

Stereotype Threat and Survey Response Bias

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ABSTRACT

Stereotype threat is the threat of confirming a negative stereotype about a group with which a person identifies. Researchers have found that stereotype threat can result in underperformance in multiple domains, shifts in social behavior, and shifts in assessed implicit attitudes, the likelihood of which increases as an individual's concern about the domain of interest increases. According to theory, this threat can be "alleviated," thereby diminishing or eliminating its impact. In this project, over the course of two experiments, the impact of stereotype threat and stereotype threat-alleviation on explicit self-report measures are examined.

In experiment one, white college student participants were exposed (or not) to an on-line task intended to elicit race-based stereotype threat. Differences in reporting style (i.e., bias) between the two groups on self-reported measures of race-related attitudes were examined. It was hypothesized that the group exposed to stereotype threat would endorse lower racism and lower stereotypicality (i.e., stereotypic "white" behaviors, attitudes, adjectives, and beliefs). The data provided only partial support for the hypothesis - the threat group reported significantly less stereotypicality than the non threat group. However, the groups were not statistically different on measures of racism or race and social policy.

In experiment two, again examining white college students who participated on-line, a stereotype threat-alleviation task was added, and whether this diminished or removed bias was examined. It was hypothesized the threat group would endorse lower stereotypicality and racism than the non threat group and the group receiving the threat alleviation task. The findings from

study one did not replicate in study two. Instead, contrary to predictions, across measures of racism and stereotypicality, it was the non threat group that consistently showed the lowest scores.

Potential explanations for these findings are offered, including the possibility of having eliciting stereotype threat, cognitive dissonance, or both for the threat and non threat groups via their filler task. Finally, implications for assessing, broaching, and reducing stereotype threat in clinical and research applications are also discussed.

DEDICATION

Dedicated to all the family, friends, loved ones, mentors, faculty, and staff who made this possible.

Dedicated to memories and lives of those I loved and lost while completing my Doctorate:
My beloved friend Jaimika A. Murchison, my cousin Matthew Campbell, Aunt Bev, Grandma Mattie, and Dr. Lisa Tabor.

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I. Introduction

Stereotype threat is defined as “the social-psychological threat that arises when one is in a situation or doing something for which a negative stereotype about one's group applies” (Steele, 2010, p. 1). Steele theorized those who value the domain in question are at particular risk for feeling “the threat in the air”- stereotype threat (Steele, 1997, p. 614).

In his seminal study, Steele asked, “Would the stereotype threat that is a contingency of your gender identity in a math-related setting be enough to interfere with your performance on the test?” (Steele, 2010, p. 12). Since then, researchers continue to find evidence that when people fall prey to stereotype threat in performance domains, their performance suffers, ironically confirming the negative stereotype about the group. Spencer, Steele, and Quinn (1999), found women with a “very strong math background” (i.e., in at least the 85th percentile on the SAT or ACT, received at least a B in calculus) underperformed on a difficult math test in comparison to equally qualified men, despite doing as well on the easy test. Schmader and Johns (2003) found that on a working memory task described as related to quantitative ability, women showed reduced cognitive capacity and described the task as more difficult than their male counterparts. Blascovich, Spencer, Quinn, and Steele (2001) found that in their high stereotype threat condition, on difficult items of a cognitive task, African American students performed poorer than European American students.

Steele and many others also found that when stereotype threat was low or removed, the decline in performance in the domain of interest was no longer evident. In the aforementioned article by Spencer and colleagues, when participants were told there were no gender differences on the test, women's underperformance on the difficult math test was no longer evident (1999). Similarly, in Schmader and John's research, in the non stereotype threat condition, men and

women performed equal to one another on the working memory task (2003). Likewise, in Blascovich and colleagues research, the decline in performance on difficult items on the cognitive task was not evident for African American students in the low stereotype threat condition (2001).

According to Steele, stereotype threat is induced whenever someone is in a “situation where a bad stereotype about one of our identities could be applied” (Steele, 2010, p. 5). Social identities are part of our self-concept (Tajfel, 1982; Tajfel, Billig, Bundy, & Flament, 1971). In order to preserve self-esteem, people are motivated to maintain beliefs about their social identities, thereby protecting their self-concepts. While self-report is a primary source of data collection in psychological research, this method might occasionally require participants to endorse attitudes, behaviors, beliefs, or experiences which could confirm negative stereotypes about a social group relevant to their self-concept. To date, research on the impact of stereotype threat has largely focused on performance based domains and there is very little research on how and if inducing stereotype threat impacts response on self-report measures. Yet stereotype threat may threaten the validity of collected data, by interfering with participants’ pattern of response; and rather than tapping into the construct of interest, response patterns might be influenced by stereotype threat. If induced, individuals might specifically minimize endorsement of attitudes, behaviors, or beliefs that could confirm negative stereotypes about a social group relevant to the person’s self-concept. Stereotype threat is potentially a source of response bias in self-report research. On the other hand, alleviating or neutralizing stereotype threat in self-report research may increase the likelihood that researchers tap into the construct of interest, rather than an artifact of stereotype threat.

The proposed research sought to investigate the impact of stereotype threat on self-reported attitudes, behaviors, and beliefs. Whether it was possible to alleviate stereotype threat in self-report research was also examined. Investigating the impact of stereotype threat and stereotype threat-alleviation on self-reported attitudes, beliefs, and behaviors is a novel contribution to existing research, which has primarily focused on stereotype threat's impact in domains related to performance and ability.

II. Understanding Stereotype Threat

Initial research in the area was sparked by Claude Steele's experiences at the University of Michigan. Steele observed that even among those Black students who had performed very well on the SATs, their academic performance was consistently lower than the performance of other students (Steele, 2010). Furthermore, the disparities could not be explained by the lack of academic skills, desire to do well, motivation, or low self-esteem. Steele postulated that perhaps there was something about the *situation* or the "social and psychological aspects of their experience" (p. 20) that could better explain their underperformance. Thus, stereotype threat is understood as a situationally based phenomenon. It is induced any time a stereotype about a group with which a person identifies is salient, the person cares about their performance on the task, and the domain is one in which a negative stereotype about the group they identify with exists. The situation produces the threat of being judged or treated in the stereotypical manner. A person feels pressure to not confirm the stereotype that exists about the group of which they are a part of through their performance or behavior (Steele, 2010).

III. How Stereotype Threat Works

Group members tend to experience higher anxiety on tasks in stigmatized domains than others who are not subject to these negative stereotypes. The anxiety is provoked because these

persons are constantly under the threat of having their actions being “viewed through the lens of the stereotype.” They must constantly fight against being stereotyped. Any personal failure will be a confirmation of the negative group stereotype.

This is concerning, considering that stereotype threat has the potential to result in the self-fulfilling prophecy, whereby people who are socially stigmatized and have the greatest concern about their performance in a domain perform in a manner that is consistent with the existing stereotype about their group, even if their performance is not a true reflection of their skill level or ability. The “pressure” that stereotype threat brings suggests that there is some anxiety associated with potentially confirming the stereotype and the threat of doing so gets in the way of performance.

Another explanation that has been offered is ego depletion. Ego depletion is the phenomenon whereby a person’s executive resources become diminished, resulting in an inability to put their best foot forward in the task at hand (Schmader & Johns, 2003). The premise is that when confronted with a stereotype threat situation, a person reacts in several different, conscious and unconscious, ways. These may include physiological and emotional arousal, as well as cogitations about themselves, the task, and the situation (Johns, Inzlicht, & Schmader, 2008; Schmader & Johns, 2003). Therefore, resources that would be used for concentrating and performing well on the task at hand, are used up by their reaction demands. So, if a woman is placed in a situation that requires her to complete a difficult math task, the resources (like working memory, maintenance of physiological homeostasis, emotional stability, and cognitive clarity) that she would use and need to complete the task are interfered by her awareness (whether conscious or subconscious) of stereotype threat. As she completes the task, the motivation to not confirm the stereotype that women are incapable of performing well on

difficult math tasks is an additional burden, and results in poorer performance. Regulation of emotions, cognitions and physiological reactions use up the resources necessary to perform the task well (Croizet et al., 2004; Johns et al., 2008; Schmeichel, Vohs, & Baumeister, 2003).

IV. Consequences of Stereotype Threat

One way of coping with negative stereotypes is to view performance in domains which are capable of eliciting stereotype threat as irrelevant to self-worth. This distancing of self-worth from stereotype threatening domains is called disengagement. Major and colleagues' investigated the relationships between psychological disengagement, stereotypes, and self-esteem in White and Black college students (Major, Spencer, Schmader, Wolfe, & Crocker, 1998). In both studies, participants took a fake intelligence test and measure of self-esteem. The test was described as racially biased in the stereotype threat condition and culturally fair in the non-threat condition. White students had higher self-esteem after positive feedback and lower self-esteem after negative feedback on the intelligence test, Black students had similar levels of self-esteem regardless of their performance feedback and regardless of threat condition. In the second experiment, all participants were given negative feedback on the intelligence test. In this study, both chronic disengagement (from intelligence tests) and situational disengagement (from primed racial stereotypes) impacted reactivity to negative feedback for Black students but not for White students. Black students who evidenced higher disengagement from intelligence tests had higher self-esteem, even after having received negative feedback about their performance, than did Black students who scored low on disengagement. On the other hand, for White students, disengagement from intelligence tests did not affect their self-esteem. The findings support the notion that for Black students, self-esteem is disengaged from academic performance, especially in situations where racial bias could account for poor performance (Major et al., 1998)

In the short term, disengagement can be adaptive. People in stereotype threat conditions are able to discount negative feedback so that they can maintain their self-esteem and remain motivated even when in stereotype threatening domains. However, in the long term, dealing with chronic stereotype threat can result in disidentification, where a person avoids or completely detaches their identity from a domain (Burgess, Warren, Phelan, Dovidio, & Ryn, 2010; Steele, Spencer, & Aronson, 2002). In disidentification, a person no longer acknowledges the domain or their performance on the domain as important to their identity, allowing them to maintain their self-esteem even if they perform poorly. Unfortunately, they are no longer motivated to perform well in the domain, nor are they willing to acknowledge positive performance in the domain.

V. Reducing Stereotype Threat

Some research on stereotype threat examines how the threat may be removed, diminished, or reversed. For example, shaping theories of intelligence, such that it is viewed as a malleable and multidimensional domain rather than one which is static and one-dimensional, has been effective at reducing stereotype threat in academic performance (Aronson, Fried, & Good, 2002). Changing environmental cues has also been shown to reduce stereotype threat. In several studies, changing the race and/or gender of the experimenter has reduced or removed stereotype threat (Marx & Goff, 2005). The information (or lack thereof) presented about the task can also influence the salience of the threat. Stereotype threat has been diminished in experiments where the target (stereotyped) group is informed that their performance on the task is unrelated to a domain that is a source of negative stereotyping for their group. It has also been diminished when the inter-group differences on a task have been diminished or invalidated (Rosenthal & Crisp, 2006). When target groups are presented with information that disconfirms the stereotype, like a role model who has excelled in spite of the stereotype, the effects of the threat have been

found to be diminished (Marx, Ko, & Friedman, 2009; Marx & Roman, 2002; Taylor & Antony, 2000). Exposing participants to examples of people of the same social group who have overcome the stereotype (e.g., exposing women to stories about women mathematicians before presenting them with a difficult math task) also reduced stereotype threat. Citing the recent potential of the presidency to inspire, one study referred to this as the “Obama effect” (Marx, et al., 2009). In their study, Davies and colleagues found that creating an identity safe environment, that is, an environment where individuals are assured that their stigmatized social identities are not a barrier to success in the targeted environment, reduced the risk of stereotype threat. In their study, the creation of an identity safe environment moderated activation of female stereotypes and mediated the effect of gender-stereotyped commercials on women's leadership aspirations (Davies, Spencer, & Steele, 2005). Thus, in the identity-safe environment, women were inoculated against stereotype threat.

VI. Common Applications of Stereotype Threat

Stereotype threat research is rooted in understanding and explaining performance differences in groups when, in essence, the groups are similar. Much of the research on stereotype threat has investigated the impact of this “threat in the air” on performance domains, such as academic (e.g. math, verbal, language usage), work (e.g. aggressiveness in negotiations, reaction time), athletic ability (e.g. golf putting, jump height), and memory.

In their seminal study, Steele and colleagues recruited strong female and male math students from Michigan and gave them a difficult math test (Spencer et al., 1999). In the non-threat condition, women were told that on this particular test women and men performed just as well as one another and the cultural stereotype of lower female performance on standardized math tests did not apply. In the stereotype threat condition, women were told that the test *did*

show gender differences in favor of men. In line with stereotype threat theory, women in the stereotype threat condition performed poorer than their male counterparts. Additionally, when the stigma associated with math performance was removed women performed just as well as their male counterparts. This first study provided support for the hypothesis that stigma and pressure associated with being in a situation in which one may confirm a negative stereotype about their group can result in subpar performance, even among persons with the skills to do well (Spencer, Steele, & Quinn, 1999).

Subsequent research on the phenomenon of stereotype threat in performance domains has included a variety of samples from different populations. Research involving different ethnicities, genders, countries, cultures, abilities, and ages suggests that if people have a group identity and care about their performance in the presented domain, they can experience stereotype threat. Thus, the experience of stereotype threat is not limited to “traditional minorities” (e.g. women, ethnic minorities, gay persons, or other historically marginalized groups).

In an early study, stereotype threat was induced in White males when they were told a task was a measure of inherent athletic ability. By activating the “White men can’t jump/White men have poorer athletic ability” stereotype, they performed more poorly compared to Black men on motor tasks (Stone, Lynch, Sjomeling, & Darley, 1999). In another study, when White men with exceptional math ability were asked to complete a math test that was diagnostic of their ability *and* were told that the test was one in which Asians tend to do better than Whites, the White males performed poorer than their counterparts who were not told about the supposed “Asian superiority” on the test (Aronson et al., 1999).

Stereotype threat also was induced in White men in social situations where they feared confirming the stereotype that they were racist (Goff, Steele, & Davies, 2008). Goff and colleagues found support for the ironic impact of stereotype threat on behavior and performance; that is, the fear of confirming a negative stereotype leads to performance or behavior that confirms the negative stereotype.

In their four part study, Goff and colleagues investigated how stereotype threat would impact physical distancing behavior of White males from Black males. In the experiment, White male participants were shown pictures of their conversation partners, who were either Black or White. Participants in the threat group were told they would be having a conversation about racial profiling, while those in the non-threat group were told they would be discussing love and relationships. Goff and colleagues' hypothesis that the threat of appearing racist would result in physical distancing from Black conversation partners was supported. Furthermore, Goff and colleagues found White males in the threat group who thought they would be speaking about racial profiling with both a Black and White conversation partner placed their chairs farther away from the Black conversation partner but not further away from their White conversation partner. Furthermore, physical distancing did not occur when White males in the stereotype threat condition believed both their conversation partners would be White, or amongst White males in the non stereotype threat condition. When the conversation was about love and relationships, White males sat the same distance to other conversation partners, regardless of race.

VII. Novel Applications of Stereotype Threat

A) Health and Behavioral

In a study on the impact of stereotype threat on high blood pressure, researchers compared the mean arterial blood pressure of European American and African American persons

at varying salencies of stereotype threat (Blascovich, Steven, & Steele, 2001). Blascovich and colleagues found that the African American participants in the high stereotype threat condition exhibited relatively higher blood pressure increases than the European Americans. Furthermore, the greater blood pressure increases that African American participants evidenced persisted, even during a 5 minute rest period. Given that African Americans are likely to chronically experience stereotype threat-inducing situations, the findings allude to the potential of chronic experience of stereotype threat in the incidence of hypertension amongst African Americans.

Similarly, related to health outcomes, Burgess and colleagues discussed the implications of stereotype threat in minority patients in medical settings (Burgess et al., 2010). Cognitive implications included discounting feedback from doctors about healthy lifestyles and a social implication included poorer communication between patients and health care workers. Specific consequences related to poorer communication included lower levels of shared decision making, lower patient participation, and lower levels of self-disclosure by minorities. Burgess et al. posited that amongst minorities, health promoting behaviors, like eating healthy or exercising, may be seen as “White,” and would therefore be behavioral changes that minority patients may not engage in. Other applications of the role of stereotype threat in behavior in the medical domain included lower patient adherence to treatment and a decreased likelihood of seeking regular medical attention (i.e., disengagement from the medical process) (Burgess et al., 2010; Dovidio et al., 2008). Some health care disparities and implications for health related behaviors amongst minorities may be explained by stereotype threat. Behavioral implications of stereotype threat were also presented in the aforementioned “social distance” studies by Goff and colleagues (2008). These studies provide evidence that behavior, and perhaps attitudes, may be impacted by stereotype threat.

B) Implicit Attitudes

The impact of stereotype threat on attitudes is a novel area of research. Although self-report measures are one of the most common methods of collecting data on attitudes and behaviors, a criticism of this method is that people are often motivated to present themselves in the best possible light, often endorsing socially desirable traits while denying or downplaying attitudes or behaviors that are unfavorable.

As such, measures of implicit attitudes, like the widely used Implicit Associations Test (Greenwald, McGhee, & Schwartz, 1998), have been developed. Measures of implicit attitudes tend to be completed under limited time constraints. The underlying rationale for this strategy is that, under time constraints, people are likely to exhibit preferences that are easier to process. These preferences would not be endorsed if they had more time to contemplate the social repercussions of their answers.

Many implicit attitude measures assess for attitudes that, by their nature, could elicit stereotype threat, for example, attitudes and biases for race, age, gender, and sexual orientation. However, there is little research on the relationship between stereotype threat and implicit attitudes. One of the few peer reviewed studies on this subject was conducted by Frantz and colleagues (2004). Under the assumptions that a) stereotype threat acts as a distraction that interferes with performance, b) persons who are most concerned with and identify with the performance domain are most at risk for experiencing stereotype threat and c) opportunities for reassurance and positive self-affirmations can reduce the threat, Frantz and colleagues conducted a series of studies investigating whether the threat of appearing racist lead White participants to evidence poorer performance on the Implicit Association Test (IAT). This was defined by the discrepancy in the amount of time it took for participants to respond to pairings of race with

either positive or negative words (e.g., White/pleasant, Black/pleasant, White/ugly, Black/ugly) and direction of bias in their response. Frantz and colleagues also investigated the effect both of motivation to control prejudice and self-affirmation inoculation on performance on the IAT. In the first study, when participants in the threat condition were told the IAT was diagnostic of racism, they evidenced significantly higher pro-White bias on the IAT than their counterparts in the control and non-threat conditions. They also evidenced higher variability in their response time compared to the non-threat group. In the second study, data supported the hypothesis that strong motivation to control prejudice moderated the stereotype threat effect, such that scores on the IAT indicative of pro-White bias actually increased for persons who were highly motivated to control prejudice. In the final study, which examined the impact of self-affirmation inoculation on stereotype threat, people who had an opportunity to affirm their values and commitment to control prejudice responses reduced the negative impact of stereotype threat. These participants did not show elevated pro-White bias. This study seems to be the first of its kind, having theoretical implications for the impact of stereotype threat on implicit attitudes and methodological implications for response bias in research on negatively stereotyped attitudes and behaviors.

C) Explicit Attitudes/ Self-Reports

Explicit self-report measures have a much longer history, and have been criticized in regard to their validity. Criticisms include the tendency for people to downplay attitudes or behaviors that are unfavorable and to be biased towards reporting attitudes that put them in a favorable light. However, another area of concern when using self-reports is that features of the research setting are capable of having a large influence in the way participants respond to measures with which they are presented (Schwarz, 1999). In his influential review, Schwarz

provided support for the tenet that participants' responses can be influenced by factors like the type of question (e.g., open ended vs. forced choice), the affiliation of the researchers, the type of rating scale presented, question order, and order of assessment presentation. An extensive discussion of how the underlying mechanisms of these aspects work to impact participants' responses is not the focus of this paper. However, Schwarz's research reveals that the content and context of research influences participant's responses because participant comprehension of answered questions requires them to infer researchers' intentions. To make these inferences, participants draw on the nature of preceding questions. Schwarz argues that in self-report data collection, researchers often overlook that questionnaires do more than ask information of respondents. They are also sources of information that respondents use "in order to determine their task and arrive at a useful and informative answer." In filling out self-reports, respondents are not just giving information; they are also gathering information about what is being asked of them.

A perusal of the literature did not reveal any studies examining the impact of stereotype threat on explicit attitudes. While the Frantz study provides some evidence that stereotype threat might affect attitudes, their focus was on *implicit* attitudes, which are theorized to be beneath a person's level of awareness. It is unclear whether the findings of Frantz and colleagues' research on the impact of stereotype threat on implicit attitudes, that is when exposed to stereotype threat individuals endorsed more racist attitudes, will extend to explicit attitudes. Unlike with implicit attitudes, people are generally aware of their explicit attitudes and the social implications of endorsing attitudes that could be considered unsavory or unacceptable. Perhaps, due to the awareness of social implications associated with endorsing particular attitudes on explicit measures, when exposed to stereotype threat people report explicit attitudes in a way that makes

them appear less biased, more so than they would if there were not exposed to a stereotype threatening situation. Also in contrast to the findings in the Frantz study, perhaps if exposed to a stereotype threat individuals with higher motivation to control prejudice evidence less racist attitudes on explicit measures.

VIII. Stereotype Threat and Social Identity

A critical part of Steele's definition of stereotype threat is the phrase, "one's group" (Steele, 2010, p. 1). Stronger identification with a social group increases the likelihood that stereotype threat will be induced. How much the group is central to someone's own identity may play a part in an individual's experience of stereotype threat. When someone identifies with a group, the social contingencies and conditions associated with being a member of the group become a part of their social identity. Contingencies associated with identifying with a group can be negative, positive, or neutral; but, according to Steele, the contingencies and situations that are most likely to "press an identity into you" are the negative or threatening ones (Steele, 2010, p. 75). It is the threatening situations that are most capable of making a social identity salient. They are ones that require the most vigilance and they are the situations that make identity salient and consuming.

