EMOTION REGULATION AND PREJUDICE REDUCTION

by

BRIAN MICHAEL JOHNSTON

A thesis submitted to the

Graduate School-Camden

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree of Master of Arts

Graduate Program in Psychology

written under the direction of

Ira J Roseman, PhD

and approved by

_____

_____

_____

Camden, New Jersey May 2010

ABSTRACT OF THE THESIS

Emotion Regulation and Prejudice Reduction

by BRIAN MICHAEL JOHNSTON

Thesis Director:

Ira J Roseman, PhD

Prejudice is a problem that can be found in most places around the world. Problems that have

arisen in the past as a result of prejudice include hate crimes, unjust social policies / acts, and

even genocide. Past research has noted associations amongst negative affect and prejudice

(Tropp & Pettigrew, 2004). In particular, studies have found a relationship between anger and

racial prejudice (Roseman, Copeland, & Fischer, 2003; Walker & Smith, 2001), thus leading to

the possibility of utilizing emotion regulation techniques to decrease racist emotions. This study

aimed to discover if different emotion regulation strategies differentially affect prejudice. The

study focused on racial prejudice and sexual orientation prejudice. Cognitive reappraisal and

suppression of anger toward a black couple in a vignette were manipulated. Both racial and

sexual orientation prejudice were measured implicitly and explicitly. Correlational findings indicated that cognitive reappraisal (of emotions in general) may decrease explicit racial prejudice for white participants, while suppression of anger specifically (especially by black participants) may increase racial prejudice against blacks. Particularly for white participants, it was found that one's level of anger during the time of the study was associated with greater explicit racial prejudice; and that one's level of anxiety at the time of the study was associated with greater implicit and explicit racial prejudice. Additionally, for black participants, a disposition to anger was related to greater explicit racial prejudice against blacks, while a disposition to anxiety was related to greater implicit racial prejudice against blacks. For sexual orientation prejudice, cognitive reappraisal was associated with lower implicit prejudice (for white participants) and suppression was associated with higher explicit prejudice (especially for white participants). It was found that anger (and regulation of that anger) is related to racial prejudice, but not sexual orientation prejudice. Differentiations between racial and sexual orientation prejudice were examined and preliminary evidence was exhibited for disgust having a positive relationship with sexual orientation prejudice.

Table of Contents

List of Tables

Introduction

Emotion Regulation and Prejudice

What exactly causes one to make negative judgments of a particular group? This is a question that decades of social science research have attempted to answer. One current approach in psychology relates emotions to different types of prejudice (e.g. Roseman et al., 2003; Tapias, Glaser, Keltner, Vasquez, & Wickens, 2007; Walker & Smith, 2001). This leads one to wonder if discrete emotions contribute to particular types of prejudice. If so, could reducing a negative emotion toward a particular group (that is associated with prejudice against that group) in turn reduce prejudice against that group? Thus, a potential next step in research on emotions and prejudice is to examine whether regulating prejudice-related emotions could reduce prejudice. Findings from this type of research could not only assist in prejudice reduction in various settings, but also add to the basic research on emotions, emotion regulation, and intergroup relations.

The objective of this research was to better understand if and how prejudice relates to emotion regulation. Prejudice was defined as, "negative attitudes toward one group" (Paluck & Green, 2009). Prejudice was further understood to refer to negative judgments of an outgroup, which is any group of individuals that differ from your ingroup on any number of variables (e.g. race, sexual orientation). Of course, racial prejudice is prejudice against a particular race; sexual orientation prejudice is prejudice against those of a particular sexual orientation. The research in this study particularly focused on racial prejudice against blacks and sexual orientation prejudice against homosexuals in the United States.

Past research has discovered a relationship between anger and racial prejudice (Roseman et al., 2003; Walker & Smith, 2001). Anger results from a stimulus eliciting frustration, goal blockage, and / or unfairness, which ultimately leads to the desire to express opposition to the anger-eliciting stimulus (Kuppens, Mechelen, Smits, & De Boeck, 2003). Studies have shown

that anger is often the emotion associated with prejudice against an outgroup, thus leading to confrontational action tendencies, such as arguing and attacking the outgroup (Mackie, Devos, & Smith, 2000). Furthermore, studies have indicated a positive correlation between trait anger (i.e. anger disposition) and prejudice (Tapias et al., 2007). Given these findings, it is possible that by further understanding the relationship between prejudice and anger, strategies can be designed and implemented that can reduce prejudice in individuals, organizational settings, and societies around the world.

Ultimately, the goal of this research is to understand how prejudice can be reduced using the most efficient strategies for regulating anger felt toward outgroups. In comparing cognitive reappraisal to suppression, cognitive reappraisal has exhibited superior results in changing the experiential components of a regulated emotion (Gross, 1998; Gross & John, 2003; Gross, 2007; Gross, 2008; John & Gross, 2004). Cognitive reappraisal involves changing your thoughts in order to differently appraise (or evaluate) any given stimulus before an emotion is elicited, and is therefore considered a form of antecedent emotion regulation. Observed correlates of cognitive reappraisal of negative emotions can include positive affect, cognitive congruence with emotions and overt behaviors, negative correlations with depression, and, most importantly, an actual change in emotion (Gross & John, 2004; John & Gross, 2003). On the other hand, suppression is a type of response modulation of an emotion. After an emotion is elicited by a stimulus, an individual attempts to restrain overt behaviors, thoughts, and feelings that result from that emotion. Observed correlates of suppression of negative emotions can include negative affect, cognitive dissonance, positive correlations with depression, and negative social relationships (Gross & John, 2004; John & Gross, 2003). Actual emotional change does not take place as suppression occurs *after* en emotion is elicited (Gross & John, 2004; John & Gross, 2003). It would seem that negative emotions could perhaps be even more intense as

participants instructed to suppress negative emotions report higher levels of negative emotions than those participants who are not having their emotion regulation manipulated (Gross, 1998). Similar empirical studies of emotion regulation have found lower physiological responses (e.g. heart rate, skin conductance) when participants utilized cognitive reappraisal as opposed to suppression (Gross, 1998). If suppression of negative emotions is chronically used, it is speculated that this could result in possible health problems, such as heart disease (Gross, 1998).

It is important to note that both cognitive reappraisal and suppression can result in a change in overt behaviors. There may even be certain situations in which either reappraisal or suppression is necessary. For example, if utilizing either reappraisal or suppression to regulate anger, one may restrain oneself from hitting one's child. This could feasibly occur as both reappraisal and suppression have been effectively utilized to regulate overt behaviors (Gross, 2008). However, suppression often does not result in a change of the experiential components of an emotion. In an experimental manipulation of cognitive reappraisal and suppression of disgust, most participants in the suppression condition reported having the experiential components of disgust, whereas those in the reappraisal condition often did not (Gross, 1998). Therefore, in the above anger example, an individual utilizing suppression would probably still feel angry (e.g. hot, ready to explode, etc.). This ultimately results in the differences stated above, i.e. cognitive reappraisal has more positive outcomes than suppression.

Anger management research by Deffenbacher and his colleagues has had very similar findings to the above emotion regulation research (Deffenbacher, Filetti, Lynch, Dahlen, & Oetting, 2002). In this research cognitive reappraisal strategies have been applied to anger management programs. In a comparison of cognitive reappraisal to a control group in a road rage reduction program, both the cognitive reappraisal group and the control group exhibited

improved driving behaviors (Deffenbacher et al., 2002). However, after a four week follow-up

measure of participants' driving behavior, those not utilizing cognitive reappraisal had reverted

to their former driving behaviors, whereas those utilizing cognitive reappraisal retained

improved driving skills. Moreover, the cognitive reappraisal group reported lower levels of both

driving anger and trait anger (Deffenbacher et al., 2002). Therefore, cognitive reappraisal has

been found to have better long term effects on anger-related driving behaviors and anger itself.

There has been much prejudice research throughout the 20th century and into present

day by social scientists. It is of course known that prejudice is still a problem around the world

today (Paluck & Green, 2009). Consequences include genocide, hate crimes, and unjust social

policies. Nonetheless, prejudice reduction is extremely difficult as attitudes that an individual

regards as important are not readily changed (Eagly & Chaiken, 1998). However, progress has

been made with some strategies, such as Allport's contact hypothesis. An implication of the

contact hypothesis is that contact with outgroup members can decrease prejudice, under

certain conditions, such as a lack of competition between groups (Stephan & Stephan, 1998).

Some modern examples of successful use of the contact hypothesis include studies that

experimentally mixed blacks and whites in college dorm rooms and on child camping trips

(Paluck & Green, 2009; Pettigrew & Tropp, 2006). There is some evidence that these methods

decreased prejudice-related attitudes (e.g. increased approval of affirmative action) amongst

individuals. However, reviews of the prejudice literature note the lack of methodologically

sound studies (Paluck & Green, 2009). Internal validity is often questioned as a result of

restriction of range and nonrandom assignment. Also, external validity is a crucial issue due to

artificiality and social desirability responding to self report measures of prejudice.

In relating emotion regulation to prejudice some inconsistencies arise. For example,

some of the literature has found that forms of response modulation to prejudice related

emotions can reduce prejudice. A study by Devine et al. suggests that self-punishment by guilt is an effective strategy *after* prejudiced thoughts or behaviors have occurred (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002). This is contrary to the emotion regulation literature described above, in which response modulation has been shown to result in negative outcomes, as well as a lack of experiential emotion change. It should be expected that these same negative outcomes will occur in regard to anger response modulation and prejudice reduction, ultimately leading to a lack of prejudice reduction. Overall, the relationship between emotion regulation and prejudice has not been fully addressed.

All in all, there is a vast literature on both emotion regulation and prejudice. It is known that cognitive reappraisal is much more effective at regulating emotions than is suppression. This also applies to anger. It is also known that anger and racial prejudice are correlated. However, it is unknown if efficiently regulating anger towards an outgroup will reduce prejudice. Emotion regulation techniques have yet to be empirically manipulated to attempt to influence prejudiced-related emotions. Furthermore, much is unknown about prejudice as a whole as internal and external validity is a concern in a considerable portion of the literature (Paluck & Green, 2009).

The Present Study

Although it is plausible to regulate anger in an effort to decrease prejudice, it is unclear exactly how emotion regulation techniques may relate to intergroup judgments. Does cognitive reappraisal of anger towards an outgroup, as opposed to suppression of anger, result in lower levels of prejudice against that outgroup? The current study aimed to provide a preliminary answer to this question, which can hopefully be expanded upon with future research.

Hypotheses were generated for this research question based upon Gross' emotion regulation research.

- Hypothesis 1: Cognitive reappraisal, as opposed to suppression, of anger towards an outgroup will result in lower levels of prejudice against that outgroup.

- Hypothesis 2: Cognitive reappraisal, as opposed to no manipulated emotion regulation, of anger towards an outgroup will result in lower levels of prejudice against that outgroup.

- Hypothesis 3: Lack of manipulated emotion regulation, as opposed to suppression, of anger towards an outgroup will result in lower levels of prejudice against that outgroup.

- Hypothesis 4: Cognitive reappraisal leads to lower levels of state anger than suppression or the control conditions. Therefore, state anger is a partial mediator between the emotion regulation condition and prejudice.

The independent variable in this study was emotion regulation, with three values: cognitive reappraisal, suppression, and a control condition (no manipulated emotion regulation), which is a categorical variable that was manipulated. The two dependent variables were racial prejudice and sexual orientation prejudice. These were both continuous variables ranging from low to high values. Although sexual orientation prejudice was not described in detail above it was measured in this study to see if regulating anger toward a particular group (i.e. blacks) would in turn reduce prejudice against another group (i.e. homosexuals). The mediating variable state anger is continuous and also ranged from low to high values. Trait reappraisal tendency, trait suppression tendency, trait anger reappraisal tendency, trait anger suppression tendency, trait anger, and trait anxiety are also continuous variables that ranged from low to high values. These trait variables were measured as potential moderators. Additionally, these trait variables were used as an alternate test of the above hypotheses in

place of the emotion regulation manipulation. Overall, it was predicted that participants utilizing

cognitive reappraisal would have lower levels of prejudice than participants utilizing

suppression.

Method

<u>Overview</u>

Participants read a vignette designed to elicit anger toward a black couple. Prior to reading the vignette, participants were given a written instruction that served as the emotion regulation manipulation. In the cognitive reappraisal condition, participants were asked to think about the situation (i.e. the vignette) in such a way that they remain calm and dispassionate. In the suppression condition, participants were asked to behave (while reading the vignette) in such a way that others watching would not know they were feeling any emotions at all. In the control condition participants were not given any emotion regulation instructions. This manipulation was adapted from previous research that utilized manipulated emotion regulation (Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003; Gross, 1998). After reading the vignette, the mediating variable state anger was assessed with a written questionnaire. State anxiety was measured next with a similar questionnaire in order to decrease hypothesis guessing on the state anger items. Racial and sexual orientation prejudice were then assessed with implicit and explicit measures. Additionally, moderating variables (trait reappraisal tendency, trait suppression tendency, trait anger reappraisal tendency, trait anger suppression tendency, trait anger, trait anxiety), emotions felt toward homosexuals, and demographic questions were assessed with a written questionnaire.

<u>Manipulation and Vignette</u>

Manipulation of emotion regulation was done with written instructions (Appendix A). Participants read an instruction on how to either cognitively reappraise or suppress anger towards an outgroup in a vignette (the control condition received no emotion regulation instructions):

Reappraisal Instructions: Please read through the description of the following situation, and picture the situation that is described to you in your mind as best as you can. Pretend that you are actually living through this experience. During the experience think about your situation in such a way that you remain calm and dispassionate.

Suppression Instructions: Please read through the description of the following situation, and picture the situation that is described to you in your mind as best as you can. Pretend that you are actually living through this experience. During the experience behave in such a way that if someone were watching you they would not know you are feeling any emotions at all.

Control Instructions: Please read through the description of the following situation, and picture the situation that is described to you in your mind as best as you can. Pretend that you are actually living through this experience.

Similar written instructions for emotion regulation have been successfully utilized in past research (e.g. Butler et al., 2003). The specific manipulation instructions for this study (the last sentence in the reappraisal instructions and the last sentence in the suppression instructions above) were adapted from the Butler et al. (2003) study. The only change made to the Butler et al. (2003) reappraisal instruction was changing the word "conversation" to "experience"; and the changes made to the suppression instruction included changing the word "conversation" to "experience" and changing "…your partner watching you does…" to "…if someone were watching you they would…". Note that the "if someone were watching you" instruction for suppression has been successfully utilized as a suppression manipulation in the past (Gross, 1998). Additionally, instructions for reading and experiencing a vignette (the first two sentences for the reappraisal and suppression instructions; the only two sentences for the control instructions) were the verbatim instructions from a study by Smith and Lazarus (1993).

The vignette that was read by participants was adapted from a previous study on anger (Tremblay & Belchevski, 2004; Appendix B):

You and your friends have been waiting in line for over a half an hour to get into a bar. You are to be the next ones to get in, but a couple (pictured above), who appear to be very intoxicated, cut in front of you.

The only change made to the Tremblay and Belchevski (2004) vignette was changing the words "two guys" to "a couple (pictured above)" and placing a photograph of a black heterosexual couple above the vignette, but below the manipulation and vignette instructions. Note that nothing was explicitly mentioned about the couple's race. This vignette was meant to place the participant in a situation where anger is elicited towards a black heterosexual couple. It is ambiguous as to whether or not the couple is intentionally provoking anger, thus making cognitive reappraisal towards this couple feasible. Participants were randomly assigned into cognitively reappraising, suppressing, or not regulating anger in the above vignette via the above manipulation instructions.

