2011

The effect of a group-affirmation on prejudice

Adrian Joseph Villicana

Follow this and additional works at: https://scholarworks.lib.csusb.edu/etd-project

Part of the Cognitive Psychology Commons, and the Interpersonal and Small Group Communication Commons

Recommended Citation
https://scholarworks.lib.csusb.edu/etd-project/3995

This Thesis is brought to you for free and open access by the John M. Pfau Library at CSUSB ScholarWorks. It has been accepted for inclusion in Theses Digitization Project by an authorized administrator of CSUSB ScholarWorks. For more information, please contact scholarworks@csusb.edu.
THE EFFECT OF A GROUP-AFFIRMATION ON PREJUDICE

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Psychology:
General-Experimental

by
Adrian Joseph Villicana

December 2011
THE EFFECT OF A GROUP-AFFIRMATION ON PREJUDICE

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

by
Adrian Joseph Villicana

December 2011

Approved by:

[Signatures]

Dr. Donna M. Garcia, Chair, Psychology

Dr. Luis M. Rivera

Dr. M. Jean Peacock

Dr. Matt Riggs

11-29-11 Date
ABSTRACT

A source of one’s positive self-image is based on the characteristics associated with one’s group identity. Given this significance, past research demonstrates that a group-affirmation satisfies people’s motivation to protect their self-image; thus, they enjoy a host of psychological benefits. However, in the context of intergroup attitudes, virtually nothing is known about the effects of a group-affirmation on intergroup judgments. Two studies demonstrated the conditions under which a group-affirmation has a beneficial effect on prejudice. Study 1 demonstrated that compared to the control and self-affirmation conditions, group-affirmed individuals exhibited less prejudice against the out-group. In Study 2, we hypothesized if individual differences in subjective in-group identification moderated the effect of a group-affirmation on prejudice as well as if collective self-esteem mediated this effect. Results indicated that strongly (but not weakly) identified group members expressed less prejudice after a group-affirmation relative to the control condition. However, collective self-esteem was not statistically a potential mediator of the group-affirmation effect on prejudice. Given the pivotal role of
group membership and identification in the context of intergroup interactions, this research highlights the importance of affirming valued group qualities as a way to reduce intergroup conflict and out-group prejudiced behaviors.
ACKNOWLEDGMENTS

I begin by extending my sincere gratitude to the faculty and staff in the G/E Psychology program at CSUSB. I enjoyed being part of such a great program and environment. I am also grateful to Luis M. Rivera for his mentorship since I entered graduate school. I have learned so much from him. Additionally, I am thankful for all the help and guidance that Donna Garcia has given me throughout my time in the program. Furthermore, I am grateful to my other committee members, Jean Peacock and Matt Riggs, for their valuable expertise and critiques that have improved this project. I thank Chelsea Lamb and Elaine Contreras who stuck throughout this project and helped with data collection, even when it proved difficult! I also thank Jessica Aguilar, Stacey Cardoz, Guillermo Villalobos, and Carla Zimmerman. Each helped me in different ways, and I treasure these friendships. A special thank you to Kevin Delucio for his constant support and continued inspiration. Finally, I would like to express my deepest gratitude and love for my mother, father, and Tia Mary. They have taught me to strive for the best and never give up on my dreams. Their support and encouragement has enabled me to continue to reach for the stars. Thank you so much.
# TABLE OF CONTENTS

ABSTRACT ........................................................................................................ iii  

ACKNOWLEDGMENTS .................................................................................. v  

LIST OF FIGURES ......................................................................................... x  

CHAPTER ONE: INTRODUCTION ................................................................. 1  

A Group-Affirmation versus a Self-Affirmation ........................................ 3  

Effect of a Group-Affirmation on Prejudice .............................................. 8  

Outline of Goals and Predictions .............................................................. 13  

CHAPTER TWO: STUDY ONE ................................................................. 15  

Method ......................................................................................................... 16  

Participants .................................................................................................. 16  

Measured Variables ................................................................................... 16  

  Measurement of Implicit Attitudes Toward African Americans ............. 16  

  Feeling Thermometer ............................................................................. 18  

  Attitudes Toward African Americans .................................................. 19  

  Similarity to African Americans ......................................................... 19  

  Manipulated Variable .......................................................................... 19  

  Self- versus Group-Affirmation Manipulation ..................................... 19  

  Manipulation Check ............................................................................. 22  

Procedure ....................................................................................................... 22  

Results ......................................................................................................... 24  

  Manipulation Check: Effect of Feedback on Experienced Affirmation-Related Feelings .... 24  

vi
Effect of Feedback on Attitudes Toward African Americans ........................................ 25

Effect of Feedback on Similarity to African Americans ........................................ 28

Discussion .................................................................................................................. 28

CHAPTER THREE: STUDY TWO ........................................................................... 31

Method ....................................................................................................................... 34

Participants .............................................................................................................. 34

Measured Variables ................................................................................................. 34

In-group Identification .............................................................................................. 34

Measurement of Implicit Attitudes Toward Gay Men ........................................... 35

Attitudes Toward Gay Men – Modified (ATG; Herek, 1988) .......................................... 35

Feeling Thermometer ............................................................................................... 36

Similarity to Gay Men ............................................................................................... 36

Personal State Self-Esteem ....................................................................................... 36

Private Collective Self-Esteem ................................................................................... 36

Manipulated Variable ............................................................................................... 37

Self- versus Group-Affirmation Manipulation ......................................................... 37

Manipulation Check .................................................................................................. 40

Procedure ................................................................................................................... 40

Results ....................................................................................................................... 42

Manipulation Check: Effect of Feedback on Affirmation-Related Feelings ............... 42
Overview of Analytic Approach 43
Collective State Self-Esteem 44
Personal State Self-Esteem 47
Effects of Feedback and In-Group Identification on Prejudice Against Gay Men 50
Similarity to Gay Men 55
CHAPTER FOUR: GENERAL DISCUSSION 57
APPENDIX A: RACE IMMPLICIT ATTITUDES TEST STIMULI 69
APPENDIX B: FEELING THERMOMETER TOWARD AFRICAN AMERICANS 71
APPENDIX C: ATTITUDES TOWARD AFRICAN AMERICANS SEMANTIC-DIFFERENTIAL 73
APPENDIX D: COGNITIVE ABILITY TASKS FOR STUDY ONE 75
APPENDIX E: INFORMED CONSENT FOR STUDY ONE 78
APPENDIX F: DEMOGRAPHICS QUESTIONNAIRE 81
APPENDIX G: DEBRIEFING PROCEDURE AND RESEARCH STATEMENT 84
APPENDIX H: ACKNOWLEDGEMENT OF FEEDBACK PROCEDURE 87
APPENDIX I: LIST OF JOURNAL ARTICLES ON EFFECTS OF FALSE FEEDBACK ON ATTITUDES TOWARD STEREOTYPED GROUPS 89
APPENDIX J: WHITE RACIAL IDENTIFICATION MEASURE 91
APPENDIX K: GAY IMMPLICIT ATTITUDES TEST STIMULI 93
APPENDIX L: PERSONAL STATE SELF-ESTEEM MEASURE 95
LIST OF FIGURES

Figure 1. Effect of Affirmation Condition on Overall Prejudice Against African Americans .................................................. 27

Figure 2. Effect of Affirmation Condition on Negative Collective State Self-Esteem ............. 46

Figure 3. Effect of Affirmation Condition on Positive Personal State Self-Esteem ............. 49

Figure 4. Effect of Affirmation Condition on Negative Personal State Self-Esteem ............ 50

Figure 5. Effect of Affirmation Condition X Group Identification Interaction on Overall Prejudice Against Gay Men for Participants with Low (-1 SD) and High (+1 SD) Group Identification ..................... 54
CHAPTER ONE
INTRODUCTION

Individuals identify with and attach emotional significance to their social groups (Tajfel, 1979; Hogg, 2003). In addition, individuals’ in-groups influence how they evaluate fellow group members as well as out-group members (Hogg, 2003; Tajfel & Turner, 1985; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Specifically, because in-group members are perceived as similar, they are more likely to be appraised positively relative to out-group members (Mullen, Brown, & Smith, 1992). Put differently, in-group members chronically compare their groups with other groups; they favor the group they belong to while simultaneously viewing other groups as different and inferior (Tajfel & Turner, 1979). Furthermore, in-group favoritism influences biased attitudes (e.g., negative evaluations of out-group members) that benefit in-group members and that increase the distance between in-group and out-group members (Hertel & Kerr, 2001; Liebkind, Henning-Lindblom, & Solheim, 2006).

Recently, several studies have demonstrated that the distinctiveness of one’s group can serve as a positive
psychological resource (Sherman, Kinias, Major, Kim, & Prenovost, 2007; Glasford, Dovidio & Pratto, 2009; Derks, van Laar, & Ellemers, 2006, 2009). A group-affirmation — the process of affirming a valued group quality — increases an in-group member's willingness to accept various types of threatening information and the ability to successfully deal with threats to the group (Sherman et. al., 2007; Glasford et al., 2009; Derks et al., 2006, 2009).

Additionally, a group-affirmation facilitates the use of coping strategies to restore positive integrity (of the self or the group) after being exposed to threatening or dissonant information, as well as to create opportunities to transform a threat into a challenge response (Glasford et al., 2009; Derks et al., 2006, 2009).

Given the beneficial effects of a group-affirmation on a host of intragroup and intrapersonal outcomes, one might wonder about its effect on in-group members' judgments of out-group members. Given the importance of one's in-group, particularly in relation to out-groups (Tajfel, 1982; Hogg, 2003), it is surprising that virtually nothing is known about the effects of a group-affirmation on evaluations of out-groups. On one hand, one might expect that a group-affirmation increases a global sense of worth — individuals
who feel good about their group membership might be more open-minded and tolerant about out-groups thus leading to an attenuated level of prejudice. On the other hand, a group-affirmation might make group membership salient, potentially enhancing the distinctiveness of one’s in-group and consequently their differences from out-groups. In this case, group-affirmed individuals might be motivated to express stronger prejudice against out-groups as a way to protect the distinctiveness of the in-group. The main goal of the current research is to examine these alternative group-affirmation effects on prejudice against out-groups.

A Group-Affirmation versus a Self-Affirmation

Tajfel & Turner’s (1986) social identity theory (SIT) makes a distinction between one’s personal identity versus one’s social identity. Personal identity is the individual self, associated with personal relationships and with distinct attributes of the self. By comparison, social identity is the collective self, associated with group membership and with distinct attributes of the group. Regarding personal identity, individuals tend to strive for uniqueness. Individuals develop their self-concept and demonstrate their individuality, which ultimately can drive
their thoughts, emotions, and behavior (Markus & Wurf, 1987; Baumeister, 1998). Individuals also derive self-esteem and a positive self-image based on personal relationships and unique qualities associated with their personal identity (Marsh, 1990; Brown, Dutton, & Cook, 2001; Brown, 1998; Showers & Zeigler-Hill, 2006). Similarly, individuals place a great deal of importance on their social identity. Individuals inherent and actively become members of groups and are loyal to such groups (Hogg, 2003). The attachment to these groups ultimately forms their social identity, which, like their personal identity, can have a considerable influence on their thoughts, emotions, and behaviors (Turner, Reynolds, Haslam, & Veenstra, 2006). In summary, individuals characterize themselves with respect to their personal identity as well as their social identity and both serve as sources of value and distinctiveness (Swann & Bosson, 2010).