According to the theory, the more individuals identify with a social group (i.e., see themselves as part of the group, and see being a member as part of who they are) the more likely they are to be impacted by stereotypes associated with the group. In one experimental study, Deaux and colleagues found that as the generation born in the United States increased in numbers, West-Indian students' performance became poorer in stereotype threat conditions (2007). In their study, first and second generation West-Indian students performed equally in the neutral stereotype threat condition. However, compared to their first generation counterparts,

second generation students evidenced decreased performance in the high stereotype threat condition, in a fashion similar to African-American students (Deaux et al., 2007). This suggests that as the West Indian students acculturated into American society, they also began identifying with African Americans. The definition of what it is to be Black in America increased in salience, making them more susceptible to stereotype threat than their more removed first generation contemporaries (2007).

A) Stereotype Threat and Sensitive Research

Depending on the perceived research question (the context), the tone of the questions asked (the content), and the perceived entity asking the questions (the researcher), persons may feel wary about confirming negative stereotypes about the group, thus impacting their response style. In stereotype threat research thus far, the manipulations intentionally place individuals in a situation where their identity is made salient, and then measure their performance on a stereotyped (often negative) domain for that group. In academic settings, it is possible that features of the research environment could inadvertently do the same thing. Something inherent in the research process could activate identity salience. Depending on the situation, it could even elicit stereotype threat. People participating in sensitive research, that is, research that by way of presentation or content confirms negative (or disconfirms positive) stereotypes about themselves or their group, may experience stereotype threat. This may result in differential responding. The circumstances that increase the risk of this experience, how it manifests itself, and how to cope with it empirically, have yet to be systematically investigated.

Stereotype threat theory tells us that people are sensitive to situational cues that signal threats to one's identity. In response to these cues, people are motivated to engage in behavior that supposedly minimizes the chances of confirming the stereotype. Perhaps, in self-report

research, even if people *have* engaged in behaviors, or hold attitudes that are stereotypical, responding in a way that confirms negative stereotypes about one's group, is stereotype threat. In performance domains, the anxiety about confirming negative stereotypes leads to poorer performance. Perhaps in self-report research, stereotype threat leads to response bias. Just as in performance based stereotype threat experiments, awareness of the threat may not translate to awareness of anxiety, and respondents may be unaware that the threat is what is impacting their response style. Thus, in research using self-report, stereotype threat may manifest as response bias.

i) The Potential Role of Cognitive Dissonance

Research that exposes that one's private regard is not congruent with their public regard may also induce stereotype threat via cognitive dissonance, the uncomfortable feeling that arises when confronted with conflicting thoughts or feelings. Self-affirmation theory postulates that people are motivated to see themselves (and their in-group) in the best possible light (Steele, 1988). Research that exposes incongruence with their positive regard for their group by requesting information that is contrary to this positive image may elicit stereotype threat through cognitive dissonance. Cognitive dissonance theory tells us that our tendency is to reduce these feelings of dissonance. The drive to engage in self-affirming behaviors is activated when this sense of congruency is threatened; if this opportunity does not present itself in the research, participants may choose to disengage from the study (e.g., answer randomly or quit). Or, they may choose to answer in such a way that is congruent with their public regard for the group.

In sensitive research, measures may ask participants to report behaviors, attitudes, or experiences that elicit stereotype threat and cognitive dissonance. For example, if a Black woman who feels positively about her group must endorse that she was raped, she is being asked

to disclose information that confirms negative stereotypes about her group. She is confronted by a dissonant situation and stereotype threat. Although she views her group positively, the rapist's behavior does not fit with this view. Furthermore, as a member of the group, she likely is aware of the negative stereotypes that exist regarding Black men (e.g., Black men are violent) and Black women (e.g., Black women are "loose"). In this situation, her and her assailant's "Blackness" is made salient. How can she find her group (and herself) as positive, when she has experienced a transgression from a member of the group? How can she acknowledge this event in the presence of her experience? And in doing so, isn't she potentially confirming a negative stereotype about her group (i.e. Blacks/ Black men are violent). The intersection of cognitive dissonance and stereotype threat suggests why she might not report the experience, or might characterize it more benignly, for example, as a miscommunication or misunderstanding.

Stereotype threat and cognitive dissonance theory tell us why she might instead choose to endorse information that is consistent with her feelings about the group: The group is good and people are good, although something bad happened (cognitive dissonance), she won't endorse that she was raped (because of the existing stereotypes about Blacks). This is a very complicated situation for such a participant, but for the sake of research (and its implications) it is also crucial that she reports truthfully. Thus, research on such sensitive topics may benefit from including manipulations that reduce the effect of stereotype threat and cognitive dissonance. For example, a self-affirming task allows people to rationalize their decisions, reduce cognitive dissonance, and affirm beliefs and behaviors that negate the stereotype threat. This could buffer the impact of stereotype threat in such a way that it does not result in biased responding.

IX. Separating Stereotype Threat and Social Desirability

Differential responding from stereotype threat is not to be confused with social desirability. Social desirability is an overall inflation of the person's desirable qualities. Rather, stereotype threat in response style arises when the domain the person is asked to report on is specifically relevant and threatening to their sense of identity. Unlike social desirability, this is not a broad inflation; rather, it is modification of response style for things that are related to that person's identity and that might elicit stereotype threat. For example, a person with a certain ethnic identity may be asked about questions that are in a negative domain (e.g., depression) but not relevant to their social identity. Regardless of the presence of a cue that makes their ethnic identity salient, the overall tendency to endorse positive qualities while not endorsing or downplaying the negative would be social desirability. On the other hand, in the presence of a cue that makes their ethnic identity salient, plus the presence of a domain that is potentially a threat to one's ethnic identity (e.g., reporting crime, poverty, intelligence etc.) there may be evidence of differential responding that can be tied back to stereotype threat. For participants whose identity has been made salient and are required to answer questions that are sensitive or relevant to their social identity, stereotype threat may be induced at any one of the aforementioned source or target intersections, resulting in a differential response style than those who are not exposed to content or contexts that make their identity salient. This is different from social desirability in that it is domain specific and related to salience of a specific social identity. In the absence of this salience, the response bias style would be no longer present.

Steele asserts that "if cues in a setting that point in an unsettling direction mount up, a sense of identity threat is likely to emerge" (Steele, 2010, pg. 140). Participants exposed to cues may not even be aware of how this is influencing their response or performance. Previous research supports that people are often poor at perceiving true attributions of their behavior and

that, even in stereotype threat conditions, people will endorse anxiety levels similar to those in the non-threat conditions on self-reports (Bosson, Haymovitz, & Pinel, 2004; Dutton & Aron, 1974; Osbourne, 2007; Spencer et al., 1999). Unlike social desirability, which is an overall inflation of positive attributes that the participant perceives to be socially desirable, the explanation for response patterns is a function of the situational cues presented and people's need to protect their identity. Unlike social desirability, which is deliberately tailoring answers to please others, stereotype threat participants may not be aware of their anxiety, even if it is the basis for why they are responding in a biased manner.

The results of the aforementioned Goff "social distance" study highlight the distinction and how the threat domain works (Goff et al., 2008). Although the White men in the study felt threatened by the possibility of confirming a negative stereotype that White men are racist, they were not able to recognize the impact it was having on their behavior. The men could not recognize that the threat was causing response bias; otherwise, they would have corrected for it, i.e. engaged in social desirability. Had they been engaging in social desirability, they would have sat at a fairly equal distance from the Black and White conversation partners, even in the threat condition.

X. The Present Proposal

The present proposal sought to answer the following questions about the effects of stereotype threat: 1) Does stereotype threat have an impact on explicit self-reports and 2) what impact does an alleviation task have on self-report involving questions that could potentially elicit stereotype threat? *It was proposed that when placed in a stereotype threatening situation, people would be less inclined to report the extent of their stereotypically negative attitudes, beliefs, and behavior, compared to when they are not placed in such a situation.*

Literature informs us that those who are most at risk for stereotype threat are those who are highly motivated to not be seen in the stereotypic manner and care about the domain in question. As such, *it was also proposed that more concern about being seen in the stereotypic manner would be related to greater effects of stereotype threat.*

Finally, removing or neutralizing the cues that signal a threat to one's identity may dampen the effect of stereotype threat. By providing an opportunity for self-affirmation, the threat that is elicited by potentially endorsing negative self-reports might be reduced. As such, *it was proposed that when placed in a stereotype threat condition, if given the opportunity to alleviate their threat, people would be more likely to endorse negatively stereotyped attitudes, beliefs, and behaviors.*

The present research consisted of two experiments. The initial experiment investigated the impact of stereotype threat on self-reported attitudes, beliefs, and behaviors. In the first experiment, the role of motivation to control prejudice was also examined, both directly and as a moderator of stereotype threat. The second experiment was an extension of the first, replicating it and investigating the impact an alleviation task had on stereotype threat and self-report.

XI. General Methods

A) Participants

Participants were recruited using Virginia Tech's SONA Experiment Management System, which listed the study title, a brief description, requirements for participation, and steps for participating. Only data from White participants were used. To reduce the chance of inadvertently making race salient, any individual who signed up for either experiment was allowed to participate. Neither the title nor description of the study specified that it was open only to Whites (See Appendices 1-3 for the descriptions placed on SONA for each experiment).

At least 100 White participants were recruited per condition across both studies. This number was deemed sufficient for the power necessary to complete the analyses (Faul, 2010).

Participants recruited received extra credit for their participation in the study.

B) Procedure

The study consisted of two experiments. Experiment one was completed in two parts at two separate times. Participants who signed up via SONA for part one of experiment one were told it was a screener for participation in part two. In fact, however, everyone who provided valid data in part one of the experiment was sent an email to participate in part two. Experiment two was completed in one sitting. All participants who signed up for the experiment were sent an email to participate. Both experiments were web-based. In order to reduce the introduction of variables that were not the focus of the study (i.e., the race of the researcher), the identity of the researcher was downplayed (i.e., the researcher name was described as “K. L. King”). The experiments were completed online, allowing participants to complete the surveys in private and at a time and place of their convenience. Web based data collection also helped reduce missing or invalid data, as it allowed prompting for participants to complete all the questions.

For experiment one, part one of the study was titled “An Online Study: Understanding Students’ Social Interactions, Attitudes, Beliefs & Behaviors PART I” and was described as follows: “15 minute online study. Purpose is to understand students’ social interactions, attitudes, beliefs and behaviors” (Appendix A). Part two of experiment one was titled “An Online Study: Understanding Students’ Social Interactions, Attitudes, Beliefs & Behaviors PART II” and was described as follows: “For participants who received ‘Invite to Participate in Part II’ email. 25-30 minutes, online study. Purpose is to understand students’ social interactions, attitudes, beliefs and behaviors” (Appendix B). Experiment two was titled "A 1 PART ONLINE STUDY:

Understanding Students' Social Interactions, Attitudes, Beliefs & Behaviors" in Spring 2013. In Summer I, Summer II, and Fall 2013 semesters, the experiment was titled "1 PART WEB BASED STUDY: Students' Social Interactions, Attitudes, Beliefs & Behaviors (Semester)" with the corresponding semester placed in the parentheses (i.e., Summer I, Summer II, or Fall 13). In experiment two the study was described as follows: "30 minute online study that investigates students' social interactions, attitudes, beliefs, and behaviors" (Appendix C). Data for experiment one was collected over the course of one academic year (Fall 2012-Spring 2013) and data for experiment two was collected over the course of one calendar year (Spring 2013, Summer I and II in 2013, and Fall 2013).

Once participants arrived at the study website page, prior to participating in any part of the experiments, they were given a brief description of the study and the contact information of the primary researcher and advisor (See appendices 4 &5 for experiments one and two, respectively). For both experiments, the description read: "The purpose of this study is to gain a better understanding of students' personalities, mental health and social lifestyles, including how students understand their social experiences. The study seeks to develop a better understanding of the factors that affect how people interact with one another and make social decisions." The participant was given the option to print out the information page. Upon reading the information page, the participant was directed to click on a button that indicated they were ready to begin the study. Participants were notified that by clicking this button, they were providing their electronic consent to participate. In experiment one, participants were informed that by clicking the button, they are providing their electronic consent to participate in both parts of the study. At the end of each experiment, participants were directed to a debriefing page explaining the purpose of the study. This debriefing also included an explanation of how the task meant to elicit stereotype

threat was manipulated depending on experimental condition. Participants were provided with additional information about stereotype threat, sources where they could learn more about stereotype threat, and the contact information of the primary researcher and advisor. Respondents were allowed to print out this debriefing page as well. The debriefing page is located in Appendix F. Specific details of each experiment follow.

C) Quality Assurance

To assure quality data was incorporated in the final analysis, “red flags,” were developed by the researcher and research team. Red flags prompted us to take a closer look at an individual’s responses to assess the quality of data. Prior to launching the surveys, they were piloted by the researcher, research team, and volunteers who were ineligible to participate. We discovered that, on average, if someone were to “click through” the survey, i.e., ignore the instructions and answer straight down to every question, part one of experiment one took an average of four minutes to complete. We discovered if the questionnaire was filled out “with care”, it took about 20 minutes to complete part two of experiment one and about 30 minutes to complete experiment two in one sitting. Therefore, taking under four minutes on any part of either experiment, over 30 minutes the second part of experiment one, or over 30 minutes over the entirety of experiment two were considered red flags.

We also included quality assurance questions, which stated things such as “Please choose disagree for this answer” or “It is important to show that I am reading this so I will choose strongly disagree” which were embedded in the survey items. In all, preliminary red flags included the following: taking under four minutes to complete the survey, taking over 30 minutes to complete the survey, missing one or more quality assurance questions, responding multiple times to the survey, inconsistent or random responding (e.g., providing the same answer to every

question on one or more scales or other obvious inconsistent responding), or providing incomplete data (e.g., only providing one's PID and little or nothing more). Once data were collected, two separate outlier analysis, 1) using Tukey's method and 2) a cut off of two standard deviations above or below the mean on any scale, were also completed. These analyses did not reveal any new unusual data points in either experiment.

XII. Experiment One

Experiment one examined whether stereotype threat resulted in differential responding on self-report measures of stereotypicality, racism, and race and social policy. The experiment also included an individual difference measure of motivation to control prejudice and a white racial identity attitude scale. It was a two group design experiment, consisting of a threat group and non-threat group.

A) Hypotheses

1. Participants in the threat group will evidence lower reported racism compared to those in the non-threat group.
2. There will be an inverse relationship between motivation to control prejudiced reactions and reported racism.
3. Motivation to control prejudiced reactions will moderate the relationship between threat condition and reported racism. It is hypothesized that the relationship between threat condition and reported racism noted in hypothesis 1 will be stronger as motivation to control prejudiced reactions increases.

Exploratory Hypothesis

Participants in the threat group will report lower engagement in and endorsement of stereotypically White lifestyles, behaviors, and attitudes, as measured by the Lifestyle Survey, compared to those in the non-threat group.

B) Procedure

The experiment was presented as consisting of two parts. At time one, all participants were presented with a measure of motivation to control prejudice (MCPR) along with filler scales. Participation in time one was described as a screener for participation in the second part of the study. The inclusion of filler scales and time between part one and part two were meant to prevent the MCPR from inadvertently inducing stereotype threat before the manipulation. In actuality, after one week, all participants who provided valid data in part one were invited back for part two of the study.

Random assignment was accomplished by using random.org (Haar & Haar, 2014). Prior to the study, a random string of 350 instances of either the number one, representing the threat group, or the number two, representing the non-threat group, was requested. As individuals participated, they were matched to the next consecutive number on the list. Once they were deemed to have provided valid data in part one, participants were sent an email with a link sending them to the questionnaire corresponding to the assigned condition.

The experimental phase of the study (part two) began with a manipulation of stereotype threat. Depending on condition, the presentation of instructions at the beginning of the stereotype threat manipulation varied. The instructions for completing the manipulation in the non-threat group stated, “The **following task measures knowledge about racial biases and preferences, but does not measure *your* individual biases.** The amount of **time it takes for you to complete the task will be measured.** Therefore, it is important that you **work as quickly**

as you can. Please complete the following words to the best of your ability by entering the missing letters. ONLY ENTER 1 MISSING LETTER PER BOX.” In the threat group, instructions for completing the stereotype threat manipulation stated: “**The following task measures your racial biases and preferences. The amount of time it takes for you to complete the task will be measured.** Therefore, it is important that you **work as quickly as you can. Please complete the following words to the best of your ability by entering the missing letters. ONLY ENTER 1 MISSING LETTER PER BOX.”** Following the manipulation, participants completed a measure of stereotypicality, took three racism scales which were presented in random order, a measure of race and social policy attitudes, and then a measure of White racial identity. The details of each measure used in the study are discussed in the next section.

C) Measures

i) Motivation to Control Prejudice

Motivation to Control Prejudiced Reactions (Dunton & Fazio, 1997)

The Motivation to Control Prejudiced Reactions scale (MCPR) measures the degree to which people are motivated to control prejudiced feelings and behaviors. The MCPR has two subscales, Concern for Acting Prejudiced (MCPR_CAP) and Restraint to Avoid Dispute (MCPR_RAD). The Concern for Acting Prejudice subscale assesses an individual's private concern about personally harboring racist and prejudicial thoughts, feelings, and engaging in related behaviors. For this subscale, the motivation for controlling prejudiced reactions is related to “a sincere distaste for any violations of this personal standard” (Dunton & Fazio, 1997, p. 324). Higher scores on this subscale indicate higher personal commitment to reject racist and prejudicial thoughts, feelings, and engagement in related behaviors. On the other hand, the

Restraint to Avoid Dispute subscale represents the trade-off between freely expressing one's thoughts and feelings and potentially instigating dispute with Blacks or others. For this subscale, the motivation for controlling prejudiced reactions is rooted in avoiding dispute. Higher scores on this subscale indicate that higher willingness to suppress reactions that may be prejudicial in order to avoid potential dispute. In experiment one, the MCPR served as a potential moderator variable, and was presented along with other (filler) measures at time one, during the "screening" phase of the study. In experiment two, the MCPR served as the threat-alleviation opportunity.

The MCPR consists of 17 summed items. The MCPR_CAP subscale is made up of 9 items on the MCPR. The MCPR_RAD consists of 4 items from the MCPR. The remaining four items did not belong to either subscale, but were included in the sum score for the overall scale. Each item is rated on a Likert scale ranging from -3 (strongly disagree) to +3 (strongly agree), where higher scores indicate higher motivation to control prejudiced reactions (Appendix G). In accordance with scoring instructions, some items were reverse scored prior to deriving the total score. Items on the MCPR include, "In today's society, it is important to not be perceived as prejudiced in any manner" and "I always express my thoughts and feelings regardless of how controversial they might be." In the original report, reliability was acceptable across several studies, ranging from $\alpha = .74-.81$. The average score on this measure was not noted in the original report. In experiment one, the MCPR average was 3.75, $SD = 13.01$, with a Cronbach's alpha of .82; MCPR_CAP had a mean of 3.27, $SD = 8.26$, with a Cronbach's alpha of .79, and the mean score on the MCPR_RAD was -1.77, $SD = 4.16$, with a Cronbach's alpha of .57. In experiment two, the average on the MCPR was 5.12, $SD = 12.09$, with a Cronbach's alpha of .77; MCPR_CAP had a mean of 3.98, $SD = 7.88$, with a Cronbach's alpha of .81, and the mean score on the MCPR_RAD was -1.2, $SD = 3.99$, with a Cronbach's alpha of .65.

*ii) Filler Scales**a) The International Personality Item Pool: Social/Personal/Emotional Intelligence Subscale of the Values in Action Scale (Peterson & Seligman, 2004)*

The International Personality Item Pool (IPIP) is a set of over 2000 personality items available in public-domain (Goldberg, 1999; Goldberg et al., 2006). The full IPIP consists of several different scales, each of which can be broken into individual constructs and many of which map onto constructs measured on proprietary scales. One of these scales includes the Values in Action Scale developed by Peterson and Seligman (2004). The Social/Personal/Emotional Intelligence subscale consists of 7 items from the Values in Action Scale. Participants are asked to indicate how true the given statements are about them using a 5-point Likert scale (very inaccurate = 1 to very accurate = 5). Items include, “I am able to fit into any situation” and “I know what makes others tick” (Appendix H). In accordance with scoring instruction, some items were reverse scored or omitted prior to deriving the total score. In their original experiment, the Social/Personal/Emotional Intelligence subscale evidenced a Cronbach’s alpha of .76 (Peterson & Seligman, 2004). Subsequent research evidenced similar reliability scores (e.g., Macdonald, Bore, & Munro, 2008). The average score on this scale was not reported in the original report. In experiment one, the mean on the IPIP was 26.49, $SD = 4.09$, with a Cronbach’s alpha of .64. In experiment two, the mean was 26.45, $SD = 3.99$, with a Cronbach’s alpha of .77.

b) Center for Epidemiologic Studies Depression Scale (Radloff, 1977)

The Center for Epidemiologic Studies Depression Scale (CESD) is a self-report scale that measures symptoms of depression in the general population. It consists of 20 items on a 4-point Likert scale (0 = rarely or none of the time, less than one day to 3 = most or all of the time, 5-7

days). Instructions ask the participant to indicate how often they felt or behaved in the described way during the past week. Items include “I felt depressed” and “I felt fearful” (Appendix I). In accordance with scoring instruction, some items were reverse scored prior to deriving the total score. In the original study, the Center for Epidemiologic Studies Depression Scale evidenced a Cronbach’s alpha between .84 and .90. The observed mean in the original study ranged between 7.79 and 9.25 among non-clinical samples and was 24.42 for the clinical sample. In experiment one, the mean score on the CESD was 13.74, $SD = 7.85$, with a Cronbach’s alpha of .86. In experiment two, the mean was 12.97, $SD = 9.76$, with a Cronbach’s alpha of .92.

c) *The Four Dimensional Anxiety Scale* (Bystritsky, Linn, & Ware, 1990)

The Four Dimensional Anxiety Scale (FDAS) assesses emotional, physiological, cognitive, and behavioral manifestations of anxiety. It contains 35 items on a 5-point Likert scale where 1=not at all and 5=extremely. Instructions ask participants to indicate how often they felt the described way in the previous week. Items include “muscle tension” and “fear of being left alone” (Appendix J). In the original study, the Cronbach’s alpha of the Four Dimensional Anxiety Scale was .92. In experiment one, the mean score on the FDAS was 65.76, $SD = 17.68$, with Cronbach’s alpha of .91. In experiment two, the mean was 69.32, $SD = 19.39$, with Cronbach’s alpha of .93.

iii) *Manipulation*

Implicit Attitudes Word Completion Task (Developed by researcher)

The Implicit Attitudes Word Completion Task (IAWCT) was created as a “mock” word implicit association task. The manipulation of this task consisted of both the instructions preceding the IAWCT and the words to be completed on the task. In both conditions, participants were asked to complete a list of words that were missing letters. Participants in the *non-threat*

condition were told the task assessed their knowledge of racial biases, but did not measure their own biases. Those in the *threat* condition (and the *threat-alleviation* condition of experiment two) were told that the task measured their racial biases. The instructions for each group are outlined in Appendix K. Depending on condition, the location of the missing letter, the number of missing letters, and therefore possible answers were modified for some of items. For example, both the threat group and non-threat group were presented with the fill-in-the-blank “BL _ _ K” (which can be either black or block). However, individuals in the threat condition were presented with WELF _ _ E (which can only be welfare), while the non-threat group was presented with WEL _ _ E (which could be welcome or welfare). Another example was “G_N” (which could be gun or gin), presented to the threat group, and “_UN” (which could be bun, fun, gun, nun, pun, run, and sun) was presented to the non-threat group. To increase face-validity of the task, in both groups all items could be filled with letters that created words related to stereotypes. Limiting the potential word options was intended to increase the likelihood that participants presented with this version of the task would enter more words related to race, Blacks, and stereotypes. Coupled with their instructions, the intention of this design was to increase the likelihood of eliciting stereotype threat for the threat group (and threat-alleviation group in experiment two) prior to completing the outcome measures. On the other hand, coupled with their instructions, giving the non-threat group fill-in-the-blanks with many potential answers was intended to decrease the chance of eliciting stereotype threat prior to taking the outcome measures. The fill in the blanks presented to the respective groups as well as the possible answers for each are listed in Appendix L. The IAWCT consisted of 15 fill in the blank items. In previous research, word tasks of this type have been used successfully as an implicit measure of attitudes (Dovidio et al., 1997; Fazio, Jackson, Dunton, & Williams, 1995; Gilbert & Hixon, 1991; von Hippel, Sekaquaptewa, &

Vargas, 1997; Wittenbrink, Judd, & Park, 1997). In their research, modifying the instructions preceding the implicit task was shown to be an effective way of creating stereotype threat conditions (Frantz et al., 2004). In experiment one the average number of stereotype related words written was 6.43. In experiment two the average number of stereotype related words written was 6.97.