Mediating Variable Measures

The State Anger Scale (Appendix C; a subscale of the State Trait Anger Scale, STAS) was used as a measure of state anger (see Spielberger, Jacobs, Russell S, & Crane, 1983). State anger was hypothesized to be a mediating variable (between emotion regulation condition and racial prejudice) and the STAS was utilized as a check on the efficacy of the vignette in eliciting anger. This measure had participants answer Likert questions, such as "I feel angry", to measure their current state of anger. The internal consistency alpha coefficient for the State Anger Scale is .93 (Spielberger et al., 1983). Note that this coefficient was established with a 15 item version of the scale. However, the ten item version that was used in this study correlates highly with the fifteen item version (r=.95, see Spielberger & Sydeman, 1994). Test-retest reliability is not to be

expected for the State Anger Scale (.27 for males, and .21 for females) as state anger varies in individuals over time. Concurrent validity for the STAS was established with multiple measures of hostility, such as the Buss-Durkee Hostility Inventory and the Overt Hostility Scales of the Minnesota Multiphasic Personality Inventory. The STAS also demonstrates discriminant validity as it does not correlate with measures of extraversion or curiosity (Spielberger & Sydeman, 1994).

In order to decrease demand characteristics, the State Anger Scale was followed by the State Anxiety Inventory (Appendix D), also designed by Spielberger et al. (1983). In addition, comparing state anger scores with state anxiety scores, allows one to determine if anger is actually being elicited, as opposed to just negative emotion. The State Anxiety Inventory (a subscale of the State Trait Anxiety Inventory, STAI) is similar to the State Anger Scale. Participants answer Likert questions to measure their current state of anxiety. A shortened, six item form of the State Anxiety Inventory, developed by Marteau and Bekker (1992), was utilized. Alpha reliability for the six item State Anxiety Scale is .82. The short form of the STAI had a correlation of .95 with Spielberger's twenty item version (Spielberger & Sydeman, 1994). The full version of the STAI was validated concurrently with other measures of anxiety, such as Cattell's Anxiety Scale Questionnaire and Taylor's Manifest Anxiety Scale (see Spielberger 1983; Spielberger & Sydeman, 1994). Construct validity was shown by discriminating between those diagnosed with anxiety disorders and "normal" individuals. Marteau and Bekker (1992) established concurrent validity of their 6 item State Anxiety Inventory by comparing it to the original 20 item version. A *t* test showed no difference between the means of those that took the 6 item version and those that took the 20 item version. Note that the State Anger Scale and the State Anxiety Inventory were each coded by adding up the total number of Likert responses

of each measure (with the appropriate reverse coding) and dividing by the number of items. Higher scores indicate more state anger or state anxiety.

<u>Dependent Variable Measures</u>

The dependent variable, prejudice, is not easily measured. Social desirability responses are quite a problem across most of the prejudice literature. Many participants feel wary about describing negative attitudes toward outgroup members, even when anonymity is guaranteed. Social desirability results in the lack of external validity in prejudice studies. Although this problem cannot be completely avoided, this study took precautions in order to decrease social desirability responses as much as possible. In order to do so, both implicit and explicit measures of prejudice were utilized. Implicit measures can avoid such social desirability responses to some extent. For racial prejudice, the black-white Implicit Association Test (IAT; Appendix E) measured implicit racial prejudice (Greenwald, Nosek, & Banaji, 2003). Two explicit measures for racial prejudice were also utilized: the Social Distance Scale (Bogardus, 1933; revised by Byrnes & Kiger, 1988; Appendix F) and the Modern Racism Scale (MRS; McConahay, 1986; Appendix G). Two items from the Symbolic Racism 2000 Scale (SR2K Scale; Henry & Sears, 2002; Appendix H) with an item adapted for measuring anger toward blacks (adapted from McConahay, 1986; Appendix I) were also used in order to address limitations of the MRS (soon to be discussed).

Similar measures were used for sexual orientation prejudice. In order to measure implicit sexual orientation prejudice, the sexuality IAT was used (Greenwald et al., 2003; Appendix E). Explicit sexual orientation prejudice was measured with a version of the Social Distance Scale (adapted for homosexuals; Appendix J) along with the Attitudes Toward Lesbians and Gay Men Scale (ATLG; Herek, 1984; 1994; Appendix K), with an item adapted for measuring anger toward homosexuals (adapted from McConahay, 1986; Appendix L).

The black-white IAT (Appendix E) is a computer administered test that utilizes reaction time to measure associations of black and white faces to positive and negative words. A button on either the left or right side of the keyboard is pressed (usually the *E* and *I* keys, as was done in the current study) in order to place a face found at the center of the screen into a racial category (African American or European American), or a word found at the center of the screen into a "good" or "bad" category. The first two (of seven) rounds are designed for the participant to become accustomed to the program. The program starts by placing *only* faces *or* words into the two categories. Then, the categories (faces *and* words) are combined. The association occurs when particular words and faces are found on the same side of the screen (e.g. a black face and a positive word). Note that all pairings (determined in a random order) are completed: positive words with white faces, negative words with white faces, positive words with black faces, and negative words with black faces. The idea underlying the IAT is that slower reaction times will be found in participants associating positive words with faces that they are prejudiced against. For example, one prejudiced against blacks would react more slowly in placing positive words and black faces on the same side of the screen. Conversely, faster reaction times will be found with associations that a participant is not prejudiced against. An individual that is not prejudiced against whites would thus react more quickly in placing positive words and white faces on the same side of the screen than an individual that is prejudiced against whites. The sexuality IAT (Appendix E) is identical to the black-white IAT, except that homosexual / heterosexual stimuli are used (e.g. pictures of homosexual and heterosexual wedding cake figurines).

Controversy has arisen as a result of the IAT. Many who take the test are surprised by implicit prejudices of which they were unaware. As a result, many do not believe that the IAT is a measure of prejudice, but rather just a measure of associations that one becomes accustomed to as a result of socialization. Nonetheless, even if this is the case, these mere associations can

result in real world prejudiced behaviors, either consciously or subconsciously. For example, doctors that appeared not to be prejudiced on explicit measures, but had an implicit bias in favor of whites (as measured by the black-white IAT), were more likely to treat white patients as opposed to black patients (Green, Carney, Pallin, Ngo, Raymond, Iezzoni, & Banaji, 2007). Furthermore, the IAT has established predictive validity (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). In a meta-analysis of 122 IAT studies, the IAT predicted criteria of behaviors (e.g. physicians' treatments of black patients), judgments, and physiological measures (average $r=.27$). In fact, for some socially sensitive topics, the IAT has been found to have better predictive validity than explicit measures. This is true for the black-white IAT, which had a predictive validity of approximately .23, much higher than explicit measures, which had an overall predictive validity of approximately .13. The IAT is the most widely utilized measure for many implicit associations for the above reasons. It was therefore appropriate for this study, as it efficiently measures prejudice, while minimizing social desirability responses.

IAT reaction time responses (for both the black-white IAT and sexuality IAT) were coded as per the guidelines in Greenwald et al. (2003). First, reaction times greater than 10 seconds were not used. Also, data from a particular participant were not used if more than 10% of the participant's reaction time responses were under 300 milliseconds. Note that only one participant's data were not usable and this participant was therefore not included in any of the analyses. Then, the standard deviation was computed for stages three and six inclusively, and stages four and seven inclusively. Four separate means were calculated for stages three, four, six, and seven. Differences between these means were calculated depending on the random order of the stimuli. If the IAT started with *positive* words and African American people (Homosexual people) combined (i.e. stages three and four), then stage six was subtracted from stage three and stage seven was subtracted from stage four. If the IAT started with *negative*

words and African American people (Homosexual people) combined (i.e. stages six and seven),

then stage three was subtracted from stage six and stage four was subtracted from stage seven.

These differences in means were then divided by the inclusive standard deviation of the two

stages. Finally, these two numbers were averaged, resulting in what Greenwald et al. (2003)

term the "D Score". Higher scores indicate more prejudice against blacks (or homosexuals).

One suggestion of an IAT meta-analysis is to use the IAT in conjunction with an explicit

measure (Greenwald et al., 2009), as explicit measures may get at a somewhat different

construct of prejudice (i.e. attitudes and beliefs) than the IAT. Using explicit measures also

addresses the criticism of the IAT being a mere reaction time measure of learned associations.

For these reasons, the IAT was used with two explicit measures of racial prejudice and two

explicit measures of sexual orientation prejudice, as mentioned above. The Social Distance Scale

(Appendix F) has participants rate their level of comfort with blacks in various social roles to

assess racial prejudice (Bogardus, 1933). An example of an item is, "how comfortable would you

be with having a black person as your personal physician?" (Corrigan, Green, Lundin, Kubiak, &

Penn, 2001). Reliability and validity have been established for this scale, and it has been widely

used throughout the prejudice literature (Corrigan et al., 2001). Corrigan et al. (2001) have done

more recent validity studies, in which r=-.20 with familiarity for divergent validity; and r=.44 with

dangerousness and r=.51 with fear for convergent validity.

The Social Distance Scale items for the current study were taken from the version of the

scale used Byrnes and Kiger (1988; Appendix F). A version of the Social Distance Scale was also

adapted for sexual orientation prejudice for this study (Appendix J). This was done by

substituting the word "black person" in each question with the word "homosexual person".

Note that one item had to be changed a bit more from "having a black person as someone you

would date" to "having a homosexual person as someone a close relative would date". This was

done as simply changing "black person" in this item to "homosexual person" would no longer measure the construct of sexual orientation prejudice, but rather some sort of sexuality construct. A reliability analysis performed on the current study's sample (*N*=97), which indicated that this version of the scale was reliably working (α=.95). An advantage of the Social Distance Scale is that it is a measure of one's attitudes towards a group. Limitations of the Social Distance Scale include social desirability responses and demand characteristics. This was compensated for by also giving the IAT. Also, by using three measures for each prejudice (the IAT and two explicit measures) each measure can be evaluated in comparison to the other two.

The Modern Racism Scale (MRS; Appendix G), developed by John McConahay (1986), is a questionnaire that is intended to measure racial prejudice manifest in the belief that blacks attempt to gain equality in an unjust manner. Internal consistency reliability for the MRS is .84 (Godfrey, Richman, & Withers, 2000). Convergent validity has been established with several versions of the black-white IAT (mean r=.35, see Cunningham, Preacher, & Banaji, 2001). One of the primary limitations of the MRS, as with all explicit prejudice measures, is social desirability responses. Furthermore, developers of another explicit racial prejudice scale, the Symbolic 2000 Racism Scale (SR2K scale), criticize the MRS for using dated items and having an acquiescence response bias (Henry & Sears, 2002). Nonetheless, the dated items were still used in the present study for comparability with the original MRS. However, two reverse coded items from the SR2K scale (Appendix H) were added to the end of the MRS in order to correct for the acquiescence response bias. In addition, one item was adapted from the MRS to measure anger felt toward blacks in general (Appendix I). This was done as this study particularly focuses on anger towards blacks, and none of the items from either the MRS or the SR2K scale measured anger of the participant toward blacks.

The idea behind the SR2K items is that those with racial prejudice today have learned general negative affect toward blacks, which appears on the surface as a belief that blacks are violating American values (Henry & Sears, 2002). As the SR2K scale is meant to measure prejudice against blacks, its validity can be questioned for black participants. The same is true for the MRS. However, the SR2K scale is reliable and valid for whites. The average alpha reliability in a Henry and Sears (2002) analyses was .73. Predictive validity was established with a criterion of racial policy preference (average r=.58) and conservative political predisposition (average r=.46, see Henry & Sears, 2002). Incremental validity was shown with a measure of other predictors of racially prejudiced behaviors (such as party affiliation) both with and without the measure of symbolic racism. The changes in r^2 for three samples were .19, .14, and .21. Both the MRS and the SR2K scale were developed using college undergraduate students. These two scales were therefore an adequate instrument for explicit measures of prejudice, especially for the college student sample utilized in this study.

The limitations of the SR2K scale are similar to that of the MRS. The primary limitation is social desirability responses. Self reporting prejudice is not readily done by research participants, especially in a society that looks down upon prejudice. Demand characteristics are another possibility as the items are explicitly asking about racial attitudes. Also, as mentioned above, this scale has higher validity when measuring whites' attitudes (Henry & Sears, 2002), thus limiting data for blacks and other minorities. Although this measure was developed with a college student sample, and this gives grounds for its use with this particular sample, this fact does limit generalizability of the findings. Nonetheless, both the MRS and SR2K scale were viable measures for this study, as they were developed using college undergraduate students, and have been used successfully with such samples (see Blanton, Jaccard, Gonzales, & Christie, 2006; Brief, Dietz, Cohen, Pugh, & Vaslow, 2000). They provided attitudinal measures of explicit

prejudice that were used in conjunction with the black-white IAT (which it was hoped would offset social desirability responses and demand characteristics). Ethnicity was taken into account when analyzing the data from these scales in order to address the shortcomings for minority participants.

The Attitudes Toward Lesbians and Gay Men Scale (ATLG; Appendix K) is a ten item questionnaire designed to see if prejudiced attitudes exist in a participant towards homosexuals (Herek, 1984). Five items assess attitudes towards lesbians, while the other five assess attitudes towards gay men. Therefore, two scores are computed, one for attitudes toward lesbians (the ATL subscale), and one for attitudes toward gay men (the ATG subscale). An example item is, "lesbians just can't fit into our society". One item not in the ATLG scale was added to assess anger felt towards homosexuals in general, which was adapted from the MRS (McConahay, 1986; Appendix L). This was done as this study particularly focused on anger towards homosexuals, and the ATLG does not have any items in regard to anger felt towards homosexuals.

Test retest reliability for this scale is .90 (Herek, 1988). Convergent validity has been established with multiple constructs such as religiosity and amount of contact with homosexuals (Herek, 1988). Divergent validity has been shown with members of homosexual organizations scoring low on this measure (Herek, 1988; 1994). The scale being used is a shortened version developed by Herek, but it has a high correlation with the original 20 item scale (r=.97; Herek, 1988). Social desirability is also an issue with this scale, which was compensated for by also using the sexuality IAT. Note that all of the racial prejudice (and sexual orientation prejudice) measures were each coded by adding up the total number of Likert responses of each measure (with the appropriate reverse coding) and dividing by the number of items. Higher scores indicate more prejudice against blacks (or homosexuals).

Moderating Variable Measures

There are several moderating variables that were measured in this study. Trait

reappraisal tendency, trait suppression tendency, trait anger reappraisal tendency, trait anger

suppression tendency, trait anger, and trait anxiety could all potentially moderate the strength

of the manipulation. It was also possible that both the anger induction and / or the emotion

regulation manipulation were simply not strong enough for some, or all, of the participants.

Therefore, the above moderating variables were measured and controlled for during the

analyses. Also, measurement of these trait variables provided an alternate test for the

hypotheses using correlation and multiple regression.

Trait reappraisal tendency and trait suppression tendency were measured with the

Emotion Regulation Questionnaire (ERQ; see Gross & John, 2003; Appendix M), which has been

utilized in many studies of individual differences in emotion regulation. Some examples of its

use include correlating memory and well-being with the ERQ (Gross & John, 2003; John & Gross,

2004). The ERQ uses ten items on a scale of one to seven to measure disagreement and

agreement with emotion regulation statements, with one being strongly disagree and seven

being strongly agree. Six of these items measure a trait reappraisal tendency, while the other

four measure a trait suppression tendency. An example of a reappraisal item is, "I control my

emotions by *changing the way I think* about the situation"; an example of a suppression item is,

"I keep my emotions to myself". Two items that were not in the original scale were also added

(adapted from existing items in the ERQ; Appendix N), one to measure trait anger reappraisal

tendency, and one to measure trait anger suppression tendency. The average alpha reliability

for the ERQ is .79 for the reappraisal factor and .73 for the suppression factor. Convergent

validity was assessed by Gross and John (2003) via other valid self report measures of several

factors: inauthenticity (b=.47 for suppression) and coping through reinterpretation (b=.43 for

reappraisal). Discriminant validity was evaluated with constructs from the Big Five personality

dimensions, such as extraversion (b=.11 for reappraisal) and agreeableness (b=-.11 for

suppression). Again, the development of the ERQ (and much of its use in the literature, see

Gross & John, 2003 & John & Gross, 2004) used undergraduate college students as participants,

thus lending support for its use in the current study. Note that these emotion regulation scales

were each coded by adding up the total number of Likert responses of each measure (with the

appropriate reverse coding) and dividing by the number of items. Higher scores indicate a higher

tendency to reappraise emotions, suppress emotions, reappraise anger, or suppress anger.