Given the emotional significance attached to both personal and group identities as well as their respective characteristics, research has demonstrated that affirming such characteristics can have psychological benefits. With respect to one's personal identity, self-affirmation theory
states that individuals are motivated to sustain an overall positive self-image (Steele, 1988). If one’s positive self-image is threatened, the natural reaction is to restore this sense of self-worth. One way to achieve this is to self-affirm — that is, affirming a valued characteristic associated with one’s personal identity — in a domain unrelated to the experienced threat.

Research has suggested that self-affirmations increase awareness of resources of self-worth and, consequently, result in variety of beneficial outcomes (Aronson, Cohen, & Nail, 1999; Sherman & Hartson, 2011). These outcomes include enhanced task performance (Schimel, Arndt, Banko, & Cook, 2004), better health (Sherman, Nelson, & Steele, 2000; Harris & Napper, 2005), positive attitude change (Simon, Greenberg, & Brehm, 1995; Steele & Liu, 1983), reduction in stress levels (Creswell, Welch, Taylor, Sherman, Gruenewald, & Mann, 2005), increased positive self-views (Stone & Cooper, 2003) and increased willingness by majority group members to acknowledge the existence of racism (Adams, Tormala, & O’Brien, 2006). Relevant to the current research, though, is the link between self-affirmation and prejudice (Fein & Spencer, 1997; Lehmiller, Law, & Tormala, 2010; Zarate & Garza, 2002, Study 1;
Spencer, Fein, Wolfe, Fong, & Duinn, 1998; Martens, Johns, Greenberg, & Schimel, 2006, Studies 1 & 2; Gramzow & Gaertner, 2005, Study 3). In their seminal study, Fein & Spencer (1997; Study 1) placed participants in a situation in which a personal value was either affirmed (i.e., a self-affirmation) or not, then they were given an opportunity to judge a job candidate who was either a member of a negatively stereotyped or non-stereotyped group. Results indicated that self-affirmed participants rated the negatively stereotyped candidate more positively than non-affirmed participants. However, self-affirmation did not affect the evaluations of the non-stereotyped candidate relative to the non-affirmation condition.

If affirming qualities related to one’s personal identity leads to beneficial effects because it satisfies self-image needs, one might expect affirming qualities related to one’s group identity to lead to beneficial effects as well. The group-affirmation hypothesis is squarely in line with SIT (Tajfel & Turner, 1986), which posits that individuals can gain a sense of worth and value from their social identity by concentrating and affirming an important group quality. This group-affirmation then facilitates a greater sense of belonging with the in-group
and increases the positive self-worth associated with one’s in-group (Tajfel & Turner, 1986). Indeed, a group-affirmation involves focusing attention to positive characteristics and values that are important and central to one’s social group. This focus on positive group qualities, in turn, serves as a psychological resource in which to draw positive self-worth to combat potentially threatening information to the group (Sherman et al., 2007). Accordingly, recent studies have demonstrated that a group-affirmation can produce beneficial outcomes (Derks et al., 2006, 2007, 2009; Glasford et al., 2009, Sherman et al., 2007). In these studies, a group-affirmation was operationalized by either positive (false) feedback about a group’s performance on a bogus task (Derks et al., 2009), writing about an important group quality or value (Glasford et al., 2009), or acknowledging important qualities of the group (Sherman et al., 2007). When group-affirmation is operationalized in one of these ways, it attenuates defensive responses to threatening group information, increases collective self-esteem, and bolsters or restores the positive image associated with the in-group (Derks et al., 2006, 2007, 2009; Glasford et al., 2009, Sherman et al., 2007). Although it is clear that a group-affirmation
leads to beneficial outcomes, it remains unclear how this effect translates to prejudice.

Effect of a Group-Affirmation on Prejudice

In three studies, McGregor, Haji, and Kang (2008) reported that they found preliminary evidence to suggest a group-affirmation's beneficial influence on out-group judgments. Overall, McGregor et al. found that group-affirmation can positively influence out-group evaluations and reduce derogation toward out-group members. Although this finding can be perceived as experimental evidence that group-affirmation can reduce prejudice, there are concerns about how their group-affirmation was conceptualized.

In the first study, participants indicated any group they belonged to, described what they had in common with that group and why it was important to them. The affirmation process was then followed by an opportunity to evaluate an out-group. Results demonstrated that group-affirmation led to a reduction in out-group derogation. This study, however, was correlational in nature given that the group-affirmation was not manipulated — participants invoked any thoughts on any group they belonged to.
The second study differed in that, after participants identified a social group they belonged to, they were randomly assigned to describe how their personal values were either similar or different from those of the group they had identified. Additionally, participants were randomly assigned to describe either good or bad qualities of their group. Following this procedure, participants were given the opportunity to evaluate an out-group. Results indicated that participants who wrote about their similarities to the group as well as describing good group qualities led to the lowest levels of out-group derogation relative to the other conditions. Although this operationalization of group-affirmation is similar to that of past group-affirmation research, the interpretation of the effect should be made with caution given that there was no control condition; it cannot be certain if a group-affirmation is causing the reduction in prejudice.

Finally, in the third study, participants were asked to describe a recent personal success or personal failure. In addition, participants were asked to describe why they either felt good or bad about the experience. Afterward, participants were given the opportunity to evaluate the out-group. Results indicated that out-group derogation was.
significantly reduced when participants wrote about why they felt good about a recent successful experience as opposed to the other conditions. As in the second study, the third study did not incorporate a proper control condition in order to determine the effect of a group-affirmation relative to no affirmation. Furthermore, the operationalization of a group-affirmation in the third study resembles a self-affirmation given that participants were asked to write about a personal success or failure.

Aside from the lack of control conditions, McGregor et al. conceptualized a group-affirmation in terms of intragroup evaluations instead of intergroup evaluations. In each study, participants were asked to indicate how their values were similar to the values of their group and why those common values were important to them (not the group). One could argue that the underlying process actually affirmed participants' personal values while simultaneously making them aware of how their values were similar to their group. This affirmation process caused participants to evaluate their own position within their group, or evaluate the extent to which they identified with their group. A true group-affirmation, however, is conceptualized as affirming the group's quality as a whole
and, ultimately, how the in-group relates to another group. Consequently, research needs to establish the causal relationship between a group-affirmation on prejudice relative to a control condition.

It seems plausible that a group-affirmation can alleviate the need to defend the image of one's social group and lead to less prejudice relative to a control condition. Indeed, this hypothesis is partially supported by McGregor et al. (2008) who demonstrated that affirming in-group consensus (similarities between the individual and the group) as well as in-group positivity (good qualities of the group) led to reductions in out-group derogation. Furthermore, research demonstrates that individuals with higher collective self-esteem (i.e., positive feelings associated with a group identity) show more positive out-group evaluations compared to those with lower collective self-esteem (Andreopoulou & Houston, 2002). Presumably, this is the case because individuals with high collective self-esteem do not have a chronic need to self-enhance via out-group derogation.

Alternatively, a group-affirmation might lead to more prejudice against out-groups relative to a control condition. If a group-affirmation enhances the group image
as distinctive and unique, then group members may want to maintain and protect this image by derogating any other group that is considered different and inferior relative to the highly valued in-group (Tajfel & Turner, 1979). This conjecture is indirectly supported by research on in-group bias that demonstrates the need for individuals to show preferential treatment to other in-group members who are perceived to share their status, while derogating out-group members (Mullen et al., 1992; Hertel & Kerr, 2001). That is, group members will typically view their own group as superior and will engage in behaviors that discriminate against out-groups (Tajfel & Turner, 1986). If a group-affirmation enhances the distinctiveness of the group, then it is plausible that such a discrepancy between in-group favoritism and out-group derogation will be exacerbated. A group-affirmation leading to more prejudice is further supported by research on collective self-esteem. Whereas some research presented above demonstrates high collective self-esteem leads to lower levels of prejudice toward a distinguishable out-group (Andreopoulou & Houston, 2002), research also demonstrates that high collective self-esteem (e.g., gender self-esteem in heterosexual men) is associated with greater expression of prejudice toward
homosexuals (Falomir-Pichastor & Mugny, 2009, Studies 1 & 2). In this case, the out-group being evaluated has a connection with the in-group (i.e., both groups are men). Altogether, the hypothesis that affirming a quality linked to one’s social group bolsters the group’s image and thus increases biases is consistent with SIT, which posits that individuals will go to any lengths to sustain their group positive self-image (Tajfel & Turner, 1986).

Outline of Goals and Predictions

The main goal of the current research was to examine the effects of a group-affirmation on evaluations of out-groups. In line with the above review, one plausible prediction was that a group-affirmation would lead to more negative attitudes towards out-groups relative to a no affirmation condition (Prediction 1a). Alternatively, the above literature review also suggests that a group-affirmation would lead to less negative attitudes towards out-groups relative to the no affirmation condition (Prediction 1b). We tested these alternative predictions across two studies that assessed self-identified White participants’ attitudes towards African Americans (Study 1) and gay men (Study 2) following a group-affirmation
procedure. In line with previous research, we operationalize a group-affirmation as positive (false) feedback about the group's performance on a bogus intelligence test. This operationalization has been shown to be appropriate to reduce the effects of a group threat as well as increase the aspects associated with a positive group image (Derks et al., 2006, 2007, 2009; Glasford et al., 2009, Sherman et al., 2007). We define attitudes as favorable or unfavorable evaluations toward group members (Greenwald & Banaji, 1995).
CHAPTER TWO

STUDY ONE

A first study was conducted to provide an initial test of the effect of a group-affirmation on prejudice. Participants first completed a bogus intelligence test, and then received false feedback depending on their randomly assigned condition. Participants received feedback that suggested their individual score was in the 93rd percentile compared to other students who completed the same task (self-affirmation condition); that their individual score could not be given but the average score for their ethnic group (Whites) was in the 93rd percentile (group-affirmation condition); or received no feedback on their performance (control condition). Following this procedure, participants completed measures of implicit and explicit prejudice against African Americans. We included a self-affirmation condition to compare its effect to a group-affirmation. If a group-affirmation led to more prejudice against African Americans relative to a control condition, then this effect would be opposite of a self-affirmation which is expected to lower prejudice (Fein & Spencer, 1997; Prediction 1a). However, if a group-affirmation led to less prejudice
against African Americans relative to a control condition, then this effect would be similar to a self-affirmation (Prediction 1b).

Method

Participants

Sixty-one, undergraduate students (54 women) at California State University, San Bernardino, participated in this study for extra course credit. After screening the data, 12 participants were dropped from the analyses; 10 participants did not identify as being White and two participants correctly guessed the hypothesis. The final sample consisted of 49 self-identified White adults (43 women). Participants' age ranged from 18 to 54 years ($M = 26$ years).