To confirm the manipulation worked as intended, the number of race and stereotype related words created in each condition was noted. As intended, in both experiments, the number of race and stereotype related words created were higher in the threat groups (and threat-alleviation group in experiment two) than the number created in the non-threat groups. In experiment one, the threat group entered an average of 9.73 stereotype words, compared to 3.33 in the non-threat group. The data support that the threat group entered significantly more race and stereotype related words than the non-threat group ($t(189.14) = 25.15, p > .000$). In experiment two, the threat, threat-alleviation, and non-threat groups entered an average of 9.74, 9.38, and 2.47, stereotype related words, respectively. ANOVA analysis supported that the groups were significantly different from one another in the number of race and stereotype related words completed ($F[2,235] = 523.85, p < .000$). Post hoc comparisons using Tukey's method indicated that the threat group ($\mu = 9.74, 95\% \text{ CI } [9.34, 10.14]$) and threat-alleviation group ($\mu = 9.38, 95\% \text{ CI } [8.97, 9.78]$) entered significantly more race and stereotype related words than the non-threat group ($\mu = 2.47, 95\% \text{ CI } [2.18, 2.76]$). The data did not support that the threat group and threat-alleviation group entered a significantly different number of race and stereotype related words.

iv) Measures of Racism

a) Symbolic Racism Scale (Henry & Sears, 2002)

The Symbolic Racism Scale (SRS; Appendix M) is meant to assess the four themes of symbolic racism: 1) work ethic and responsibility for outcomes (i.e., the sense that Blacks' failure to progress results from their unwillingness to work hard enough); 2) excessive demands (i.e., the sense that Blacks are demanding too much); 3) denial of continuing racial discrimination (i.e., the belief that Blacks no longer face much prejudice in society today), and 4) undeserved advantage (i.e., the belief that Blacks have gotten more than they deserve). Items on the SRS include, "It's really a matter of some people not trying hard enough; if Blacks would only try harder they could be just as well off as Whites" and "Over the past few years, Blacks have gotten more economically than they deserve." There are eight items on the scale, five of which are rated on a four point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree). Those items that are not on a "strongly agree" to "strongly disagree" scale were rated on a three or four point Likert scale coded according to the scoring instructions provided with the scale. In accordance with scoring instruction, some items were reverse scored prior to deriving the total score. Higher scores on this scale indicate more symbolic racism. In the original study, reliability was acceptable, with $\alpha = .79$. Mean scores were not reported in the original study. In experiment one, the mean score on the SRS was 19.62, $SD = 3.67$, with Cronbach's alpha of .76. In experiment two, the mean was 18.53, $SD = 4.08$, with Cronbach's alpha of .78.

b) *Modern Racism Scale* (McConahay, 1986)

The Modern Racism Scale (MRS) measures the cognitive component of racial attitudes. It consists of 6 items on a 5-point Likert scale. The MRS has been used extensively in research (Crocker & Major, 1989; Devine, 1989; Fazio et al., 1995; Fazio & Olson, 2003; McConahay, 1983, 1986; Tuch & Hughes, 2011; Wittenbrink et al., 1997). Sample items include, "It is easy to understand the anger of Black people in America" (the only reverse coded item) and

“Discrimination against Blacks is no longer a problem in the United States” (Appendix N). In the original study, the Modern Racism Scale evidenced a mean of 8.31 and $SD = 5.59$, with Cronbach’s alpha of .86 and .88 (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997). One study using a sample recruited from an online survey website cited means of 2.47 and 2.96 (Huang, Sedlovskaya, Ackerman, & Bargh, 2011). Another study using an American college student sample cited a mean MRS score of 4.14 (Williams & Johnson, 2011). In experiment one, the mean on the MRS was 2.51, $SD = .62$, with a Cronbach’s alpha of .69. In experiment two, the mean was 2.31, $SD = .72$, with Cronbach’s alpha of .77.

c) *Old Fashioned Racism Scale* (McConahay, 1986)

The Old Fashioned Racism Scale is designed to assess overt racist attitudes and beliefs. It is made up of 7 items and is on a 5-point Likert scale. Items include, “It’s a bad idea for Blacks and Whites to marry each other” and “If a Black family with the same income and education as I have lived next door, I would mind it a great deal” (Appendix O). In accordance with scoring instructions, one item was reverse scored prior to deriving the total score. In the first study it was used, the scale evidenced good reliability, $\alpha = .86$. In the aforementioned Dovidio and colleagues study, Cronbach’s alpha was .79 (1997). Mean scores were not reported in the original study. In experiment one, the mean on the OFRS was 1.74, $SD = .59$, with Cronbach’s alpha of .72. In experiment two, the mean was 1.64, $SD = .57$, with Cronbach’s alpha of .76.

v) *Race and Social Policy*

Race and Social Policy Questions from the American National Election Study

The American National Election Study (ANES) is a conjoint project between Stanford University and University of Michigan. The ANES conducts biannual national surveys with respondents consisting of a national probability sample of noninstitutionalized adults in the

United States (for more information on the program please see ANES's page at <http://www.electionstudies.org/index.htm>). Between 1988 and 1994 the ANES included a subset of 6 questions related to government, social policy, and racial policy, like the government's role in employment equality and affirmative action (Hughes & Tuch, 2003). Depending on the question, items were located on a 3, 4, or 7 point Likert scale. Higher scores reflected less favor for the corresponding social policy. The questions are listed in Appendix P. Given the college sample, two questions related to CHIP-Child Healthcare and Fannie Mae/Freddie Mac/Home ownership were not included in the study. The range of possible scores was 11-39. In experiment one, the mean score on the Race and Social Policy Questions from the American National Election Study (RSP) questions was 25.36, $SD = 3.93$, with a Cronbach's alpha of .66. In experiment two, the mean was 25.32, $SD = 3.97$, with a Cronbach's alpha of .65.

vi) Measure of White Racial Identity

The White Racial Identity Attitudes Scale (Helms, 1993)

The White Racial Identity Attitude Scale (WRIAS) is a 50-item self-report measure meant to assess five stages of White racial identity proposed by Helms - Contact, Disintegration, Reintegration, Pseudo-Independence, and Autonomy (Helms & Carter, 1993). Each stage represents the "self-conceptions of White individuals with respect to membership in their own racial group in contrast to how they react to people of other racial groups." Contact is associated with lack of awareness of the social/political significance of membership in a racial group, including one's own. Disintegration is associated with ambivalent awareness of sociopolitical implications of race for members of other groups and oneself. Reintegration is associated with beliefs and behaviors related to endorsement of White superiority and inferiority of other groups. Pseudo-Independence is associated with intellectualized acceptance of one's Whiteness and the

sociopolitical implications of racial differences. Autonomy is associated with the internalization of “racial humanism” and a non-racist identity. Each level is assessed using 10-items and scores are obtained by summing responses. The status with the highest score is considered dominant, and the status the individual uses most often to interpret internal and external racial stimuli.

Items on the WRIAS include “I feel as comfortable around Blacks as I do around Whites” and “I don’t understand why Black people blame all White people for their social misfortunes”

(Appendix Q). Respondents indicate how well an item describes their own attitudes, using a 5-point Likert scale (1=strongly disagree, 5=strongly agree). Scores can range from 10-50 in each subscale.

There has been some controversy regarding the reliability of the subscales of the WRIAS, particularly the Contact subscale. In his meta-analysis, Behrens noted the coefficient for the Contact subscale was inconsistent, with alpha coefficients as low as .18 reported in published research (1997). Burkard and colleagues found Cronbach's alpha coefficients for the Contact subscale to be .15, (Disintegration = .81, Reintegration = .82, Pseudo-Independence = .73, and Autonomy = .71) in one study, but in a later study, reported a Cronbach’s alpha of .49 for Contact (Disintegration = .78, Reintegration = .79, Pseudo-Independence = .60, and Autonomy .53.) (Burkard, Juarez-Huffaker, & Ajmere, 2003; Burkard, Ponterotto, Reynolds, & Alfonso, 1999). Utsey and Gernat (2002) reported Cronbach’s alphas of Contact = .41, Disintegration = .77, Reintegration = .58, and Psuedo-Independence = .58, and Autonomy = .28. In Behrens’ meta-analysis of 22 studies, the average coefficient alphas were: Contact, .50; Disintegration, .77; Reintegration, .78 ; Pseudo-Independence, .67 and Autonomy, .61 (Behrens, 1997).

In experiment one of this study, the coefficient alphas for the five scales of the WRIAS were: Contact, .44; Disintegration, .77; Reintegration, .80; Pseudo-Independence, .63; Autonomy

.60. In experiment two, the coefficient alphas were: Contact, .40; Disintegration, .74; Reintegration, .79; Pseudo-Independence, .69; and Autonomy .67.

vii) Measure of Stereotypicality

Lifestyle Survey (Developed by the researcher)

The Lifestyle Survey (LSS) was developed by the researcher to assess behavioral and social engagement in stereotypically Black and White lifestyle behaviors and endorsement of stereotypically Black and White lifestyle attitudes. The questions were placed on a 5-point Likert scale (1 = strongly disagree and 5 =strongly agree). Items included, “I believe rock music is better than rap,” “Foods like collard greens, watermelon, and fried chicken are things that Black people especially like to eat,” and “Some races are just more athletic than others” (Appendix R). The details regarding the development of this scale are noted below.

D) Development of the Lifestyle Survey

i) Compilation and Piloting of Lifestyle Survey Items

Prior to collecting data for experiments one and two, a lifestyle questionnaire that assessed for endorsement of stereotypical attitudes, behaviors, and beliefs needed to be developed. The researcher and research team compiled a list of behaviors, attitudes, adjectives, and beliefs, stereotypically attributed to Blacks, Whites, and other minorities. Items were derived from stereotyped adjectives (Banks, 1977; Devine, 1989; Devine & Elliot, 1995; J.F. Dovidio & Gaertner, 1986; Ford, 1997; G. M. Gilbert, 1951), attitudes, substance use (Harkley, McLellan, & Randall, 2002), speech, clothing (Cutler, 1999) and music genre preferences (Cutler, 1999; Rentfrow & Gosling, 2003, 2007) identified in previous research. Items were also derived by asking college students and research team members, and by conducting internet searches for “stereotypes about Black people,” “stereotypes about White people,” and similar phrases.

Internet searches provided a plethora of items, some of which consisted of responses to the question, “What are some stereotypes about ‘ _____ ’ people?”, or similarly worded questions, on various forums and YouTube videos. One list was posted to a blog by a teacher who compiled a large list of stereotypes about Blacks, Whites, and Latinos that her high school students from Washington D.C. provided as part of a class project (See: beachflute, 2007). Even a few humor sites with “top-10 stereotypes about ‘ _____ ’ people” lists were useful (See: clander, 2010; Standberry, 2010).

The original item list consisted of almost 200 stereotypical behaviors, attitudes, adjectives, and beliefs, attributed to Whites, Blacks, and other minorities. The researcher and colleagues reduced the list by removing items that did not have good face validity, that is, they were not typical or easily identifiable as stereotypical (e.g., liking film festivals), were too specific (e.g., liking a Toyota Prius), were too general (e.g., liking Facebook), did not tap into the “stereotype threat” construct (e.g., liking T-shirts), or were not items that the typical college student would have experience with (e.g., renovations to a home). From the remaining items, a list of 43 statements was created (Appendix Q).

To garner student opinions of how stereotypical the items were, and in what direction, 121 students in an Intro to Sociology class at Virginia Tech indicated how much they felt the presented statements were stereotypical attitudes, beliefs, and behaviors. Before filling out the questionnaire, research assistants verbally stated researchers were not interested in the students’ personal beliefs, but rather how stereotypical the statements were and in which direction. This was also reflected in the instructions on the questionnaire. Each statement was placed on a 6 point Likert scale where 1= “Stereotypically Black behavior, attitude, or belief” and 6= “Stereotypically White behavior, attitude, or belief.” Students were also encouraged to leave

feedback about any of the statements and the questionnaire itself. Based on this feedback, the researcher and team concluded the 43 items on the scale were appropriate for the purposes of the research.

ii) Factor Analysis of Lifestyle Survey After Data Collection

The sample size of experiment one allowed for the use of factor analytic procedures to identify the subset of lifestyle survey items that best captured the stereotypicality construct. Preliminary analyses on the entire 43-item measure tested assumptions of item sampling adequacy, inter-item correlation, common inter-item variance, and the likelihood of multiple factors. Once the assumptions were met (see below), factor analysis made it possible to 1) identify whether the 43-item scale was unitary or multidimensional, 2) identify whether the factor(s) seemed to measure the construct of “stereotypical attitudes, behaviors, and beliefs,” 3) identify the factor that best measured that construct, and 4) develop a plan for scoring the factor that best measured the construct.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO), which compares the magnitudes of observed correlation coefficients to observed partial correlation coefficients, was .67, above the recommended value of .6. Correlation analysis revealed 40 of the 43 items correlated at least .3 with at least one other item, suggesting reasonable inter-item correlation. Further confirming that each item on the questionnaire shared some common variance with other items, the communalities were all above .42 (the recommended minimum value is .30). Bartlett’s Test of Sphericity, a test of whether multiple factors exist based on interitem correlation, was significant ($\chi^2(903) = 2580.26, p < .000$), suggesting that the Lifestyle Survey had multiple factors. Given these overall indicators, factor analysis of this scale was deemed appropriate.

Given that the purposes of the analysis were 1) to identify the factor that best measured the construct of stereotypical attitudes, beliefs, and behaviors and 2) to compute composite lifestyle survey scores, principle components analysis was appropriate. The initial eigenvalues showed the first factor accounted for 13% of the variance, the second factor accounted for 7% of the variance, and the third and fourth factors each accounted for 6% of the variance. The remaining factors evidenced eigenvalues at 2 or below, and accounted for between .39% and 4.7% of the variance, with the majority of them accounting for $\leq 2\%$ of the variance. Due to the ‘leveling off’ of eigenvalues on the scree plot after four factors, the insufficient number of primary loadings beyond four factors, and difficulty of interpreting the subsequent factors, two, three, and four, factor solutions were examined. Based on the construct, it was assumed that the factors would be correlated with one another and Promax rotation was deemed appropriate for examination of the factor solutions. After the rotation, the items that made up each factor were compiled for further examination. Regardless of the number of solutions (2, 3, or 4), the first factor showed the best face validity for the construct of “Stereotypical, Attitudes, Beliefs, and Behaviors,” i.e. stereotypicality.

Composite scores were then created for the first factor from each (2, 3, and 4-factor) solution such that higher scores indicated more endorsement of stereotypically White attitudes, beliefs, and behaviors. Evidence of a significant difference on the composite scores between the threat and non-threat conditions, as well as positive correlations with established measures of racism, would support good construct validity for the scale. In later analysis, independent t-tests revealed the composite score from the first factor of the four factor solution, henceforth referred to as the Lifestyle Survey (LSS), was most useful in analysis. Scores on the first factor of the four factor solution also evidenced better reliability ($\alpha = .82$), compared to the full scale prior to

factor analysis ($\alpha = .68$). Given the scale's face validity, construct validity, and reliability, the sum score of the 19 items making up factor one of the four factor solution, was used in final analysis as the Lifestyle Survey. Items on the scale were reverse coded per the negative factor loading observed in factor analysis. In experiment one, the mean on the LSS was 58.02, $SD = 10.82$, with Cronbach's alpha of .82. In experiment two, the mean was 55.96, $SD = 12.56$, with Cronbach's alpha of .86.

E) Analysis Plan: Experiment One

Means, standard deviations, and Cronbach's alphas were computed for each measure. Hypotheses 1, 2, and 3 were tested using stepwise linear regression. Motivation to Control Prejudiced Reactions scores were centered and the experimental conditions were recoded such that 0 = non-threat group and 1 = threat group. MCPR was entered into the first block of the stepwise regression, allowing for the examination of the relationship between motivation to control prejudiced reactions and reported racism (Hypothesis 2). Experimental condition was entered into the second block of the regression, allowing for examination of the relationship between condition and reported racism (Hypothesis 1). To test the moderation hypothesis (Hypothesis 3), an interaction term of the centered MPCR scores and the coded treatment groups (0 = non-threat, 1 = threat) was created and entered into the third block of the regression. Regression analyses also allowed investigation into whether the threat group reported significantly lower stereotypic endorsement, and for investigation of the MCPR and its subscales as a potential moderator of stereotypic endorsement. A chi-square test of independence was used to investigate whether the threat and non-threat group reported significantly different white racial identity styles.

F) Descriptives

i) Data Preparation

On SONA, 418 individuals signed up to participate in part one of experiment one. Four hundred six of those individuals actually participated in part one, the remaining 12 signed up but never participated. Email invitations to participate in part two of the experiment were sent to 349 of the 406 individuals who participated in part one. Individuals who responded multiple times in part one (n=30) were not sent an email invitation to participate in part two. The remaining 27 individuals were not invited to participate in part two because these individuals evidenced one or more “red flags” and upon closer investigation by the research team, it was decided that the quality of their data was questionable.

Of the 349 invited to participate in part two of the study; 165 were assigned to the threat group, 184 were assigned to the non-threat group. Of those invited, 270 participated- 126 individuals from the threat group and 144 individuals from the non-threat group. Of those who participated in part two, 222 identified themselves as White, 106 from the threat group and 116 from the non-threat group.

In the threat group, six participants were not included in the final analysis - five provided duplicate responses and one evidenced one or more red flags in part two of the study. In the non-threat group, 14 participants were not included in the final analysis - 11 provided duplicate responses and three evidenced one or more red flags in part two of the study. These 20 individuals were not included in the final analysis. Therefore, of the 222 individuals who identified as White, 202 - 100 from the threat group and 102 in the non-threat group, were included in the final analysis. This information is outlined in Table 1.

ii) Missing Data

Missing data from items on all scales was low, ranging from 0%-1%, depending on the question. There was no discernable pattern of skipping questions. Except in instances where the

participant had ceased taking the survey ($n=2$), no participant skipped more than one question on any scale. Participants with missing data on a particular variable were eliminated from the analysis of that variable.

iii) Sample Characteristics

The sample consisted of 202 White participants, 76% of whom were female ($n = 154$) and 24% of whom were male ($n=48$). The majority ($n=63$, 31%) of participants were sophomores, followed by freshmen ($n=54$, 27%), juniors ($n=44$, 22%), seniors ($n=40$, 20%), and a graduate student ($n=1$, .5%). The age range was 18-24, with an average of 19.5. The data did not support that the threat and non-threat groups were statistically different from one another in terms of age ($t(200) = .62, p=.67$), gender ($\chi^2(1) = .340, p=.56$), academic year ($\chi^2(4) = .5.814, p=.21$), residency of the US ($\chi^2(2) = .32, p=.85$), or language spoken at home ($\chi^2(2) = .226, p=.89$). Descriptive statistics of the threat group, non-threat group, and overall sample may be found in Table 2.

The threat (T) and non-threat (NT) groups evidenced the following means on the filler scales: depression (T: $\mu=13.06$, NT: $\mu = 14.41$), IPIP (T: $\mu = 26.72$, NT: $\mu =26.30$), anxiety (T: $\mu= 63.76$, NT: $\mu =67.74$). Results did not support that the threat and non-threat groups were significantly different from one another on any of the filler scales; depression ($t(200)=- 1.23, p=.22$), IPIP ($t(200) = .79, p=.43$), or anxiety ($t(197) = -1.60, p=.11$). The threat and non-threat groups were also not statistically different in terms of white racial identity attitudes ($\chi^2(4) = 3.742, p=.44$). The results of these analyses are displayed in Table 3. The means, standard deviations, and Cronbach's alpha for each measure, by condition as well as overall, are displayed in Table 4.