Another potential moderating variable is trait anger. Trait anger is a measure of

irritability, or how an individual tends to respond to anger provocation. This was measured with

the Trait Anger Scale (Appendix O), a ten item scale with Likert ratings ranging from one to four,

with one being not at all and four being very much so (Spielberger et al., 1983). Participants

rated their range of agreement with statements such as, "I am quick-tempered". The Trait Anger

Scale is the second subscale of the STAS (described above). Just as the State Anger Scale was

used in conjunction with the State Anxiety Inventory, the Trait Anger Scale was also followed by

the Trait Anxiety Inventory (Appendix P) for the same reasons (Spielberger et al., 1983). Trait

anxiety measures how anxious an individual tends to be, and is assessed in the same fashion as

the State Anxiety Inventory. The median test-retest reliability for the Trait Anxiety Inventory,

with college student samples, was .77 (Spielberger & Sydeman, 1994). Validation for the full

STAI is described above. A shortened version of this scale was used for this study. Six items with

the highest trait anxiety factor loadings were selected from a study by Vigneau and Cormier

(2008). These select six items were worded identically to the six items in the original scale by

Spielberger et al. (1983). Three of these items load onto a negative factor, meaning they

measure trait anxiety via negative statements such as "I feel like a failure" (Vigneau & Cormier,

2008). The remaining three items are positively worded, and require reverse coding. An example is "I feel pleasant". A reliability analysis was also performed for this scale with the current sample (N=97, α=.80). Note that the Trait Anger Scale and the Trait Anxiety Inventory were each coded by adding up the total number of Likert responses of each measure (with the appropriate reverse coding) and dividing by the number of items. Higher scores indicate more trait anger or trait anxiety.

Additional emotion questions were asked to determine how much of various discrete positive and negative emotions were felt toward homosexuals in the past week, including appraisals of contempt and anger (Fischer & Roseman, 2007; Appendix Q). These emotion items allowed for exploratory analyses as to which positive and negative emotions participants experience toward homosexuals and how this relates to sexual orientation prejudice. Furthermore, these items assessed how much of these emotions were being felt and appraisals that may influence these emotions. Note that these emotion items were each coded by using the Likert number responses that the participant indicated for each item. Higher scores indicate more of the emotion in question.

<u>Participants</u>

Ninety seven undergraduates from Rutgers Camden participated in order to fulfill a course requirement in an Introduction to Psychology course (n=72) or for extra credit on an exam in a course on Human Emotions (n=25). The participants were randomly assigned to the reappraisal condition (n=33), the suppression condition (n=32), or the control condition (n=32). The average age of the sample was 23.16 (SD=7.73) with 38.1% being male and 61.9% being female. Additionally, the sample was ethnically mixed: 9.3% Asian, 27.8% Black, 8.2% Hispanic / Latino, 46.4% White, and 8.2% mixed (of the previous ethnic categories). Analyses (to be

discussed) addressed the issue of utilizing participants of different ethnicities to measure racial attitudes.

Procedure

Participants arrived in a computer lab that allowed for data collection from multiple participants simultaneously. Participants were recruited with the following information:

In this study we are interested in understanding people's feelings, judgments, opinions, and behaviors towards particular types of people in different situations. You will be asked to indicate the thoughts and feelings you are having now and the thoughts and feelings you would have in particular situations. In a different part of the study, you will be asked to sort words and pictures into categories to see how certain judgments are made.

After signing an informed consent form (sometimes before all participants arrived) participants were given general instructions about filling out questionnaires and completing computer tasks (i.e. the IATs). The study itself did not proceed until all participants arrived so as not to interrupt participants with people coming in and out of the room, and becoming observers who might increase socially desirable responses. To begin, participants were given their randomly assigned emotion regulation instructions (Appendix A) prior to reading the anger-eliciting vignette (Appendix B). Different participants could have received different random instructions in the same session. That is, participants in different conditions (e.g. reappraisal and suppression) were run in the same session, but the instructions were given individually on the questionnaire and the participants were not aware that other participants were receiving different instructions. After reading the vignette, participants were asked the following question in an open-ended format for them to more deeply experience the vignette situation: "On the lines below describe the thoughts and feelings you would have". This was followed by the State Anger Scale

(Appendix C) and then the six item State Anxiety Inventory (Appendix D), thus allowing for a test

of whether or not the vignette was eliciting anger and also a measure of the mediating variable,

state anger.

Then, participants moved on to measures of the dependent variables. First, participants

performed the black-white IAT (Appendix E). Several measures of explicit racial prejudice were

then administered in the following order: The Social Distance Scale for blacks (Appendix F), the

MRS (Appendix G), two items from the SR2K scale (Appendix H), and the additional item

assessing anger toward blacks (Appendix I). The black-white IAT preceded the explicit measures

of racial prejudice in order to minimize reactivity on the implicit racial prejudice measure. Note,

however, that this was a tradeoff, as this order of measures made race salient on the

subsequent explicit racial prejudice measures. Instructions that made anonymity salient, and

thus decreasing reactivity / social desirability, were also utilized for the explicit prejudice

measures (taken from Agnew & Loving, 1998):

> In the following section, we are interested in your attitudes and opinions of a particular
>
> group. For each of the following statements please circle the number that best describes
>
> how much you disagree or agree with each statement. Please be completely honest in
>
> your responses to the questions. Your responses here can never be linked to you
>
> personally (this is an anonymous study with no way for us to link your name with your
>
> response) so feel free to tell us what you really think.

After completing the racial prejudice measures, participants moved on to completing sexual

orientation prejudice measures in a similar order: the sexuality IAT (Appendix E), the Social

Distance Scale for homosexuals (Appendix J), the ATL scale (Appendix K), the ATG scale

(Appendix K), and the item assessing anger toward homosexuals (Appendix L). This order was

chosen for the same reason as the racial prejudice measures above (with the same limitations,

i.e. sexual orientation saliency on the subsequent explicit measures) and also utilized identical anonymity instructions for the explicit measures.

The following scales were then administered (as measures of moderating variables) in the following order: the ERQ (Appendix M), the additional anger regulation items (Appendix N), the Trait Anger Scale (Appendix O), and the Trait Anxiety Inventory (Appendix P). To finish up, participants answered some exploratory questions about emotions felt toward homosexuals (Appendix Q), appraisals of these emotions (Appendix Q), and a brief demographic questionnaire (Appendix R). Both the moderating variable measures and the demographic questions were administered at the end of the session just prior to the debriefing so as not to allow any variables (e.g. emotion regulation tendency, ethnicity) to become salient during the manipulation and vignette or the other measures. The study concluded with a debriefing session in which the purpose of the study was explained to the participants and they were given a chance to ask any questions. Throughout the debriefing sessions the majority of participants did not seem uncomfortable as a result of the study. Participants were often engaged in the debriefing discussions about prejudice, even with ethnically diverse groups. Data was collected in a total of 27 sessions; one session of data collection took approximately 45 minutes to one hour to complete.

Results

Did the vignette succeed in making participants angry?

It was expected that the vignette would elicit anger from participants based on the

study by Tremblay and Belchevski (2004). Table 1 presents the state anger scores of the three

conditions by ethnicity. The state anger mean of the control condition for all ethnicities (*N*=97)

was 1.58. Mean anger (adjusted for comparability to the 4 point Likert scale in the current

study) of the Tremblay and Belchevski (2004) study from which this vignette was adapted was

2.34. On the Spielberger State Anger Scale (Spielberger et al., 1983) the state anger score for the

control condition in the current study would fall between "not at all" and "somewhat" angry,

whereas the mean for the Tremblay and Belchevski (2004) study would fall between

"somewhat" and "moderately" angry. Thus, it appears that the vignette may not have made

participants as angry in the present study as in previous research. The amount of anger

produced may not have been sufficient for significant effects of the anger regulation

manipulation to be observed.

Table 1:
Mean State Anger Scores by Ethnicity with Standard Errors in Parentheses

	White	Hispanic / Latino	Asian	Mixed	Black	Total Sample
Reappraisal	1.43 (0.17) *n*=15	1.10 (0.47) *n*=2	1.05 (0.47) *n*=2	1.03 (0.38) *n*=3	1.46 (0.20) *n*=11	1.36 (0.16) *n*=33
Suppression	1.36 (0.17) *n*=16	1.03 (0.38) *n*=3	2.57 (0.38) *n*=3	1.40 (0.47) *n*=2	1.38 (0.23) *n*=8	1.44 (0.15) *n*=32
Control	1.65 (0.18) *n*=14	1.00 (0.38) *n*=3	2.00 (0.33) *n*=4	1.77 (0.38) *n*=3	1.41 (0.23) *n*=8	1.58 (0.14) *n*=32

Did the emotion regulation manipulation affect state anger as predicted?

It was hypothesized that participants in the reappraisal condition would be the least

angry, participants in the suppression condition would be the most angry, and participants in

the control condition would be somewhere in between. Both the anger-eliciting vignette

(described above, Tremblay & Belchevski, 2004) and the emotion regulation instructions (see

Butler et al., 2003; Smith & Lazarus, 1993) have been successfully utilized in past research.

Additionally, preliminary analyses (n=11) indicated that the mean state anger scores (by

condition) were going in the hypothesized direction: reappraisal=1.03 (n=3), suppression=2.35

(n=4), control=2.00 (n=4), with an ANOVA indicating marginal significance at this point (p=.05,

one-tailed).

However, data from the present study indicate that the manipulation did not have the

expected result on state anger scores for the total sample (N=97): $F(2, 93)$=0.90, p=.21. The

means from the total sample (shown in Table 1) show that state anger was lowest in the

reappraisal condition, slightly higher in the suppression condition, and highest in the control

condition. But the differences between conditions were not significant. One-tailed t-tests on

state anger scores for the entire sample did not indicate significant differences between the

reappraisal condition and the control condition $t(63)$=1.29, p=.10, the suppression condition and

the control condition $t(62)$=-0.75, p=.23, or the reappraisal condition and the suppression

condition $t(63)$=0.59, p=.28. Additionally, four separate ANCOVAs controlling for trait anger $F(2,$

$93)$=0.90, p=.42, trait anxiety $F(2, 93)$=0.87, p=.42, trait reappraisal tendency $F(2, 93)$=0.81,

p=.44, and trait suppression tendency $F(2, 93)$=0.83 p=.44 did not indicate significant support for

the hypotheses. Similar ANOVAs and ANCOVAs were performed for state anxiety that also

yielded non-significant results.

Relationships between Trait Emotion Regulation variables and State and Trait Emotions

It was expected that state and trait anger (and anxiety) would have positive

relationships with suppression and negative relationships with reappraisal. That is people who

consistently reappraise their emotions would be less angry (and anxious) in general, while

people who consistently suppress their emotions would be angrier (and more anxious) in

general (Gross & John, 2004; John & Gross, 2003). In turn similar patterns would occur for the

state anger scores. The above ANCOVAs and further correlational analyses (shown in Table 2)

provided findings consistently in the hypothesized direction with the exception of trait anger. As

shown in Table 2, 15 of the 16 correlations between the emotion regulation variables and the

state and trait emotion variables were in the predicted direction (i.e. negative correlations

between trait reappraisal variables and emotion intensities; positive correlations between trait

suppression variables and emotion intensities); but most of these correlations were too small to

reach significance.

Table 2
Trait Emotion Regulation Variable Pearson Correlations with State and Trait Emotion Variables

	State Anger	Trait Anger	State Anxiety	Trait Anxiety
Trait Reappraisal Tendency	-.06	-.08	-.10	**-.22***
Trait Suppression Tendency	.04	.02	.02	**.31****
Trait Anger Reappraisal Tendency	-.09	-.02	-.15	-.18
Trait Anger Suppression Tendency	.05	(-.16)	.09	**.22***

Note: Correlations underlined and in blue indicate correlation is in the hypothesized direction
Note: Correlations in parentheses and in red indicate correlation is in the opposite of the hypothesized direction
Note: The total sample was utilized for all of the above correlations (*N*=97)
*significant at the *p*<.05 level, one-tailed; **significant at the *p*<.01 level, one-tailed

Three out of four correlations (see Table 2) were significantly in the hypothesized

direction for trait *anxiety* with the emotion regulation variables: trait reappraisal tendency (r=-

.22, *p*=.03), trait suppression tendency (r=.31, *p*=.002), and trait anger suppression tendency

(r=.22, *p*=.03). That is, as had been hypothesized for trait anger, individuals who reported

reappraising their emotions more also reported generally feeling less anxiety; and individuals

who reported suppressing their emotions more (and suppressing anger in particular) also

reported generally feeling more anxiety.

<u>Why were there no significant differences in state anger resulting from the emotion regulation</u>

<u>condition?</u>

There are several possible explanations as to why the state anger scores did not fall in

the hypothesized direction. As described above, it seems that the vignette was eliciting anger as

desired, but less than was reported in previous research (Tremblay & Belchevski, 2004). One

possible explanation is that the vignette was not eliciting sufficient anger for the suppression

manipulation to increase anger or for the reappraisal manipulation to reduce it very much. Note

that for the ethnic group which experienced the most state anger (Asians) the condition means

did fall in the predicted direction (see Table 1). For other ethnicities, this was not the case. It

could also be that the emotion regulation instructions did not affect state anger as these

instructions were successfully used with a conversation (Butler et al., 2003) and a film (Gross,

1998), but not a vignette as in the current study.

It is also possible that suppression might sometimes succeed in reducing anger (though

not as much as reappraisal does; see Deffenbacher et al., 2002; Gross & John, 2004). This may

be especially likely if the anger is not intense (as was the case in the current study). State anxiety

findings were consistent with this interpretation also, as the participants in the reappraisal

condition showed the least amount of anxiety (*M*=2.05), participants in the suppression

condition showed slightly more (*M*=2.07), and participants in the control condition showed the

most (*M*=2.15), though these means were not significantly different. Another interpretation of

the direction of the state anger and state anxiety means is that participants in the reappraisal

and suppression conditions received more instructions than participants in the control

condition. Perhaps this could have made these participants experience the vignette differently

and thus show less state anger and anxiety than the control condition.

Given the non-significant but generally supportive pattern of correlations (in the predicted direction) between the trait emotion regulation variables and the state and trait emotion intensities, the best explanation may be that state and trait anger were not sufficiently related to the emotion regulation variables to reach significance with a sample of this size. Thus, the sample size may not have been large enough to create significant differences in state anger between the emotion regulation conditions, though the reappraisal and suppression means were lower than the control (see Table 1). However, trait anxiety was significantly related to trait reappraisal tendency, trait suppression tendency, and trait anger suppression tendency in the predicted directions (see Table 2).

Manipulated Emotion Regulation and Racial Prejudice

In a similar pattern to state anger, it was hypothesized that participants in the reappraisal condition would show the least amount of racial prejudice, participants in the suppression condition would show the greatest amount of racial prejudice, and participants in the control condition would show levels of racial prejudice somewhere in between the reappraisal and suppression conditions. Table 3 shows the means of the three conditions on the various racial prejudice measures. For all but the two-item SR2K measure the reappraisal condition had the lowest means, as was hypothesized. In contrast to hypotheses, the suppression condition means fell between the control condition and the reappraisal condition on all measures but the MRS and SR2K scale. However, MANOVAs and MANCOVAs indicated that the above differences were not significant.