Measured Variables

Measurement of Implicit Attitudes Toward African Americans. Participants' implicit attitudes toward African Americans were measured using an Implicit Associations Test (IAT; Greenwald, McGhee, & Schwartz, 1998). In general, the IAT is a computerized task that measures the relative strength with which two target groups (e.g., White Americans vs. African Americans) are associated with two
opposing evaluations (e.g., good words vs. bad words) using response latency to operationalize attitude strength. In the Race IAT, participants saw four types of stimuli presented one at a time on a computer screen. Two types of stimuli consisted of faces of White adults (i.e., in-group faces) or African American adults (i.e., out-group faces). The other two types of stimuli consisted of words related to "good" (e.g., "joy", "paradise"), and words related to "bad" (e.g., "filth", "vomit"; see Appendix A for all IAT stimuli).

In an IAT, participants' task is to categorize the four types of stimuli using two designated response keys on the keyboard. In the case of the Race IAT used in the current study, for half of the task, participants were instructed to categorize in-group faces and words associated with good using the same key ("White face + good") and simultaneously to categorize out-group faces and words associated with bad using the other key ("Black faces + bad"). For the remaining half of the task, the key assignment was reversed (e.g., "White faces + bad," "Black faces + good"). The order of the two tasks was counterbalanced between participants.
The underlying rationale of the IAT is that when highly associated stimuli share the same response key, participants typically classify them quickly and easily; however, when weakly associated words share the same response key, participants tend to classify them more slowly and with greater difficulty. In the Race IAT, we expected that participants would perform the classification task relatively fast when White faces and good-related words shared the same response key but Black faces and bad-related words shared the other response key. (The logic of this computerized task is easier to understand if readers take an IAT. Several IATs assessing implicit attitudes toward various groups can be self-administered anonymously at https://implicit.harvard.edu/implicit/).

**Feeling Thermometer.** This single-item measure assessed participants’ overall feelings toward African Americans. Participants were asked to indicate how they felt about the group on a scale anchored at 0 degrees (cold/unfavorable feelings), 50 degrees (neutral feelings), and 99 degrees (warm/favorable feelings; see Appendix B). Scores were multiplied by -1, thus higher numbers (closer to zero) indicated colder/more unfavorable feelings.
Attitudes Toward African Americans. This semantic-differential measure had participants indicate the degree to which they felt 12 different evaluative or emotional reactions toward African Americans (modified from Corenblum & Stephan, 2001). Each semantic-differential item was on a ten-point scale (see Appendix C). Higher numbers indicated more negative attitudes.

Similarity to African Americans. This was a two-item scale that indicated the degree to which participants viewed African Americans as similar to themselves (modified from Fein & Spencer, 1997). The two items were: “Please indicate the extent to which you believe that you are similar to African Americans,” and “Please indicate the extent to which you believe that you are different from African Americans.” These items were rated on an 11-point scale. The second item was reverse scored; thus, higher scores indicated more similarity to African Americans.

Manipulated Variable

Self- versus Group-Affirmation Manipulation. Participants in all three conditions completed an intelligence test procedure that consisted of two "cognitive ability" tasks. In the test, participants were first asked to unscramble a set of series of letters that
could be reorganized to form words. The second task was to measure participants' ability to make associations between words; participants were asked to find a word that was associated with a set of three words (e.g. for elephant, lapse, and vivid, the correct answer is memory; see Appendix D for both cognitive ability tasks). These items were adapted from McFarlin and Blascovich's (1984) Remote Associates Test. After participants who were randomly assigned to the two affirmation conditions completed the tasks, they read:

The cognitive abilities test you just completed has been administered to numerous students at various universities including California State University, San Bernardino. Thus far, research using this test has found that different ["individuals" in the self-affirmation condition, or "groups" in the group-affirmation condition] differ in their cognitive abilities. Moreover, this research also suggests that these differences affect future professional success. We thank you for completing the test. Your responses will help us better understand ["individual" or "group"] differences in cognitive ability. The
computer will now process and upload your responses. Please click on "Continue."

They then read:

Computer is calculating your score ... Please wait.

After eight seconds, a new screen appeared and read:

Just a few more seconds...

After four more seconds, a new screen appeared.

Participants in the self-affirmation condition read:

Compared to the average performance of other individuals who have taken this cognitive abilities test, your individual score is at the 93rd Percentile.

Participants in the group-affirmation condition read:

Your individual performance will be scored at a later time and entered in a bank with scores from people like you for later analysis. Although we are not able to let you know your individual score at this point, we can inform you that the average performance of White students like yourself who have taken this cognitive abilities test has been at the 93rd Percentile.

The control group also completed the cognitive abilities task; however, they did not receive any feedback. They were told:
The cognitive abilities test you just completed has been administered to numerous students at various universities including California State University, San Bernardino. Thank you for completing both tasks, which will help us understand different types of cognitive abilities. Your data will be entered in a bank for later analyses.

**Manipulation Check.** The affirmation manipulation was checked by asking participants to describe their thoughts and feelings regarding their performance on the cognitive abilities task. Specifically, those in the self- and group-affirmation conditions were asked to "...describe your thoughts and feelings after you learned about your performance on the cognitive abilities task." Those in the control condition were asked to "...describe your thoughts and feelings about your performance on the intelligence test."

**Procedure**

A research assistant informed participants that they would be completing two unrelated studies. Participants were seated in a private laboratory room in which all materials and measures were presented on a computer. After
completing the informed consent (Appendix E), participants were directed to the "first study" which was described as an investigation of the differences in cognitive abilities between individuals (self-affirmation condition), groups (group-affirmation condition) or different types of cognitive abilities in general (control condition). After participants completed the computerized cognitive task, they were provided with false feedback or not. Next, in the "second study," which was described as an investigation of social beliefs, participants were told they would complete a categorization task and short surveys. Participants completed the measures of implicit and explicit prejudice against African Americans, which were counterbalanced. Then, participants completed the similarity measure. Finally, participants provided demographic information (see Appendix F), were probed for suspicion of the purpose of the study, and were fully debriefed (Appendices G, H, and I).
Results

Manipulation Check: Effect of Feedback on Experienced Affirmation-Related Feelings

Two research assistants were trained to rate participants' open-ended responses about their feelings and thoughts related to their performance. Their responses were rated on two items: one assessed the extent to which the participant felt sad vs. happy, and the other assessed the extent to which the participant felt disappointed vs. good. The items were rated on a 7-point scale. Since the two sets of ratings (the two items rated by two RAs) were well correlated, $r(49) = .90$, $p < .001$, and the four items were internally reliable, $\alpha = .91$, an index was created by taking the average of all ratings. Higher numbers indicate more positive feelings regarding the feedback.

A one-way analysis of variance (ANOVA), in which the affirmation condition was the independent variable and the index score of feelings toward feedback was the dependent variable, indicated a significant difference between the self-affirmation condition and control, such that self-affirmed participants reported more positive feelings about their performance ($M = 5.08, SD = 1.19$) than non-affirmed participants ($M = 4.20, SD = 1.06$), $t(46) = 2.06, p = .045$, $r^2 = .084$. Additionally, self-affirmed participants reported
more positive feelings about their performance relative to
group-affirmed participants ($M = 4.14$, $SD = 1.29$), $t(46) = 2.27$, $p = .028$, $r^2 = .10$. However, the positive feelings
reported by group-affirmed participants were statistically
similar to those non-affirmed participants, $t(46) = .16$, $p = .88$. This finding will be discussed later in the
discussion for Study 1.

**Effect of Feedback on Attitudes Toward African Americans**

The scores on the Attitudes Toward African Americans
measure ($a = .87$) and the Feeling Thermometer strongly
correlated, $r(49) = .63$, $p < .001$, the scores were
standardized and collapsed into an index of explicit
prejudice. This the index of explicit prejudice
significantly correlated with the IAT-D, $r(49) = .31$, $p = .03$. To determine whether the three original implicit and
explicit attitude measures loaded onto a single factor of
prejudice, a factor analysis with a direct oblimin rotation
was performed. Firstly, the Kiaser-Mayer-Olkin measure of
sampling adequacy was .575, just below the recommended
value, though the Bartlett’s test of sphericity was
significant, $\chi^2(3) = 28.06$, $p < .001$. This suggests that the
strength of the relationship among the items is strong and,
therefore, can be subjected to a factor matrix.
Furthermore, the diagonals of the anti-image correlation matrix were all above .5, suggesting the inclusion of each item in the analysis. Finally, the communalities were all above .3, providing additional evidence that each item shared some common variance with the other items. Given this support, the factor analysis was conducted on the three implicit and explicit prejudice measures. Only one factor was identified, with an eigenvalue of 1.82, which explained 60.59% of the variance. Moreover, because each item loaded on the one factor (Race IAT = .586, Feeling Thermometer = .844, Attitudes Toward African Americans = .873), all three items were standardized and collapsed into one index of prejudice.

A one-way ANOVA on the single index of prejudice revealed a main effect of affirmation condition on overall prejudice, \( F(2, 46) = 3.37, p = .04, \eta^2 = .127 \), such that, group-affirmed individuals (\( M = -.36, SD = .82 \)) exhibited less prejudice compared to the control, (\( M = .16, SD = .59 \)), \( t(46) = -2.06, p = .046, r^2 = .084 \). Furthermore, group-affirmed individuals exhibited less prejudice compared to self-affirmed individuals, (\( M = .25, SD = .77 \)),
Contrary to previous research, self-affirmed individuals did not differ in their levels of expressed prejudice relative to those in the no-affirmation control condition, \( t(46) = .33, p = .74 \).

Figure 1. Effect of Affirmation Condition on Overall Prejudice Against African Americans. Higher numbers on the Y-axis indicate more prejudiced attitudes.

\[ t(46) = -2.36, \ p = .02, \ r^2 = .107; \ (\text{see Figure 1}). \]

Two additional analyses were computed separating the implicit and explicit indices of prejudice. The effect in explicit prejudice as a function of affirmation condition, \( F(2, 46) = 5.69, p = .006 \), mimicked that of the analyses above. However, when looking at implicit prejudice alone, the effect in implicit prejudice as a function of affirmation condition was not significant (\( M_{\text{self-affirmation}} = .44, M_{\text{group-affirmation}} = .42, M_{\text{control}} = .42 \), \( F < 1 \).
These results support Prediction 1b, that a group-affirmation leads to less prejudice against the out-group compared to the control. Surprisingly, self-affirmed individuals expressed similar levels of prejudice compared to the control. We will return to this null effect in the discussion below.

**Effect of Feedback on Similarity to African Americans**

The main effect of affirmation condition on similarity to African Americans was not significant, $F < 1$. Group-affirmed participants did report more perceived similarity toward the out-group ($M = 5.47, SE = 1.92$) than did those in the control condition ($M = 4.71, SE = 2.75$), though this difference was not significant $t(46) = .89, p = .38$.