G) Results: Experiment One

i) Hypothesis 1: Participants in the threat group will evidence lower reported racism compared to those in the non-threat group.

Regression analyses did not yield support for this hypothesis. The threat condition was not a predictor of scores on the modern racism ($\beta = .03, p=.63$), old fashioned racism ($\beta = -.07, p=.34$), or symbolic racism scales ($\beta = -.06, p=.36$). Results of these analyses can be found in Table 5.

ii) Hypothesis 2: There will be an inverse relationship between motivation to control prejudiced reactions and reported racism.

Results from the regression analysis supported this hypothesis. Motivation to control prejudice significantly predicted modern racism ($\beta = -.34, p<.000$), old fashioned racism ($\beta = -.22, p=.001$), and symbolic racism ($\beta = -.32, p<.000$) (Table 5). Looking at the two subscales of the MCPR, Concern with Acting Prejudiced (MCPR_CAP) predicted modern racism ($\beta = -.36, p<.000$), old fashioned racism ($\beta = -.20, p<.01$), and symbolic racism ($\beta = -.32, p<.000$); Restraint to Avoid Dispute (MCPR_RAD) predicted modern racism ($\beta = -.19, p=.006$) and symbolic racism ($\beta = -.17, p<.01$), but not old fashioned racism ($\beta = -.08, p=.29$). Results of the analyses involving the MCPR_CAP and MCPR_RAD subscales can be found on Tables 6 and 7, respectively.

iii) Hypothesis 3: Motivation to control prejudiced reactions will moderate the relationship between threat condition and reported racism. It is hypothesized that the relationship between threat condition and reported racism noted in Hypothesis 1 will be stronger as motivation to control prejudiced reactions increases.

Results did not support motivation to control prejudice as a moderator of threat condition on endorsed prejudicial attitudes, for the modern racism scale ($\beta = -.11, p = .24$), old fashioned racism scale ($\beta = -.04, p = .72$), or the symbolic racism scale ($\beta = -.02, p = .83$) (Table 5).

Likewise, neither of the MCPR subscales acted as a moderator of threat condition on endorsed prejudicial attitudes - MCPR_CAP for the modern racism scale ($\beta = -.09, p = .36$), old fashioned racism scale ($\beta = -.08, p = .41$), and the symbolic racism scale ($\beta = -.02, p = .86$); MCPR_RAD for the modern racism scale ($\beta = -.05, p = .62$), old fashioned racism scale ($\beta = -.08, p = .44$), and the symbolic racism scale ($\beta = -.02, p = .84$). Results of the analyses involving the MCPR_CAP and MCPR_RAD subscales can be found on Tables 6 and 7, respectively.

iv) Exploratory Hypothesis: Participants in the threat group will report lower engagement in negative stereotypically White lifestyles, behaviors, and attitudes, as measured by the Lifestyle Survey, compared to those in the non-threat group.

As hypothesized, participants in the threat group reported lower stereotypicality ($M = 56.5$) than participants in the nonthreat group ($M = 59.5; \beta = -.14, p = .05$). Motivation to control prejudice also significantly predicted stereotypicality ($\beta = -.25, p < .000$); the greater one's motivation to control prejudice, the lower one's reported stereotypicality. Among the MCPR subscales, although MCPR_CAP ($\beta = -.27, p < .000$) predicted stereotypicality, MCPR_RAD ($\beta = -.12, p = .10$) did not. The data did not support motivation to control prejudice or its subscales as moderators of stereotypicality. Results of these analyses can be found on Table 8.

v) Additional Analysis: Correlations

Stereotypicality, modern racism, old fashioned racism, symbolic racism, and race and social policy attitudes were all positively correlated with one another. The Lifestyle Survey (stereotypicality) evidenced positive correlations with all three racism scales and the measure of

race and social policy: modern racism ($r = .41, p < .000$), old fashioned racism ($r = .53, p < .000$), symbolic racism ($r = .44, p < .000$), race and social policy ($r = .44, p < .000$). Old fashioned racism was positively correlated with symbolic racism ($r = .32, p < .000$), modern racism ($r = .33, p < .000$), and race and social policy ($r = .25, p < .01$). Modern racism was also correlated with symbolic racism ($r = .73, p < .000$) and race and social policy ($r = .48, p < .000$)

The measure of race and social policy was negatively correlated with MCPR ($r = -.26, p < .000$) and MCPR_CAP ($r = -.27, p < .000$), but not MCPR_RAD ($r = -.13, p = .07$). Results of these correlations are displayed in Table 9. Although anxiety ($r = .17, p < .05$) was mildly positively correlated with the Concern with Acting Prejudice subscale of the MCPR, no other filler measures were correlated with the lifestyle survey, racism scales, or the race and social policy measure (Tables 10 and 11).

H) Discussion: Experiment One

The results of this experiment yielded partial support for the proposed hypotheses. The threat and non-threat groups were not statistically different from one another on the traditional scales of racism (i.e., modern racism, old fashioned racism, or symbolic racism). The data support that the threat and non-threat groups were statistically different, in the expected direction, on the measure of stereotypically. The threat group reported significantly lower endorsement of stereotypically White attitudes, beliefs, and behaviors than the not threat group. This is an interesting finding, especially considering the lifestyle survey was positively correlated with all of the racism scales.

Contrary to previous (implicit) attitudes research, neither motivation to control prejudice nor its subscales moderated the strength of the relationship between threat and outcomes on measures of racism. However, in line with previous research, the racism scales were negatively

correlated with motivation to control prejudice, particularly the concern with acting prejudice subscale. Stereotypicality evidenced the same pattern, in that it was negatively correlated with motivation to control prejudice and concern with acting prejudice. However, contrary to past research, motivation to control prejudice was not a moderator of stereotypicality or racism.

The focus of the study was on the potential for stereotype threat to result in differential responding on self-report data. Despite evidence of shared variance between stereotypicality and racism, differential responding was supported only on the measure of stereotypicality. This may suggest that stereotypicality and racism are related but distinct constructs, which is line with social psychological research supporting the distinction between stereotypes and racism. Whereas racism is an attitudinal expression of prejudice and discrimination against members of a social group, which may be based on stereotypes (i.e., beliefs) about that group, stereotypes may (or may not) result in prejudicial or discriminatory actions (i.e., behaviors) toward that group. Another explanation for the discrepant finding could be that stereotypes and endorsement of such are more malleable and therefore more sensitive to stereotype threat, than endorsements of prejudice or discrimination (i.e., racism in this case).

There is a possibility that overall, concern with appearing racist was high, and diminished the potential for finding a difference between the groups. This is plausible considering mean scores on the racism scales were close to the floor of possible range of scores in both groups (Table 4). This was especially true for the old fashioned racism scale, the most blatant of the three. If there was a high baseline for concern over appearing racist, individuals in the non-threat condition may have also underreported. Simply filling out the racism scales (or engaging in the word completion task) could have been stereotype threatening for both groups.

Another explanation for these findings could be related to the order of scale presentation (see Appendix S). The measure of stereotypicality was always presented immediately after the manipulation and immediately before participants completed any racism scales. Therefore, the strength of any stereotype threat could have changed based on presented content or time. Considering stereotypicality was most strongly correlated with old fashioned racism ($r=.53$, $p<.000$), different expressions of racism may have been more sensitive to stereotype threat than others. The order of scale presentation could have played a role in whether stereotype threat remained elicited or not. However, the racism scales were presented in random order and any differences related to a particular order of scale presentation were likely offset by this counterbalancing. Unfortunately, it was not possible to test for differences between the threat and non-threat group related to order of scale presentation.

XIII. Experiment Two

The second experiment partially replicated the first and tested whether a threat-alleviation task was capable of diminishing the effect of stereotype threat on self-reports. It was a three-group design experiment, consisting of threat, non-threat, and threat-alleviation groups.

A) Hypotheses

1. Participants in the threat group will evidence lower overall reported racism than those in the threat-alleviation and non-threat groups.
2. Participants in the threat group will report lower endorsement of stereotypically White lifestyles, behaviors, and attitudes, compared to those in the threat-alleviation and non-threat groups.

B) Procedure

The procedure for recruiting participants for experiment two was the same as in experiment one. That is, individuals were provided with the study title, a brief description of the study, eligibility requirements, and procedures for participating. The only descriptive difference between this experiment and experiment one was its advertisement as a “one part” study (Appendix C). Any participant who signed up for the study, and was 18 or over, was allowed to participate. This experiment took place in one on-line session, with participants randomly assigned to one of three groups - threat, non-threat, or threat-alleviation. All filler scales were presented in the same order as they were in experiment one (i.e., in the following order CESD, IPIP, MCPR and FDAS). Only the threat group completed the MCPR. The threat-alleviation condition was a replication of the threat condition of experiment one with one exception; following the protocol used by Frantz and colleagues (2004), immediately following the stereotype threat manipulation and before completing the outcome measures, participants in the threat-alleviation condition had an opportunity to “alleviate” stereotype threat by completing the Motivation to Control Prejudiced Reactions scale. The presentation of materials in the threat and non-threat conditions were replications of experiment one except participants in the non-threat group were not exposed to the MCPR. In experiment two, participants in the threat and non-threat group completed a benign filler task in the same temporal location as the MCPR for the threat-alleviation group. All participants then completed the measure of stereotypicality, racism scales - which were presented in a random order, the measure of race and social policy, and then the White racial identity scale. A comparison of the order of scale presentation in experiment one vs. experiment two is located in Appendix S.

C) Measures

i) Threat-Alleviation Task

The Motivation to Control Prejudiced Reactions scale was used as the threat-alleviation task. The MCPR scale contains questions such as, “When speaking to a Black person it’s important to me that he/she not think I’m prejudiced” and “It is important to me that other people not think I’m prejudiced.” In this experiment, the MCPR scale served as an opportunity for those in the threat-alleviation condition to affirm non-prejudicial values, thereby “relieving” stereotype threat. The MCPR scale has successfully been used in this capacity in past research. Frantz and colleagues used the MCPR to investigate whether self-affirmation protected participants from the threat of appearing racist on the race-based Implicit Association Task (IAT) (Frantz et al., 2004). They found that completing the MCPR scale prior to completing the race IAT buffered the effects of their stereotype threat manipulation.

ii) Threat and Non-threat Filler Task (Developed by the researcher)

At the same temporal location as the Motivation to Control Prejudiced Reactions scale for the threat-alleviation group, the threat and non-threat group completed a filler task. The threat and non-threat group were asked rank order a list of 12 traits, where 1=most important trait to develop and 12=least important trait to develop. The instructions read “We all have things we’d like to improve about ourselves. We may feel that some traits are more important to develop than others. Below is a list of traits that people often want to improve about themselves. Using the drop down list, place the traits in the rank order you'd like to develop them such that: 1= Most important trait to develop and 12 = Least important trait to develop.” The list of traits were: assertive, enthusiastic, persistent, creative, decisive, detail oriented, hardworking, humorous, organized, prepared, productive, and practical. Next, respondents indicated three ways they could develop the trait they previously rated as #11 (Appendix T). This trait was chosen given its unimportance in comparison to the other traits listed before it.

D) Analysis Plan

As in experiment one, means, standard deviations, and Cronbach's alpha were computed for each measure. For both hypotheses, one-way ANOVAs allowed investigation into whether the means of reported racism and stereotypicality were significantly different between the threat, non-threat, and threat-alleviation groups.

E) Descriptives

i) Data Preparation

Over the course of 4 semesters, a total of 621 individuals signed up to participate in the experiment on the SONA system. Of the 621 who signed up, 218 (35%) individuals were assigned to the threat group, 194 (31%) to the non-threat group, and 209 (34%) to the threat-alleviation group. Each person was sent an email invitation containing a link uniquely tied to their assigned condition. Four hundred eighty six individuals (78%) responded to the email invitation. This consisted of 165 (76%), 161 (83%), and 160 (77%) of the individuals assigned to the threat, non-threat, and threat-alleviation groups, respectively.

Participants in the threat and threat-alleviation groups were asked to identify their race just prior to beginning the stereotype threat manipulation. Seventy seven percent (n=127) of respondents in the threat condition and 76% (n=122) of participants in the threat-alleviation condition identified themselves as White at that time. Of those who identified themselves as White, 118 (93%), 124, and 112 (92%) from the threat, non-threat, and threat-alleviation conditions, respectively, completed the experiment. In order to reduce the likelihood of eliciting stereotype threat, individuals in the non-threat condition were not asked to identify their race until the end of the study, just prior to completing the WRIAS. Therefore, it is unknown how

many White individuals from the threat-alleviation group discontinued before reaching the end of the study. In all, 354 individuals who identified as White completed the experiment.

Prior to analyses, data were reviewed for quality assurance. Of the 354 White individuals who completed the experiment, 26 respondents - eight, four, and fourteen individuals from the threat, non-threat, and threat-alleviation conditions, respectively- were not included in the analysis for evidencing one or more red flags. Three hundred twenty eight, - 110 from the threat group, 120 from the non-threat group and 98 from the threat-alleviation group - were included in the final analysis. A breakdown of this information is outlined in Table 12.

ii) Missing Data

Missing data from items on all scales was low, ranging from 0%-1.9%, depending on the question. There was no discernible pattern of skipping questions. As the survey progressed, the number of people that did not respond increased (i.e., later items were more likely to be skipped). Except in instances where the participant had ceased taking the survey (n=1), no participant skipped more than one question on any scale, and no participants skipped more than two questions over the course of the survey. Participants with missing data on a particular variable were eliminated from the analysis of that variable.

iii) Sample Characteristics

The final sample, consisting of 328 White participants, was predominately female (77%, n = 251; males: 23%, n=77). The majority (30%) were freshmen, followed by juniors (27%), sophomores (23%), and seniors (20%). The age range for the study was 18-33, with an average of 19.9. The majority (n=316; 96%) reported they spoke English only at home. Furthermore, the majority (n=319; 97%) reported they were born in the United States. Results from chi square analysis did not support that the threat, threat-alleviation, and non-threat groups were statistically

different from one another in terms of gender ($\chi^2(2) = 3.32, p = .19$), academic year ($\chi^2(6) = 5.23, p = .52$), residency of the US ($\chi^2(4) = 2.08, p = .72$), or language spoken at home ($\chi^2(4) = .81, p = .94$).

However, results from ANOVA testing did support that the groups were significantly different in terms of age ($F[2,235] = 3.94, p < .05$). Post hoc comparisons using Tukey's method indicated that the non-threat group ($\mu = 20.22, 95\% \text{ CI } [19.84, 20.59]$) was significantly older than the threat ($\mu = 19.68, 95\% \text{ CI } [19.42, 19.94]$) and the threat-alleviation groups ($\mu = 19.66, 95\% \text{ CI } [19.37, 19.96]$). Descriptive characteristics of the sample are reported in Table 13. The threat, non-threat, and threat-alleviation groups were not statistically different from one another in terms of white racial identity attitudes ($\chi^2(8) = .40, p = .86$) (Table 14).

Regarding the filler scales, data did not support that the threat, non-threat, and threat-alleviation groups were significantly different on the depression ($F(2,315) = .23, p = .79$) or IPIP ($F(2,322) = 2.22, p = .11$) filler scales. However, the data supported that the threat, non-threat, and threat-alleviation groups were significantly different on the anxiety (FDAS) scale ($F(2,307) = 3.5, p < .05$). Post hoc comparisons using Tukey's method indicated that the threat group ($\mu = 73.12, 95\% \text{ CI } [69.06, 77.18]$) endorsed significantly more anxiety than the non-threat ($\mu = 66.38, 95\% \text{ CI } [62.76, 70]$) group. Post hoc analysis did not support that the difference between the threat and threat-alleviation groups ($\mu = 68.32, 95\% \text{ CI } [64.86, 71.77]$) was significant. Characteristics of the sample on each of the scales included in study two are outlined in Table 15.

F) Results: Experiment Two

i) Hypothesis 1: Participants in the threat group will evidence lower overall reported racism than those in the threat-alleviation and non-threat groups.

Although significant differences between the groups emerged, the data did not yield support for this hypothesis. The data evidenced a consistent pattern of the non-threat group reporting lower racism than the other two groups. Specifically, although one way ANOVA revealed the difference between groups was not significant for modern racism ($F[2,325] = 2.38$, $p = .09$), the difference between the groups was significant for symbolic racism ($F[2,325] = 5.2$, $p < .01$) and approached significance for old fashioned racism ($F[2,325] = 2.9$, $p = .06$). Post hoc comparisons using Tukey's method revealed the non-threat group ($\mu = 17.62$, 95% CI [16.86, 18.37]) endorsed significantly less symbolic racism ($p < .01$) than the threat-alleviation group ($\mu = 19.30$, 95% CI [18.44, 20.15]). Tukey post hoc comparisons also revealed the non-threat group ($\mu = 1.56$, 95% CI [1.46, 1.65]) endorsed significantly less old fashioned racism ($p < .05$) than the threat-alleviation group ($\mu = 1.74$, 95% CI [1.61, 1.87]). Results of the ANOVA analysis and post hoc tests are outlined in Table 16.

ii) Hypothesis 2: Participants in the threat group will report lower endorsement of stereotypically White lifestyles, behaviors, and attitudes, compared to those in the threat-alleviation and non-threat groups.

Although a one way ANOVA indicated a significant difference between the groups for stereotypicality ($F[2,325] = 8.50$, $p < .000$) the data did not yield support for this hypothesis. Post hoc comparisons using Tukey's method revealed the non-threat group ($\mu = 52.30$, 95% CI [50.11, 54.49]) endorsed significantly less **symbolic racism** ($p < .001$) than the threat-alleviation group ($\mu = 58.49$, 95% CI [55.97, 61.01]). Results of the ANOVA analysis and post hoc tests are outlined in Table 16.

The threat-alleviation group also evidenced a higher mean score than the non-threat group on stereotypicality and Tukey's post hoc analysis revealed this difference was statistically

significant ($p < .001$). Finally, the threat group ($\mu = 57.69$) evidenced a higher mean score than the non-threat group ($\mu = 52.3$). Although this was opposite the expected direction, Tukey post hoc analysis revealed this difference was significant ($p = .003$). Results of ANOVA analysis and post hoc tests are outlined in Table 16.

iii) Additional Analysis: ANOVA on the Measure of Race and Social Policy

A one way ANOVA analysis did not support a significant difference between the groups on the measure of race and social policy ($F[2,325] = .35, p = .71$; Table 16).

iv) Additional Analysis: Correlations between outcome measures

As in experiment one, stereotypicality, modern racism, old fashioned racism, symbolic racism, and scores on the race and social policy questions were all significantly positively correlated with one another. Modern racism was positively correlated with old fashioned racism ($r = .47, p < .000$) and symbolic racism ($r = .72, p < .000$). Old fashioned racism was positively correlated with symbolic racism ($r = .40, p < .000$). The lifestyle survey (LSS) also evidenced positive correlations with modern racism ($r = .55, p < .000$), old fashioned racism ($r = .52, p < .000$), and symbolic racism ($r = .54, p < .000$).

Age was negatively correlated with stereotypicality, ($r = -.14, p < .010$), modern racism ($r = -.15, p < .01$), and old fashioned racism ($r = -.13, p < .05$). The correlation between age and symbolic racism approached significance ($r = -.12, p = .051$). Results of the correlations between filler, outcome measures, and age can be found in Table 17.

v) Additional Analysis: Covariance by Age

Earlier analysis revealed a small but significant difference in age by experimental condition. Furthermore significant negative correlations were revealed between age and modern racism, old fashioned racism, and stereotypicality; the negative correlation between symbolic racism and age

approached significance. To identify whether experimental group differences in racism scores and stereotypicality persisted after controlling for age, analyses of covariance (ANCOVA) were performed.

Prior to conducting the ANCOVA, a test for the assumption of regression homogeneity was performed, which revealed the assumption was met for all of the outcome scales. That is, I failed to reject the null that there was not a covariate by fixed factor effect on the outcome scales.

ANCOVAs were then conducted to assess whether the difference between the groups in the racism scales variables (MRS, OFRS, SRS, and LSS) continued to manifest after controlling for age. Differences in scores remained nonsignificant for the Modern Racism Scale [$F(2)=2.16$, $p=.12$] and no longer approached significance for the Old Fashioned Racism Scale [$F(2)=2.29$, $p=.10$]. However, after controlling for age, the difference in scores between the groups remained on the Symbolic Racism Scale [$F(2)=4.41$, $p=.01$] and lifestyle survey (LSS) [$F(2)=7.17$, $p=.001$].

G) Discussion: Experiment Two

The data in experiment two did not support the proposed hypotheses. Although significant between group differences in reported racism and stereotypicality emerged, the consistent pattern was that the *non-threat* group reported lower racism and stereotypicality than either the threat or threat-alleviation groups. Within the latter two groups, observed means for the threat-alleviation group were consistently higher than the threat group, as predicted, but the difference was small and not statistically reliable. Moreover, if the threat-alleviation task was successful in reducing stereotype threat, then one would expect the threat-alleviation and non-threat groups to be similar; however, the threat-alleviation group reported significantly more old fashioned racism, symbolic racism, *and* stereotypicality than the non-threat group a difference that remained significant for symbolic racism and stereotypicality even after controlling for age.

Examining the integrity of the manipulation, as judged by the number of race-related words chosen on the work completion task, the task seems to have worked similarly as in Experiment 1. In experiment two, the threat and threat-alleviation groups chose significantly more race-related words (9.73 and 9.38, respectively) than the non-threat group (2.47); moreover, the pattern of word choice was comparable within conditions, across experiments for the threat group (threat: 9.73 for both experiments). A test did however determine the non-threat groups in experiment one ($\mu=3.33$) chose significantly more race related than the non-threat group in experiment two ($\mu=2.47$); ($t(220)= 4.02, p>.000$).

Methodologically, other than the more benign characterization of the word completion task, the only thing unique about the non-threat group was that they were not asked about their racial identity until after the dependent measures, versus the threat and threat-alleviation groups, who responded just prior to the stereotype threat manipulation. However, previous research suggests that this should have lowered the amount of stereotype threat for non-threat participants (as intended), resulting in higher scores on racial attitudes and stereotypicality, not lower scores, as was found. Second, only the non threat group did not complete the MCPR scale prior to responding to the main dependent measures. Although the threat and threat alleviation groups completed the MCPR at different points (prior to and immediately after the stereotype threat manipulation, respectively), each did complete the measure, and if it served as a threat alleviation opportunity regardless of where it appeared, the non threat group, lacking this opportunity, might have felt more threatened, by the word completion task and by the supposedly benign filler task.