Table 3
Mean Racial Prejudice Scores by Condition with Standard Errors in Parentheses

	Black-White IAT	Social Distance	MRS	SR2K
Reappraisal (*n*=33)	0.27 (0.08)	1.77 (0.22)	2.08 (0.13)	3.16 (0.22)
Suppression (*n*=32)	0.29 (0.06)	2.01 (0.18)	2.24 (0.11)	2.92 (0.18)
Control (*n*=32)	0.35 (0.07)	2.15 (0.21)	2.22 (0.12)	3.25 (0.20)

Note: For all racial prejudice measures, higher scores indicate more prejudice against blacks

A 3x5 MANOVA was performed to test the effects of the manipulated emotion

regulation condition (i.e. reappraisal, suppression, and control) and ethnicity (i.e. Asian, Black,

Hispanic / Latino, White, and mixed) on the racial prejudice measures (i.e. the black-white IAT,

the Social Distance Scale, the MRS, and the SR2K Scale). These analyses indicated that there was

not a main effect for the emotion regulation condition on the dependent measures: Wilks'

Lambda=0.94; $F(2, 90)=0.59$; $p=.82$. Similar non-significant results were obtained in performing

MANCOVAs controlling for trait reappraisal tendency, trait suppression tendency, trait anger,

and trait anxiety. Additionally, separate ANOVAs and ANCOVAs (controlling for the same trait

variables) for each of the racial prejudice dependent measures did not indicate a significant

difference between the emotion regulation conditions.

Table 4
Mean Racial Prejudice Scores by Ethnicity

	Black-White IAT	Social Distance	MRS	SR2K
White (*n*=45)	0.51	2.04	2.40	3.51
Asian (*n*=9)	0.20	2.96	2.76	3.06
Hispanic / Latino (*n*=8)	0.36	2.30	1.91	2.50
Mixed (*n*=8)	0.25	2.35	2.13	2.81
Black (*n*=27)	-0.02	1.33	1.70	2.74

Note: For all racial prejudice measures, higher scores indicate more prejudice against blacks

But- ethnicity did have an effect: Wilks' Lambda=0.46; $F(4, 90)=3.81$; $p<.001$. Table 4

presents the means of the racial prejudice measures by ethnicity. This table indicates that white

participants tended to show the most racial prejudice against blacks; Asian participants, Hispanic

/ Latino participants, and participants of mixed ethnicity showed slightly less; and black

participants showed the least amount of racial prejudice. However, according to a Tukey HSD

white participants did not significantly differ from Asian participants, Hispanic / Latino

participants, or participants of mixed ethnicity. Comparing the middle three ethnic groups to

black participants with a Tukey HSD, Asian participants were the only group to show significantly

more racial prejudice than black participants on the Social Distance Scale (*p*=.001) and the MRS

($p<.001$). Not surprisingly, as shown in Table 4, black participants indicated significantly less

racial prejudice against blacks than white participants according to a Tukey HSD on the black-

white IAT ($p<.001$), the Social Distance Scale ($p=.04$), the MRS ($p<.001$), and the SR2K Scale

($p=.02$). The above MANOVA and ANOVAs were also run with gender as the independent

variable. There were not significant gender differences for the racial prejudice measures: Wilks'

Lambda=0.91; $F(1, 90)=1.87$; $p=.11$.

In order to address the effect of ethnicity on the emotion regulation manipulation and

the subsequent dependent measures, a moderator regression analysis was performed.

Regression, as opposed to ANOVA, was used in order to both increase statistical power and

decrease the risk of type I error (Frazier, Tix, & Barron, 2004). First, the manipulation conditions

were dummy coded for comparisons between the conditions (see West, Aiken, & Krull, 1996).

Additionally, ethnicity was coded utilizing weighted effects coding, which allowed for a test of

how the five ethnic categories (weighted according to the category's representation in the

sample) moderated the effect of the manipulation (see Frazier et al., 2004; West et al., 1996).

Finally, the five racial prejudice measures (i.e. the black-white IAT, the Social Distance Scale, the

MRS, the SR2K Scale, and the combined MRS - SR2K Scale) were standardized by converting the

mean of each scale to zero (e.g. P's score on measure x – the mean of the sample on measure x;

see West et al., 1996). The coded condition and ethnicity variables were entered into a

regression equation as predictor variables to determine the differences between manipulated

conditions on the standardized dependent racial prejudice measures, while taking the ethnicity

of the participant into account. Five individual regressions were performed, one for each of the

dependent racial prejudice measures. Results of all five of these moderator regressions showed

no significant differences between conditions on any of the above dependent measures.

Additionally, three separate ANCOVAs (controlling for state anger; state anger and state anxiety; state anger, state anxiety, trait anger reappraisal tendency, trait anger suppression tendency, trait anger, and trait anxiety) did not indicate significant differences between the emotion regulation conditions on any of the racial prejudice measures. In sum, contrary to hypotheses 1-3, the emotion regulation manipulation failed to lead to significant differences on the racial prejudice measures. Instead, for the total sample, participants in the suppression condition reported non-significantly less racial prejudice (and state anger) than participants given no regulation instructions; and participants in the reappraisal condition reported non-significantly less racial prejudice (and state anger) than participants in the suppression condition. Therefore, state anger meditational analyses (testing hypothesis 4) were not warranted (Frazier et al., 2004).

<u>Measured Emotion Regulation and Racial Prejudice</u>

In contrast to the results for the emotion regulation manipulation, correlations and regression analyses indicated some significant support for the hypotheses. However, before going into detail on these analyses, it should be noted that numerous correlations and regressions were performed, thus increasing the risk of type I errors. Many individual correlations and beta weights were quite small and should not be over-interpreted. Emphasis will be placed on the regressions as these are more precise analyses that take the interaction of predictor variables into account.

Table 5 shows correlations between the state and trait measures and the racial prejudice measures. There are various patterns with the above correlations that are worth noting, that include both significant and non-significant correlations. For the black-white IAT and the MRS (some of the best, and most recently, validated measures; see Cunningham et al., 2001; Greenwald et al., 2009), the correlations between the emotion regulation variables and the

racial prejudice variables were not significant but were always in the hypothesized direction for the sample as a whole, and for white participants in particular. That is, trait reappraisal tendency (and anger reappraisal tendency in particular) was non-significantly associated with less prejudice against blacks; and trait suppression tendency (and anger suppression tendency in particular) was non-significantly associated with greater prejudice against blacks. For the total sample, there was a significant correlation between trait anger suppression tendency and the MRS (r=.22, *p*=.03). None of the correlations involving the Social Distance Scale were significant.

Table 5
Racial Prejudice Pearson Correlations

	Black-White IAT			Social Distance			MRS		
	All[a]	W[b]	B[c]	All[a]	W[b]	B[c]	All[a]	W[b]	B[c]
State Anger	.03	.16	.38	(-.13)	.16	.02	.17	**.45****	(-.24)
State Anxiety	.04	**.39***	.48	(-.03)	.15	(-.01)	.09	**.37***	(-.30)
Trait Anger	.17	(-.08)	.20	.09	.03	.27	.07	(-.21)	**.63***
Trait Anxiety	**.24***	**.35***	**.75****	.13	.23	(-.04)	.05	.07	(-.33)
Trait Reappraisal Tendency	-.16	-.20	-.28	(.03)	-.17	(.22)	-.14	-.19	**(.61*****)**
Trait Suppression Tendency	.03	.16	.19	.14	.26	.04	.02	.01	.55
Trait Anger Reappraisal Tendency	-.16	-.01	-.46	-.04	-.25	(.23)	-.05	-.12	(.45)
Trait Anger Suppression Tendency	.09	.34	(-.14)	.11	(-.08)	.26	**.22***	.04	.34

Note: Correlations underlined and in blue indicate correlation is in the hypothesized direction
Note: Correlations in parentheses and in red indicate correlation is in the opposite of the hypothesized direction
Note: For all racial prejudice measures, higher scores indicate more prejudice against blacks
[a]Correlations pertain to all participants taken as a group (*N*=97)
[b]Correlations pertain only to white participants (*n*=45)
[c]Correlations pertain only to black participants (*n*=27)
*significant at the *p*<.05 level; **significant at the *p*<.01 level

For black participants, the correlations between the emotion regulation variables and the racial prejudice variables were sometimes in a non-predicted direction, and in one instance

significantly so (on the MRS, blacks who show a greater tendency to reappraise their emotions showed *more* prejudice against blacks, r=.61, *p*=.05). Further, although only marginally significant, trait suppression tendency was positively related to scores on the MRS for black participants (r=.55, *p*=.08). It could be that black people who are prejudiced against other blacks are both suppressing *and* reappraising their own emotions. Additionally, for black participants, it should be noted that state anger, state anxiety, and trait anxiety were always in the predicted direction for the implicit black-white IAT measure of anti-black prejudice (r=.38, *p*=.25; r=.48, *p*=.13; r=.75, *p*=.01, respectively), but always in the wrong direction (and not significant) for the explicit MRS measure of anti-black prejudice. Thus, implicit measures supported hypotheses about emotions in this case for black participants, but explicit measures did not. It could be that black participants were affected by social desirability in responding to explicit measures of prejudice that the (implicit) black-white IAT was able to minimize.

For the black-white IAT and the MRS, the correlations with most emotion variables (state anger, state anxiety, and trait anxiety) were always in the hypothesized direction for the sample as a whole and for white participants in particular. Of these, the following correlations were significant. State anger was correlated with the MRS for white participants (r=.45, *p*=.01). That is, white participants who felt angrier showed significantly more prejudice against blacks on the MRS. Also for white participants, state anxiety was correlated with the black-white IAT (r=.39, *p*=.03) and the MRS (r=.37, *p*=.04). As white participants felt more anxiety they indicated significantly more racial prejudice against blacks, both implicitly and explicitly. In addition, trait anxiety was significantly correlated with the black-white IAT for white participants(r=.35, *p*=.05), black participants (r=.75, *p*=.01), and the total sample (r=.24, *p*=.02). Thus, an increase in anxiety disposition was correlated with an increase in implicit racial prejudice against blacks for all ethnicities.

Correlations between trait anger and racial prejudice were in the predicted direction for black participants on the black-white IAT (r=.20, *p*=.55) and the MRS (r=.63, *p*=.04). That is, black participants who indicated more anger in general also indicated more implicit and explicit racial prejudice against blacks. However, these correlations were non-significantly in the wrong direction for white participants (r=-.08, *p*=.68 for the black-white IAT; r=-.21, *p*=.25 for the MRS). For white participants, increases in trait anger were non-significantly correlated with decreases in the black-white IAT and the MRS. However, of all of the correlations in the opposite of the hypothesized direction, only one (i.e. the trait reappraisal tendency – MRS correlation for black participants, described above) was significant.

In order to go beyond the above bivariate correlations and more precisely test hypotheses, simultaneous multiple regressions were performed (see Table 6). The following combinations of trait variables were analyzed as predictors of each of the racial prejudice measures (in separate regressions on each racial prejudice measure): (a) trait reappraisal tendency and trait anger reappraisal tendency; (b) trait suppression tendency and trait anger suppression tendency; (c) trait reappraisal tendency, trait suppression tendency, trait anger, and trait anxiety; (d) trait anger reappraisal tendency, trait anger suppression tendency, trait anger, and trait anxiety. These combinations of predictor variables were chosen as they were thought to be related to the dependent measures and their combined effects were worth noting. Other combinations of these variables were considered, but not tested because of multicollinearity.

These regression analyses provided some further support for the hypotheses (see Table 6). In utilizing trait reappraisal tendency and trait anger reappraisal tendency as predictors of the black-white IAT, though no individual beta weight was significant, all but one of the beta weights (trait anger reappraisal tendency for whites) were in the hypothesized direction. Thus, when looking at the combined effects of these variables, it was found that reappraising

emotions in general was non-significantly associated with a decrease in implicit racial prejudice.

For the more specific trait *anger* reappraisal tendency, this pattern held for black participants

and for the sample as a whole, but not for white participants. Using these same trait reappraisal

variables as predictors of the MRS, it was found that trait cognitive reappraisal tendency was in

the hypothesized direction for white participants (with a significant beta weight, β=-.38, *p*=.05),

and for the sample as a whole, but not for black participants. The converse pattern was seen

when looking at reappraisal of anger specifically. That is, beta weights were not in the

hypothesized direction for white participants or the total sample, but were for black

participants. For all of the regressions performed (see Table 6) with the Social Distance Scale, 24

of the 36 beta weights were in the predicted direction, though none were significant.

Table 6
Racial Prejudice Regressions

Predictors	Black-White IAT			Social Distance			MRS		
	All[a]	W[b]	B[c]	All[a]	W[b]	B[c]	All[a]	W[b]	B[c]
TR[d],	-.09	-.08	-.09	(.10)	(.10)	(.25)	-.19	**-.38***	(.25)
AR[e]	-.10	(.04)	-.11	-.10	-.07	-.20	(.08)	(.24)	-.29
TS[f],	(-.02)	.12	(-.50)	.11	.11	.02	(-.15)	(-.23)	(-.14)
AS[g]	.10	.13	(-.39)	.05	(-.07)	.29	**.30***	.05	**.55***
TR[d],	-.10	-.07	(.03)	(.04)	(.09)	(.05)	-.13	-.19	-.03
TS[f],	(-.02)	.13	(-.32)	.09	.00	.21	.03	(-.20)	.28
TAg[h],	.14	.18	.19	.08	(-.03)	.15	.05	(-.02)	.18
TAx[i]	.20	.11	**.42***	.10	.18	.02	.01	.06	.01
AR[e],	-.15	-.05	-.22	-.04	(.07)	-.10	-.10	(.02)	-.22
AS[g],	.10	.18	.03	.12	(-.11)	.38	**.26***	(-.06)	**.59****
TAg[h],	.16	.21	.21	.10	(-.04)	.22	.11	(-.06)	.30
TAx[i]	.17	.11	.35	.09	.21	(-.05)	(-.03)	.03	(-.08)

Note: Beta weights underlined and in blue indicate correlation is in the hypothesized direction
Note: Beta weights in parentheses and in red indicate correlation is in the opposite of the hypothesized direction
Note: For all racial prejudice measures, higher scores indicate more prejudice against blacks
[a]Beta Weights pertain to all participants taken as a group (*N*=97)
[b]Beta Weights pertain only to white participants (*N*=45)
[c]Beta Weights pertain only to black participants (*N*=27)
[d]Trait Reappraisal Tendency; [e]Trait Anger Reappraisal Tendency; [f]Trait Suppression Tendency;
[g]Trait Anger Suppression Tendency
[h]Trait Anger; [i]Trait Anxiety
*significant at the *p*<.05 level; **significant at the *p*<.01 level

Summing across measures of racial prejudice (see Table 6), 10 of the 18 trait reappraisal beta weights and 10 of the 18 trait suppression beta weights were in the direction of predictions; while 13 of the 18 trait anger reappraisal beta weights and 14 of the 18 trait anger suppression beta weights were in the direction of predictions. This suggests relatively greater support for racial prejudice predictions with regulation constructs that are specific to the emotion of anger, than with general emotion regulation variables. In the regressions that control for the greatest number of variables (shown in the bottom half of Table 6), the relationships of trait anger reappraisal and trait anger suppression to racial prejudice were always in the predicted direction for the implicit prejudice measure (the black-white IAT), and the beta weights for trait anger suppression were in the predicted direction and significant for blacks and for the sample as a whole on the explicit MRS. Beta weights for trait anger reappraisal and trait anger suppression were non-significantly in the wrong direction for white participants on the explicit measures.

As was noted in discussing the above analyses, despite significant beta weights in the hypothesized direction for particular regressions, some non-significant beta weights were discovered in the wrong direction. For example, when trait reappraisal tendency and trait anger reappraisal tendency were entered as predictor variables of the MRS for white participants a significant beta weight was found for trait reappraisal tendency in the hypothesized direction ($\beta=-.38$, $p=.05$), but a non-significant beta weight for trait anger reappraisal tendency was found in the wrong direction ($\beta=.24$, $p=.22$). Thus despite significant findings, some of these regressions are limited with particular variables predicting prejudice measures in the opposite direction than was hypothesized.

Of the regressions performed, most of the relationships tested were not significant. However, the beta weights were more often than not in the predicted direction for white

participants on the implicit measure, and for black participants on all measures. In those cases

where significant results were found, they were in the direction of hypotheses: trait reappraisal

predicted white participants' decreased prejudice against blacks on the MRS, and trait anger

suppression predicted black participants' increased prejudice against blacks on the MRS.