**Discussion**

To our knowledge, Study 1 was the first investigation to test the effect of a group-affirmation versus a self-affirmation on out-group judgments. Overall, there appears to be support for Prediction 1b—a group-affirmation leads to less negative evaluations of out-group members relative to no affirmation. However, and unfortunately, we did not replicate past research that demonstrated reduced bias toward out-group members following a self-affirmation (Fein

28
& Spencer, 1997; Lehmiller et al, 2010, Study 2 & 3; Zarate & Garza, 2002, Study 1; Spencer et al., 1998; Martens et al., 2006, Studies 1 & 2 Gramzow & Gaertner, 2005, Study 3). According to the original conceptualization of self-affirmation as it applies to judgments of out-groups, people want to maintain a global sense of self-integrity rather than just a perceived sense of integrity in one specific domain. This global sense of self-integrity can be thought of as a sense of self-worth created by several facets of an individual’s self-concept. Therefore, when an individual is affirmed in one domain, this reduces the impact of a threat in another domain. Similarly, when investigating the effect of an affirmation on out-group judgments, the target of evaluation must be irrelevant to the quality being affirmed (Fein & Spencer, 1997; Spencer et al., 1998; see Steele, 1988, for a review of the self-affirmation theory). The self-affirmation procedure used in Study 1 affirmed participants intellectual abilities, which is clearly related to the pervasive stereotype that African Americans are not intelligent (Davis & Simmons, 2009). This overlap with the stereotype suggests that we did not replicate the past self-affirmation effect on prejudice because our study did not meet the conditions of the self-
affirmation hypothesis. We rectified this problem in Study 2 by providing participants with an opportunity to evaluate gay men, a group that is not stereotypically associated with intelligence.

In addition, Study 1 found no effect of a group-affirmation on participants' positive feelings related to their performance. One plausible reason for this null effect is because our manipulation check measure asked about feelings associated with individuals. Because those in the group-affirmation condition received a score about their group's overall performance, as opposed to an individual score, the question about individual feelings may have been irrelevant to their reaction about their group's performance. Thus, in Study 2, this manipulation check was changed in the group-affirmation condition to refer to participants' feelings about their group's performance.
CHAPTER THREE

STUDY TWO

Study 2 sought to replicate and extend Study 1 in several important ways. First, we sought to replicate the beneficial effect of group-affirmation on prejudice against a different out-group, gay men. Second, because the new out-group target, gay men, was clearly irrelevant to the domain that was being affirmed, we expected to replicate past studies showing that a self-affirmation reduces prejudice (e.g., Fein & Spencer, 1997). Third, we sought to examine if individual differences in group identification moderated the effect of a group-affirmation on prejudice. Although individuals categorically identify with their group, they vary in their subjective identification with that group (Luhtanen & Crocker, 1992; Phinney, 1992; Sellers, Rowley, Chavous, Shelton, & Smith, 1997, 1998). Some group members feel that their ethnic identity is more central to their self-concept than do other group members. This variation in group identity suggests that our White participants who strongly identify with their group would especially benefit from a group-affirmation and would exhibit lower levels of prejudice.
when compared to those who weakly identify with their group. This prediction is in line with recent research that demonstrates the moderating role of in-group identification on the effects of a group-affirmation on group processes such as group mobility and intragroup dissonance (Derks et al., 2009; Glasford et al., 2009). In the absence of any affirmation, participants who strongly identify with their group should express more prejudice toward the out-group because higher identifiers within the in-group are motivated to exclude persons who do not fit the in-group representation (Hutchison, Abrams, Gutierrez, & Viki, 2008; Gabarrot, Falomir-Pichastor, & Mugny, 2009). However, subjective group identification should not moderate the effect of a self-affirmation on prejudice. A self-affirmation focuses people on their individuality and directs their attention away from their group memberships (Derks et al., 2009). Thus, even if individuals strongly identifies with their ethnicity, a self-affirmation will direct them to focus on their individual status. Finally, we predicted that a group-affirmation would lower prejudice because affirming a group quality boosts the collective image of the group (i.e., collective self-esteem), whereas a self-affirmation lowers prejudice because affirming a
valued personal quality boosts one's individual self-worth (i.e., personal self-esteem). In both cases, though, affirmed individuals will no longer have a need to protect their positive image, which should lower their expression of prejudice compared to a control. In summary, we expected collective self-esteem to mediate the effect of a group-affirmation on prejudice among highly identified group members whereas personal self-esteem would mediate the effect of a self-affirmation on prejudice.

To test these predictions, several methodological changes were made. First, participants were given an opportunity to judge gay men, an out-group irrelevant to the affirmed domain. Second, participants completed an intelligence test that was calibrated and successfully utilized by Laws and Rivera (under review). Third, the manipulation check was changed to assess feelings regarding participants' individual performance (self-affirmation condition) or their group's performance (group-affirmation condition). Finally, in-group identification was assessed at the outset of the study.
Method

Participants

Eighty-four adult students (67 women) at California State University, San Bernardino, participated in this study for extra course credit. After screening the data, 10 participants were removed from the analyses for the following reasons: four participants identified as non-heterosexual, two participants identified as non-White, two participants correctly guessed the hypothesis, one participant had incomplete data due to procedural error and one participant was a univariate outlier within the group identification variable. The final sample consisted of 74 self-identified White heterosexual adult students (58 women). Participants' age ranged from 18 to 58 years ($M = 27$ years).

Measured Variables

In-group Identification. White identification was assessed with the White Racial Identification Measure developed by Branscombe, Schmitt, and Schiffhauer (2007; see Appendix J). This 5-item, 7-point scale measured the degree to which participants identified with being a member of the ethnic group (e.g., "I am comfortable being White")
and "Being White just feels natural to me"). Higher mean scores indicate higher White in-group identification.

Measurement of Implicit Attitudes Toward Gay Men. The IAT was administered to measure implicit attitudes toward gay men (Gay IAT). The test was identical to Study 1; however, the target groups were changed from White versus Black Americans to pictures of same-sex and different-sex couples that represented gay and heterosexual men (see Appendix K). These stimuli were adopted from Dasgupta and Rivera (2006, 2009) and were selected to ensure the couples in the pictures appeared to be in a romantic relationship, not platonic friends.

Attitudes Toward Gay Men — Modified (ATG; Herek, 1988). Three items from the original ATG measure were used to measure explicit attitudes toward gay men because they focused specifically on negative feelings: (a) I think male homosexuals are disgusting; (b) Male homosexuality is a perversion; and (c) Homosexual behavior between two men is just plain wrong. Participants were asked to indicate how much they disagreed or agreed with each statement on a scale from 1(strongly disagree) to 9(strongly agree). Scores on these items were averaged, with higher numbers indicating stronger negative attitudes toward gay men.
Feeling Thermometer. This explicit measure was similar to that of Study 1, but was modified to ask about feelings toward homosexual men.

Similarity to Gay Men. This measure was similar to that of the Study 1, but changed the out-group being evaluated from African Americans to homosexual men.

Personal State Self-Esteem. Personal state self-esteem was measured with six modified items from the Rosenberg's Self-Esteem Scale (Rosenberg, 1965; see Appendix L). These six items were adjusted to measure state (versus trait) self-esteem (e.g., "At this moment, I take a positive attitude towards myself;" see Derks et al., 2009). Participants indicated if they agreed or disagreed with each statement by using a 10-point Likert-type scale ranging from 0 (strongly disagree) to 9 (strongly agree). Higher mean scores indicate higher personal state self-esteem.

Private Collective Self-Esteem. Private collective self-esteem was measured with four modified items from the private collective self-esteem subscale of Luhtanen and Crocker's Collective Self-Esteem Scale (Luhtanen & Crocker, 1992; see Appendix M). These four items were adjusted to measure state collective self-esteem, (e.g., "At this
moment, I am happy that I am White;" see Derks, et al., 2009). Participants indicated if they agreed or disagreed with each statement by using a 9-point scale ranging from 1 (strongly disagree) to 9 (strongly agree). Higher mean scores indicate higher collective state self-esteem.

Manipulated Variable

Self- versus Group-Affirmation Manipulation. The affirmation manipulation procedure was modified from Study 1 as follows. All participants completed an intelligence test that was previously calibrated in our laboratory\(^2\) (Laws & Rivera, under review; see Appendix N). Procedurally, participants in the second study were first asked to complete a "computerized intelligence test that measures reasoning abilities." The test incorporated different skills: analogies, pattern completion and sentence completion. After the participants in the two feedback conditions completed the test, they read:

\(^2\) Fifteen items from the intelligence test were adopted from Galinksy, Wang, & Ku (2008) as well as Hayes, Schimel, Faucher, & Williams (2008). Of these 15 items, a third was relatively easy, a third was somewhat difficult and a third was difficult. According to the pre-test and responses to measures that assessed feelings about the false feedback, participants believed the positive feedback (i.e., 93\(^{rd}\) Percentile). For a complete description of this test and the feedback procedure, readers are referred to Laws and Rivera (under review).
The intelligence test you just completed has been administered to a large group of students at various universities including California State University, San Bernardino. Thus far, research using this test has found that the test seems to be a particularly valid and good measure of intelligence because it integrates both verbal and nonverbal skills. Also, this test has found that different ["individuals" in the self-affirmation condition, or "groups" in the group-affirmation condition] differ in their verbal and nonverbal skills. Moreover, this research also suggests that these differences affect future professional success. We thank you for completing this test. Your responses will help us better understand ["individual" for the self-affirmation condition, or "group" for the group-affirmation] differences in intelligence. The computer will now process and upload your responses. Please click on 'Continue.'

They then read:

Computer is calculating your score ... Please wait.

After eight seconds, a new screen appeared and read:

Just a few more seconds...

After four more seconds, a new screen appeared.
Participants in the self-affirmation condition read:

Compared to the average performance of other individuals who have taken this intelligence test, your individual score is at the 93rd Percentile.

Participants in the group-affirmation condition read:

Your individual performance will be scored at a later time and entered in a bank with scores from people like you for later analysis. Although we are not able to let you know your individual score at this point, we can inform you that the average performance of White students like yourself who have taken this intelligence test has been at the 93rd Percentile.

The control group also completed the cognitive abilities task; however, they did not receive any feedback. Specifically, they were told:

The intelligence test you just completed has been administered to a large group of students at California State University, San Bernardino. Thank you for completing the test, which will help us understand differences in intelligence. Your data will be entered in a bank for later analyses.
Manipulation Check. To check the manipulation procedure, participants in the feedback conditions were first asked if they received a score after completing the test. If so, they were asked to provide an open-ended response about their thoughts and feelings regarding their performance on the intelligence test. Specifically, participants in the self-affirmation condition were asked to "...describe your thoughts and feelings after you learned about your performance on the intelligence test."

Participants in the group-affirmation condition were asked to "...describe your thoughts and feelings after you learned about your group's performance on the intelligence test."

Finally, since the control condition did not receive feedback, participants in the control condition were asked to "...describe your thoughts and feelings about your performance on the intelligence test."

Procedure

At least 24 hours before their lab appointment, participants completed an online demographics questionnaire that contained the in-group identification measure (administered via surveygizmo.com). In the lab, a research assistant informed participants that they would complete
two unrelated studies. Participants were seated in a private laboratory room in which all materials and measures were presented on a computer. After completing the informed consent (Appendix 0), participants were directed to the "first study" in which they completed the intelligence test, which was described as an investigation of different reasoning abilities associated with intelligence "between individuals" (self-affirmation condition), "between groups" (group-affirmation) or no mention of differences in reasoning abilities (control condition). After participants completed the computerized task, they were provided with false feedback (affirmation conditions) or not (control condition).