XIV. Exploratory Comparisons Across Experiments

To explore further the pattern of results across both studies, an ANOVA was completed comparing the groups in experiment one and experiment two on reported racism and

stereotypicality. Examining the nature of the difference between 1) the threat-alleviation group in experiment two and the non-threat group in experiment one, 2) the non-threat groups in both experiments, and 3) the threat groups in both experiments, allowed exploration into whether something unique had occurred between the two experiments.

The one way ANOVA indicated a significant difference between the five groups across experiments for modern racism ($F[4,525] = 3.83, p < .005$), old fashioned racism ($F[4,525] = 2.53, p < .05$), symbolic racism ($F[4,524] = 5.39, p < .000$), and stereotypicality ($F[4,525] = 6.45, p < .000$). In essence, the non-threat groups of experiment one and two were significantly different from one another on all racism scales and on stereotypicality. Based on Tukey's post hoc comparisons, the non-threat group in experiment two reported significantly less modern racism ($p < .05$), old fashioned racism ($p < .05$), symbolic racism ($p < .000$), and stereotypicality ($p < .000$) than the non-threat group in experiment one. The threat groups did not differ significantly across experiments. The results of the ANOVA and post hoc analysis comparing the groups across experiments are outlined in Table 18. The means of the Lifestyle Survey, Modern Racism Scale, Old Fashioned Racism Scale, and Symbolic Racism Scale across studies are also graphically depicted in Figures 1-4, respectively.

XV. General Discussion

Although some significant results were obtained in each study, the overall pattern did not support the project's hypotheses. Moreover, the direction of observed differences varied across experiments. For example, although the difference between the threat and non-threat group on the measure of stereotypicality was significant in both experiments, the pattern of the difference was not consistent. Whereas in the first experiment, as expected, the non-threat group reported

significantly *more* stereotypicality than the threat group, in the second experiment, the non-threat group reported significantly *less* stereotypicality than the threat group.

Understanding these conflicting patterns is challenging. Parsimony might suggest that we simply attribute the results to sampling error; that, at the end of the day, in these studies at least, there is nothing to explain. It is also possible that the observed differences are real. In that case, we would need to understand why, against expectations, in experiment two the non-threat group endorsed less racism and stereotypicality than either the threat or threat-alleviation groups.

What distinguished the non-threat group from the others in experiment two? They were older (despite random assignment), but only slightly, and the observed between group differences on outcome measures mostly remained after controlling for age. They were also slightly less anxious (as assessed by the FDAS), but reported anxiety was unrelated to the study's main outcome measures, making it an unlikely candidate for an alternative explanation. Finally, it is possible that the "filler" task that came after the experimental manipulation but before the main dependent measures was not benign as intended. Instead, by focusing participants on their personal shortcomings, it may have made non-threat participants defensive, especially when faced with additional questions concerning possible racism. However, if this were so we would expect a similar effect (perhaps even stronger) for threat participants, which was not evident. Given this uncertainty, any conclusions drawn from these studies should be considered very tentative, and certainly needing replication in the future.

Even expected results were not strong in magnitude or significance, which raises other questions. One explanation could relate to the stereotype threat manipulation itself. Regardless of the difference in wording and the difference in possible choices that could be entered, both groups had to enter race and stereotype related words. Perhaps mere exposure to the task elicited

stereotype threat for *both* the threat and non-threat group; in other words, maybe the threshold for experiencing stereotype threat in this setting was low. The word task was not modified in any way between experiments and evidence supports that the word task worked the way it was intended in both experiments. Regardless of the experiment, the threat group entered significantly more stereotype and race related words than the non-threat group. Furthermore, the threat group in experiment one and the threat group in experiment two entered a similar number of race and stereotype related words. The same was true for the non-threat groups; the non-threat group in experiment one and the non-threat group in experiment two entered a similar number of race and stereotype related words. Lastly, the threat-alleviation group completed the same word task as the threat group and entered a similar number of race and stereotype related words as the threat groups in both experiments (See Tables 4 and 5). Mere exposure also does not explain the change in the reporting pattern between the threat and non-threat groups' means from experiment one to experiment two.

Contrary to the proposed hypotheses, the threat and non-threat groups were not significantly different from one another on the traditional scales of racism in either experiment. The order in which the racism scales were presented may have contributed to those outcomes. Also, the content of the racism scales may have played a role in why threat group was not a predictor of reporting style on those scales. Each racism scale varied in its degree of "face validity" and blatancy. From the least to most benign were the old fashioned racism, symbolic racism, and modern racism scales. In experiments, the content or presentation order of the scales could have elicited stereotype threat in the non-threat group (see "low threshold" argument above). Maybe more blatant scales were more susceptible to showing the effects of stereotype threat. This could explain why, in both experiment one and two, differences were found in the

lifestyle survey (stereotypicality), which was presented at the same time to every participant (and before the racism scales), but not in the racism scales. Instead, all participants were exposed to all of the racism scales in a randomized order, and randomizing could have “washed out” any differences the participants may have had on any specific scale or particular order of scale presentation. Unfortunately, it is impossible to analyze if some scales or orders were more susceptible to stereotype threat based on their order of presentation because randomization was computer generated and tracking that order was not an available capability in the survey software (SurveyMonkey).

Another explanation for the lack of significant differences between the threat and non-threat groups on the measures of racism could be that the prerequisites for stereotype threat were not met. Participants’ racial identity may not have been salient, and it is possible participants did not care enough about the implications of endorsing stereotypicality or racist attitudes; thus maybe the mechanisms necessary for stereotype threat were not engaged. The experiment was completed online, with confidentiality assured, possibly reducing the salience of racial and ethnic identity for some participants. It is possible the stereotype threat manipulation was too weak; perhaps participants did not believe the characterization of the word task, or both. Perhaps the wording and nature of the task was not strong enough to elicit stereotype threat for the threat group. At the same time, perhaps the non-threat group did not believe the task only “measured knowledge” and not their own personal biases. Participants also participated for extra credit and the survey software prompted individuals to answer missed questions. As a result, some mechanisms for stereotype threat, like anxiety or disengagement from the task, may not have materialized, thereby obscuring possible group differences. Finally, it also appears the participants in this experiment were not especially motivated to control prejudiced reactions. In

experiment one, on the MCPR out of a possible range of -51 to +51, the lowest recorded score was -32, the highest was 40, and the average was 3.75. In terms of the Concern with Acting Prejudice subscale of the MCPR - which assesses private concern about harboring racist and prejudicial thoughts and feelings, and concern about engaging in those behaviors - out of a possible range of -27 to 27, the lowest recorded score was -22, the highest was 27, and the average was 3.27. This relatively modest concern with controlling prejudiced reactions may explain why, contrary to stereotype threat theory, neither motivation to control prejudice nor its subscales moderated the strength of the relationship between being in the threat group and outcomes on the stereotypicality or racism scales.

The preceding discussion suggests two different (and opposite) possibilities for the general lack of between-group differences across experiments -- a “low threshold” explanation that posits that *all* groups were essentially in a stereotype threat environment, and a “didn’t care” explanation that says that the preconditions for experiencing stereotype threat were not present, and thus that *no* group was in a stereotype threat environment.

To examine this issue more closely, I compared the overall levels of reporting on measures of racism in my studies with those from other recent studies using similar samples (i.e., White college students). Unfortunately, direct comparison with most of these contemporary studies was problematic, for several reasons. First, studies differed in the scaling of Likert-type responses. For example, one might use a 5-point scale with a neutral middle response, while my study used a 4-point scale with no neutral option. Although one can transform one scale to match the other (which I did), the resulting comparison will be inexact because of arbitrary decisions necessary for such a transformation (e.g., how to address “neutral” responses). Second, in some studies researchers changed the wording of items to make them more relevant

for their question of interest (e.g., changing the word “Black” to “minorities”). Third, sometimes studies used overlapping but not identical items from a scale. Finally, although in all studies the majority of the sample was White, in some research, participants were described as “non-Black,” meaning that other races and ethnicities participated. Consequently, the comparisons that follow are only estimations of the typicality of my findings with those of other studies using similar samples and measures.

First, the grand mean was calculated for the MRS, OFRS, and SRS across both of my studies. Additionally, overall percentage agreement was calculated for race and social policy questions also asked in other contemporary studies with White college student samples. In my studies, the grand mean for the MRS was 2.38, which, compared to Poteat and Spainerman’s (2012) study using 342 White college students, was higher than the mean evidenced by women ($M=1.99$) but comparable the score observed amongst males ($M=2.32$). The MRS in the current study was also comparable to the observed means in Williams and Johnson’s (2011) study on multicultural attitudes amongst college students (2.41); their study included 11% Blacks and 1% each Asian-American/Pacific, Latino/a, Middle Eastern American students, in addition to White students. Finally, the MRS mean in the current study was higher than the oft cited Swim study on sexism and racism which evidenced a mean transformed score of 1.88 (Swim, Aikin, Hall, & Hunter, 1995).

In terms of the OFRS, the grand mean in the current study was 1.68, higher than the transformed mean observed in the Swim et al (1995) study ($M=1.49$).

Regarding the SRS, the grand mean in the current study ($M=18.94$) was within the range of transformed reported means by Inzlicht and colleagues (2012) in their study on mimicry and racial prejudice ($M= 17.68, 17.92, \text{ and } 20.56$). When comparing the items on the SRS the current

study has in common with questions asked of 18-25 year old college educated individuals from the American National Election Study 2008 (ANES; $n < 200$, $M = 3.36$) and data collected from undergraduates from the University of Alabama in the spring of 2013 ($n = 3,037$; $M = 3.46$), the grand mean in the current study was lower ($M = 3.05$) (Hughes, 2013, 2014).

When comparing the items on the Race and Social Policy questionnaire that were asked of three different samples (the ANES subset, students of University of Alabama, and participants in the current study), a similar percentage of participants in the current study (50%) were against preferential hiring of African Americans, compared to 51.2% and 46.4% of the ANES subset and University of Alabama students, respectively (Hughes, 2013, 2014; ANES, 2008). On the other hand, a lower percentage of participants in the current study (17%) were in agreement that it was not the government's business to ensure fair hiring of African Americans, compared to 23% and 35.4% of the ANES subset and University of Alabama students, respectively (Hughes, 2013, 2014; ANES, 2008).

Overall, the mean scores in the current study compared to other research varied; some means were slightly higher, others slightly lower. The sample means identified in this study are not outliers when compared to contemporary findings with similar samples. This would argue against a "low threshold" (everyone under stereotype threat) interpretation of the current results, or at least against the idea that the participants in the current study felt uniquely threatened. However, the previously noted problems with making clear-cut comparisons across studies means that additional research into the potential of stereotype threat to impact response bias is warranted.

XVI. Limitations

There were several limitations to this study. The study only examined stereotype threat related to Whites' concern that they may be perceived as racist or prejudiced. It did not examine any other domains that may be stereotype threatening to Whites, or any other domains that may elicit stereotype threat and perhaps survey response bias for other social groups. In that way the focus of this study was quite limited.

The use of a convenience sample consisting of White, predominately female, college students limits generalizability. The stereotype threat literature indicates that some environmental cues could reduce stereotype threat and this sample consisted of White students attending a predominately White university. At a macro level, the homogeneity of their academic environment may have lowered concern about and motivation to control prejudiced reactions. Respondents completed the experiment online, which provided several benefits, like confidentiality and convenience to participate at a time and place of the participant's choosing. Respondents participated for extra credit and the web based surveys allowed for prompts encouraging participants to complete all questions. These features may have been helpful from a data collection standpoint, perhaps making quitting the survey more difficult, reducing missing or invalid data, and encouraging research participation. However, these same features may have reduced the likelihood of activating underlying mechanisms of stereotype threat, for example ego depletion and anxiety. Furthermore, these features may have reduced the likelihood of participants engaging in one potential consequence of stereotype threat, disengagement from the task via quitting, or providing "bad" data.

The manipulation used in the study may have been too weak or easy to discount. Also, the study lacked some features which may have increased the salience of respondents' race and

elicited stereotype threat, for example manipulating information about the race of the researcher or including the presence of others.

Finally, this study also incorporated techniques and measures that were developed by the researcher, specifically the mock word task used as the stereotype threat manipulation, the Lifestyle Survey used to measure stereotypicality, and the personal traits filler task. Several safeguards to reduce researcher bias were employed, including use of techniques, methods, and wording prevalent in previously published peer reviewed research, receiving feedback from research team members and individuals unaffiliated with the research study, random assignment of participants, management of random assignment by research team members other than the primary researcher, and piloting the measures. While these steps may have minimized researcher bias (e.g., expectancy effects), they also involved tasks and measures that, relatively speaking, are less known in terms of their reliability and validity. The more “noise” introduced by these novel tasks and measures, the more difficult it might be to detect stereotype threat effects.

XVII. Clinical Applications

Current results notwithstanding, understanding the factors that lead to stereotype threat and understanding the implications of stereotype threat may be important for clinical practice. In a broad sense, some of the behavioral consequences of stereotype threat, like disengagement from domains related to medical or mental health care, could explain some disparities in health care. In the short term, consequences of stereotype threat like disengagement are helpful for maintaining an individual’s self-esteem. In the long run, however, individuals chronically dealing with stereotype threat may move from disengagement to disidentification with a domain. The person may adopt a belief that the domain in which a negative stereotype exists about a group they identify with, is irrelevant. Resultantly, a person may avoid or completely detach

their identity from the domain, allowing them to no longer deem success or engagement in the domain as important for maintaining their self-esteem (Burgess et al., 2010; Steele et al., 2002). Research suggests in the realm of academics, this may manifest in poor academic performance, poor motivation to do well, and perhaps even dropping out of school (Major et al., 1998). However, in the realm of healthcare, this may manifest via lower help seeking behaviors, discounting the advice of a provider, reduced treatment adherence, and treatment drop-out (Burgess et al., 2010; John F. Dovidio et al., 2008).

Understanding the nuances of stereotype threat, specifically as it relates to survey response bias, is important in clinical and research applications. Self-report is the primary way clinicians gather data regarding a client's needs. In the course of treatment, clinicians may gather information from clients via verbal communication or via paper and pencil assessments tools. Over the course of treatment, bias or underreporting related to stereotype threat could be problematic given that accurate self-report is important for diagnosis and treatment planning. In the clinical context, social implications could include problems establishing rapport as well as poorer communication between provider and clients. Implications of stereotype threat in the clinical context could also include discounting feedback from providers. As it relates to behavioral change, disidentification from mental health treatment is a particularly problematic consequence of stereotype threat. Clinicians may benefit from being aware of the role stereotype threat may play in their face to face interactions with clients, in self-report, and over the course of treatment; clients may benefit from working with clinicians who are knowledgeable about and prudently employ techniques to buffer against stereotype threat in the clinical context.

Many of the implications of stereotype threat related to clinical applications are relevant for research applications as well. Results of psychological research have an impact on our

understanding of human and social behavior, which also have implications for employing effective treatment and strategies for behavioral, organizational, and social change. Since self-report remains the most popular method of data collection in psychological research, it is important to ensure we are gathering data that is as accurate and free of bias as possible. Therefore, the impact stereotype threat may have on response patterns should be a continuing focus of psychological research.

XVIII. Future Directions

Given that stereotype threat is a situationally based phenomenon, researchers may consider modifying some features of the current study in future research. For example, using a similar sample from different contexts could provide insight into the circumstances that place respondents at risk for responding in a manner consistent with stereotype threat. For example, a researcher could choose a homogenous sample from heterogeneous communities or schools. Furthermore, domains that may arouse stereotype threat in one population may not do so in others. Identifying which domains and contexts have the potential to be stereotype threatening for what populations may be helpful in understanding the mechanisms of stereotype threat and expanding the theory. Understanding these interactions and mechanisms may also help us identify how best to reduce stereotype threat.

Future stereotype threat research may also focus on identifying features of the research environment that may arouse stereotype threat, how those features impact collected data, and how to reduce or eliminate the impact of those features, if necessary. That is, researchers may want to investigate what social and psychological aspects of the research experience could elicit stereotype threat. Researchers could continue to investigate the impact of stereotype threat on survey response bias, but incorporate a “live” component, in which interactions occur between

respondents, researchers, confederates, or all three. Researchers could also investigate whether particular measures, methods of data collection, or even the order of presentation of study materials play a role in stereotype threat or survey response bias. The utility and validity of the materials and measures included in the current study could also be investigated and used in future studies for this purpose. Studies of this nature could have implications not only for survey based data collection, but also research participation, academic performance, social interactions, medical adherence, and behavioral health.

Stereotype threat theory purports that individuals with more at stake in a relevant domain may be at risk for experiencing stereotype threat. For example, past research revealed in a high stereotype threat condition, women with “very strong math backgrounds” underperformed on a difficult math test in comparison to equally qualified men, despite doing as well on the easy test (1999). Thus, individuals who are minorities, identify with their social group, and, in the context of research, are placed in the position to potentially acknowledge negative stereotypes about that group may be at risk for stereotype threat. The impact of chronic exposure to stereotype threatening situations and its impact on domains such as social identity (i.e. cultural, ethnic, racial, sexual etc.), help seeking behavior related to mental health or medical concerns, self-report data related to social psychological or clinical domains, and treatment adherence in medical and psychological domains, are yet to be fully understood. Yet, these domains are often cited as areas of concern and further study in research with minorities. The role of social identity or perceived position within a group as a source of variability in stereotype threat or its impact was not directly investigated in this study. Thus, this area may be a fruitful area for future research, particularly with minority and underserved populations.

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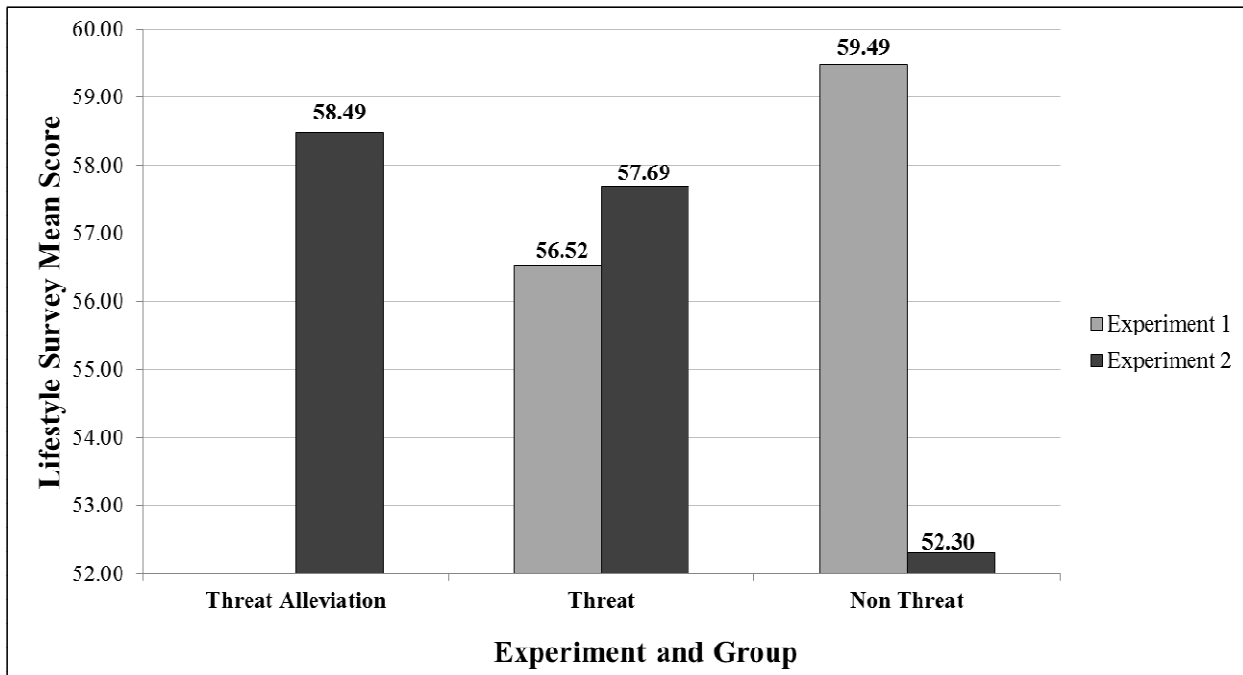
Figure 1. Comparison of the Lifestyle Survey Across Experiments and Groups

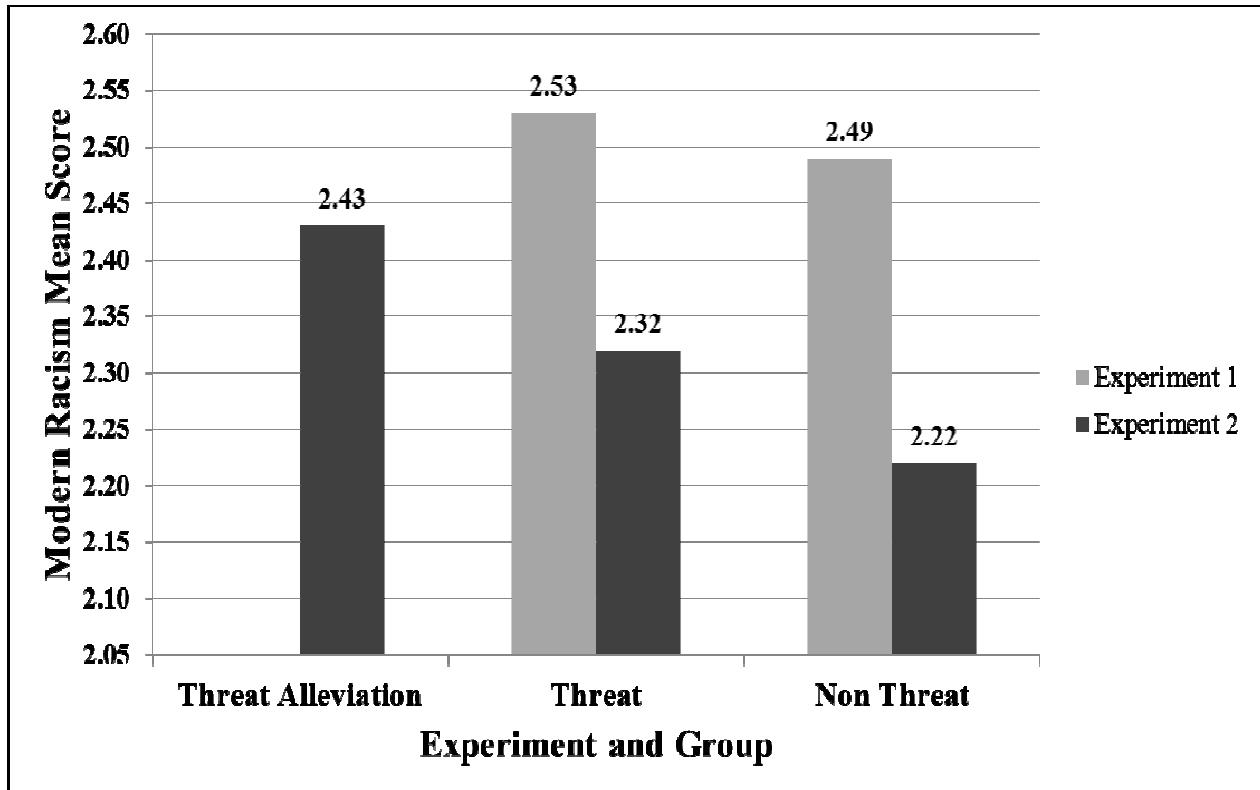
Figure 2. Mean Comparison of the Modern Racism Scale Across Experiments and Groups