Manipulated Emotion Regulation and Sexual Orientation Prejudice

Sexual orientation prejudice was measured to test if regulating anger at a particular

outgroup (i.e. blacks) could make people less prejudiced toward another outgroup (i.e.

homosexuals) and to assess its relationship to racial prejudice. It was also hypothesized that

emotion regulation in general would be related to sexual orientation prejudice. As with racial

prejudice, it was predicted that participants in the reappraisal condition would show the least

amount of sexual orientation prejudice, participants in the suppression condition would show

the greatest amount of sexual orientation prejudice, and participants in the control condition

would indicate levels of sexual orientation prejudice somewhere in between the reappraisal and

suppression conditions.

Table 7
Mean Sexual Orientation Prejudice Scores by Condition with Standard Errors in Parentheses

	Sexuality IAT	Social Distance	ATL	ATG
Reappraisal (*n*=33)	0.38 (0.07)	2.48 (0.27)	2.30 (0.21)	2.30 (0.24)
Suppression (*n*=32)	0.46 (0.06)	3.00 (0.23)	2.56 (0.18)	2.73 (0.20)
Control (*n*=32)	0.55 (0.07)	3.09 (0.26)	2.35 (0.20)	2.90 (0.23)

Note: For all sexual orientation prejudice measures, higher scores indicate more prejudice
against homosexuals

The following analyses tested hypotheses 1-4 with sexual orientation prejudice as the

dependent variable. Table 7 shows the means of the three conditions on the four sexual

orientation prejudice measures. A 3x5 (condition x ethnicity) MANOVA (analogous to the racial

prejudice MANOVA described above) was performed using the sexual orientation prejudice

measures (i.e. the sexuality IAT, the Social Distance Scale for homosexuals, ATL, and ATG) as the

DVs. This analysis indicated that there was not a significant main effect for the emotion

regulation condition on these dependent measures: Wilks' Lambda=0.96; $F(2, 90)=0.45$; $p=.89$.

MANCOVAs controlling for trait reappraisal tendency, trait suppression tendency, trait anger,

and trait anxiety also did not yield significant differences between the conditions. Additionally,

separate ANOVAs and ANCOVAs (controlling for the same trait variables) for each of the sexual

orientation prejudice dependent measures failed to find significant differences between the

emotion regulation conditions.

Table 8
Mean Sexual Orientation Prejudice Scores by Ethnicity and Gender with Standard Errors in Parentheses

	Sexuality IAT	Social Distance	ATL	ATG
Ethnicity:				
White (*n*=45)	0.45 (0.05)	2.43 (0.20)	2.03 (0.15)	2.14 (0.18)
Asian (*n*=9)	0.71 (0.11)	4.40 (0.46)	2.71 (0.35)	3.49 (0.43)
Hispanic / Latino (*n*=8)	0.38 (0.12)	3.24 (0.48)	2.48 (0.37)	3.13 (0.44)
Mixed (*n*=8)	0.25 (0.05)	3.10 (0.48)	2.48 (0.37)	2.50 (0.44)
Black (*n*=27)	0.49 (0.06)	2.86 (0.26)	2.88 (0.20)	3.08 (0.24)
Gender:				
Male (*n*=37)	0.54 (0.05)	3.37 (0.21)	2.24 (0.17)	2.94 (0.20)
Female (*n*=60)	0.41 (0.04)	2.53 (0.17)	2.50 (0.13)	2.46 (0.15)

Note: For all sexual orientation prejudice measures, higher scores indicate more prejudice against homosexuals

However, in the case of sexual orientation prejudice, ethnicity had a marginal effect in

the initial MANOVA: Wilks' Lambda=0.73; $F(4, 90)=0.1.62$; $p=.07$. Thus, ethnicity could have

influenced how one scored on the sexual orientation prejudice measures. Table 8 presents the

means of the sexual orientation prejudice measures by ethnicity and gender. Asian participants

indicated more sexual orientation prejudice against homosexuals than white participants

according to a Tukey HSD on the Social Distance Scale ($p<.001$) and on the ATG scale ($p=.01$). A

similar MANOVA indicated that there were also gender differences on the sexual orientation

prejudice measures Wilks' Lambda=0.75; $F(1, 90)=7.19$; $p=<.001$. According to a Tukey HSD,

female participants tended to show less prejudice than males on the Social Distance Scale

($p=.002$).

In order to address the effect of ethnicity and gender on the emotion regulation

manipulation and the subsequent sexual orientation prejudice dependent measures, moderator

regression analyses (described in the racial prejudice section above) were performed. The same

coding system was used for both the condition and the ethnic categories. Weighted effects

coding was also used for gender. The four sexual orientation prejudice measures (i.e. the

sexuality IAT, the Social Distance Scale for homosexuals, ATL, and ATG) were standardized by

converting the mean of each scale to zero (e.g. P's score on measure x – the average of the

sample on measure x; see West et al., 1996). The coded condition, ethnicity, and gender

variables were entered into a regression equation as predictor variables to determine the

differences between manipulated conditions on the standardized dependent sexual orientation

prejudice measures, while taking the ethnicity and gender of the participant into account.

Four individual regressions with the above coded predictor variables were performed

for each of the standardized dependent sexual orientation prejudice measures. Table 9 presents

the means of the sexual orientation prejudice measures by condition (broken down by ethnicity

and gender). Results indicated that there were indeed significant differences between the

conditions on the sexuality IAT (ANOVA from the regression $p=.01$) and on the Social Distance

Scale (ANOVA from the regression $p=.01$) when taking ethnicity and gender into account. This

indicates that participants in the reappraisal condition showed less prejudice against

homosexuals (on the above two measures) than the control condition (as indicated by dummy

coding). Additionally, the reappraisal condition had a significant negative beta weight with the

sexuality IAT ($\beta=-.23$, $p=.04$). That is participants in the reappraisal condition (when controlling

for ethnicity and gender) showed less implicit sexual orientation prejudice. Regressions on the

ATL and ATG did not yield significant results, although the means were lowest in the reappraisal

condition (see Table 7). Thus, there is some evidence from these analyses that the emotion

regulation manipulation reduced sexual orientation prejudice (on particular measures) by

assignment into the reappraisal condition, when taking the moderating effects of ethnicity and

gender into account.

Table 9

Mean Sexual Orientation Prejudice Scores by Condition (broken down by ethnicity and gender)

| | Sexuality IAT | | | | | | |
| | Ethnicity | | | | | Gender | |
	A[a]	B[b]	H[c]	W[d]	Mx[e]	F[f]	M[g]
Reappraisal	0.48	0.39	0.76	0.28	0.52	0.34	0.44
Suppression	0.31	0.36	0.58	0.47	0.80	0.40	0.57
Control	0.34	0.43	0.93	0.50	0.69	0.51	0.60
	Social Distance						
	Ethnicity					Gender	
	A[a]	B[b]	H[c]	W[d]	Mx[e]	F[f]	M[g]
Reappraisal	2.44	2.74	3.82	1.98	3.13	2.23	2.91
Suppression	2.54	2.97	3.34	3.07	2.75	2.72	3.55
Control	2.41	3.61	4.42	2.82	2.63	2.67	3.64
	ATL						
	Ethnicity					Gender	
	A[a]	B[b]	H[c]	W[d]	Mx[e]	F[f]	M[g]
Reappraisal	2.30	2.33	2.60	2.13	2.80	2.39	2.13
Suppression	3.00	2.50	1.67	2.63	3.00	2.59	2.51
Control	2.15	2.48	3.87	1.99	2.47	2.52	2.13
	ATG						
	Ethnicity					Gender	
	A[a]	B[b]	H[c]	W[d]	Mx[e]	F[f]	M[g]
Reappraisal	1.80	2.35	2.50	2.17	3.00	2.34	2.23
Suppression	2.80	2.80	2.00	2.74	3.30	2.39	3.36
Control	2.35	3.55	3.53	2.61	2.60	2.67	3.20

Note: For all sexual orientation prejudice measures, higher scores indicate more prejudice
against homosexuals
[a]Asian participants (*n*=9)
[b]Black participants (*n*=27)
[c]Hispanic / Latino participants (*n*=8)
[d]White participants (*n*=45)
[e]Participants of mixed ethnicity (*n*=8)
[f]Female participants (*n*=60)
[g]Male participants (*n*=37)

A strict mediation analysis (testing hypothesis 4) of state anger on sexual orientation

prejudice was not warranted as significant differences between conditions were not found.

However, since significant differences were found between conditions in the above moderation

analyses, moderated mediation analyses were warranted (Frazier et al., 2004). The first step

taken in testing moderated mediation was rerunning the above moderation regression, while

adding in state anger scores as an additional predictor variable. The ANOVA results did not

indicate a *decrease* in significance for the sexuality IAT (i.e. ANOVA $p<.05$ remained, $p=.01$) or

the Social Distance Scale (i.e. ANOVA $p<.05$ remained, $p=.02$). Therefore, further steps in testing

moderated mediation were not taken. There was no evidence that state anger was a mediating

variable between the ethnically and gender moderated emotion regulation conditions and

sexual orientation prejudice.

Measured Emotion Regulation and Sexual Orientation Prejudice

Correlations and regression analyses indicated some additional support for the

hypotheses, along with various findings that were contrary to the hypotheses. As with the racial

prejudice correlations and regressions, numerous correlations and regressions were performed,

thus increasing the risk of type I errors. Many individual correlations and beta weights were

quite small and should not be over-interpreted. Again, emphasis will be placed on the

regressions as these are more precise analyses that take the interaction of predictor variables

into account.

Table 10 shows correlations between the state and trait measures and the sexual

orientation prejudice measures, in which 50 of 96 were in the hypothesized direction, though

many of these values were small and not significant. Of these, three were significant in the

predicted direction, while four were significant and not in the predicted direction. It is worth

noting that there were significant negative correlations for the entire sample between trait

anger and ATL ($r=-.23$, $p=.02$) and trait anger and ATG ($r=-.24$, $p=.02$). Thus, contrary to the

prediction, those with more anger in general indicated *less* sexual orientation prejudice.

Table 10
Sexual Orientation Prejudice Pearson Correlations

	Sexuality IAT			Social Distance		
	All[a]	W[b]	B[c]	All[a]	W[b]	B[c]
State Anger	.10	.22	(-.23)	(-.04)	(-.10)	.03
State Anxiety	.04	.16	**(-.68*)**	.01	(-.03)	(-.41)
Trait Anger	(-.12)	(-.15)	.23	(-.19)	.01	(-.51)
Trait Anxiety	.04	(-.01)	(-.15)	.12	.14	.01
Trait Reappraisal Tendency	-.08	(.07)	-.22	(.11)	-.10	-.47
Trait Suppression Tendency	.13	.12	.42	**.27****	**.54****	(-.08)
Trait Anger Reappraisal Tendency	-.03	(.09)	-.29	(.12)	(.01)	-.12
Trait Anger Suppression Tendency	.06	.18	.47	.19	.18	.48
	ATL			ATG		
	All[a]	W[b]	B[c]	All[a]	W[b]	B[c]
State Anger	.01	.05	(-.18)	.09	.09	(-.32)
State Anxiety	.05	(-.06)	(-.24)	.08	.01	(-.56)
Trait Anger	**(-.23*)**	(-.25)	(-.31)	**(-.24*)**	(-.07)	(-.27)
Trait Anxiety	(-.01)	(-.09)	(-.20)	(-.01)	.01	(-.15)
Trait Reappraisal Tendency	(.02)	-.09	-.49	(.05)	-.08	-.43
Trait Suppression Tendency	(-.04)	.12	**(-.75**)**	.17	**.41***	(-.37)
Trait Anger Reappraisal Tendency	(.05)	(.01)	-.29	(.02)	(.01)	-.14
Trait Anger Suppression Tendency	(-.06)	.03	(-.24)	.11	(-.01)	.35

Note: Correlations underlined and in blue indicate correlation is in the hypothesized direction
Note: Correlations in parentheses and in red indicate correlation is in the opposite of the hypothesized direction
Note: For all sexual orientation prejudice measures, higher scores indicate more prejudice against homosexuals
[a]Correlations pertain to all participants taken as a group (*N*=97)
[b]Correlations pertain only to white participants (*n*=45)
[c]Correlations pertain only to black participants (*n*=27)
*significant at the *p*<.05 level; **significant at the *p*<.01 level

In order to go beyond the bivariate correlations and more precisely test hypotheses,

simultaneous multiple regressions were performed (see Table 11). The following combinations

of trait variables were analyzed as predictors of each of the sexual orientation prejudice

measures (in separate regressions on each sexual orientation prejudice measure): (a) trait

reappraisal tendency and trait anger reappraisal tendency; (b) trait suppression tendency and trait anger suppression tendency; (c) trait reappraisal tendency, trait suppression tendency, trait anger, and trait anxiety; (d) trait anger reappraisal tendency, trait anger suppression tendency, trait anger, and trait anxiety. These combinations of predictor variables were chosen as they were thought to be related to the dependent measures and their combined effects were worth noting. Other combinations of these variables were considered, but not utilized because of multicollinearity. These analyses provided some further support for the hypotheses along with some surprising findings.

In utilizing trait reappraisal tendency and trait anger reappraisal tendency as predictors for the several regressions, it was found for the various explicit dependent measures that 7 out of 18 beta weights were in the predicted direction (all non-significant) for trait reappraisal tendency, and 6 out of 18 beta weights were in the predicted direction (all non-significant) for trait anger reappraisal tendency (see Table 11). In contrast to the racial prejudice results (see Table 6), which showed greater conformity to predictions for emotion-regulation items specific to anger, (general) trait reappraisal tendency seemed to consistently have a negative relationship with the sexuality IAT, while trait anger reappraisal tendency was inconsistent. On the explicit measures 14 out of 18 beta weights for trait suppression tendency were in the predicted direction (two significantly so), while 12 out of 18 beta weights for trait anger suppression tendency were in the predicted direction (with one beta weight being significantly in the *wrong* direction). However, the sexuality IAT had non-significant beta weights in the predicted direction for the general trait suppression tendency (6 out of 6 in the predicted direction), but not for trait anger suppression tendency (only 3 out of 6 in the predicted direction). Thus, it would appear that reappraising and suppressing emotions (in general) is

associated with a decrease in implicit sexual orientation prejudice, though reappraising and

suppressing anger (specifically) is not.