Next, in the "second study," which was described as an investigation of social beliefs, participants were told they would complete a categorization task and short surveys. First, all participants completed the two measures of personal and collective self-esteem, which were counterbalanced. Then, participants completed the measures of implicit and explicit prejudice against gay men; these were also counterbalanced. Afterward, participants completed the measure of similarity toward gay men. Finally, participants provided more demographic
information, were probed for suspicion of the purpose of the study, and were fully debriefed.

Results

Manipulation Check: Effect of Feedback on Affirmation-Related Feelings

Two research assistants were trained to rate participants' open-ended responses about their thoughts and feelings related to their performance. Their responses were rated on two items: one assessed the extent to which the participant felt sad vs. happy, and the other assessed the extent to which that participant felt disappointed vs. good. The items were rated on a 7-point scale. Because the two sets of ratings (the two items rated by two RAs) were well correlated, \( r(74) = .87, p < .001 \), and the four items were internally reliable, \( \alpha = .89 \), an index was created by taking the average of all ratings. Higher numbers indicated more positive feelings regarding their feedback.

A one-way analysis of variance (ANOVA) indicated a significant difference in positive feelings between the self-affirmation condition and control, such that self-affirmed participants reported more positive feelings about their performance (\( M = 4.99, SD = 1.10 \)) than did non-affirmed participants (\( M = 3.73, SD = .91 \)), \( t(71) = 4.19, \)
$p < .001$, $r^2 = .198$. Additionally, self-affirmed participants reported more positive feelings regarding their performance relative to group-affirmed participants ($M = 4.16$, $SD = 1.16$), $t(71) = -2.68$, $p = .009$, $r^2 = .091$.

Finally, although group-affirmed participants had a tendency to report higher positive feelings than did control participants, this difference did not reach conventional statistical significance, $t(71) = 1.45$, $p = .15$.

Overview of Analytic Approach

We begin by testing for moderation between the affirmation conditions and in-group identification on the dependent variables. To test all moderation effects, we used a simultaneous multiple multiple moderation analysis. To compare each of the two affirmation conditions relative to the control condition for each dependent variable, two dummy-coded systems were created. The first dummy-coded system compared the self-affirmation condition to the control condition (control = 0, group-affirmation = 0, self-affirmation = 1). The second dummy-coded system compared the group-affirmation to the control condition (control = 0, self-affirmation = 0, group-affirmation = 1). In each regression both dummy-coding systems were
simultaneously entered, thus allowing the comparison of each affirmation effect relative to the control in each system independent of the other (Aiken & West, 1991).

**Collective State Self-Esteem**

A regression analysis was conducted in which collective self-esteem was regressed on the predictor variables: group identification, the two affirmation dummy-coded systems, and their interactions. Analyses indicated that neither a self-affirmation ($B = .07, b = .18, p = .50$) nor a group-affirmation ($B = .13, b = .32, p = .22$) led to higher collective self-esteem relative to the control condition.

Recent research suggests that self-esteem measures can be examined by separating the positive items from the negative items. For example, Derks et al. (2009) partitioned the positively and negatively worded items in their collective self-esteem measure into two subscales; this division was supported by a factor analysis. Following this procedure, they examined whether self- and group-affirmation influenced negative collective self-esteem. Results indicated that within group-affirmed individuals, highly identified group members exhibited less negative collective self-esteem relative to low identifiers.
Given the unexpected null results in the current research, we re-examined the effect of affirmation conditions on collective self-esteem using the positively worded items ("At this moment I am happy that I am White" and "At this moment, I feel good about the fact that I am White") separate from the negatively worded items ("At this moment, I feel bad about being White" and "At this moment, I don’t think Whites are worthwhile"). Indeed, a factor analysis with a direct oblimin rotation revealed that the positive items loaded onto one factor (loadings = .895, .912; eigenvalue of 1.94, explaining 48.54% of the variance) and the negative items loaded onto a separate factor (loading = .477, .852; eigenvalue of 1.07, explaining 26.71% of the variance). Therefore, two separate regressions analyses were conducted. In the first regression, positive collective self-esteem was regressed on the predictor variables while in the second regression negative collective self-esteem was regressed on the predictor variables. As Figure 2 indicates, group-affirmation led to less negative collective self-esteem (the degree to which participants felt negative about their White identity) relative to the no affirmation condition ($B = -.28, b = -.67), t(70) = -2.27, p = .03, r^2 = .068, but
self-affirmation did not differ in negative collective self-esteem relative to no affirmation. Neither a self-affirmation nor a group-affirmation significantly affected positive collective self-esteem (the degree to which participants felt positive about their White identity) relative to the no affirmation condition. This pattern of effects is a replication of Derks et al. (2009).

Figure 2. Effect of Affirmation Condition on Negative Collective State Self-Esteem. Higher numbers on the Y-axis indicate more negative collective self-esteem.
Personal State Self-Esteem

A regression analysis was conducted in which personal self-esteem was regressed on the predictor variables: group identification, the two affirmation dummy-coded systems, and their interactions. Analyses revealed that a self-affirmation led to higher personal self-esteem relative to receiving no affirmation ($B = .23$, $b = .46$), $t(68)^3 = 1.80$, $p = .077$, $r^2 = .045$. A group-affirmation also led to higher personal self-esteem relative to the no affirmation condition ($B = .29$, $b = .57$), $t(68) = 2.24$, $p = .03$, $r^2 = .068$. Neither of these effects was moderated by group identification.

Additionally, we re-examined the effect of affirmation conditions on personal self-esteem using the positively worded items ("At this moment, I feel positive about myself," "At this moment, I think I have a number of good qualities," and "At this moment, I am satisfied with who I am") separate from the negatively worded items ("At this moment, I think I do not have much to be proud of," At this moment, I think I do not have much to be proud of," and "At this moment, I think of myself as a failure). A factor

---

3 The number of degrees of freedom in this and all analyses involving personal self-esteem as the dependent variable are lower because two participants were outliers in only this variable.
analysis revealed that both the negative and positive items loaded onto one factor (eigenvalue of 3.75, explaining 62.53% of the variance); however, examination of the component matrix revealed that the positive and negative items had a strong inverse relationship (positive item loadings = .78, .82, .81; negative item loadings = -.86, -.65, -.81). Therefore, two separate regression analyses were conducted. In the first regression, positive personal self-esteem was regressed on the predictor variables whereas in the second regression, negative personal self-esteem was regressed on the predictor variables. As Figure 3 demonstrates, a group-affirmation led to marginally higher positive personal self-esteem (the degree to which participants felt positive about their personal identity) relative to the no affirmation condition \((B = .23, b = .51), t(68) = 1.76, p = .08, r^2 = .043\), but self-affirmation did not differ in positive personal self-esteem relative to the no affirmation condition.
Figure 3. Effect of Affirmation Condition on Positive Personal State Self-Esteem. Higher numbers on the Y-axis indicate more positive self-esteem.

We next examined the negatively framed personal self-esteem items. As depicted in Figure 4, a self-affirmation led to marginally less negative personal self-esteem (the degree to which participants felt negative about their personal identity) relative to the no affirmation condition ($B = - .24$, $b = -.53$), $t(68) = -1.84$, $p = .07$, $r^2 = .047$. Moreover, a group-affirmation led to significantly less negative personal self-esteem relative to the no affirmation condition ($B = -.29$, $b = -.63$), $t(68) = -2.23$, $p = .029$, $r^2 = .068$. 

49
Figure 4. Effect of Affirmation Condition on Negative Personal State Self-Esteem. Higher numbers on the Y-axis indicate more negative personal self-esteem.

Effects of Feedback and In-group Identification on Prejudice Against Gay Men

Firstly, with respect to the implicit and explicit attitudes measures, the Kaiser-Mayer-Olkin measure of sampling adequacy was .60, over the recommended value, and Bartlett's test of sphericity was significant, $\chi^2 (3) = 33.44, p < .001$. Furthermore, the diagonals of the anti-image correlation matrix were all above .5, suggesting the inclusion of each item in the analysis. Finally, the communalities were all above .3, providing additional evidence that each item shared some common variance with
the other items. Given this support, a factor analysis with a direct oblimin rotation was conducted on the three implicit and explicit prejudice measures. Only one factor was identified; with an eigenvalue of 1.77 which explained 58.82% of the variance. Moreover, since each item loaded strongly (Gay IAT = .625, Feeling Thermometer = .826, Attitudes Toward Gay Men = .832) on the one factor, all three items were standardized and collapsed into one index of prejudice.

With respect to the group identification items, the Kaiser-Mayer-Olkin measure of sampling adequacy was .73, over the recommended value, and Bartlett’s test of sphericity was significant, $\chi^2(10) = 199.49, p < .001$. Additionally, the diagonals of the anti-image correlation matrix were all above .5, suggesting the inclusion of all five, group identification items in the analysis. Finally, the communalities were all above .3, providing further evidence that each identification item shared some common variance with the others. Given this evidence, a factor analysis with a direct oblimin rotation was conducted on the five group identification items. The analysis revealed two factors; the first having an eigenvalue of 3.152 which explained 63.04% of the variance while the second had an
eigenvalue of 1.02 and explained an additional 20.41% of the variance. Examination of the component matrix exposed only one item as having complex structure (item 3 factor 1 loading = .665, factor 2 loading = .634). Given that this White identification measure has been validated and used in other work (Branscombe et al., 2007; Powell, Branscombe, & Schmitt, 2005) as well as all five items being internally reliable, α = .84, all five items were collapsed into one standardized index of ethnic group identification.

To examine whether subjective in-group identification influenced the effect of affirmation on prejudice, a simultaneous moderated multiple regression analysis was conducted. In this analysis we regressed the prejudice measure on in-group identification (standardized), the two affirmation dummy-coded systems, and the interactions terms between in-group identification and the two dummy-coded variables. Analyses revealed no significant main effects for the two dummy-coded systems; both self- and group affirmations were statistically similar to the no affirmation condition in predicting prejudice, \( B = -0.07, b = -0.12, t(70) = -0.57, p = 0.57 \) and \( B = -0.06, b = -0.10, t(68) = -0.48, p = 0.63 \), respectively. The analyses, however, revealed a significant interaction between group
identification and the control versus group-affirmation dummy code, $B = -.30, b = -.50, t(68) = -2.15, p = .035, r^2 = .063$ (see Figure 5). We investigated the nature of the significant two-way interaction by looking at the effect at 1 SD above (high identifiers) and below (low identifiers) the mean of identification. Simple slope analyses revealed that within high identifiers, there was a significant effect between the no affirmation and group-affirmation conditions, $B = -.37, b = -.60, t(68) = -1.97, p = .05, r^2 = .053$, such that highly identified group members' prejudice toward gay men was positively affected by a group-affirmation relative to no affirmation (i.e., highly identified participants reported less prejudice when they were group-affirmed). In addition, within the no affirmation condition, there was a significant effect between low and high identifiers, $B = .53, b = .41, t(68) = 2.88, p = .005, r^2 = .108$, such that high identifiers

---

4 Similar analyses were run with only explicit prejudice as the dependent variable as well as when only implicit prejudice was the dependent variable. When the dependent variable was explicit prejudice there was a marginal effect of identification, $(B = .34, SE = .17), t(68) = 1.77, p = .082$, as well as a marginal interaction between identification and the control vs. group-affirmation dummy code, $(B = -.26, SE = .27), t(68) = -1.78, p = .079$. When the dependent variable was implicit prejudice there was an identification main effect, $(B = .63, SE = .06), t(68) = 3.41, p < .05$ and a marginal interaction between identification and the control vs. group-affirmation dummy code, $(B = -.24, SE = .10), t(68) = -1.69, p = .095$. In both instances, the patterns and directions were similar to that of the main analysis.
exhibited more prejudice relative to low identifiers. Similarly, within the self-affirmation condition, there was a significant effect between low and high identifiers, $B = .42$, $b = .33$, $t(68) = 2.46$, $p = .02$, such that high identifiers exhibited more prejudice relative to low identifiers.