Figure 3. Mean Comparison of the Old Fashioned Racism Scale Across Experiments and Groups

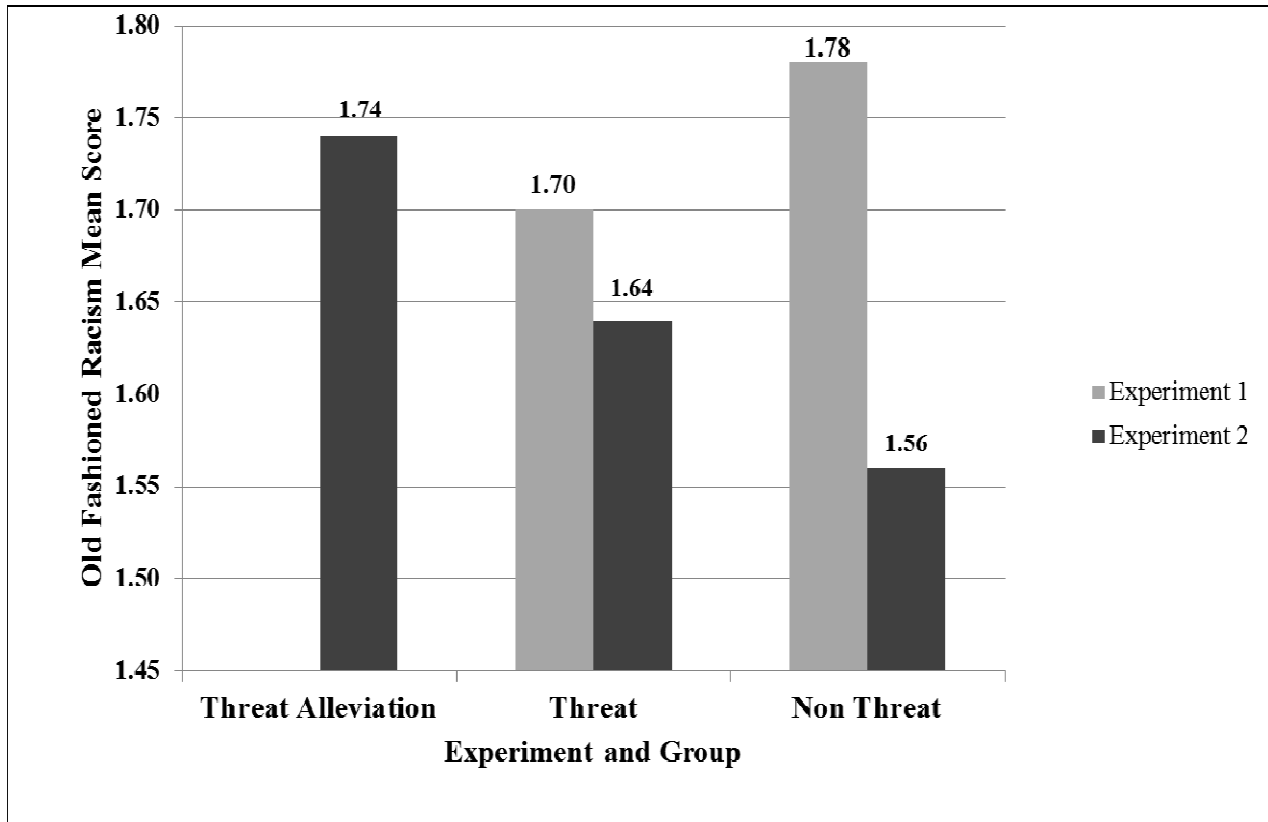


Figure 4. Mean Comparison of the Symbolic Racism Scale Across Experiments and Groups

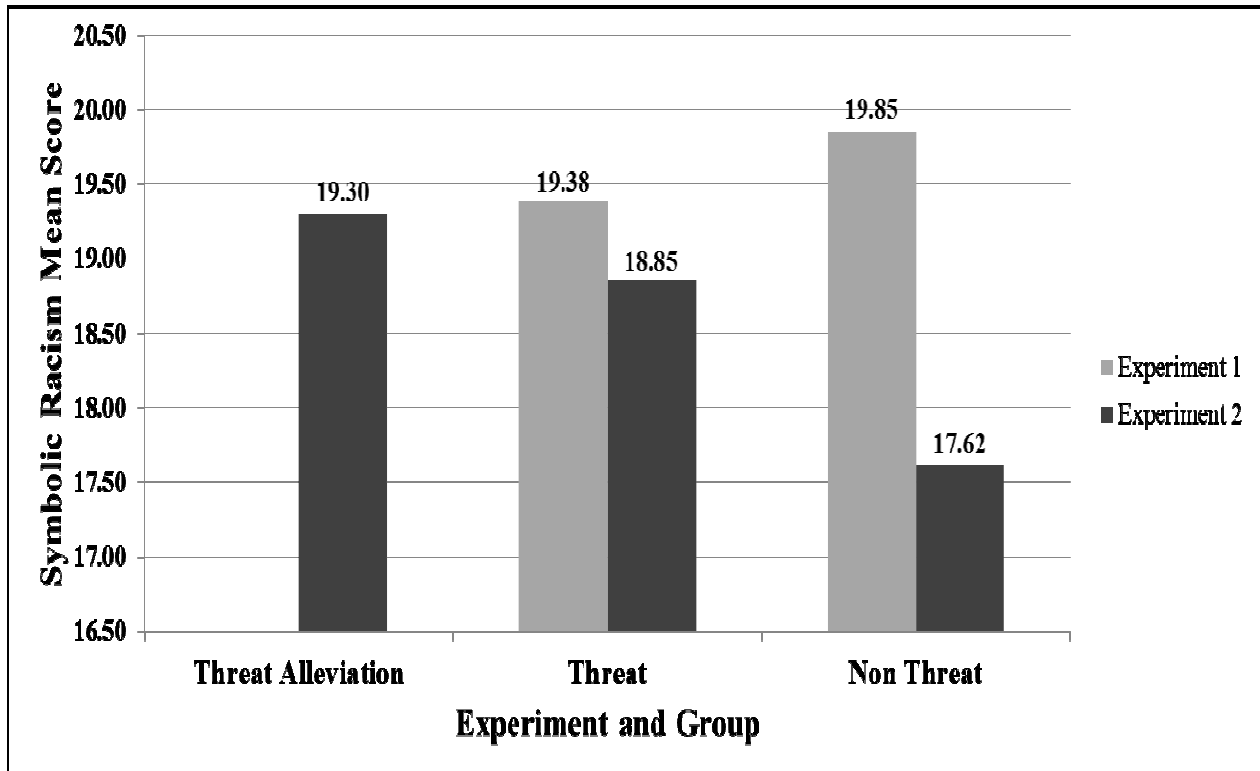


Table 1. Experiment 1: Data Breakdown

Signed up on SONA: 418		
	Signed up but didn't participate: 12	

Participated in Part One: 406		
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Not invited for Part Two: 57		
	Duplicate Responding in Part One: 30	
	One or more red flags in Part One: 27	

Sent Email Invitation for Part Two: 349		
	Assigned to Threat Group: 165	Assigned to Non-threat group: 184

Total Participated in Part Two: 270		
	Threat Group: 126	Non-threat Group: 144

Total White Participated in Part Two: 222		
	Threat Group: 106	Non-threat Group: 116

Removed from Final Analysis: 20		
	Removed from Threat Group: 6	Removed from Non-threat Group: 14
	Duplicate Responding: 5	Duplicate Responding: 11
	One or more red flags: 1	One or more red flags: 3

Included in Final Analysis: 202		
	Threat: 100	Non-threat: 102

Table 2. Experiment 1: Sample Characteristics

		Non-threat	% within group	Threat	% within group	Total Sample	
Age (mean)		19.53		19.55		19.54	
Gender	Female	76	74.5%	78	78%	154	76%
	Male	26	25.5%	22	22%	48	24%
Academic Standing	Freshman	29	28.4%	25	25%	54	27%
	Sophomore	25	24.5%	38	38%	63	31%
	Junior	26	25.5%	18	18%	44	22%
	Senior	22	21.6%	18	18%	40	20%
	Master's Student	0	0.0%	1	1%	1	0.5%
	Doctoral	0	0.0%	0	0%	0	0.0%
	Other	0	0.0%	0	0%	0	0.0%
Residency	Born in the US	99	97.1%	98	98%	197	97.5%
	Moved before 15	1	1.0%	1	1%	2	1.0%
	Moved after 15	2	2.0%	1	1%	3	1.5%
Language Spoken With Family	English Only	99	97.1%	96	96%	195	96.5%
	English and another Language	2	2.0%	3	3%	5	2.5%
	Another Language Only	1	1.0%	1	1%	2	1.0%
N		102	50.5%	100	49.5%	202	

Table 3. Experiment 1: Threat vs. Non-threat on White Racial Identity Attitude Scales

WRIAS Category	Threat Group		Non-threat Group		χ^2	df	<i>p</i>
	N	% within group	N	% within group			
Contact	15	15.2%	17	16.8%	3.742	4	.44
Disintegration	23	23.2%	21	20.8%			
Reintegration	20	20.2%	19	18.8%			
Pseudoindependence	25	25.3%	18	17.8%			
Autonomy	16	16.2%	26	25.7%			

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 4. Experiment 1: Means, Standard Deviations, and Cronbach's alpha

Scale		Threat (n=100)	Non-threat (n=102)	Overall
CESD	Mean	13.06	14.41	13.74
	SD	7.31	8.33	7.85
	Cronbach's alpha	0.84	0.88	0.86
IPIP	Mean	26.72	26.30	26.49
	SD	3.53	4.60	4.09
	Cronbach's alpha	0.54	0.69	0.64
MCPR	Mean	3.82	3.68	3.75
	SD	13.28	12.81	13.01
	Cronbach's alpha	0.83	0.80	0.82
MCPR_CAP	Mean	3.06	3.48	3.27
	SD	8.24	8.31	8.26
	Cronbach's alpha	0.81	0.78	0.79
MCPR_RAD	Mean	-1.55	-1.98	-1.77
	SD	4.38	3.94	4.16
	Cronbach's alpha	0.64	0.48	0.57
FDAS	Mean	63.76	67.74	65.76
	SD	18.02	17.19	17.68
	Cronbach's alpha	0.92	0.90	0.91
MRS	Mean	2.53	2.49	2.51
	SD	0.64	0.60	0.62
	Cronbach's alpha	0.72	0.65	0.69
OFRS	Mean	1.7	1.78	1.74
	SD	0.54	0.63	0.59
	Cronbach's alpha	0.66	0.77	0.72
SRS	Mean	19.38	19.85	19.62
	SD	3.66	3.68	3.67
	Cronbach's alpha	0.75	0.76	0.76
RSP	Mean	25.33	25.39	25.36
	SD	3.81	4.06	3.93
	Cronbach's alpha	0.65	0.67	0.66
LSS	Mean	56.52	59.49	58.02
	SD	10.49	10.98	10.82
	Cronbach's alpha	0.82	0.81	0.82
WRIAS <i>Cronbach's Alpha</i>	Contact	-	-	0.44
	Disintegration	-	-	0.77
	Reintegration	-	-	0.8
	Pseudo-Independence	-	-	0.63
	Autonomy	-	-	0.6
Word Task	Mean	9.73	3.33	6.43

Table 5. Experiment 1: Summary of the Two Step Moderation Analysis with MCPR moderating the Relationship between Group Status and Outcome Variables

Variable	<i>b</i>	SE <i>b</i>	B	<i>R</i> ²	<i>R</i> ² Change	<i>p</i> value
<u>MRS as the Outcome Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	0.04	0.09	0.03			0.63
Motivation to Control Prejudice	-0.02	0.00	-0.34	0.12		0.00***
Step 2a (interaction Effect)	-0.01	0.01	-0.11	0.12	0.01	0.24
<u>OFRS as the Criterion Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	-0.08	0.08	-0.07			0.34
Motivation to Control Prejudice	-0.01	0.00	-0.22	0.05		0.00***
Step 2a (interaction Effect)	0.00	0.01	-0.04	0.06	0.00	0.72
<u>SRS as the Criterion Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	-0.47	0.52	-0.06			0.36
Motivation to Control Prejudice	-0.09	0.02	-0.32	0.11		0.000***
Step 2a (interaction Effect)	-0.01	0.04	-0.02	0.11	0.00	0.83

Note:

b = unstandardized regression coefficient. SE *b* = standard error of unstandardized regression coefficient.

B = standardized regression coefficient. *R*² = proportion of variance in criterion variable accounted for by all predictors in regression equation. *R*² change = incremental variance accounted for by predictor variables entered at Step 2.

* *p*<.05, ***p*<.01, ****p*<.001

Table 6. Experiment 1: Summary of the Two Step Moderation Analysis with MCPR CAP moderating the Relationship between Group Status and Outcome Variables

Variable	<i>b</i>	SE <i>b</i>	B	<i>R</i> ²	<i>R</i> ² Change	<i>p</i> value
<u>MRS as the Outcome Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	0.04	0.09	0.03			0.63
Motivation to Control Prejudice Concern with Acting Prejudice	-0.03	0.01	-0.36	0.13		0.000***
Step 2a (interaction Effect)						
	-0.01	-0.01	-0.09	0.13	0.00	0.36
<u>OFRS as the Criterion Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	-0.08	0.08	-0.07			0.34
Motivation to Control Prejudice Concern with Acting Prejudice	-0.01	0.01	-0.20	0.05		0.004**
Step 2a (interaction Effect)						
	-0.01	0.01	-0.08	0.05	0.04	0.41
<u>SRS as the Criterion Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	-0.47	0.52	-0.06			0.36
Motivation to Control Prejudice Concern with Acting Prejudice	-0.14	0.03	-0.32	0.11		0.00***
Step 2a (interaction Effect)						
	-0.01	0.06	-0.02	0.11	0.00	0.86

Note:

b = unstandardized regression coefficient. SE *b* = standard error of unstandardized regression coefficient.

B = standardized regression coefficient. *R*² = proportion of variance in criterion variable accounted for by all predictors in regression equation. *R*² change = incremental variance accounted for by predictor variables entered at Step 2.

* *p*<.05, ***p*<.01, ****p*<.001

Table 7. Experiment 1: Summary of the Two Step Moderation Analysis with MCPR RAD moderating the Relationship between Group Status and Outcome Variables

Variable	<i>b</i>	SE <i>b</i>	B	<i>R</i> ²	<i>R</i> ² Change	<i>p</i> value
<u>MRS as the Outcome Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	0.04	0.09	0.03			0.63
Motivation to Control Prejudice Restraint to Avoid Dispute	-0.03	0.01	-0.19	0.04		0.01**
Step 2a (interaction Effect)						
	-0.01	0.02	-0.05	0.04	0.00	0.62
<u>OFRS as the Criterion Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	-0.08	0.08	-0.07			0.34
Motivation to Control Prejudice Restraint to Avoid Dispute	-0.01	0.01	-0.08	0.01		0.29
Step 2a (interaction Effect)						
	-0.02	0.02	-0.08	0.01	0.00	0.44
<u>SRS as the Criterion Variable</u>						
Step 1a (main effects)						
Group Assignment (GA)	-0.47	0.52	-0.06			0.36
Motivation to Control Prejudice Restraint to Avoid Dispute	-0.15	0.06	-0.17	0.03		0.01**
Step 2a (interaction Effect)						
	-0.03	0.12	-0.02	0.03	0.00	0.84

Note:

b = unstandardized regression coefficient. SE *b* = standard error of unstandardized regression coefficient.

B = standardized regression coefficient. *R*² = proportion of variance in criterion variable accounted for by all predictors in regression equation. *R*² change = incremental variance accounted for by predictor variables entered at Step 2.

* *p*<.05, ***p*<.01, ****p*<.001

Table 8. Experiment 1: Summary of the Two Step Moderation Analysis with MCPR and subscales moderating the Relationship between Group Status and Lifestyle Survey

Variable	<i>b</i>	SE <i>b</i>	B	R^2	R^2 Change	<i>p</i> value
<u>MCPR as the Moderator of LSS (n = 202)</u>						
Step 1a (main effects)						
Group Assignment (GA)	-2.97	1.51	-0.14			.05*
Motivation to Control Prejudice	-0.21	0.06	-0.25	0.08		.000***
Step 2a (interaction Effect)	-0.10	0.11	-0.09	0.09	0.00	.38
<u>MCPR CAP as the Moderator of LSS (n = 202)</u>						
Step 1a (main effects)						
Group Assignment (GA)	-2.97	1.51	-0.14			.05*
Motivation to Control Prejudice	-0.36	0.09	-0.27	0.09		.000***
Concern with Acting Prejudice						
Step 2a (interaction Effect)	-0.17	0.18	-0.09	0.10	0.00	.34
<u>MCPR RAD as the Moderator LSS (n=202)</u>						
Step 1a (main effects)						
Group Assignment (GA)	-2.97	1.51	-0.14			.05*
Motivation to Control Prejudice	-0.30	0.18	-0.12	0.03		.10
Restraint to Avoid Dispute						
Step 2a (interaction Effect)	-0.47	0.36	-0.13	0.04	0.01	.20
<i>Note:</i>						
b = unstandardized regression coefficient. SE b = standard error of unstandardized regression coefficient.						
B = standardized regression coefficient. R^2 = proportion of variance in criterion variable accounted for by all predictors in regression equation. R^2 change = incremental variance accounted for by predictor variables entered at Step 2.						
* $p < .05$, ** $p < .01$, *** $p < .001$						

Table 9. Experiment 1: Correlations between Motivation to Control Prejudice, Race and Social Policy Questions, Racism Scales, and the Lifestyle Survey

	1	2	3	4	5	6	7	8
	MCPR	MCPR-CAP	MCPR-RAD	MRS	OFRS	SRS	RSP	LSS
1. MCPR	1	.90***	.74***	-.34***	-.22**	-.32***	-.26***	-.25***
2. MCPR_CAP		1	.47***	-.36***	-.20**	-.32***	-.27***	-.27***
3. MCPR_RAD			1	-.19**	-.08	-.18*	-.13	-.12
4. MRS				1	.33***	.73***	.48***	.41***
5. OFRS					1	.32***	.24**	.53***
6. SRS						1	.58***	.44***
7. RSP							1	.29**
8. LSS								1

*p< .05, **p<.01, ***p<.001, -not investigated

1. Motivation to Control Prejudice (MCPR)
2. Motivation to Control Prejudice Concern with Acting Prejudice
3. Motivation to Control Prejudice Restraint to Avoid Dispute
4. Modern Racism Scale
5. Old Fashioned Racism Scale
6. Symbolic Racism Scale
7. Race and Social Policy Questions
8. Lifestyle Survey

Table 10. Experiment 1: Correlations between Motivation to Control Prejudice and Fillers

	1 MCPR	2 MCPR_CAP	3 MCPR_RAD	4 CESD	5 FDAS	6 IPIP
1. MCPR	1	.90**	.74**	.03	.12	-.01
2. MCPR_CAP		1	.47**	.04	.17*	.08
3. MCPR_RAD			1	-.00	.05	-.16*
4. CESD				1	.68***	-.21**
5. FDAS					1	-.06
6. IPIP						1

*p< .05, **p<.01, ***p<.001, -not investigated

1. Motivation to Control Prejudice (MCPR)

2. Motivation to Control Prejudice Concern with Acting Prejudice

3. Motivation to Control Prejudice Restraint to Avoid Dispute

4. Center for Epidemiologic Studies Depression Scale

5. The Four Dimensional Anxiety Scale

6. The International Personality Item Pool: Social/Personal/Emotional Intelligence Subscale of the Values in Action Scale

Table 11. Experiment 1: Correlations between Fillers, Race and Social Policy Questions, Racism Scales, and Lifestyle Survey

	1 CESD	2 FDAS	3 IPIP	4 MRS	5 OFRS	6 SRS	7 RSP	8 LSS
1. CESD	1	.68***	-.21**	.04	-.01	-.02	-.05	.02
2. FDAS		1	-.06	.00	.02	.06	-.04	.05
3. IPIP			1	-.11	-.13	.01	-.03	-.07
4. MRS				1	.33***	.73***	.48**	.41***
5. OFRS					1	.32***	.24**	.53***
6. SRS						1	.58***	.44***
7. RSP							1	.29**
8. LSS								1

*p< .05, **p<.01, ***p<.001, -not investigated

1. Center for Epidemiologic Studies Depression Scale

2. The Four Dimensional Anxiety Scale

3. The International Personality Item Pool: Social/Personal/Emotional Intelligence Subscale of the Values in Action Scale

