Consents now if you have not already turned them in to me. You can read along with me for your instructions.”

“This study involves you imaging that you are participating in a law enforcement training exercise. We need you to imagine that you are an experienced police officer. Part of your continuing education and training demands that you are able to correctly perceive if there is enough visual evidence to stop somebody and ask them if they have committed a crime. The amount of evidence needed to stop someone is commonly called “probable cause.” Probable cause is the exact amount of information you need to precede in an attempt to arrest somebody. As part of your training you will be asked to play a video game that simulates probable cause under the most basic conditions: the presence and identification of a visual symbol.

You will be shown many pictures of male faces. In your video game, you will see both Black male faces and White male faces for a short period of time. The symbol for probable cause will flash somewhere near the face very quickly and will disappear, and thus leave only the face alone remaining for a short while. The symbol will be a circle if there is probable cause to arrest or a square if there is not probable cause. You can only have one hand on the keyboard; just use your most dominant hand throughout the experiment.” At this point demonstrate on your wireless keyboard, use only one hand,
point out the 2 buttons they will use. “On the keyboard you will be instructed where to place your hand. You need to push the “Yes” button if you see a circle or the “No” button if you see a square. It is very important that you push one of the buttons as soon as you see the symbol. Speed and accuracy are equally important.

The game will start after a brief tutorial that will give you feedback when you make an incorrect judgment. In the actual game there is no feedback given. Don’t worry if you make an error in the video game. It is important that you try your best and if you make an error, just move on to the next one. The game is not designed to allow you to skip any trials. You will be given a quiz at the end of the video game to test your memory of the faces. Please do look at the faces carefully as you make your decision.

Remember you should hit the “Yes” button if you see a circle near the face and hit the “No” button if you see a square.

*Smile and tell them,* “I am going to take you to your computer bay one at a time. To keep this standard, I ask that you do not talk to each other or make any other type of contact from this point forward. You will have an opportunity to ask me any further questions at the computer bay.”  

*Smile!*

*Seat the first person in the furthest bay from the door and the last person closest to the door. Sit at the conference table when you are done with your back turned to the participants. The computer will indicate that they go to the conference table when finished and wait for your instruction. Only talk to them if they start to make noise or any other distraction. Note any additional contact or unusual content of the session in the research log. Keep in mind that we need this to be standardized across your trials and the trials of the other experimenter all year long.*
Appendix D

Debriefing Script

Thank you for your participation. We want to take this time to offer you an opportunity to learn the design of our study and ask any questions you may have. Please read the following “Debriefing Statement” and when you have finished I will answer any questions.

Debriefing Statement

Spring 2006

The principal investigators of this study, Alexandra F. Corning, Ph.D. and Hilary C. Cisco, M.A. are researchers in the Department of Psychology at the University of Notre Dame. We are pleased you decided to participate in this study and are happy to talk with you about any aspect of it that interests you. Please feel free to use the information below to contact one or both researchers with any questions, concerns, or feedback that you may want to share.

Your participation involved answering four questionnaires that asked about your opinions and attitudes about self-monitoring, social desirability, race, ethnicity, and your values about racial equality. You were also asked to look at a series of White and Black male faces with markers and indicate whether they should be arrested or not arrested based on the marker. We are interested in how people perceive these markers based on whether they were shown pictures of Black or White male faces. Additionally, we are investigating whether their attitudes about race and ethnicity, as expressed on the questionnaires, can predict how they interpret the markers. If you have any personal reactions or feelings about the nature of this study concerning racial profiling or other any other aspects of the study that you would like to discuss with the researchers privately, please feel free to do so at this time. You may also contact one or both of us at any time following your participation.

We would like to reiterate that your individual responses to the study are private and will remain confidential. Any published summaries of this study will refer only to the grouped, not individual data. If you, yourself, would like to request a copy of the results (in aggregated form) once they become available, just contact one of us.

Finally, we must ask you to be sure to refrain from discussing your experiences with and responses to this study with others. We are interested in each individual’s personal opinion. Sharing information about the study with potential participants will bias their expectations of and responses to the study and information we need to conduct the study with accuracy will not be recoverable. Therefore, we rely on, and thank you in advance, for your respect for our work.
Once again, we thank you for your participation. If you have any questions, comments or concerns regarding this study, we welcome and encourage you to contact one or both of us at any time.