![Graph](image)

**Figure 5.** Effect of Affirmation Condition X Group Identification Interaction on Overall Prejudice Against Gay Men for Participants with Low (-1 SD) and High (+1 SD) Group Identification. Higher numbers on the Y-axis indicate more prejudiced attitudes.
Collective self-esteem and personal self-esteem were tested to investigate whether the two variables affected prejudice. Results from a simple multiple regression indicated that neither collective self-esteem, $B = .18, b = .12, t(71) = 1.52, p = .13$, nor personal self-esteem, $B = -.03, b = -.02, t(71) = -.23, p = .82$, predicted prejudice. In addition, the indirect effect of a group-affirmation on prejudice through collective self-esteem was tested and was found to be zero by a 95% bias-corrected bootstrap confidence interval based on 5000 bootstrap samples ($-.66$ to $.132$, with a point estimate of $.017$). Similarly, the indirect effect of a self-affirmation on prejudice through personal self-esteem was tested and was found to be zero by a 95% bias-corrected bootstrap confidence interval based on 5000 bootstrap samples ($-.151$ to $.132$, with a point estimate of $.065$). Given the lack of evidence, mediation was not found (refer to Hayes, 2009, for a review).

**Similarity to Gay Men**

To investigate whether similarity to gay men was influenced by affirmation condition, similarity to gay men was regressed on affirmation condition. Results indicated no difference between the self-affirmation condition and control, $B = -.15, b = -.91, t(70) = -1.14, p = .26$. 55
Additionally, there were no observed differences between the group-affirmation condition and control, $B = -.06$, $b = -.39$, $t(70) = -.50$, $p = .62$. 
CHAPTER FOUR
GENERAL DISCUSSION

The current research focused on examining the effect of a group-affirmation on evaluations of out-group members. On one hand, a group-affirmation can enhance people’s group image and thus motivate group members to maintain and protect their group’s integrity as positively distinct and superior (Tajfel & Turner, 1979). As a result, a group-affirmation would lead to more prejudice against out-group members. On the other hand, just as a self-affirmation satisfies self-image needs and, therefore, diminish the motivation to express prejudice (Fein & Spencer, 1997), a group-affirmation could also alleviate the need to self-enhance via out-group derogation as a self-enhancement strategy. As a result, a group-affirmation would lead to less prejudice against out-group members. Our findings support the latter prediction — a group-affirmation led to less prejudice toward out-group members relative to no affirmation (Study 1). Furthermore, Study 2 demonstrated that individuals who strongly identified with their group particularly benefited from a group-affirmation. Results demonstrated that among those who strongly identified with
their ethnic group, a group affirmation led to less prejudice against out-group members compared to a non-affirmed condition. Finally, given that a group-affirmation less to low prejudice against African Americans (Study 1) as well as gay men (Study 2) we can conclude that the beneficial effect of a group-affirmation is replicable and generalizable.

Unfortunately, we were unable to replicate past work demonstrating that a self-affirmation leads to less prejudice relative to no affirmation (Fein & Spencer, 1997; Lehmiller et al., 2010, Study 2 & 3; Zarate & Garza, 2002, Study 1; Martens et al., 2006, Studies 1 & 2; Gramzow & Gaertner, 2005, Study 3). According to self-affirmation theory, as it applies to judgments of out-groups, affirming a quality that is relevant to the self can lower the expression of prejudice against out-group members. This process bolsters psychological resources and contingencies of self-worth in an individual and, therefore, decreases the need to partake in self-enhancement behaviors (prejudice) in the presence of a possible threat to the self (out-group member) (Fein & Spencer, 1997). Whereas this theory is supported by several studies mentioned above, other research has found null or even opposite self-
affirmation effects on evaluations of out-group members (Collange, Fiske, & Sanitioso, 2009, Lehmiller et al., 2010, Study 1). For example, Collange and colleagues (2009) had participants complete a bogus intelligence test and then provided positive, negative, or no feedback regarding their individual performance. Following this procedure, participants rated the perceived warmth and competence (stereotyping) as well as suitability for a job (prejudice) of a job candidate who was either Asian American or a working mother. Self-affirmation theory predicts that self-affirmed individuals should rate each out-group member more positively (more suitable for the job) than individuals in the control condition would. On the contrary, Collange et al. report no significant differences between the self-affirmation condition and the control regarding the evaluations of the Asian American. Moreover, self-affirmed participants evaluated the working mother more negatively than did those in the control condition. It should be noted, however, that the working mother — relative to the Asian American out-group — is not generally viewed as an out-group within a social context. Research indicates that individuals tend to categorize themselves with an in-group in the presence of a clearly identified (and different)
out-group; for example, different ethnic group, different sex group, different sexuality group (Turner et al., 1994). Therefore, a working mother may not be directly comparable to the Asian American out-group. For this reason, the effects regarding the working mother will not be of focus in the self-affirmation null effect discussion.

One plausible reason why some research does not find the self-affirmation effect lies within the differences between a value affirmation and an affirmation of a personal characteristic. A value affirmation refers to the process of affirming a value that is central and important to an individual (e.g., artistic skill, relations with family) (Aronson et al., 1999). An affirmation of a personal characteristic, on the other hand, refers to the process of affirming a personal characteristic that is central and important to an individual (e.g., intelligence) (McQueen & Klein, 2006). Recent affirmation research investigating health, performance and other effects after a threat use value affirmations (e.g., Sherman et al., 2000; Cohen, Aronson, & Steele, 2000; Harris & Napper, 2005). However, research on out-group evaluations have used mixed affirmation procedures - either a value affirmation or affirmation of a personal characteristic (e.g., Collange et
Given the usage of both value and personal characteristic affirmations in self-affirmation research, more work needs to be done on the similarities and differences between the two types of affirmations as well as the underlying processes involved in affirming values versus affirming characteristics. It seems as though both types of affirmations increase the perceptions of one's psychological resources (i.e., by reminding individuals of their other resources of self-worth), which therefore mitigates the perception of a threat. However, both affirmations seem to cause this outcome via different paths. A value affirmation may directly remind one of global self-integrity and expanded contingencies of the self, whereas an affirmation of a personal characteristic may be less direct by first boosting individualized perceptions of worth, and if the attribute is valued, then leads to increased perceptions of global self-integrity. Certainly, more research is needed to investigate the exact underlying mechanisms involved in both types of affirmations.

Another noteworthy consideration regarding the null effects in the Collange et al. (2009) research relates the
categorization. In the absence of priming group membership (control condition), individuals may have categorized themselves in terms of personal identity ("I" and "me") by default (Turner, Oakes, Haslam, & McGarty, 1994). Moreover, self-affirmed individuals have been specifically led to categorize in terms of personal identity (again, "I" and "me") after affirming a personal characteristic. It would be of no surprise, then, that both non-affirmed and affirmed individuals exhibited similar levels of prejudice when judging out-group members.

The possibility of categorization effects provides some insight into our findings. Recall, in the current research, self-affirmed participants rated African Americans (Study 1), a group that is negatively stereotyped as unintelligent (Davis & Simmons, 2009), and gay men (Study 2), a group that is not stereotypically associated with intelligence. Regardless of the stereotype relevance of the out-group target, a self-affirmation did not lower prejudice relative to the control condition. It can be argued that individuals in both no affirmation and self-affirmation conditions were categorizing at the individual level and, therefore, exhibited similar levels of prejudice. When people think in terms of an individual
level of categorization ("I"), the out-group being evaluated ("them") is not related to their sense of self. Though this explanation seems contrary to the theory set forth by Fein & Spencer (1997), it is important to note that they compared value-affirmed individuals to non-affirmed individuals in their first study. Similar to the current research, however, Fein & Spencer incorporated an affirmation of a personal characteristic in their second and third studies, but did not compare a self-affirmation to a control condition. Rather, they compared positive feedback to threatening feedback. Given that the current research did not incorporate a threat condition, our results may not be directly comparable to the self-affirmation predication set forth by Fein & Spencer. Clearly, more research is needed to investigate the diverging self-affirmation effects across studies. For example, more research should investigate the differences in self-affirmation effects when comparing a self-affirmation to a control versus comparing a self-affirmation to a threat. In addition, research should contrast value affirmations versus characteristics affirmations.
The current research also investigated the effect a self- versus group-affirmation had on personal and collective state self-esteem. Although these variables did not meet the requirements to be tested as mechanisms, they provide evidence that the manipulations in the study were successful. Whereas the initial manipulation check was consistent with the procedure described in Study 1 and assessed participants' feelings toward the feedback, there was one potential limitation with the procedure. Participants in each condition were asked one question regarding the feedback. Specifically, self-affirmed participants were asked to describe their feelings after "...you learned about your performance;" group-affirmed participants were asked to describe their feelings after "...you learned about your group's performance;" whereas the control was asked to describe their feelings "...about your performance." Possibly the control condition was only a relevant comparison to the self-affirmation condition because participants in both conditions were directed to think about performance at the individual level (i.e., "your"). Given that participants in the control condition were not also asked to describe their thoughts about their group's performance, there was no clear comparison to
evaluate the differences between group-affirmation related feelings and no affirmation related feelings about the group’s performance. The measures of collective and personal self-esteem provided an alternate strategy to assess the manipulations. If a self-affirmation led to stronger positive feelings toward the self, then self-affirmed individuals would express higher levels of personal self-esteem compared to the control. Similarly, if a group-affirmation led to stronger positive feelings toward the group, then group-affirmed individuals would express higher levels of collective self-esteem compared to the control. Indeed, in Study 2, a group-affirmation led to lower negative collective self-esteem (the degree to which participants felt negative about their White identity) relative to the control but did not affect positive collective self-esteem (the degree to which participants felt positive about their White identity). This finding suggests that a group-affirmation mitigates the extent to which individuals hold negative views toward their group identity.

Regarding personal self-esteem, the current research found that a self-affirmation attenuated the extent to which individuals hold negative views toward their personal
identity. This finding suggests that when looking at positive versus negative personal self-esteem, a self-affirmation may mainly attenuate the extent to which individuals hold negative views of their personal identity. As selective self-stereotyping research demonstrates, individuals embrace positive stereotypes as descriptive of their identity but reject negative stereotypes (Biernat, Vescio, & Green, 1996; Oswald & Chapleau, 2010). Thus, a self-affirmation may enable individuals who are placed in a situation in which they are exposed to threats to their self-integrity (reading the negative personal self-esteem items) to enhance their image. Similarly, the current research found that a group-affirmation attenuated the extent to which individuals hold negative views toward their personal identity. In addition, though, a group-affirmation was found to bolster the positive self-image. Taken together, a group-affirmation may prove more beneficial and effective in increasing an overall sense of self-worth.