4. Modern Racism Scale

5. Old Fashioned Racism Scale

6. Symbolic Racism Scale

7. Race and Social Policy Questions

8. Lifestyle Survey

Table 12. Experiment 2: Data Breakdown

Signed up on SONA: 621	Assigned to Threat: 218	Assigned to Non-threat: 194	Assigned to Threat-alleviation: 209
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Number of Respondents: 486	Threat: 165	Non-threat: 161	Threat-alleviation: 160
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Number of Respondents Who Identified as White	Threat: 127	Non-threat: Unknown	Threat-alleviation: 122
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Number White Respondents who Completed the Study: 354	Threat: 118	Non-threat: 124	Threat-alleviation: 112
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Removed From Final Analysis: 26	Threat: 8	Non-threat: 4	Threat-alleviation: 14
Duplicate Responding:	1	3	4
One or more red flags:	7	1	10

Included in Final Analysis: 328	Threat: 110	Non-threat: 120	Threat-alleviation: 98
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Table 13. Experiment 2: Sample Characteristics

		Threat	% within group	Non-threat	% within group	Threat-alleviation	% within group	Total Sample	
Age (mean)		19.68	-	20.22	-	19.66	-	19.87	-
Gender	Female	85	77%	97	81%	69	70%	251	77%
	Male	25	23%	23	19%	29	30%	77	23%
Academic Standing	Freshman	38	35%	32	27%	28	29%	98	30%
	Sophomore	27	25%	23	19%	25	26%	75	23%
	Junior	27	25%	35	29%	27	28%	89	27%
	Senior	18	16%	30	25%	18	18%	66	20%
	Master's Student	0	0%	0	0%	0	0%	0	0%
	Doctoral	0	0%	0	0%	0	0%	0	0%
	Other	0	0%	0	0%	0	0%	0	0%
Residency	Born in the US	108	98%	116	97%	95	97%	319	97%
	Moved before 15	2	2%	3	3%	3	3%	8	2%
	Moved after 15	0	0%	1	1%	0	0%	1	0%
Language Spoken With Family	English Only	106	96%	116	97%	94	96%	316	96%
	English and another Language	3	3%	2	2%	3	3%	8	2%
	Another Language Only	1	1%	2	2%	1	1%	4	1%
N		110	33.5%	120	36.6%	98	29.9%	328	-

Table 14: Experiment 2: Threat, Non-threat, Threat-alleviation Comparison Across White Racial Identity Attitude Scales

WRIAS Category	Experimental Group						x^2	df	<i>p</i>
	Threat		Non-threat		Threat-alleviation				
	N	% within group	N	% within group	N	% within group			
Contact	23	21%	26	22%	23	24%	.40	8	.855
Disintegration	24	22%	18	15%	19	19%			
Reintegration	25	23%	23	19%	22	22%			
Pseudoindependence	20	18%	27	23%	20	20%			
Autonomy	18	16%	25	21%	14	14%			

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 15. Experiment 2: Means, Standard Deviations, and Cronbach's Alpha

Scale		Threat (110)	Non-threat (120)	Threat-alleviation (98)	Overall
CESD	Mean	12.97	12.57	13.48	12.97
	SD	10.54	9.03	9.83	9.76
	Cronbach's alpha	0.94	0.91	0.91	0.92
IPIP	Mean	26.95	26.53	25.8	26.45
	SD	3.62	3.94	4.35	3.99
	Cronbach's alpha	0.72	0.77	0.79	0.77
MCPR	Mean	5.2	-	5.04	5.12
	SD	11.07	-	13.14	12.09
	Cronbach's alpha	0.78	-	0.86	0.77
MCPR_CAP	Mean	4.17	-	3.67	3.98
	SD	7.17	-	8.6	7.88
	Cronbach's alpha	0.76	-	0.85	0.81
MCPR_RAD	Mean	-1.2	-	-1.09	-1.2
	SD	4.01	-	4.01	3.99
	Cronbach's alpha	0.67	-	0.65	0.65
FDAS	Mean	73.12	66.38	68.32	69.32
	SD	21.3	18.98	16.88	19.39
	Cronbach's alpha	0.94	0.94	0.91	0.93
MRS	Mean	2.32	2.22	2.43	2.31
	SD	0.75	0.69	0.73	0.72
	Cronbach's alpha	0.81	0.73	0.76	0.77
OFRS	Mean	1.64	1.56	1.74	1.64
	SD	0.51	0.51	0.67	0.57
	Cronbach's alpha	0.65	0.74	0.84	0.76
SRS	Mean	18.85	17.62	19.30	18.53
	SD	3.6	4.19	4.26	4.08
	Cronbach's alpha	0.73	0.78	0.82	0.78
RSP	Mean	25.37	25.10	25.54	25.32
	SD	3.74	4.16	3.99	3.97
	Cronbach's alpha	.65	.68	.64	0.65
LSS	Mean	57.69	52.3	58.49	55.96
	SD	12.17	12.13	12.59	12.56
	Cronbach's alpha				0.86
WRIAS <i>Cronbach's Alpha</i>	Contact	-	-	-	0.4
	Disintegration	-	-	-	0.74
	Reintegration	-	-	-	0.79
	Pseudo- Independence	-	-	-	0.69
	Autonomy	-	-	-	0.67
Word Task	Mean	9.74	2.47	9.38	6.97

Table 16. Experiment 2: Summary of ANOVA Analysis – Group Differences on Race and Social Policy Questions and Racism Scales.

Scale	Group	N	Mean	df	F-Statistic	Significance
MRS	Threat	110	2.32	2,325	2.378	0.094
	Non-threat	120	2.22			
	Threat-alleviation	98	2.43			
OFRS	Threat	110	1.64	2,325	2.895	0.057
	Non-threat	120	1.56			
	Threat-alleviation	98	1.74			
SRS	Threat	110	18.85	2,325	5.198	0.006
	Non-threat	120	17.62			
	Threat-alleviation	98	19.30			
RSP	Threat	110	25.37	2,325	0.345	0.709
	Non-threat	120	25.10			
	Threat-alleviation	98	25.54			
LSS	Threat	110	57.69	2,325	8.502	0.000
	Non-threat	120	52.30			
	Threat-alleviation	98	58.50			

Tukey HSD Multiple Comparisons

Scale	Group A	Group B	Mean Difference (A-B)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
MRS	Threat-alleviation	Non-threat	0.21395	0.076	0.0172	0.445
OFRS	Threat-alleviation	Non-threat	.18484*	0.044	0.004	0.3657
SRS	Threat	Non-threat	1.22879	0.056	-0.0226	2.4802
	Threat-alleviation	Non-threat	1.67925**	0.007	0.3885	2.97
LSS	Threat	Non-threat	5.39091**	0.003	1.5743	9.2076
	Threat-alleviation	Non-threat	6.1898**	0.001	2.2531	10.1265
	Threat-alleviation	Threat	0.79889	0.886	-3.2174	4.8152

*p< .05, **p<.01, ***p<.001, -not investigated

Table 17. Experiment 2: Correlations between Filler Scales, Outcomes Scales, and Age

	1 CESD	2 IPIP	3 FDAS	4 MRS	5 OFRS	6 SRS	7 RSP	8 LSS	9 AGE
1. CESD	1	-.22**	.70***	.02	.03	-.06	-.08	-.05	.04
2. IPIP		1	-.15*	.00	-.24***	.06	.07	-.02	-.02
3. FDAS			1	.02	.10	.10	-.03	.02	-.05
4. MRS				1	.47***	.72***	.50***	.55***	-.15**
5. OFRS					1	.40***	.25***	.52***	-.13*
6. SRS						1	.59***	.54***	-.11
7. RSP							1	.41***	-.05
8. LSS								1	-.14*
9. AGE									1

*p< .05, **p<.01, ***p<.001, -not investigated

1. Center for Epidemiologic Studies Depression Scale

2. The International Personality Item Pool: Social/Personal/Emotional Intelligence Subscale of the Values in Action Scale

3. The Four Dimensional Anxiety Scale Motivation to Control Prejudice Restraint to Avoid Dispute

4. Modern Racism Scale

5. Old Fashioned Racism Scale

6. Symbolic Racism Scale

7. Race and Social Policy Questions

8. Lifestyle Survey

9. Age

Table 18. Exploratory Analysis- ANOVA comparisons Across Experiments.

Scale	Group	N	Mean	df	F-Statistic	Significance
MRS	Threat-alleviation (Exp. 2)	98	2.43	4,525	3.834	.004
	Experiment 1 Threat	100	2.53			
	Experiment 2 Threat	110	2.32			
	Experiment 1 Non-threat	102	2.49			
	Experiment 2 Non-threat	120	2.22			
OFRS	Threat-alleviation (Exp. 2)	98	1.74	4,525	2.526	.040
	Experiment 1 Threat	100	1.70			
	Experiment 2 Threat	110	1.64			
	Experiment 1 Non-threat	102	1.78			
	Experiment 2 Non-threat	120	1.56			
SRS	Threat-alleviation (Exp. 2)	98	19.30	4,524	5.385	.000
	Experiment 1 Threat	100	19.38			
	Experiment 2 Threat	110	18.85			
	Experiment 1 Non-threat	101	19.85			
	Experiment 2 Non-threat	120	17.62			
LSS	Threat-alleviation (Exp. 2)	98	58.49	4,525	6.448	.000
	Experiment 1 Threat	100	56.52			
	Experiment 2 Threat	110	57.69			
	Experiment 1 Non-threat	102	59.49			
	Experiment 2 Non-threat	120	52.30			

* Threat-alleviation is found in Experiment 2 only.

Tukey HSD Multiple Comparisons

Scale	Group A	Group B	Mean Difference (A-B)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
MRS	Exp. 1 Non-threat	Exp. 2 Non-threat	.270*	.029	.0173	.5219
OFRS	Exp. 1 Non-threat	Exp. 2 Non-threat	.219*	.038	.0073	.4302
SRS	Exp. 1 Threat	Exp. 2 Non-threat	1.763**	.008	.3197	3.2069
	Exp. 1 Non-threat	Exp. 2 Non-threat	2.234***	.000	.7951	3.6745
LSS	Threat-alleviation	Exp. 2 Non-threat	6.190**	.001	1.8227	10.5569
	Exp. 1 Non-threat	Exp. 2 Non-threat	7.190***	.000	2.8705	11.5099

*p< .05, **p<.01, ***p<.001, -not investigated

Appendix A. Experiment 1: Part 1 Study Description Page

Study Name	An Online Study: Understanding Students' Social Interactions, Attitudes, Beliefs, & Behaviors PART I
Study Type	Web Study This is an online study. To participate, sign up, then go to the website listed below.
Credits	1 Credit
Duration	15 minutes
Abstract	15 minute online study. Purpose is to understand students' social interactions, attitudes, beliefs and behaviors.
Description	<p>This is Part 1 of a 2 part, web-based study. It is open to students 18+. You can earn up to 2 points extra credit for participation in both parts. Part II is also completed online.</p> <p>Eligibility for Part II is determined by Part I. You will be contacted via an email from aallresearch@vt.edu if eligible for Part II.</p> <p>Part I takes 10-15 minutes to complete & Part II takes 25 - 30 minutes to complete.</p> <p><u>Contacts:</u> Dr. Danny Axsom axsom@vt.edu K.L.King: kkreseach@vt.edu K. Allen aallresearch@vt.edu</p> <p>To participate, sign up, then click on the link below to begin the study.</p> <p>Note: UNLESS YOU ARE READY TO COMPLETE THE STUDY IN FULL, <u>don't</u> click the "View Study" link. There is a duplicate response prevention feature that might prevent you from accessing the survey via the link, again, at a later time. If this happens you can't be awarded credit.</p>
Preparation	Sign up, then click on the "View Study Link" above to begin.
Eligibility Requirements	Must be 18+
Website	You may not view the website until you sign up for this study.
Researcher	K. L. King

Appendix B. Experiment 1: Part 2 Study Description Page

Study Name	An Online Study: Understanding Students' Social Interactions, Attitudes, Beliefs & Behaviors PART II
Study Type	Web Study This is an online study. To participate, sign up, then go to the website listed below.
Credits	1 Credit
Duration	30 minutes
Sign-Up Restrictions	You must have completed ALL of these studies: <i>An Online Study: Understanding Students' Social Interactions, Attitudes, Beliefs & Behaviors PART I</i>
Abstract	For participants who received "Invite to Participate in Part II" email. 25-30 minutes, online study. Purpose is to understand students' social interactions, attitudes, beliefs and behaviors.
Description	<p>If you have received an email to participate in this portion of the study, please sign up to participate <u>THEN</u> complete the study online via the link <u>that was sent to your email</u>.</p> <p>The time commitment for this portion of the study is 25-30 minutes. Once complete, you will be awarded credit for your participation.</p> <p><u>IMPORTANT NOTES:</u></p> <p><i>*Do not click on the link below to participate. The link below will redirect you back to SONA. Again, to participate, use the link that was included in your email invite.</i></p> <p>*Failure to sign up could result in a delay in processing your credit.</p> <p>-----</p> <p>If you have participated in Part I and have not received an email, please use your email search feature and/or check your spam folder. The email will be sent from aallresearch@vt.edu and be titled "Invitation to Participate in Part II of Study". You may also contact kkresearch@vt.edu OR aallresearch@vt.edu if you have any questions.</p>
Preparation	Signed up for Part II & Received Email Invitation to Participate in Part II of Study
Eligibility Requirements	Received Email Invitation to Participate in Part II of Study
Website	You may not view the website until you sign up for this study.
Researcher	K. L. King

Appendix C. Experiment 2: Study Description Page

Study Name*	"A 1 PART ONLINE STUDY: Understanding Students' Social Interactions, Attitudes, Beliefs & Behaviors" "1 PART WEB BASED STUDY: Students' Social Interactions, Attitudes, Beliefs & Behaviors" (Summer II) "1 PART WEB BASED STUDY: Students' Social Interactions, Attitudes, Beliefs & Behaviors" (Summer I) "1 PART WEB BASED STUDY: Students' Social Interactions, Attitudes, Beliefs & Behaviors" (Fall 13)
Study Type	Web Study This is an online study. To participate, sign up, then go to the website listed below to participate.
Credits	1 Credit
Duration	30 minutes
Sign-Up Restrictions**	You must NOT have signed up or completed ANY of these studies: <i>An Online Study: Understanding Students' Social Interactions, Attitudes, Beliefs & Behaviors PART I</i> <i>An Online Study: Understanding Students' Social Interactions, Attitudes, Beliefs & Behaviors PART II</i>
Abstract	30 minute online study that investigates students' social interactions, attitudes, beliefs, and behaviors.
Description	Purpose: This study investigates students' social interactions, attitudes, beliefs and behaviors. This is a web-based study open to students 18+. You can earn 1 point of extra credit for valid participation. How to participate: 1. SIGNUP FOR A TIMESLOT 2. RECEIVE AN EMAIL entitled, " Invitation to participate in online study, " from aallresearch@vt.edu , containing link to the survey. The link will be unique to you and cannot be forwarded or used more than once. 3. CLICK EMAIL LINK, complete the survey, get credited! Study Contacts: Dr. Danny Axsom: axsom@vt.edu Mrs. K. L. King, MS: kkreseach@vt.edu Miss K. Allen: aallresearch@vt.edu REMEMBER: DO NOT CLICK THE LINK BELOW TO BEGIN. SIGNUP FOR A TIME SLOT AND USE YOUR UNIQUE LINK IN THE EMAIL FROM aallresearch@vt.edu.
Preparation	SIGN UP FOR A TIME SLOT, 18+
Eligibility Requirements	18+, SIGN UP FOR A TIME SLOT, COMPLETE SURVEY THROUGH EMAIL LINK
Website	You may not view the website until you sign up for this study.
Researcher	K.L.King

* Each semester the study title was changed to reflect the corresponding semester. The study description remained the same. ** Each semester the link and study title associated to the previous semesters' signup page were added to this list. This prevented people who signed up in previous semesters from signing up again. Participants were always directed to the same experiment.

Appendix D. Experiment 1: Information Page

Title of Project: UNDERSTANDING STUDENTS' SOCIAL INTERACTIONS, ATTITUDES, BELIEFS, AND BEHAVIORS.

Virginia Tech IRB Protocol #: 12-707

Investigators: Danny Axsom, Ph.D. (axsom@vt.edu); K. L. King (kkresearch@vt.edu)

I. Purpose of this Research

The purpose of this study is to gain a better understanding of students' personalities, mental health and social lifestyles, including how students understand their social experiences. The study seeks to develop a better understanding of the factors that affect how people interact with one another and make social decisions.

At least 200 students over the age of 18 enrolled in college will be participants in this study.

II. Procedures

You will be asked to complete self-report measures on the website provided. These measures will include questions about your social relationships, feelings about current social and policy events.

This is the first part of a two part study.

Completing these measures should take 15-20 minutes.

III. Risks

The primary risk would be if you found any of the questions to be personally upsetting or found it upsetting to recall negative social experiences that you have had. If this occurs, you can close the webpage to end the study and contact the investigators.

IV. Benefits

There will likely be no personal benefits to you for participating in this research. However, this research will help to improve understanding of how students understand their social interactions.

V. Extent of anonymity and confidentiality

We collect student identification numbers only for the purposes of awarding extra credit and preventing duplicate responses. This information will be stored on a secure server. The investigators will remove this information from your data file before it is

Appendix D cont. Experiment 1: Information Page

downloaded. There will be no way to link your responses to your personal information once the data is downloaded.

VI. Compensation

You will receive one hour of extra course credit for participating in the study.

*If you are selected for part two of the study and participate, you will be eligible for another hour of extra credit.

VII. Freedom to withdraw

You have the right to withdraw from this study at any time you choose. If you withdraw from the assessment, you can contact K.L. King at kkresearch@vt.edu to receive extra credit.

VIII. Participant's Permission

Should you have any pertinent questions about this research or its conduct, and research subjects' rights, contact:

Name	Position	Contact Information
Dr. Danny K. Axsom	Principal Investigator	Phone: 231-2615 Email: axsom@vt.edu
K. L. King	Co-Investigator	Phone: 917-930-0096 Email: kkresearch@vt.edu
Dr. David Moore	Chair, IRB	Phone: 231-2615 Email: moored@vt.edu Address: 1880 Pratt Drive Corporate Research Center, Suite 2006
Dr. David Harrison	Chair, Psychology Human Subjects Committee Virginia Tech	Phone: 231-4422 Email: dwh@vt.edu

If you would like to participate in this study, please indicate your desire to do so by clicking the submit button below. If you do not wish to participate, simply exit the survey now.

I UNDERSTAND THAT BY CLICKING THE **NEXT** BUTTON BELOW I AM GIVING MY CONSENT TO PARTICIPATE IN THE STUDY.

Appendix E. Experiment 2: Information Page

Title of Project: UNDERSTANDING STUDENTS' SOCIAL INTERACTIONS, ATTITUDES, BELIEFS, AND BEHAVIORS.

Virginia Tech IRB Protocol #: 12-707

Investigators: Danny Axsom, Ph.D. (axsom@vt.edu); K. L. King (kkresearch@vt.edu)

I. Purpose of this Research

The purpose of this study is to gain a better understanding of students' personalities, mental health and social lifestyles, including how students understand their social experiences. The study seeks to develop a better understanding of the factors that affect how people interact with one another and make social decisions.

At least 200 students over the age of 18 enrolled in college will be participants in this study.

II. Procedures

You will be asked to complete self-report measures on the website provided. These measures will include questions about your social relationships and feelings about current social and policy events.

Completing these measures should take approximately 30 minutes.

III. Risks

The primary risk would be if you found any of the questions to be personally upsetting or found it upsetting to recall negative social experiences that you have had. If this occurs, you can close the webpage to end the study and contact the investigators.

IV. Benefits

There will likely be no personal benefits to you for participating in this research. However, this research will help to improve understanding of how students understand their social interactions.

V. Extent of anonymity and confidentiality

We collect student identification numbers only for the purposes of awarding extra credit and preventing duplicate responses. This information will be stored on a secure server. The investigators will remove this information from your data file before it is downloaded. There will be no way to link your responses to your personal information once the data is downloaded.

Appendix E cont. Experiment 2: Information Page**VI. Compensation**

You will receive one hour of extra course credit for participating in the study.

VII. Freedom to withdraw

You have the right to withdraw from this study at any time you choose. If you withdraw from the assessment, you can contact K.L. King at kkresearch@vt.edu to receive extra credit.

VIII. Participant's Permission

Should you have any pertinent questions about this research or its conduct, and research subjects' rights, contact:

Name	Position	Contact Information
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If you would like to participate in this study, please indicate your desire to do so by clicking the submit button below. If you do not wish to participate, simply exit the survey now.

I UNDERSTAND THAT BY CLICKING THE **NEXT** BUTTON BELOW I AM GIVING MY CONSENT TO PARTICIPATE IN THE STUDY.

Appendix F. Debriefing Page

Thank you for participating in this study. More information about the purpose of this study and your experiences during the study are described below.

Purpose of the Study

There are many social groups that people identify with. These include seeing oneself as male, female, White, minority, college student, wealthy person, gay, Black, heterosexual, Republican, or Democrat. Often we are in situations that make us wary about confirming negative stereotypes about ourselves or the social groups we identify with; this is called stereotype threat. One purpose of this study was to investigate whether stereotype threat could impact the way participants respond to questionnaires presented to them.

Research suggests that one way to reduce the impact of stereotype threat is to give people an opportunity to affirm their goodness and self-worth. During the study, some participants were randomly assigned to engage in a task. Thus, another purpose of this study was to investigate whether individuals who are given the opportunity to affirm that they are not prejudiced were less impacted by impacted by stereotype threat when completing self-report measures, than those who were not provided such an opportunity.

Important Note about the Word Completion Task

During this experiment you were presented with a word completion task. You were randomly assigned to a condition where the instructions for the task read that it either “measures your racial biases and preferences” OR “measures knowledge about racial preferences, but does not measure your individual biases.” **Regardless of the condition you were randomly assigned to, the majority of words could be filled out in non-biased ways. NOTE:**

Appendix F cont. Debriefing Page

The number of possible non-biased words was manipulated to be smaller for one of the groups. Therefore, be assured that **the word task you completed in NO WAY indicates, measures, or reflects your knowledge about or actual personal racial biases in regards to any group.** You were not timed during the task. **The task, depending on instructions and word presentation, was solely meant to elicit or prevent feelings of stereotype threat prior to taking the next set of questionnaires.**

We ask that you assist us by not disclosing the purpose of this research or discussing its procedures to anyone between now and the end of data collection (end of December 2013).