**Principal Researchers/Contact Persons**

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In all experiments and in each condition, mention that there are multiple conditions and to please not discuss any details with fellow students, answer any emerging questions, sign cards, and say goodbye.
Appendix E

Debriefing Statement

Spring 2006

The principal investigators of this study, Alexandra F. Corning, Ph.D. and Hilary C. Cisco, M.A. are researchers in the Department of Psychology at the University of Notre Dame. We are pleased you decided to participate in this study and are happy to talk with you about any aspect of it that interests you. Please feel free to use the information below to contact one or both researchers with any questions, concerns, or feedback that you may want to share.

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We would like to reiterate that your individual responses to the study are private and will remain confidential. Any published summaries of this study will refer only to the grouped, not individual data. If you, yourself, would like to request a copy of the results (in aggregated form) once they become available, just contact one of us.

Finally, we must ask you to be sure to refrain from discussing your experiences with and responses to this study with others. We are interested in each individual’s personal opinion. Sharing information about the study with potential participants will bias their expectations of and responses to the study and information we need to conduct the study with accuracy will not be recoverable. Therefore, we rely on, and thank you in advance, for your respect for our work.

Once again, we thank you for your participation. If you have any questions, comments or concerns regarding this study, we welcome and encourage you to contact one or both of us at any time.

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Appendix F

Experimenter “3” Script

*Collect all signed informed consent forms. Pass out the instructions.*

“At this time you should have already read and signed the Informed Consent Form indicating that you understand what has been asked of you and you are willing to participate. I can collect any signed Informed Consents now if you have not already turned them in to me. You can read along with me for your instructions.”

“This study involves you imaging that you are participating in a law enforcement training exercise. We need you to imagine that you are an experienced police officer. Part of your continuing education and training demands that you are able to correctly perceive if there is enough visual evidence to stop somebody and ask them if they have committed a crime. The amount of evidence needed to stop someone is commonly called “probable cause.” Probable cause is the exact amount of information you need to precede in an attempt to arrest somebody. As part of your training you will be asked to play a video game that simulates probable cause under the most basic conditions: the presence and identification of a visual symbol.

You will be shown many pictures of male faces. In your video game, you will see both Black male faces and White male faces for a short period of time. **It is important that you do not racially profile or over-apprehend the Black faces.** The symbol for probable cause will flash somewhere near the face very quickly and will disappear, and thus leave only the face alone remaining for a short while. The symbol will be a circle if there is probable cause to arrest or a square if there is not probable cause. You can only have one hand on the keyboard; just use your most dominant hand throughout the experiment.”

At
At this point demonstrate on your wireless keyboard, use only one hand, point out the 2 buttons they will use. “On the keyboard you will be instructed where to place your hand. You need to push the “Yes” button if you see a circle or the “No” button if you see a square. It is very important that you push one of the buttons as soon as you see the symbol. Speed and accuracy are equally important.

The game will start after a brief tutorial that will give you feedback when you make an incorrect judgment. In the actual game there is no feedback given. Don’t worry if you make an error in the video game. It is important that you try your best and if you make an error, just move on to the next one. The game is not designed to allow you to skip any trials.

Remember you should hit the “Yes” button if you see a circle near the face and hit the “No” button if you see a square.

Smile and tell them, “I am going to take you to your computer bay one at a time. To keep this standard, I ask that you do not talk to each other or make any other type of contact from this point forward. You will have an opportunity to ask me any further questions at the computer bay.” Smile!

Seat the first person in the furthest bay from the door and the last person closest to the door. Say to each person in a casual tone, “I think that racial profiling is very wrong, so do your best to be fair with each race. Sit at the conference table when you are done with your back turned to the participants. The computer will indicate that they go to the conference table when finished and wait for your instruction. Only talk to them if they start to make noise or any other distraction. Note any additional contact or unusual
content of the session in the research log. Keep in mind that we need this to be standardized across your trials and the trials of the other experimenter all year long.