Table 11
Sexual Orientation Prejudice Regressions

	Sexuality IAT			Social Distance		
Predictors	All[a]	W[b]	B[c]	All[a]	W[b]	B[c]
TR[d],	-.11	-.29	-.17	(.06)	(.34)	-.31
AR[e]	(.05)	-.03	(.03)	(.08)	-.32	(.52)
TS[f],	.14	.09	.34	.23	.18	.49
AS[g]	(-.01)	(-.06)	(-.10)	.07	.04	.02
TR[d],	-.12	**-.34***	-.25	(.08)	(.13)	-.03
TS[f],	.16	.14	.35	**.23***	.18	**.47***
TAg[h],	(-.13)	(-.02)	(-.01)	**(-.20*)**	(-.25)	(-.03)
TAx[i]	(-.02)	(-.04)	(-.02)	.09	.04	.15
AR[e],	-.03	-.22	-.13	(.12)	-.11	(.21)
AS[g],	.04	.02	.15	.11	.11	.27
TAg[h],	(-.11)	(-.01)	.03	(-.19)	(-.21)	.01
TAx[i]	.04	.01	.07	.14	.04	.17
	ATL			ATG		
Predictors	All[a]	W[b]	B[c]	All[a]	W[b]	B[c]
TR[d],	-.02	(.17)	-.44	(.08)	(.21)	-.07
AR[e]	(.06)	-.07	(.38)	-.04	-.25	(.12)
TS[f],	(-.02)	(-.03)	.12	.16	.19	.29
AS[g]	(-.05)	.01	(-.43)	.02	(-.08)	(-.11)
TR[d],	(.02)	(.12)	-.02	-.01	(.01)	-.02
TS[f],	(-.06)	.03	(-.24)	.19	.22	.20
TAg[h],	**(-.24*)**	(-.25)	(-.09)	**(-.24*)**	(-.18)	(-.09)
TAx[i]	.05	(-.13)	.31	(-.05)	(-.12)	.12
AR[e],	(.07)	(.03)	(.13)	(.01)	-.13	(.05)
AS[g],	(-.12)	.01	**(-.51*)**	.07	.03	.03
TAg[h],	**(-.26*)**	(-.24)	(-.19)	**(-.23*)**	(-.14)	(-.09)
TAx[i]	.06	(-.13)	**.40***	(-.01)	(-.07)	.15

Note: Beta weights underlined and in blue indicate correlation is in the hypothesized direction
Note: Beta weights in parentheses and in red indicate correlation is in the opposite of the hypothesized direction
Note: For all sexual orientation prejudice measures, higher scores indicate more prejudice against homosexuals
[a]Beta Weights pertain to all participants taken as a group (*N*=97)
[b]Beta Weights pertain only to white participants (*n*=45)
[c]Beta Weights pertain only to black participants (*n*=27)
[d]Trait Reappraisal Tendency; [e]Trait Anger Reappraisal Tendency; [f]Trait Suppression Tendency;
[g]Trait Anger Suppression Tendency
[h]Trait Anger; [i]Trait Anxiety
*significant at the *p*<.05 level; **significant at the *p*<.01 level

In line with the above analyses, all beta weights for trait reappraisal tendency and trait suppression tendency were in the hypothesized direction for the sexuality IAT (see the third regression in Table 11), and one of them was significant (β=-.34, *p*=.03 for white participants). Also, trait reappraisal tendency was in the predicted direction for the Social Distance Scale for black participants, ATL for black participants, and ATG for black participants and for the total sample. Additionally, two significant relationships were found between trait suppression tendency and the Social Distance Scale for black participants (β=.47, *p*=.03) and for the total sample (β=.23, *p*=.03). Trait suppression results were non-significantly opposite of what was predicted for ATL (see the third regression in Table 11) for the sample as a whole and for black participants. The beta weights relating trait reappraisal to sexual orientation prejudice were non-significantly in the wrong direction for white participants and the total sample on the various explicit measures.

A surprising finding was observed when trait reappraisal tendency, trait suppression tendency, trait anger, and trait anxiety were entered as predictors in a regression. Across all of the ethnic categories, trait anger beta weights (12 out of 12) were in the *opposite* of the predicted direction for all of the sexual orientation prejudice measures. Three of these beta weights were significant for the entire sample: the Social Distance Scale (β=-.20, *p*=.04), ATL (β=-.25, *p*=.02), and ATG (β=-.24, *p*=.02). This indicates that an increase in anger disposition was associated with a *decrease* in sexual orientation prejudice, on various measures. Trait anxiety had 6 out of 12 beta weights in the hypothesized direction (all non-significant).

A final regression with the predictors of trait anger reappraisal tendency, trait anger suppression tendency, trait anger, and trait anxiety revealed the unexpected trait anger finding yet again (10 out of 12 beta weights in the opposite of the hypothesized direction). Trait anger had significant negative beta weights for the entire sample with the ATL (β=-.26, *p*=.01) and ATG

(β=-.23, *p*=.03). Trait anxiety was in the expected direction with 9 out of the 12 beta weights, with a significant positive relationship with ATL for black participants (β=.40, *p*=.04). Trait anger reappraisal tendency only appeared to work in the expected direction for the sexuality IAT and for white participants on the Social Distance Scale and ATG. Trait anger suppression tendency was in the expected direction on all measures except for ATL. One of these beta weights in the wrong direction was significant (β=-.51, *p*=.02 for black participants). That is, for black participants greater anger suppression was associated with less sexual orientation prejudice as measured by the ATL.

In summary, there were various regression analyses in which the emotion regulation variables were related to the sexual orientation prejudice measures as predicted (60 out of a total of 108 beta weights, see Table 11), especially for the sexuality IAT (19 out of 24 beta weights). Additionally, trait reappraisal tendency and trait suppression tendency variables were in the expected negative and positive direction (respectively) for the sexuality IAT in all instances, with one significant beta weight (i.e. trait reappraisal tendency having a negative relationship with the sexuality IAT for white participants). However, there were also particular instances in which trait anger regulation was not related to sexual orientation prejudice as expected (e.g. the last regression with the ATL in Table 11). Also, trait anger was consistently in the wrong direction (i.e. the bottom two regressions with the explicit measures in Table 11). A potential explanation is that trait anger is a personality measure of one's disposition to anger, but not one's disposition of anger toward a particular group. Perhaps those that indicated lower levels of prejudice against homosexuals are indeed angrier in general, but in this case *because* of the inequalities and injustices that result from sexual orientation prejudice.

Perhaps of most importance, it would seem that anger may not be the negative emotion that is associated with sexual orientation prejudice. Table 12 shows correlations between how

often participants felt a particular emotion toward homosexuals in the last week (in the left-most column) with the sexual orientation prejudice measures. Anger only had one significant correlation (r=.23, *p*=.03) with the ATG. However, disgust had strong correlations with all four of the implicit *and* explicit sexual orientation prejudice measures. Additionally, all four measures of sexual orientation prejudice were also associated with a lack of admiration toward homosexuals and (to a lesser degree) with dislike toward them. Therefore, it could be that the various analyses on trait anger and trait anger regulation variables did not work for sexual orientation prejudice as expected because anger may not be the right discrete negative emotion to associate with sexual orientation prejudice, as indicated by these correlations.

Table 12
Sexual Orientation Prejudice Pearson Correlations with Emotion Items

Emotion[a]	Sexuality IAT	Social Distance	ATL	ATG
Admiration	**-.27****	**-.50*****	**-.33****	**-.44*****
Affection	**-.25***	**-.37****	-.12	**-.25***
Anger	.09	.15	.01	**.23***
Contempt	**.22***	.17	-.02	.22
Disgust	**.23***	**.49*****	**.33****	**.56*****
Dislike	**.21***	**.45****	**.20***	**.48****
Envy	-.07	**-.25***	-.12	-.18
Fear	.17	.11	.14	.12
Pity	.01	.12	.10	.14
Sympathy	-.17	-.17	-.11	-.18

Note: For all sexual orientation prejudice measures, higher scores indicate more prejudice against homosexuals
Note: The total sample was utilized for all of the above correlations (*N*=97)
[a]This column indicates how often people have felt this emotion toward homosexuals in the last week
*significant at the *p*<.05 level; **significant at the *p*<.01 level; ***significant at the *p*<.001 level

Finally, it seems that sexual orientation prejudice and racial prejudice may not reflect a general disposition toward prejudice, as the black-white IAT did not correlate with the sexuality IAT (r=.01, *p*=.89) for the entire sample. Table 13 shows correlations between the racial prejudice measures and the sexual orientation prejudice measures broken down by three ethnic categories. These correlations demonstrate that for the most part racial prejudice measures did

not correlate with sexual orientation prejudice measures. The exceptions are the MRS being

significantly positively correlated with the sexuality IAT for white participants and the total

sample; and the two Social Distance Scales being significantly positively correlated for white

participants and the total sample. Also, particular correlations between measures (e.g. the

correlation described above with the two IATs) are stronger when only looking at white

participants (r=.27, *p*=.07). Thus, with a larger sample of white participants there might indeed

be a significant relationship between some of these measures.

Table 13
Pearson Correlations of Racial Prejudice and Sexual Orientation Prejudice Measures

		Social Distance (Blacks)	MRS	Sexuality IAT	Social Distance (Homosexuals)	ATL	ATG
Black-White IAT	W[c]	.16	**.44****	.27	-.13	-.16	-.29
	B[b]	.11	-.20	-.13	-.30	-.14	-.11
	All[a]	.20	**.34****	.01	-.10	-.10	-.16
Social Distance for Blacks	W[c]	--	**.35***	.06	**.57*****	-.06	.05
	B[b]	--	.46	-.36	-.01	.19	.20
	All[a]	--	**.49*****	.03	**.38****	-.13	.05
MRS	W[c]		--	**.40****	.13	-.03	-.03
	B[b]		--	.13	-.41	-.51	-.41
	All[a]		--	**.27****	.12	-.11	-.03
Sexuality IAT	W[c]			--	.16	.01	.26
	B[b]			--	.33	-.02	.26
	All[a]			--	**.29****	**.21***	**.30****
Social Distance for Homosexuals	W[c]				--	**.33***	**.63*****
	B[b]				--	.09	**.69*****
	All[a]				--	**.49*****	**.69*****
ATL	W[c]					--	**.64*****
	B[b]					--	**.78****
	All[a]					--	**.70*****
ATG	W[c]						--
	B[b]						--
	All[a]						--

Note: All racial prejudice and sexual orientation prejudice measures are scored as higher scores indicating more prejudice against either blacks or homosexuals (respectively)
[a]Correlations pertain to all participants taken as a group (*N*=97)
[b]Correlations pertain only to white participants (*n*=45)
[c]Correlations pertain only to black participants (*n*=27)
*significant at the *p*<.05 level; **significant at the *p*<.01 level; ***significant at the *p*<.001 level

The above correlations are similar to a finding by Crandall (1994), in which a measure of prejudice against fat people was correlated with the MRS (r=.23, *p*<.01). Crandall (1994) suggests that those who are prejudiced might be prejudiced against all outgroups. Altemeyer (2006) adds to this claim by calling one who is prejudiced "an equal opportunity bigot" (p. 26). Some of the correlations in the current study support Crandall's and Altemeyer's claims (e.g. the MRS being correlated with the sexuality IAT: r=.27, *p*=.01, see Table 13). However, looking at the entire sample or just black participants in the current study, it would seem that this might not always be the case, as the black-white IAT and the sexuality IAT did not correlate (see Table 13). Indeed the IAT finding is also different from a similar correlation done in the past (also with an ethnically diverse sample) between the black-white IAT and the sexuality IAT (r=.23, *p*<.05; Nosek & Smyth, 2007). Thus, although the idea of an "equal opportunity bigot" is supported for the most part with the current study's measures, some doubt is cast upon this concept. It should be noted that there are some limitations in comparing the black-white IAT and the sexuality IAT. First, the black-white IAT utilizes pictures of actual faces for the stimuli of black and white people, while the sexuality IAT utilizes pictures of wedding cake figurines, restroom symbols, and words (e.g. "homosexual") for the stimuli of homosexual and heterosexual people. Thus, an apples to apples comparison is not being made in correlating these measures. Additionally, the sexuality IAT is a measure of associations to homosexuals, but attitudes toward lesbians and gay men could be two distinct constructs (Herek, 1994). Nonetheless, some of the data in the current study did not support the concept of prejudice being a construct of negative attitudes toward *all* outgroups.

Discussion

So, does anger regulation play a role in prejudice reduction? And if so, is one form of

anger regulation (i.e. cognitive reappraisal) superior to another form of anger regulation (i.e.

suppression) in reducing prejudice? This study offers some preliminary answers to these

questions.

Unfortunately, the emotion regulation manipulation did not work as expected, as the

conditions did not significantly differ in either state anger or racial prejudice. Perhaps it is not so

surprising that brief emotion regulation instructions did not change the degree of participants'

racial prejudice. Racial prejudice may be more stable and built up over a lifetime (Eagly &

Chaiken, 1998), which may be true even if racial prejudice is related to trait emotion reappraisal

and suppression tendencies (which are also built up over a lifetime). Since the manipulation did

not cause the predicted changes causal answers and implications cannot be offered at this time.

However, there were various alternative correlational tests of the hypotheses that provide some

new information about how emotion regulation relates to prejudice reduction, though these

findings need to be interpreted with caution.

First, it was found that, in particular instances, racial prejudice appears to be greater for

individuals who suppress their anger more. In the most sensitive tests (the regressions, which

take account of correlations among other variables) anger suppression was positively related to

implicit racial prejudice (though non-significantly), and to explicit racial prejudice (as measured

by the MRS) for the sample as a whole. However, the findings for the entire sample are limited

because this relationship did not hold for white participants on the explicit measures (as shown

in the bottom set of regressions in Table 6). In the top regression in Table 6, there was a non-

significant indication that reappraisal might influence implicit racial prejudice as hypothesized.

Additionally, for white participants, there is evidence that reappraising emotions is associated

with a decrease in explicit racial prejudice (as shown in the MRS section of the top regression in

Table 6). In the bottom left portion of Table 6, there is a non-significant, but consistent pattern

with the beta weights in the predicted direction for anger reappraisal and anger suppression on

implicit racial prejudice. The same patterns are observed for trait reappraisal for all groups of

participants on the MRS, controlling for trait anger and trait anxiety (see Table 6). Significant

trait reappraisal beta weights were also found consistent with this pattern for white (but not

black) participants on the MRS; and for black (but not white) participants with trait anger

suppression. However, except for the latter two findings, these results and patterns did not

reach statistical significance.

In addition to the effects of emotion regulation, one's emotional personality seems to

play a role in racial prejudice. Implicit racial prejudice had a positive relationship with a

predisposition to anxiety for all ethnicities, with a significant relationship discovered for black

participants (see the black-white IAT section of the third regression in Table 6). In trait anger

regressions (see the bottom two regressions in Table 6) it was found that trait anger was in the

predicted direction (though not significant) for all participants on implicit measures.

Furthermore, there is evidence that discrete emotions play a role in racial prejudice.

Although the emotion regulation manipulation did not produce the hoped-for differences in

state anger, thus not allowing for a test of state anger as a mediator (hypothesis 4), it was still

found that white participants who were angrier at the time of the study indicated higher levels

of explicit racial prejudice (see the state anger – MRS correlation in Table 5). This significant

positive correlation was in the predicted direction. This explicit prejudice finding was also true

for white participants that indicated high levels of anxiety (see the state anxiety – MRS

correlation in Table 5). If one's current state of anger is related to the extent of one's explicit

racial prejudice, then it is feasible to think that one could reduce this anger in order to reduce

racial prejudice. The plausibility of this strategy is amplified when considering significant relationships were found with the trait emotion regulation variables in the direction of the hypotheses (e.g. the significant emotion regulation beta weights in Table 6); but in most cases the relationship between emotion regulation and prejudice was not significant.

Interestingly, significant correlations and beta weights were found with racial prejudice measures and state and trait variables when looking at data from black participants (see Tables 5 and 6). Since black participants tended to show little prejudice against blacks on the racial prejudice measures (see Table 3), this could be interpreted as black participants indicating less of an opposition to racial prejudice against blacks, rather than an increase in racial prejudice against blacks. For example, the second and fourth regressions in Table 6 between anger suppression and the MRS could be interpreted as black participants that suppress their anger more show less opposition to racial prejudice against blacks. It could also be that this finding is the result of an experiment artifact, such as having a white experimenter administering the study. Also, it was found that there were particular variables that were related to racial prejudice for black participants, but not for white participants, such as trait anger suppression tendency with explicit racial prejudice (see the second regression in Table 6) and trait anxiety with implicit racial prejudice (see the third regression in Table 6). This indicates that for black people, consistently suppressing anger and being anxious might lead to a decrease in opposition to (or possibly an increase in) racial prejudice against blacks. Although it may seem strange to think of people being prejudiced against their own group, it has been noted that ingroup prejudice can occur as a result of environment (Karpinski & Hilton, 2001) and / or ingroup violation of a personal value (Glasford, Pratto, & Dovidio, 2007). The strongest demonstration of emotion regulation being related to racial prejudice among black participants was with trait anger suppression tendency being positively related to explicit racial prejudice (see Table 6).

This indicates that blacks who report more prejudice against their own group also report suppressing anger. As noted earlier (in the analyses on the racial prejudice correlations) this could make sense in that blacks having racially prejudiced attitudes against blacks may need to constantly regulate prejudice-related emotions in order to cope and remain amiable with their ingroup.