The current research sought to understand the role of one’s group image in intergroup judgments. Our findings suggest that a group-affirmation reduces out-group prejudice. One underlying mechanism that may account for
this effect could be increased self-integrity. Future research should investigate this mechanism. Perhaps a group-affirmation boosts one’s integrity associated with the in-group. This may lead to increased perception of global self-integrity and eliminate the need to protect the group and the self.

This research contributes to past work on group identity and group-affirmation by identifying the conditions under which a group-affirmation can aid in the reduction of intergroup conflict and out-group prejudiced behaviors. Moreover, we contribute to affirmation research by demonstrating that a group-affirmation can lead to low prejudice, especially among those who highly identify with their group. In contrast to our findings, some researchers argue that higher levels of in-group identification can be detrimental in intergroup relations; those who strongly identify with the group are more likely to respond with prejudice and discrimination than those who weakly identify (Hutchison, Abrams, Gutierrez, & Viki, 2008; Gabarrot, Falomir-Pichastor & Mugny, 2009). However, the current research suggests that a group-affirmation inoculates individuals who strongly identify with their group from expressing negative attitudes toward out-group members.
Given that a group-affirmation activates social identity-related motivations, there is much to be learned about the role group-affirmations can have in other group and identity processes. For example, group-affirmation may play a role in ethnocentrism. The concept of ethnocentrism is described as seeing one’s in-group as superior, seeing the in-group’s ideals as universal as well as seeing out-groups as inferior (Rosenblatt, 1964; Hammond & Axelrod, 2006). As the current research demonstrated, a group-affirmation led strongly identified group members to exhibit less prejudice toward an out-group relative to no affirmation. This suggests that a group-affirmation can potentially reduce the extent of ethnocentrism exhibited by group members, therefore reducing intergroup relations. The more we learn about these processes, and strategies that attenuate extreme behaviors, the more we can promote intergroup harmony.
APPENDIX A

RACE IMPLICIT ATTITUDES TEST STIMULI
Pleasant and unpleasant words

Birthday, gift, joy, paradise, laughter

Filth, cancer, vomit, war, poison


APPENDIX B

FEELING THERMOMETER TOWARD AFRICAN AMERICANS
INSTRUCTIONS: Please indicate next to the thermometer below how you feel, overall, about the indicated group. If you indicate a number between 0 and 49, this indicates that you feel cold, or unfavorable towards this group. If you indicate 50, this indicates that you have neutral feelings toward this group. If you indicate a number between 51 and 99, this indicates that you feel warm, or favorable towards this group.

Adapted from:

Ann Arbor, MI: University of Michigan, Center for Political Studies.
APPENDIX C

ATTITUDES TOWARD AFRICAN AMERICANS

SEMANTIC-DIFFERENTIAL
Instructions: For each of the words that follow, please indicate the degree to which you react toward African Americans by selecting an appropriate number from 0 (Not at all) to 9 (Extreme). There is no right or wrong answer. Be sure to answer all the items.

____|____|____|____|____|____|____|____|____|____|
0 1 2 3 4 5 6 7 8 9
Not at all Extreme

1. Hostility
2. Admiration*
3. Disliking
4. Acceptance*
5. Superiority
6. Affection*
7. Loathing
8. Approval*
9. Hatred
10. Sympathy*
11. Rejection
12. Warmth*

An asterisk (*) indicates that the item was reverse scored.

Adapted from:

APPENDIX D

COGNITIVE ABILITY TASKS FOR STUDY ONE
Instructions: In a few moments you will be asked to unscramble a set of series of letters to create words. The ability to unscramble words has been shown to measure cognitive abilities. Try to unscramble each set of letters to the best of your ability. See the example below.

Example: ETER = TREE

As you can see from the example above, the series of letters "ETER" can be unscrambled to create the word "TREE."

On the following screens you will be asked to unscramble several sets of letters to create words.

Please click on "Continue."

KIML = MILK
RODO = DOOR
KANB = BANK
DNEO = DONE
LPYA = PLAY
SGTIH = SIGHT
SROTE = STORE
GHLIT = LIGHT
ELATB= TABLE
WTAHC= WATCH

The second part of the cognitive ability study measures your ability to make associations between words. To complete this task, a word must be found that relates to three presented words. See the example below.

Example: Elephant, Lapse, Vivid . . . the correct answer is "Memory."

As you can see from the example above, "Memory," can be associated with all three presented words because an elephant's memory only gets better with age, people can have a memory lapse and forget a piece of information, and memory can be vivid or precise. Although this task is difficult, please try to answer to the best of your ability.

On the following screens you will be asked to find a word that is associated with the three presented words.
Please click on "Continue."

Athletes, Web, Rabbit   Foot
Shelf, Read, End       Book
Sea, Home, Stomach    Sick
Car, Swimming, Cue    Pool
Board, Magic, Death    Black
Walker, Main, Sweeper  Street
Cookies, Sixteen, Heart  Sweet
Chocolates, Fortune, Tin  Cookie
Lounge, Hour, Drink    Cocktail
Keel, Show, Row        Boat
Door, Tinker, Church   Bell
Flash, Speed, Bulb     Light
Lock, Piano, Car       Key
Light, Tan, Spot       Sun
Cell, Call, Head       Phone

Adapted from:

APPENDIX E

INFORMED CONSENT FOR STUDY ONE
INFORMED CONSENT

Introduction/Purpose: In this study, you will be asked to complete a cognitive ability task, which includes word scrambling and synonym activities. This study is being carried out by Adrian Villicana, a Psychology Master's student at California State University, San Bernardino.

Procedures: By choosing to participate in this study, you will be asked to complete a cognitive ability task on the computer. Please try to answer each question to the best of your ability. Completing this study should take about 20 minutes. If you have any questions, please do not hesitate to ask the experimenter. Also, if you have any questions concerning what you will be asked to do, please ask the experimenter now before agreeing to this informed consent.

Confidentiality: The information that you give us is completely anonymous. Your name will not be associated with your data in any way. Your data will be assigned a code number and your name will not appear on any data reports.

Risks and Benefits: This study involves no risks beyond those routinely encountered in daily life, nor any direct benefits to you as a participant other than extra credit for one of your psychology courses. You will receive 3 total units of extra credit, to be used in a Psychology course of your choice at the instructor's discretion, as compensation at the end of the session.

Subject’s Rights: We would like to remind you that you do have the right to refuse to participate in this study or to terminate your participation at any time if you choose to do so without penalty.

Finally, if you have any complaints or comments regarding this study, you can contact Adrian J. Villicana at villa329@csusb.edu. This study has been approved by the
Department of Psychology Institutional Review Board Sub-Committee of the California State University, San Bernardino, and a copy of the official Psychology IRB stamp of approval should appear on this consent form.
Please check the appropriate boxes and add information as requested. **All your responses are completely anonymous** — your questionnaires will be identified by a random subject number assigned to you and not by your name. At no time will your name be associated with your responses to this questionnaire or any other data collected in this study.

### DEMOGRAPHIC INFORMATION

<table>
<thead>
<tr>
<th>Sex:</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resident Status:</th>
<th>U.S. Citizen</th>
<th>Permanent Resident</th>
<th>Foreign student</th>
<th>Other (Please specify):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please indicate which area your undergraduate major belongs from the list below.

- Art and Letters  - Natural Sciences
- Business        - Social and Behavioral Sciences
- Education       - Interdisciplinary

Please check the box that best describes you.

- American Indian/Alaskan Native  - White, not of Hispanic Origin
- Asian or Pacific Islander       - Multi-racial
- Black, not of Hispanic Origin   - Another
- ethnicity not listed above      
- Hispanic

### ACCULTURATION

What is your FIRST language (i.e., the language you speak most fluently)? _______________________

If English is not your first language, how long have you been speaking English?

- Less than 1 year  
- 1 - 4 years  
- 5 - 10 years  
- 11-15 years  
- more than 15 years

### VISION

My vision is:

- Normal without glasses/contacts  
- Normal with contacts or glasses  
- Require glasses/contacts, but that I am wearing NOW

DON'T have them with me.
<table>
<thead>
<tr>
<th>RELEVANT EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>How comfortable do you feel using computers?</td>
</tr>
<tr>
<td>_ Uncomfortable _ Somewhat Uncomfortable _</td>
</tr>
<tr>
<td>Somewhat Comfortable _ Comfortable _</td>
</tr>
<tr>
<td>What type of computer do you use most often?</td>
</tr>
<tr>
<td>_ PC compatible/PC type _ Apple/Macintosh</td>
</tr>
<tr>
<td>Please indicate which psychology courses you have taken from the list below.</td>
</tr>
<tr>
<td>_ Psychology 310 (advanced research methods)</td>
</tr>
<tr>
<td>_ Psychology 311 (experimental)</td>
</tr>
<tr>
<td>_ Psychology 382 (social)</td>
</tr>
<tr>
<td>_ Psychology 385 (personality)</td>
</tr>
<tr>
<td>_ Psychology 421-432 (advanced seminar)</td>
</tr>
<tr>
<td>_ Psychology 431-438 (advanced lab)</td>
</tr>
<tr>
<td>Today you entered our laboratory in Room 001 and interacted with a research assistant on the left side of the room (there are rooms on the right side of the room as well, but they belong to a different laboratory). Prior to today, have you ever completed a study in our laboratory on the left side of the room?</td>
</tr>
<tr>
<td>_ Yes _</td>
</tr>
<tr>
<td>_ No _</td>
</tr>
<tr>
<td>_ Not Sure _</td>
</tr>
</tbody>
</table>
APPENDIX G

DEBRIEFING PROCEDURE AND RESEARCH STATEMENT
**Step 1: Participants completed the following questionnaire:**

1. What do you think the purpose of the two studies was about?

2. Do you think there was any connection between the first study and the second study?
   
   **YES**   **NO**

   **IF YES:** Can you elaborate on what you think the connection was?

3. Do you think your responses or the feedback you received in the first study affected your responses in the second study?
   
   **YES**   **NO**

   **IF YES:** Can you elaborate on how you think your responses were influenced?

4. In the first study, you completed a personality measure (i.e., masculine identity measure). Did you receive feedback about your responses to the questionnaire?
   
   **YES**   **NO**

   **IF YES:** Can you elaborate on any thoughts and any positive or negative feelings that you may have experienced after receiving the feedback?

**Step 2: Participants received the following information:**

The study you participated in focuses on understanding people's attitudes toward African Americans. Specifically, we want to examine if the feedback participants received in the first study would affect their attitudes. After completing the computerized intelligence test in the first study, some of our participants received no feedback, and the remaining participants received feedback that said they were "above average."
It is very important that you know and understand that for participants who received feedback, that the feedback was bogus — i.e., it was not based on actual responses and, in reality, the feedback was generated randomly by the computer. This deception was necessary because the study examines if different kinds of feedback that people receive about their own abilities influences their attitudes toward a stereotyped group.

Control condition only: Since you were predetermined to be in the control condition, you didn't receive any feedback at all.

Experimental condition only: To emphasize that participant's scores had been determined randomly prior to your arrival and that it was not influenced by your performance, you will be shown your score in a few moments which predetermined your assignment to a feedback condition. Again, your score contained absolutely no information about your actual responses on the questionnaire.

If you have any questions in the future, please contact the researcher below.

Luis M. Rivera, Ph.D.  
California State University,  
San Bernardino  
Department of Psychology  
E-mail: luis@csusb.edu  
Phone number 909-537-5590  

Adrian J. Villicana  
California State University  
San Bernardino  
Department of Psychology  
E-mail: villa329@csusb.edu
APPENDIX H

ACKNOWLEDGEMENT OF FEEDBACK PROCEDURE
Participants in the experimental condition were asked to acknowledge that they understood the purpose of the deception. To this end, they read and agreed to the following statement:

Acknowledgement of Feedback Procedure

I completely understand that the cognitive ability test feedback was bogus and that it does not reflect my abilities at all. I will have the opportunity to ask questions and understand that the investigators listed above will answer any future questions I may have about this research and/or about participants' rights. I will be given the experimenter’s information for my records in order to ask any questions I may have in the future.

By clicking “I Agree,” you have read the above statement and understand that the feedback you received was completely bogus and does not reflect your abilities whatsoever.

If you have any questions in the future, please contact the researcher below.

Luis M. Rivera, Ph.D.
California State University, San Bernardino
Department of Psychology
E-mail: luis@csusb.edu
Phone number: 951-809-3330
APPENDIX I

LIST OF JOURNAL ARTICLES ON EFFECTS OF FALSE FEEDBACK ON ATTITUDES TOWARD STEREOTYPED GROUPS
All participants received a list of journal articles that referred to the effects of false feedback on attitudes toward stereotyped groups, in addition to the investigators' name.

List of journal articles that refer to the effects of false feedback on attitudes toward stereotyped groups.


If you have any questions in the future, please contact either researcher below.

Luis M. Rivera, Ph.D.                   Adrian J. Villicana
California State University          California State University
San Bernardino                         San Bernardino
Department of Psychology              Department of Psychology
E-mail: luis@csusb.edu                 E-mail: villa329@csusb.edu
Phone number 909-537-5590
APPENDIX J

WHITE RACIAL IDENTIFICATION MEASURE
Instructions: Please read the following statements and indicate the degree to which you disagree or agree with each statement by marking the appropriate response from 1 (Strongly Disagree) to 7 (Strongly Agree). There is no right or wrong answer.

1 2 3 4 5 6 7

1. I am comfortable being White.
2. Being White just feels natural to me.
3. I believe that White people have a lot to be proud of.
4. I feel good about being White.
5. I am not embarrassed to admit that I am White.

APPENDIX K

GAY IMPLICIT ATTITUDES TEST STIMULI
Pleasant and unpleasant words

Birthday, gift, joy, paradise, laughter

Filth, cancer, vomit, war, poison

APPENDIX L

PERSONAL STATE SELF-ESTEEM MEASURE
INSTRUCTIONS: Using the scale below, please indicate the extent to which you either agree or disagree with the statement. There is no right or wrong answer. We are only interested in your honest opinion. Please choose one number to indicate your response.

| Completely Disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Completely Agree |

1. At this moment, I feel positive about myself.
2. At this moment, I think of myself as a failure.*
3. At this moment, I think I have a number of good qualities.
4. At this moment, I feel kind of useless.*
5. At this moment, I am satisfied with who I am.
6. At this moment, I think I do not have much to be proud of.*

The asterisk indicates the item was reverse scored.

Adapted from:

APPENDIX M

COLLECTIVE STATE SELF-ESTEEM MEASURE
INSTRUCTIONS: Using the scale below, please indicate the extent to which you either agree or disagree with the statement. There is no right or wrong answer. We are only interested in your honest opinion. Please choose one number to indicate your response.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Completely Disagree
Completely Agree

1. At this moment, I feel bad about being White.*
2. At this moment, I am happy that I am White.
3. At this moment, I don’t think Whites are worthwhile.*
4. At this moment, I feel good about the fact that I am White.

An asterisk indicates that the item was reverse coded.

Adapted from:
APPENDIX N

INTELLIGENCE TEST FOR STUDY TWO
1. Which is the odd one out?
Mars, Jupiter, Comet, Earth, Neptune
a) Mars
b) Jupiter
c) Comet*
d) Earth
e) Neptune

2. Library is to book as book is to:
a) Page*
b) Copy
c) Binding
d) Cover

3. Which pattern completes the series?
\[
\begin{array}{cccc}
\times & \bigcirc & \bigcirc & \\
\bigstar & \bigstar & \bigstar & \\
\end{array}
\]
A B C D
a) A*
b) B
c) C
d) D

4. Which two words are closest in meaning?
Composite, Synthetic, Shabby, Different, Pseudo, Symbolic
a) Composite and Different
b) Synthetic and Symbolic
c) Shabby and Pseudo
d) Synthetic and Pseudo*
e) Different and Symbolic

5. Ice is to water as liquid is to:
a) Gas*
b) Steam
c) Temperature
d) Solid

6
A regular octagon can be divided into 8 identical triangles by drawing how many straight lines?

a) 4*

b) 5

c) 6

d) 8

7
Choose the answer that best completes the series.

Euro, Dollar, Franc, Peso,

a) Yen*

b) Currency

c) Cash

d) Check

8
165135 is to peace as 1215225 is to:

a) Leaf

b) Love*

c) Loop

d) Castle

9
A university library budget committee must reduce exactly five of eight areas of expenditure -- G, L, M, N, P, R, S, and W -- in accordance with the following conditions:

If both G and S are reduced, W is also reduced.
If N is reduced, neither R nor S is reduced.
If P is reduced, L is not reduced.
Of the three areas L, M, and R, exactly two are reduced.

Which of the following could be a complete and accurate list of the areas of expenditure reduced by the committee?

G, L, M, N, W*
G, L, M, P, W
G, M, N, R, W
G, M, P, R, S
L, M, R, S, W

10
A university library budget committee must reduce exactly five of eight areas of expenditure — G, L, M, N, P, R, S, and W — in accordance with the following conditions:

If both G and S are reduced, W is also reduced.
If N is reduced, neither R nor S is reduced.
If P is reduced, L is not reduced.

Of the three areas L, M, and R, exactly two are reduced.

If W is reduced, which of the following could be a complete and accurate list of the four other areas of expenditure to be reduced?

- G, M, P, S
- L, M, N, R
- L, M, P, S
- M, N, P, S
- M, P, R, S*

If P is reduced, which one of the following is a pair of areas of expenditure both of which must be reduced?

- G, M
- M, R*
- N, R
- R, S
- S, W
If \( P \) is reduced, \( L \) is not reduced.

Of the three areas \( L, M, \) and \( R \), exactly two are reduced.

If both \( L \) and \( S \) are reduced, which one of the following could be a pair of areas of expenditure both of which are reduced?

- \( G, M^* \)
- \( G, P \)
- \( N, R \)
- \( N, W \)
- \( P, S \)

A university library budget committee must reduce exactly five of eight areas of expenditure — \( G, L, M, N, P, R, S, \) and \( W \) — in accordance with the following conditions:

- If both \( G \) and \( S \) are reduced, \( W \) is also reduced.
- If \( N \) is reduced, neither \( R \) nor \( S \) is reduced.
- If \( P \) is reduced, \( L \) is not reduced.

Of the three areas \( L, M, \) and \( R \), exactly two are reduced.

Which one of the following areas must be reduced?

- \( G \)
- \( L \)
- \( N \)
- \( P \)
- \( W^* \)

Which of the patterns completes the series?

\[
\begin{array}{cccc}
 A & B & C & D \\
| | | | \\
\end{array}
\]

- a) \( A \)
- b) \( B \)
- c) \( C^* \)
- d) \( D \)
Aztecs is to Mexico as Incas is to:
a) Europe  
b) Peru*  
c) Atlantis  
d) Babylon

Adapted from:


APPENDIX O

INFORMED CONSENT FOR STUDY TWO
INFORMED CONSENT FOR COGNITIVE STUDY

Introduction/Purpose: In this study, you will first be asked to complete a cognitive ability task, a multiple-choice test that assesses nonverbal and reasoning skills. Following the test, you will be asked a few questions.

Procedures: By choosing to participate in this study, you will be asked to complete a cognitive ability task on the computer. Please try to answer each question to the best of your ability. You will have 20 minutes to complete the test. If you have any questions, please do not hesitate to ask the experimenter. Also, if you have any questions concerning what you will be asked to do, please ask the experimenter now before agreeing to this informed consent.

Confidentiality: The information that you give us is completely anonymous. Your name will not be associated with your data in any way. Your data will be assigned a code number and your name will not appear on any data reports.

Risks and Benefits: Participation in this study may entail slight feelings of discomfort due to the content of the tasks, although these feelings are not anticipated. You will receive 4 units of extra credit as compensation at the end of the session.

Subject’s Rights: We would like to remind you that you do have the right to refuse to participate in this study or to terminate your participation at any time without penalty (i.e., you will still receive participation credit.

Finally, if you have any complaints or comments regarding this study, you can contact Adrian J. Villicana at villa329@coyote.csusb.edu, Donna Garcia at dmsgarcia@coyote.csusb.edu, or Luis Rivera at luis@psychology.rutgers.edu. This study has been approved by the Department of Psychology Institutional Review Board Sub-Committee of the California State University, San Bernardino, and a copy of the official Psychology IRB stamp of approval should appear on this consent form.

Please read the following paragraph.

I understand that any information about me obtained from this research will be held strictly confidential. I acknowledge that I am of at least 18 years old. I understand and agree with the terms described above.

Participant’s X

Date: __________________
APPENDIX P

HUMAN SUBJECTS REVIEW BOARD APPROVAL

FOR STUDY ONE
PI: Villicana, Adrian & Rivera, Luis
From: John Clapper
Project Title: Cognitive and Social Beliefs Studies
Project ID: H-09FA-13
Date: Wednesday, November 18, 2009

Disposition: Expedited Review

Your IRB proposal is approved. This approval is valid until 11/18/2010.

Good luck with your research!

John P. Clapper, Chair
Psych IRB Sub-Committee

Hideya Kishino
Psych IRB Sub-Committee
APPENDIX Q

HUMAN SUBJECTS REVIEW BOARD APPROVAL

FOR STUDY TWO
From: Donna Garcia (approved by Michael Lewin & Hideya Koshino)

Project Title: Cognitive and Social Beliefs Studies

Project ID: H-10FA-10

Date: Monday, November 01, 2010

Disposition: Expedited Review

Your IRB proposal is approved. This approval is valid until 11/1/2011.

Good luck with your research!

Donna M. Garcia, Chair
Psychology IRB Sub-Committee
REFERENCES


Ann Arbor, MI: University of Michigan, Center for Political Studies