There were significant findings indicating that anxiety and racial prejudice are related (e.g. the trait anxiety – IAT beta weight for black participants described above). The Integrated Threat Theory of prejudice postulates that threats to one's way of life are a driving force of prejudice (Stephan & Stephan, 2000). Additionally, perceptions of these types of threats are often motivated by fear and anxiety (Stephan & Stephan, 2000). This theory is similar to the prejudice concepts of the MRS (e.g. blacks gaining equality in an unjust manner; McConahay, 1986) and the SR2K scale (e.g. blacks violating American values; Henry & Sears, 2002). Thus, it is not surprising that anxiety was positively associated with racial prejudice in the current study. However, it might be surprising to some that black participants indicated a positive association between an anxiety disposition and implicit racial prejudice against blacks. This suggests that black people might perceive members of their racial ingroup as a threat to their way of life, thus prompting ingroup prejudice. This implication is similar to findings on personal value violations and intragroup dissonance (Glasford et al., 2007).

Although the emotion regulation manipulation did not significantly affect the racial prejudice measures, there was some evidence that, when using ethnicity and gender as moderators, there were significant differences between conditions on sexual orientation prejudice. This is because significant differences were discovered between participants on the basis of ethnicity and gender (see Tables 8 and 9). Thus, reappraisal of anger, suppression of anger, and no manipulated anger regulation appear to have differential effects on judgments of

homosexuals (even though the vignette / anger regulation were directed toward a heterosexual black couple), with reappraisal of anger leading to a reduction of implicit sexual orientation prejudice. Nonetheless, this finding should be interpreted with caution. Although the differences exhibited were significant (at the $p<.05$ level) there were various other analyses in which the differences were not significant. Therefore, the chances of a type I error are relatively high and causal conclusions cannot be drawn at this time.

There was some additional support for hypotheses 1-3 in that emotion regulation was associated with sexual orientation prejudice as expected. Participants who suppress their emotions more often, especially those who are white, indicated higher levels of explicit sexual orientation prejudice (as measured by the Social Distance Scale and ATG, see Table 10). Also, white participants who tend to reappraise their emotions tend to indicate lower levels of implicit sexual orientation prejudice (see the third regression in Table 11). As with racial prejudice, it was shown that there were ethnic differences in sexual orientation prejudice. This was described throughout the analyses and can be seen in Tables 8, 9, 10, and 11.

Probably the most surprising finding of this study involved analyses of the trait emotion variables and sexual orientation prejudice. In numerous analyses, and across all ethnic categories, a negative relationship was found between trait anger and explicit sexual orientation prejudice (see Tables 10 and 11). This indicates that higher anger disposition is associated with lower sexual orientation prejudice. Hypotheses 1-4 predicted that this would have been a positive correlation. A possible explanation of this finding is that angrier participants, who do not feel prejudice against homosexuals, are in fact angry about injustices that homosexuals face. That is, as trait anger increases, sexual orientation prejudice decreases, because homosexual inequality becomes salient and more anger-provoking to that individual.

It has been demonstrated that anger is involved with racial prejudice both in past research (Roseman et al., 2003; Tapias, Glaser, Keltner, Vasquez, & Wickens, 2007; Walker & Smith, 2001) and in the current study. However, in the present research, analyses on anger and sexual orientation prejudice did not work out as expected for various anger variables (e.g. the trait anger finding described above, see Tables 10 and 11). This could also be because anger does not play a large role in negative judgments about homosexuals. Indeed, it was shown that anger did not predict implicit sexual orientation prejudice and only had a small relationship with explicit negative attitudes toward gay men. However, disgust felt toward homosexuals was a significant predictor of the implicit and all of the explicit measures of sexual orientation prejudice in this study (see Table 12). Note that these are only speculations based on the patterns observed for the correlation and regression findings of racial prejudice and sexual orientation prejudice separately; direct comparisons between racial prejudice findings and sexual orientation prejudice findings were not made.

However, the prejudice measures themselves were compared. Sexual orientation prejudice measures did not correlate with racial prejudice measures in some cases (e.g. the black-white IAT – sexuality IAT correlation for the entire sample: r=.01, *p*=.89, see Table 13). However, these measures did correlate more strongly (but not significantly) for white participants. Thus, as evidence of discrete emotions (as opposed to general affect) influencing intergroup judgments was demonstrated here, it was also demonstrated that distinct forms of prejudice might exist. This is contrary to the suggestion that prejudice is a construct of negative judgments to all outgroups in general (Altemeyer, 2006; Crandall, 1994). Overall, these findings suggest that there may be different forms of prejudice that are associated with different discrete emotions.

Limitations

One limitation of the current study is that the emotion regulation manipulation did not work as intended for racial prejudice. When examining the vignette and emotion regulation manipulation, it was found that anger was not related to emotion regulation as was expected. Indeed, it was not even possible to assess state anger mediation with alternative analyses. Therefore, no causal claims can be made for the hypotheses about racial prejudice. Instead, the evidence obtained was correlational, with the exception of the finding that participants in the reappraisal condition showed less prejudice against homosexuals. Additionally, numerous correlations and regressions were performed. Therefore, there is an increased risk for type I errors. These correlational findings need to be interpreted with caution.

It should be noted that some analyses found results in the opposite direction from the hypotheses (as discussed in the results and discussion sections). In particular regressions, some variables were in the hypothesized direction, while other variables in the same regressions were not. A number of plausible explanations were given for these findings. However, these explanations were given post hoc. In fact, two of these explanations were directly in contrast with the a priori hypotheses (i.e. the relationship between trait reappraisal tendency and explicit racial prejudice for black participants; the relationship between trait anger and sexual orientation prejudice). This too inflates the chance for type I errors with the results obtained in the hypothesized direction. For this reason, and various other statistical reasons, all analyses (and reported p values) were performed with two-tailed tests unless otherwise indicated.

As with most prejudice research, social desirability is certainly an issue for the measures of explicit attitudes. The state and trait measures were also self-report questionnaires, which could be vulnerable to social desirability and / or demand characteristics. Therefore, the findings regarding the explicit measures should be interpreted with caution. There is also the possibility that utilizing a white experimenter created an artifact in the experiment, especially for black

participants, as this ethnic group indicated explicit racial prejudice against blacks. Additionally, generalizability may be relatively low because of the laboratory setting and the use of a college student sample. This sample was also ethnically diverse. Although this increased generalizability of the findings and ethnicity was taken into account throughout the analyses, this certainly decreased the statistical power in analyses on measures of prejudice.

Future Directions

In future studies the racial prejudice portion of this research could be expanded upon with a replication that better manipulates emotion regulation and creates more anger in the participants. The emotion regulation manipulation needs to be better understood by participants and possibly strengthened. Greater comprehension could perhaps be achieved by having participants write down their emotion regulation instructions, as well as having it presented repeatedly throughout the study. In a later, more advanced study, emotion regulation could be manipulated with cognitive behavioral therapy techniques (as done by Deffenbacher et al., 2002). Additionally, a more realistic anger-eliciting scenario may be necessary. For example, participants could be told they would be able to leave early from an experiment, but are then forced to wait because of a confederate that is of a particular outgroup. Future work should include stronger manipulations in order to allow causal tests of hypotheses.

The results of this study indicate that all prejudices may not be the same, and that different types of prejudice are associated with different emotions. Future work could look into exactly which discrete emotions are associated with particular prejudices, e.g. based on emotion appraisal theories. This could lead to further work on emotion regulation of these discrete prejudice-related emotions. It would be important to identify which emotions are associated with particular types of prejudice and to pilot test emotion regulation manipulations of these

emotions. One possible step suggested by the findings of the present study could be to regulate

disgust in an attempt to reduce sexual orientation prejudice. Furthermore, emotion regulation –

prejudice reduction research could be expanded into the applied arena by attempting prejudice

reduction in various settings, such as organizational and legal settings.

Another avenue for future research is to look at how particular members of a group

perceive their ingroup. Prejudice research primarily focuses on intergroup relations. However,

intragroup relations could be a fruitful avenue for future research. As was shown in this study,

some members of a particular group can exhibit prejudice against their own group, or at least

less opposition to prejudice against their group from other groups. It would be interesting to

further study what factors are responsible for such reactions.

 Summary

This study examined how emotion regulation is related to prejudice. It was noted that

manipulated emotion regulation was not related to state anger as expected (see Table 1), but

there was some evidence that measured emotion regulation was related to trait anxiety (see

Table 2). Regression analyses found some evidence for the expected positive relationship

between anger suppression and explicit racial prejudice, especially for black participants (see

the second and fourth regressions with the MRS in Table 6); and the expected negative

relationship between reappraisal and explicit racial prejudice, particularly for white participants

(see the first regression in Table 6). Additionally, there was evidence that trait anxiety was

positively related to implicit racial prejudice, especially for black participants (see the third

regression in Table 6 and the trait anxiety correlation in Table 5). For white participants,

increases in levels of state anger were significantly correlated with increases in explicit racial

prejudice (see the state anger – MRS correlation in Table 5); while state anxiety was significantly

correlated with increases in implicit racial prejudice (see Table 5). It was suggested that the

precise determinants of racial prejudice against blacks might vary between white and black

individuals.

Further, it was demonstrated that cognitive reappraisal and suppression were related to

sexual orientation prejudice as expected in some instances. When taking ethnicity and gender

into account, there were significant differences between the emotion regulation conditions,

such as participants in the reappraisal condition showing less sexual orientation prejudice than

the control condition (see Tables 8 and 9). There was evidence for the expected negative

relationship between reappraisal and implicit sexual orientation prejudice for white participants

(see the third regression in Table 11). However, anger regulation was not positively related to

sexual orientation prejudice as expected. In fact, trait anger significantly predicted sexual

orientation prejudice in the opposite of the hypothesized direction (as trait anger was

associated with *lower* explicit prejudice against homosexuals). Additional data suggested that

different emotions are associated with different types of prejudice. Here it was found that

disgust toward homosexuals was correlated with prejudice against them, while some evidence

was exhibited for the hypothesized relationship between racial prejudice and state anger, trait

anger, and anger suppression.

Appendices

A. Emotion Regulation Instructions (adapted from Butler et al., 2003; Smith & Lazarus, 1993)

- *Reappraisal Instructions*: Please read through the description of the following situation, and picture the situation that is described to you in your mind as best as you can. Pretend that you are actually living through this experience. During the experience think about your situation in such a way that you remain calm and dispassionate.

- *Suppression Instructions*: Please read through the description of the following situation, and picture the situation that is described to you in your mind as best as you can. Pretend that you are actually living through this experience. During the experience behave in such a way that if someone were watching you they would not know you are feeling any emotions at all.

- *Control Instructions***:** Please read through the description of the following situation, and picture the situation that is described to you in your mind as best as you can. Pretend that you are actually living through this experience.

B. Anger-Eliciting Vignette (adapted from Tremblay & Belchevski, 2004)

You and your friends have been waiting in line for over a half an hour to get into a bar. You are to be the next ones to get in, but a couple (pictured above [a photograph of a black couple was placed above the vignette]), who appear to be very intoxicated, cut in front of you.

C. The State Anger Scale (Spielberger et al., 1983)

A number of statements that people use to describe themselves are given below. Read each statement and then circle the appropriate number to indicate how you feel **right now**. There are no right or wrong answers. Do not spend too much time on any one statement, but give the answer that seems to **best** describe your **present feelings**.

[The following items were measured on a four point Likert scale with one being "not at all", two being "somewhat", three being "moderately", and four being "very much so".]

1. I am mad.

2. I feel angry.

3. I am burned up.

4. I feel like I'm about to explode.

5. I feel like banging on the table.

6. I feel like yelling at somebody.

7. I feel like swearing.

8. I am furious.

9. I feel like hitting someone.

10. I feel like breaking things.

D. The State Anxiety Inventory (adapted from Spielberger et al., 1983)

[The same instructions and Likert scale from Appendix C were used]

1. I feel calm.*

2. I am tense.

3. I feel upset.

4. I am relaxed.*

5. I feel content.*

6. I am presently worrying.

*Indicates a reverse coded item.

E. The black-white IAT; the sexuality IAT (Greenwald et al., 2003)

For a demonstration of either the black-white IAT or the sexuality IAT please visit the Project

Implicit website: https://implicit.harvard.edu/implicit/demo/selectatest.html

F. The Social Distance Scale for blacks (adapted from Bogardus, 1933; Byrnes & Kiger, 1988)

For the following questions, we are interested in how uncomfortable or comfortable you would be with particular people in different situations. For the following questions please circle the number that best indicates how uncomfortable or comfortable you would be in that situation. [The following items were measured on a five point Likert scale with one being "very uncomfortable", two being "somewhat uncomfortable", three being "neither uncomfortable nor comfortable", four being "somewhat comfortable", and five being "very comfortable".]

1. How comfortable would you be with having a black person as governor of your state?*

2. How comfortable would you be with having a black person as president of the U.S.?*

3. How comfortable would you be with having a black person as your personal physician?*

4. How comfortable would you be with having a black person rent your home from you?*

5. How comfortable would you be with having a black person as your spiritual counselor?*

6. How comfortable would you be with having a black person as your roommate?*

7. How comfortable would you be with having a black person as someone you would date?*

8. How comfortable would you be with having a black person as a dance partner?*

*Indicates a reverse coded item.

G. The Modern Racism Scale (Brief, 2000; McConahay, 1986; anonymity instructions taken from Agnew & Loving, 1998)

In the following section, we are interested in your attitudes and opinions of a particular group. For each of the following statements please circle the number that best describes how much you disagree or agree with each statement. Please be completely honest in your responses to the questions. Your responses here can never be linked to you personally (this is an anonymous study with no way for us to link your name with your response) so feel free to tell us what you really think.

[The following items were measured on a five point Likert scale with one being "strongly disagree", two being "somewhat disagree", three being "neither disagree nor agree", four being "somewhat agree", and five being "strongly agree".]

1. Discrimination against blacks is no longer a problem in the United States.

2. It is easy to understand the anger of black people in America.*

3. Blacks have more influence upon school desegregation plans than they ought to have.

4. Blacks are getting too demanding in their push for equal rights.

5. Blacks should not push themselves where they are not wanted.

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

7. Over the past few years, the government and news media have shown more respect to blacks than they deserve.

*Indicates a reverse coded item.

H. The Symbolic Racism 2000 Scale (two items taken from Henry & Sears, 2002)

[The same instructions and Likert scale from Appendix G were used]

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

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

*Indicates a reverse coded item.

I. Additional Racial Prejudice / Anger Item (adapted from McConahay, 1986)

[The same instructions and Likert scale from Appendix G were used]

1. It is easy to understand anger felt towards black people in America.*

*Indicates a reverse coded item.

J. The Social Distance Scale for homosexuals (adapted from Bogardus, 1933; Byrnes & Kiger, 1988)

[The same instructions and Likert scale from Appendix F were used]

1. How comfortable would you be with having a homosexual person as governor of your state?*

2. How comfortable would you be with having a homosexual person as president of the U.S.?*

3. How comfortable would you be with having a homosexual person as your personal physician?*

4. How comfortable would you be with having a homosexual person rent your home from you?*

5. How comfortable would you be with having a homosexual person as your spiritual counselor?*

6. How comfortable would you be with having a homosexual person as your roommate?*

7. How comfortable would you be with having a homosexual person as someone that a close relative would date?*

8. How comfortable would you be with having a homosexual person as a dance partner?*

*Indicates a reverse coded item.

K. The Attitudes Toward Lesbians and Gay Men Scale (Herek, 1984; 1994)

[The same instructions and Likert scale from Appendix G were used]

1. Lesbians just can't fit into our society.

2. Laws regulating private, consenting lesbian behavior should be loosened.*

3. Female homosexuality is a sin.

4. Female homosexuality in itself is not a problem, but what society makes of it can be a problem.*

5. Lesbians are sick.

6. I think male homosexuals are disgusting.

7. Male homosexuality is a perversion.

8. Just as in other species, male homosexuality is a natural expression of sexuality in human

   men.*

9. Homosexual behavior between two men is just plain wrong.

10. Male homosexuality is merely a different kind of lifestyle that should not be condemned.*

*Indicates a reverse coded item.

L. Additional Sexual Orientation Prejudice / Anger Item (adapted from McConahay, 1986)

[The same instructions and Likert scale from Appendix G were used]

1. It is easy to understand anger felt towards homosexuals in America.*

*Indicates a reverse coded item.

M. The Emotion Regulation Questionnaire (Gross & John, 2003)

We would like to ask you some questions about your emotional life, in particular, how you

control (that is, regulate and manage) your emotions. The questions below involve two distinct

aspects of your emotional life. One is your <u>emotional experience</u>, or what you feel like inside.

The other is your <u>emotional expression</u>, or how you show your emotions in the way you talk,

gesture, or behave. Although some of the following questions may seem similar to one another,

they differ in important ways. For each item, please answer using the following scale:

```
 1--------------2---------------3---------------4---------------5---------------6---------------7
strongly                          neutral                          strongly
disagree                                                            agree
```

[The above Likert scale was provided for each item]

1. When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm*

   thinking about.

2. I keep my emotions to myself.

3. When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.

4. When I am feeling *positive* emotions, I am careful not to express them.

5. When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.

6. I control my emotions by *not expressing them*.

7. When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation.

8. I control my emotions by *changing the way I think* about the situation I'm in.

9. When I am feeling *negative* emotions, I make sure not to express them.

10. When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation.

N. Additional Trait Anger Regulation Items (adapted from Gross & John, 2003)

[The same instructions and Likert scale from Appendix M were used]

1. When I want to feel less anger, I change the way I'm thinking about the situation.

2. I control my anger by not expressing it.

O. The Trait Anger Scale (Spielberger et al., 1983)

A number of statements that people use to describe themselves are given below. Read each statement and then circle the appropriate number to indicate how you **generally feel**. There are no right or wrong answers. Do not spend too much time on any one statement, but give the answer that seems to **best** describe how you **generally feel**.

[The same Likert scale from Appendix C was used]

1. I have a fiery temper.

2. I am quick-tempered.

3. I am a hotheaded person.

4. It makes me furious when I am criticized in front of others.

5. I get angry when I'm slowed down by others' mistakes.

6. I feel infuriated when I do a good job and get a poor evaluation.

7. I fly off the handle.

8. I feel annoyed when I am not given recognition for doing good work.

9. When I get mad, I say nasty things.

10. When I get frustrated, I feel like hitting someone.

P. The Trait Anxiety Inventory (select items taken from Spielberger et al., 1983; Vigneau &

Cormier, 2000)

[The same instructions and Likert scale from Appendix O were used]

1. I feel pleasant.*

2. I am happy.*

3. I am content.*

4. I feel like a failure.

5. I feel difficulties are piling up.

6. I get in a state of tension or turmoil as I think over my recent concerns and interests.

*Indicates a reverse coded item.

Q. Emotions Toward Homosexuals Items (Fischer & Roseman, 2007)

The following scale consists of a number of words that describe different feelings and emotions.

Read each item and then mark the appropriate answer in the space next to that word. Indicate

to what extent you have felt this way **toward homosexuals** during the past week.

[The following ten items were measured on a five point Likert scale with one being "very slightly or not at all", two being "a little", three being "moderately", four being "quite a bit", and five being "extremely".]

1. Contempt (a feeling that someone is not worthy of respect)

2. Envy

3. Dislike (but not anger or contempt) toward someone

4. Affection

5. Disgust

6. Pity

7. Fear

8. Anger

9. Sympathy

10. Admiration

11. Which **one** of the following emotions have you felt **most** toward homosexuals during the past week? Write the one word or phrase here:_____ [The ten emotion items above were listed]

12. The emotion I felt most this week toward homosexuals was caused by:

    [A nine point Likert scale was used for the next three sub-items with the following endpoints. Response options two through eight were not given labels.]

    a. 1 – Thinking that someone or something was causing or blocking a desirable outcome; 9 – Thinking that someone or something had desirable or undesirable qualities

    b. 1 – My perception that someone or something would generally be considered as pleasant or unpleasant (independent of any one person's evaluation); 9 – My

perception that someone or something was generally helping or blocking

satisfaction of a need, pursuit of a plan, or attainment of a goal

    c. 1 – Thinking of myself, another person, or some living or non-living thing as

helping or holding back fulfillment of a goal, a plan, or moral responsibility; 9 –

Thinking of myself, another person, or some living or non-living thing as an

acceptable or unacceptable kind of person or thing

R. Demographic Questionnaire

The directions for filling out this questionnaire are provided with each question. Because not all

questions will apply to everyone, you may be asked to skip certain questions. If no "SKIP"

instruction is provided, you should continue to the next question. When answering questions

that require marking a box ☐, please use an "X".

1.   What is the month and year of your birth?   Month: ☐ January   Year: 19____.

    ☐ February

    ☐ March

    ☐ April

    ☐ May

    ☐ June

    ☐ July

    ☐ August

    ☐ September

    ☐ October

    ☐ November

    ☐ December

2.   What is your sex?

☐ Male

☐ Female

3. What is the highest level of school you have completed or the highest degree you have

received?

☐ Less Than 1st Grade

☐ 1^{st,} 2nd, 3rd, or 4th Grade

☐ 5th or 6th Grade

☐ 7th or 8th Grade

☐ 9th or 10th Grade

☐ 11th grade

☐ 12th grade – No Diploma

☐ High School Grad – Diploma or Equivalent

☐ Some College But No Degree

☐ Associate Degree

☐ Bachelor's Degree

☐ Master's Degree

☐ JDC, STD, THD

☐ LLB, JD

☐ MD, DDS, DVM, MVSA, DSC, DO

☐ PhD, LIT, SCD, DFA, DLIT, DPH, DPHIL, JSC, SJD

4. Are you doing any work for pay at the present time?

☐ Yes

☐ No ⇩ SKIP to question 7.

5. How many hours did you work last week, at all jobs?_____

6. What is your main occupation? What kind of work do you do?

7. Please mark the box of the income group that includes the income of all members of your

    family living in your household in 2008 before taxes. This figure should include salaries,

    wages, pensions, dividends, interest, and all other income.

    ☐ None or less than $2,999

    ☐ $3,000 – $4,999

    ☐ $5,000 – $6,999

    ☐ $7,000 – $8,999

    ☐ $9,000 – $10,999

    ☐ $11,000 – $12,999

    ☐ $13,000 – $14,999

    ☐ $15,000 – $16,999

    ☐ $17,000 – $19,999

    ☐ $20,000 – $21,999

    ☐ $22,000 – $24,999

    ☐ $25,000 – $29,999

    ☐ $30,000 – $34,999

    ☐ $35,000 – $39,999

    ☐ $40,000 – $44,999

    ☐ $45,000 – $49,999

    ☐ $50,000 – $59,999

    ☐ $60,000 – $69,999

☐ $70,000 – $79,999

☐ $80,000 – $89,999

☐ $90,000 – $104,999

☐ $105,000 – $119,000

☐ $120,000 and over

8. What racial or ethnic group or groups best describes you?

☐ Black

☐ Asian

☐ Native American

☐ Hispanic or Latino

☐ White

☐ Other (Please specify)_____

☐ Don't know

9. Do you consider yourself to be heterosexual or straight, homosexual or gay (or lesbian), or

bisexual?

☐ Heterosexual or straight

☐ Homosexual or gay (or lesbian)

☐ Bisexual

References

Agnew, C. R., & Loving T. J. (1998). The role of social desirability in self-reported condom use attitudes and intentions. *AIDS and Behavior 2(3),* 229-239.

Altemeyer, B. (Eds.) (2006). *The authoritarians*. Winnipeg: Robert Altemeyer.

Blanton, H., Jaccard, J., Gonzales, P. M., & Christie, C. (2006). Decoding the implicit association test: Implications for criterion prediction. *Journal of Experimental Social Psychology, 42,* 192-212.

Bogardus, E. S. (1933). A social distance scale. *Sociology & Social Research, 17,* 265-271.

Brief, A. P., Dietz, J., Cohen, R. R., Pugh, S. D., & Vaslow, J. B. (2000). Just doing business: Modern racism and obedience to authority as explanations for employment discrimination. *Organizational Behavior and Human Decision Processes, 81(1),* 72-97.

Butler, E. A., Egloff, B., Wilhelm, F. H., Smith, N. C., Erickson, E. A., & Gross, J. J. (2003). The social consequences of expressive suppression. *Emotion, 3*, 48–67.

Byrnes, D. A., & Kiger, G. (1988). Contemporary measures of attitudes toward blacks. *Educational and Psychological Measurement, 48,* 107-118

Corrigan, P. W., Green, A., Lundin, R., Kubiak, M. A., & Penn, D. L. (2001). Familiarity with and social distance from people who have serious mental illness. *Psychiatric Services, 52(7),* 953-958.

Crandal, C. S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology, 66(5),* 882-894.

Deffenbacher, J. L., Filetti, L. B., Lynch, R. S., Dahlen, E. R., & Oetting, E. R. (2002). Cognitive-behavioral treatment of high anger drivers. *Behaviour Research and Therapy, 40(8),* 895-910.

Deffenbacher, J. L., Oetting, E. R., & DiGiuseppe, R. A. (2002). Principles of empirically supported interventions applied to anger management. *The Counseling Psychologist, 30(2),* 262-280.

Devine, P. G., Plant, E. A., Amodio, D. M., Harmon-Jones, E., & Vance, S. L. (2002). The regulation of explicit and implicit race bias: The role of motivations to respond without prejudice. *Journal of Personality and Social Psychology, 82(5),* 835-848.

DSS Research: Researcher's Toolkit. (2006). Retrieved July 27, 2009, from DSS Research: http://www.dssresearch.com/toolkit/default.asp

Eagly, A. H., & Chaiken, S. (1998). Attitude structure and function. In D.T. Gilbert, S.T. Fiske, & G. Lindzey (Eds.), *The Handbook of Social Psychology* (4th ed., Vol. 1, pp. 269-322). New York: McGraw-Hill.

Fischer, A. H., & Roseman, I. J. (2007). Beat them or ban them: The characteristics and social functions of anger and contempt. *Journal of Personality and Social Psychology, 93(1),* 103-115.

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology, 51(1),* 115-134.

Glasford, D. E., Pratto, F., & Dovidio, J. F. (2007). Intragroup dissonance: Responses to ingroup violation of personal values. *Journal of Experimental Social Psychology, 44(4),* 1057-1064.

Godfrey, S., Richman, C. L., & Withers, T. N. (2000). Reliability and validity of a new scale to measure prejudice: The GRISMS. *Current Psychology, 19(1),* 3-18.

Greenwald, A. G, Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the implicit association test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, *85*, 197-216.

Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the implicit association test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Pyshcology, 97(1),* 17-41.

Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology 74(1),* 224-237.

Gross, J. J. (2007). Emotion regulation: Conceptual foundations. In J. J. Gross (1st Ed.), *Handbook of Emotion Regulation* (pp. 3-24). New York: Guilford Press.

Gross, J. J. (2008). Emotion regulation. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (3rd Ed.), *Handbook of Emotions* (pp.497-512). New York: Guilford Press.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85,* 348-362.

Henry, P. J., & Sears D. O. (2002). The symbolic racism 2000 scale. *Political Psychology, 23(2),* 253-280).

Herek, G. M. (1984). Attitudes toward lesbians and gay men: A factor analytic study. *Journal of Homosexuality, 10 (1/2),* 39-51.

Herek, G. M. (1988). Heterosexuals' attitudes toward lesbians and gay men: Correlates and gender differences. *Journal of Sex Research, 25*, 451-477.

Herek, G. M. (1994). Assessing heterosexuals' attitudes toward lesbians and gay men: A review of empirical research with the ATLG scale. In B. Greene, & G.M. Herek (Eds.) *Lesbian and gay psychology: Theory, research, and clinical applications* (pp. 206-228). Thousand Oaks, CA: Sage Publications.

Herek, G. M. (2004). Attitudes toward lesbians and gay men scale. In C.M. Davis, W.L. Yarber, R. Bauserman, G. Schreer, & S.L. Davis (2nd Ed.) *Handbook of sexuality-related measures* (pp. 392-393).

John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation strategies: Personality processes, individual differences, and life-span development. *Journal of Personality, 72,* 1301-1333.

John, O. P., & Gross, J. J. (2007). Individual differences in emotion regulation. In J. J. Gross (1st Ed.), *Handbook of Emotion Regulation* (pp. 351-372). New York: Guilford Press.

Karpinski, A., & Hilton, J. L. (2001). Attitudes and the implicit association test. *Journal of Personality and Social Psychology, 81(5),* 774-788.

Kuppens, P., Mechelen, I. V., Smits, D. J. M., & De Boeck, P. (2003). The appraisal basis of anger: Specificity, necessity, and sufficiency of components. *Emotion, 3(3),* 254-269.

Mackie, D. M., Devos, T., & Smith E. R. (2000). Intergroup emotions: Explaining offensive action tendencies in an intergroup context. *Journal of Personality and Social Psychology, 79,* 606-616.

Marteau, T. M., & Bekker, H. (1992). The development of a six-item short-from of the state scale of the Spielberger state-trait anxiety inventory. *British Journal of Clinical Psychology, 31,* 301-306.

McConahay, J. B. (1986). Modern racism, ambivalence, and the modern racism scale. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 91-125). Orlando, FL: Academic Press.

Nosek, B. A., & Smyth, F. L. (2007). A multitrait-multimethod validation of the implicit association test: Implicit and explicit attitudes are related but distinct constructs. *Experimental Psychology, 54(1),* 14-29.

Paluck, E. L., & Green, D. P. (2009). Prejudice reduction: What works? A review and assessment of research and practice. *Annual Review of Psychology, 60,* 339-367.

Pettigrew T. F., & Tropp L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90,* 751-783.

Roseman, I. J., Copeland, J. A., & Fischer, A. (2003, February). *Contempt vs. Anger in Interracial Attitudes.* Presented at the 4th Annual Meeting, Society for Personality and Social Psychology in Los Angeles.

Smith, C. A., & Lazarus, R. S. (1993). Appraisal components, core relational themes, and the emotions. *Cognition and Emotion, 7(3/4),* 223-269.

Spielberger, C. D., Jacobs, G. A., Russell, S., & Crane, R. S. (1983): Assessment of anger: The state-trait anger scale. In: J.N. Butcher, & C.D. Spielberger, *Advances in Personality Assessment*, vol 2. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Spielberger, C. D., & Sydeman, S. J. (1994). State-trait anxiety inventory and state-trait anger expression inventory. In M.E. Maruish. *The Use of Psychological Testing for Treatment Planning and Outcome Assessment* (pp. 292-321). Hillsdale, NJ: Erlbaum Associates, Inc.

Stephan, W. G., & Stephan, C. W. (2000). An integrated threat theory of prejudice. In S. Oskamp Gross (1st Ed.), *Reducing Prejudice and Discrimination* (pp. 23-46). New York: Routledge.

Stephan, W. G., & Stephan, C. W. (Eds.). (1996). *Intergroup Relations*. Boulder: Westview Press.

Tapias, M. P., Glaser, J., Keltner, D., Vasquez, K., & Wickens, T. (2007). Emotion and prejudice: Specific emotions toward outgroups. *Group Processes & Intergroup Relations, 10(1),* 27-39.

Tremblay, P. F., & Belchevski, M. (2004). Did the instigator intend to provoke? A key moderator in the relation between trait aggression and aggressive behavior. *Aggressive Behavior, 30,* 409-424.

Tropp L. R., & Pettigrew, T. R. (2004). Intergroup contact and the central role of affect in intergroup prejudice. In L. Z. Tiedens, & C. W. Leach, (Eds.), *The Social Life of Emotions* (pp. 246-269). New York: Cambridge.

Vigneau, F., & Cormier, S. (2008). The factor structure of the state-trait anxiety inventory: An alternative view. *Journal of Personality Assessment, 90(3),* 280-285.

Walker, I., & Smith, H. (Eds.). (2001). *Relative deprivation: Specification, development, and integration.* New York: Cambridge University Press.

West, S. G., Aiken, L. S., & Krull, J. L. (1996). Experimental personality designs: Analyzing categorical by continuous variable interactions. *Journal of Personality, 64(1)*, 1-48.