This could undermine the quality and results of the study. Thank you.

How does stereotype threat impact me?

Research suggests that stereotype threat can lead to poorer performance in many areas, including academic and athletic domains, domains that are particularly important for most college students.

We all have identities tied to who we are and most of us are aware of how other members of society think of any one of those identities. Unfortunately, the concern about not confirming a negative stereotype about a group important to your identity, particularly in an important domain, can get in the way of your academic performance and perhaps even your performance in social interactions. Results of this research are expected to benefit society and science because it seeks to answer questions about the effect of stereotype threat on self-reported behaviors, attitudes, and beliefs. Information from this study can be extracted and used in clinical settings and research settings that rely on self-reported behavior.

Appendix F cont. Debriefing Page

To learn more about stereotype threat, you may want to visit the website:

<http://reducingstereotypethreat.org/>. You could also read “Whistling Vivaldi – How stereotypes affect us and what we can do,” by Claude M. Steele.

Again, we thank you for participating in this study. If you have any questions regarding this study, please feel free to contact Danny Axsom Ph.D. at axsom@vt.edu or K.L. King, MS at kkresearch@vt.edu.

Appendix G. Motivation to Control Prejudice Reactions Scale (MCPRS)

Rate how strongly you feel about each statement below

		Strongly Disagree	Moderately Disagree	Disagree	Neutral	Agree	Moderately Agree	Strongly Agree
1.	In today's society it is important that one not be perceived as prejudiced in any manner. ⁺							
2.	I always express my thoughts and feelings regardless of how controversial they might be. ^{ΔR}							
3.	I get angry with myself when I have a thought or feeling that might be considered prejudiced. ⁺							
4.	If I were participating in a class discussion and a Black student expressed an opinion with which I disagreed, I would be hesitant to express my own viewpoint. ^Δ							
5.	Going through life worrying about whether you might offend someone is just more trouble than it's worth. ^{#R}							
6.	It's important to me that other people not think I'm prejudiced. ⁺							
7.	I feel it's important to behave according to society's standards. [#]							
8.	I'm careful not to offend my friends, but I don't worry about offending people I don't know or don't like. ^{#R}							
9.	I think that it is important to speak one's mind rather than to worry about offending someone. ^{ΔR}							

* Experiment 1 Quality Assurance Flag Question; ** Experiment 2 Quality Assurance Flag Question;
 Subscales: ⁺ Concern with Acting Prejudice Subscale; ^Δ Restraint to Avoid Dispute Subscale; [#] Do not belong to either subscale but included in total MCPR scale score; ^R Reverse Scored

Appendix G cont. Motivation to Control Prejudice Reactions Scale (MCPRS)

Rate how strongly you feel about each statement below

		Strongly Disagree	Moderately Disagree	Disagree	Neutral	Agree	Moderately Agree	Strongly Agree
10.	It's never acceptable to express one's prejudices. ⁺							
11.	I feel guilty when I have a negative thought or feeling about a Black person. ⁺							
12.	When speaking to a Black person, it's important to me that he/she not think I'm prejudiced. ⁺							
13.	It bothers me a great deal when I think I've offended someone so I'm always careful to consider other people's feelings. ⁺							
	Please choose disagree for this answer choice.*/ It's important to show I am reading these statements so I will choose disagree. **							
14.	If I have a prejudiced thought or feeling, I keep it to myself. ⁺							
15.	I would never tell jokes that might offend others. ⁺							
16.	I'm not afraid to tell others what I think even when I know they disagree with me. ^{Δ R}							
17.	If someone who made me uncomfortable sat next to me on a bus, I would not hesitate to move to another seat. ^{# R}							

* Experiment 1 Quality Assurance Flag Question; ** Experiment 2 Quality Assurance Flag Question; Subscales: ⁺ Concern with Acting Prejudice Subscale; ^Δ Restraint to Avoid Dispute Subscale; [#] Do not belong to either subscale but included in total MCPR scale score; ^R Reverse Scored

Appendix H. The International Personality Item Pool: Social/Personal/Emotional Intelligence Subscale of the Values in Action Scale (IPIP)

Please answer the following questions as they apply to you.

		Very Inaccurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate
1.	I am able to fit into any situation.					
2.	I have the ability to make others feel interesting.					
3.	I know what makes others tick.					
4.	I am good at sensing what others are feeling.					
5.	I know what to say to make people feel good.					
6.	I don't know how to handle myself in a new social situation. ^R					
7.	I am very aware of my surroundings.					
8.	I get puzzled by my own thoughts and feelings.**					
9.	I am taken advantage of by others.**					

^R Reverse Scored; ** Per scoring instructions these items are omitted from scoring

Appendix I. Center for Epidemiologic Studies Depression Scale

Below is a list of ways people might have felt or behaved. Please indicate how often you have felt this way during the past week.

		Rarely or none of the time (Less than one day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1.	I was bothered by things that usually don't bother me.				
2.	I did not feel like eating; my appetite was poor.				
3.	I felt that I could not shake off the blues even with help from my family or friends.				
4.	I felt that I was just as good as other people. ^R				
5.	I had trouble keeping my mind on what I was doing.				
6.	I felt depressed.				
7.	I felt that everything I did was an effort.				
8.	I felt hopeful about the future. ^R				
9.	I thought my life had been a failure.				
10.	I felt fearful.				
11.	My sleep was restless.				
12.	I was happy. ^R				
13.	I talked less than usual.				
14.	I felt lonely.				
15.	People were unfriendly.				
16.	I enjoyed life. ^R				
17.	I had crying spells.				
18.	I felt sad.				
19.	I felt that people dislike me.				
20.	I could not get "going".				

^R Reverse Scored

Appendix J. Four Dimension Anxiety Scale (FDAS)

Below are a number of statements regarding feelings that people may have. For each item, please indicate how often you have experienced these feelings in the past week.

		1 Not at all	2	3	4	5 Extremely
1.	Feeling tense					
2.	Feeling nervous					
3.	Feeling irritable					
4.	Rapid mood changes					
5.	Feeling uneasy					
6.	Muscle tension					
7.	Aches and soreness					
8.	Muscles weakness and tiredness					
9.	Upset stomach					
10.	The need to go to the bathroom more often than usual					
11.	Trembling or shaking					
12.	Excessive sweating					
13.	Rapid heart beats					
14.	Hot flashes					
15.	Dizziness or light-headedness					
16.	Feeling that everything around you is changed or unreal					
17.	Fear that something terrible is about to happen					
18.	Fear of going crazy					
19.	Fear of being left alone by everybody					
20.	Fear of losing control over your own behavior					
21.	Frequent thoughts that were frightening					
22.	Fear of being trapped in an enclosed space					
23.	Fear of driving in certain places (tunnels, bridges, highways)					
24.	Fear of flying in airplanes					
25.	Fear of going far from your home					
26.	Doing too many things at the same time					
27.	Not being able to finish anything					
28.	Doing more things than you usually do					
29.	Keeping yourself extremely busy					
30.	Arranging and rearranging your things in a certain manner					
31.	Checking and rechecking something several times to make sure you have done it right					
32.	Grooming yourself repeatedly (i.e., cleaning your clothing, washing your hands, or combing your hair)					
33.	Seeking entertainment					
34.	Looking for reassurance or approval					
35.	Seeking social contacts					

Appendix K. Word Task Instructions Threat and Non-threat Instructions*Threat & Threat-alleviation*

The following task *measures your racial biases* and preferences. The amount of time it takes for you to complete the task will be measured. Therefore, it is important that you work as quickly as you can. Please complete the following words to the best of your ability.

Non-threat

The following task measures *knowledge* about racial preferences, but *does not* measure your individual biases. The amount of time it takes for you to complete the task will be measured. Therefore, it is important that you work as quickly as you can. Please complete these words to the best of your ability.

Appendix L. Threat and Non-threat Implicit Word Attitudes Word Completion Task Presentation

Threat /Threat-alleviation	Threat Possibilities “Black bias” words bolded	Non-threat	Non-threat Possibilities “Black bias” words bolded	Bias Letters
1. WELF__E	welfare	1. WEL ___ E	welfare , welcome	AR
2. SL_VE	slave	2. S__VE	salve, serve, shave, shove, sieve, slave , solve, stave, stove, suave	A
3. BL__K	black , block, blank, bleak, blink	3. BL__K	black , block, blank, bleak, blink	AC
4. R_P	rap , rip	4. R_P	rap , rip	A
5. PO_R	poor , pour	5. P__R	paar, pair, parr, pear, peer, pier, poor , pour, purr	O
6. C_P	cop , cap, cup	6. C_P	cop , cap, cup	O
7. HO_D	hood , hold	7. H__D	hand, hard, head, heed, held, herd, hind, hold, hood	O
8. A_E	abe, ace, ade, age, ale, ame, ape , are, ate, ave, awe, aye	8. A_E	abe, ace, ade, age, ale, ame, ape , are, ate, ave, awe, aye	P
9. LA_Y	lazy , lady	9. LA__	labs, lace, lack, lads, lady, lags, laid, lain, lair, lake, lamb, lame, lamp, land, lane, lank, laps, lard, lark, lash, lass, last, late, lath, laud, lava, lave, lawn, laws, lays, laze, lazy	Z
10. BA_L	ball , bail, bawl	10. BA__	babe, baby, back, bade, bags, baht, bail , bait, bake, bald, bale, balk, ball , balm, band, bane, bang, bank, bans, barb, bard, bare, bark, barn, bars, base, bash, bask, bass, bast, bate, bath, bats, bawl, bays	L I
11. PR__SON	prison	11. P__SON	parson, person, poison, prison	I
12. RUD__	rude	12. R__DE	rude , ride, rode	E
13. LO_D	loud , load, lord	13. L__D	laid, land, lad, laud, lead, lend, led, lied, load, lord, loud	U
14. G_N	gun , gin	14. _UN	bun, dun, fun, gun , nun, pun, run, sun, tun	U
15. CRIM__	crime , crimp	15. CR__E	crane, crape, crate, crave, crepe, crime , crone, crude, cruse	E

(Word Option Source: <http://www.puzzlexpress.com/Dictionary.htm>)

Appendix M. Symbolic Racism Scale (SRS)

Choose the answer that best reflects your thoughts for each statement.

		Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
1.	It's really a matter of some people not trying hard enough; if Blacks would only try harder they could be just as well off as Whites.				
2.	Irish, Italian, Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same.				

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

- Trying to push very much too fast
- Going too slowly
- Moving at about the right speed

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

- All of it
- Most
- Some
- Not much at all

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

- A lot
- Some
- Just a little
- None at all

		Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
6.	Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class. ^R				
7.	Over the past few years, blacks have gotten less than they deserve. ^R				
8.	Over the past few years, blacks have gotten more economically than they deserve.				

^R Reverse Scored

Appendix N. Modern Racism Scale (MRS)

Choose the answer that best reflects your thoughts for each statement.

		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1.	Over the past few years, Blacks have gotten more economically than they deserve.					
2.	Over the past few years, the government and news media have shown more respect for Blacks than they deserve.					
3.	It is easy to understand the anger of Black people in America. ^R					
4.	Discrimination against Blacks is no longer a problem in the United States.					
5.	Blacks are getting too demanding in their push for equal rights.					
6.	Blacks should not push themselves where they are not wanted.					

^R Reverse Scored

Appendix O. Old Fashioned Racism Scale (OFRS)

Please answer as accurately and truthfully as possible.

		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1.	I favor laws that permit Black persons to rent or purchase housing even when the person offering the property for sale or rent does not wish to rent or sell to Blacks. ^R					
2.	Generally speaking, I favor full racial integration.					
3.	I am opposed to open and fair housing laws.					
4.	It is a bad idea for Blacks and Whites to marry one another.					
5.	Black people are generally not as smart as Whites.					
6.	If a Black family with about the same income and education as I have moved next door, I would mind it a great deal.					
7.	It was wrong for the United States Supreme Court to outlaw segregation in its 1954 decision.					

^R Reverse Scored

Appendix P. Race and Social Policy Questions from the American National Election Study (RSP)*Against AA in Employment*

1) Some people say that because of the past discrimination blacks should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of blacks is wrong because it gives blacks an advantage they haven't earned. What about your opinion – are you for or against preferential hiring and promotion for blacks?

- 1 Strongly for
- 2 Not Strongly for
- 3 Against not strongly
- 4 Against strongly

Against AA in Education

2) Some people say that because of past discrimination it is sometimes necessary for colleges and universities to reserve openings for black students. Others oppose quotas because they say quotas give blacks advantages they haven't earned. What is your opinion – are you for or against quotas to admit black students?

- 1 Strongly for
- 2 Not Strongly for
- 3 Against not strongly
- 4 Against strongly

Appendix P cont. Race and Social Policy Questions from the American National Election Study (RSP)*No Government Responsibility for Helping Blacks*

3) Some people feel that the government should not make any special effort to help blacks because they should help themselves. Where would you place yourself on this scale, or haven't you thought much about this? (Rated Likert 1-7)

1 = government should help blacks

7 = blacks should help themselves

Against Spending to Improve Blacks Standard of Living

4) If you had a say in making up the federal budget this year, for which of the following programs would you like to see spending increased and for which would you like to see decreased?

- Welfare
- Spending to assist blacks
- Military Arms
- Spending to assist the elderly/ Medicare
- CHIP – Child Healthcare*
- Fannie Mae/Freddie Mac/Home ownership*
- Student Loans
- K-12 Education

1= spending increased

2 = spending kept about the same

3 = spending decreased

*Not included in study

Appendix P cont. Race and Social Policy Questions from the American National Election Study (RSP)

No Government Role in School Integration Question (ANES: 1990, 1992, 1994)

5) Some people say that the government should see to it that white and black children go to the same schools. Others claim that this is not the government's business. Do you think the government in Washington should see to it that white and black children go to the same schools (or) stay out of this area as it is not the government's business?

1 = government should see to it that black and white children go to the same school

2 = neutral/other/depends/have not thought about this

3 = stay out of the area

No Government Role in Employment Equality Question (in 1988 & 1992 ANES)

6) Some people feel that if black people are not getting fair treatment in jobs, the government in Washington ought to see to it that they do. Others feel that this is not the federal government's business. How do you feel? Should the government in Washington see to it that black people get fair treatment in jobs or is this not the federal government's business?

1 = see to it that black people get fair treatment

2 = neutral/other/depends/have no interest in this area

3 = not the federal government's business

Appendix Q. White Racial Identity Attitude Scale (WRIAS)

The questionnaire is designed to measure people’s social and political attitudes. There are no right or wrong answers. Use the scale below to respond to each statement. Select the choice that best describes how you feel.

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1.	I hardly think about what race I am. ^a					
2.	I do not understand what Blacks want from Whites. ^b					
3.	I get angry when I think about how Whites have been treated by Blacks. ^c					
4.	I feel as comfortable around Blacks as I do around Whites. ^d					
5.	I involve myself in causes regardless of the race of the people involved in them. ^e					
6.	I find myself watching Black people to see what they are like. ^a					
7.	I feel depressed after I have been around Black people. ^b					
8.	There is nothing I want to learn from Blacks. ^c					
9.	I seek out new experiences even if I know a large number of Blacks will be involved in them. ^d					
	Please choose uncertain for this statement. / I am positive that I am paying attention, so I'll select uncertain for my response.*					
10.	I enjoy watching the different ways that Blacks and Whites approach life. ^e					
11.	I wish I had a Black friend. ^a					
12.	I do not feel that I have the social skills to interact with Black people differently. ^b					
13.	A Black person who tries to get close to you is usually after something. ^c					
14.	When a Black person holds an opinion with which I disagree, I am not afraid to express my viewpoint. ^d					

* Quality Assurance Question

Subscales: Contact Subscale^a, Disintegration^b, Reintegration^c, Psuedoindependence^d, Autonomy^e

Appendix Q cont. White Racial Identity Attitudes Scale (WRIAS)

The questionnaire is designed to measure people’s social and political attitudes. There are no right or wrong answers. Use the scale below to respond to each statement. Select the choice that best describes how you feel.

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
15.	Sometimes jokes based on Black people’s experiences are funny. ^c					
16.	I think it is exciting to discover the little ways in which Black and White people are different. ^a					
17.	I used to believe in racial integration, but now I have my doubts. ^b					
18.	I’d rather socialize with Whites only. ^c					
19.	In many ways Blacks and Whites are similar, but they are also different in some important ways. ^d					
20.	Blacks and Whites have much to learn from each other. ^c					
21.	For most of my life, I did not think of racial issues. ^a					
22.	I have come to believe that Black people and White people are very different. ^b					
23.	White people have bent over backwards trying to make up for their ancestors’ mistreatment of Blacks, now it’s time to stop. ^c					
24.	It is possible for Blacks and Whites to have meaningful social relationships with each other. ^d					
25.	There are some valuable things that White people can learn from Blacks that they can’t learn from other Whites. ^c					
26.	I am curious to learn in what ways Black and White people differ from each other. ^a					
27.	I limit myself to White activities. ^b					

* Quality Assurance Question

Subscales: Contact Subscale^a, Disintegration^b, Reintegration^c, Pseudoindependence^d, Autonomy^e

Appendix Q cont. White Racial Identity Attitudes Scale (WRIAS)

The questionnaire is designed to measure people’s social and political attitudes. There are no right or wrong answers. Use the scale below to respond to each statement. Select the choice that best describes how you feel.

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
28.	Society may have been unjust to Blacks, but it has also been unjust to Whites. ^c					
29.	I am knowledgeable about what values Blacks and Whites share. ^d					
30.	I am comfortable wherever I am. ^e					
31.	In my family, we never talked about racial issues. ^a					
32.	When I must interact with a Black person, I usually let him or her make the first move. ^b					
33.	I feel hostile when I am around Blacks. ^c					
34.	I think I understand Black people’s values. ^d					
35.	Blacks and Whites can have successful intimate relationships. ^e					
36.	I was raised to believe people are people regardless of their race. ^a					
37.	Nowadays, I go out of my way to avoid associating with Blacks. ^b					
38.	I believe Blacks are inferior to Whites. ^c					
39.	I believe I know a lot about Black people’s customs. ^d					
40.	There are some valuable things that White people can learn from Blacks that they can’t learn from other Whites. ^e					

* Quality Assurance Question
 Subscales: Contact Subscale^a, Disintegration^b, Reintegration^c, Psuedoindependence^d, Autonomy^e

Appendix Q cont. White Racial Identity Attitudes Scale (WRIAS)

The questionnaire is designed to measure people’s social and political attitudes. There are no right or wrong answers. Use the scale below to respond to each statement. Select the choice that best describes how you feel.

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
41.	I think that it’s okay for Black people and White people to date each other as long as they don’t marry each other. ^a					
42.	Sometimes I’m not sure what I think or feel about Black people. ^b					
43.	When I am the only White in a group of Blacks, I feel anxious. ^c					
44.	Blacks and Whites differ from each other in some ways, but neither race is superior. ^d					
45.	I am not embarrassed to admit that I am White. ^e					
46.	I think White people should become more involved in socializing with Blacks. ^a					
47.	I don’t understand why Black people blame all White people for their social misfortunes. ^b					
48.	I believe that White people look and express themselves better than Blacks. ^c					
49.	I feel comfortable talking to Blacks. ^d					
50.	I value the relationships that I have with my Black friends. ^e					

* Quality Assurance Question
 Subscales: Contact Subscale^a, Disintegration^b, Reintegration^c, Psuedoindependence^d, Autonomy^e.

Appendix R. Lifestyle Survey (LSS)

Please choose the answer that reflects what you believe regarding the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1.	Everyone should go to college.						
2.	I think that taking pills that help you academically, but are not prescribed to you, is acceptable.*						
3.	I believe rock music is better than rap.						
4.	Black people are more likely to be on welfare than other races.*						
5.	I am a patriotic person.						
6.	If given the opportunity, I would go hunting.						
7.	Snowboarding and ice hockey are things I'd enjoy.						
8.	I think that Black people look best when they have straight hair.*						
9.	I have many close friends of races different from mine. ^R						
10.	I think shows like "The Daily Show" and "The Colbert Report" are entertaining/humorous.						
11.	I would date someone of a different ethnic background.* ^R						
12.	80s/90s theme parties make me excited.						
13.	Country music is one of my favorite kinds of music.						
14.	Sending my children to private school is a good idea.						
15.	I think that most Black people are good at singing and dancing.						
16.	Indie music is something I enjoy listening to.						
17.	People that live in the "ghetto" tend to be Black.*						

*Included in the analysis as measure of stereotypicality

** Not included in experiment two, as President Barack Obama was already reelected.

+ Quality Assurance Question

^R Reverse Scored

Appendix R cont. Lifestyle Survey (LSS)

Please choose the answer that reflects what you believe regarding the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
18.	I believe Whites are more likely to use cocaine than marijuana.						
19.	I think hair looks best when it is straight.*						
20.	I am probably more educated than most minorities.*						
21.	Political conservatives are often right.*						
22.	Redneck jokes are funny.						
23.	Foods like collard greens, watermelon, and fried chicken are things that Black people especially like to eat.*						
24.	I would like to live in a gated community.						
25.	I think some White people are racist.						
26.	I believe curly hair looks messy.*						
27.	Looking down on minorities for their behavior is ok sometimes.*						
28.	Rap music is one of my favorite kinds of music.						
29.	I grew up in a nice neighborhood.						
30.	Some races are just more athletic than others.*						
31.	I think many Middle Easterners have negative feelings toward America.*						
32.	I think that camping would be fun.						
33.	Some people aren't reading so choose strongly disagree for this statement. +						
34.	Having diversity in various aspects of my life is important to me.* ^R						

*Included in the analysis as measure of stereotypicality

** Not included in experiment two, as President Barack Obama was already reelected.

+ Quality Assurance Question

^R Reverse Scored

Appendix R cont. Lifestyle Survey (LSS)

Please choose the answer that reflects what you believe regarding the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
35.	Saying the N-word around my friends is OK.						
36.	Classical music is a better form of music than rap.*						
37.	I think people like me are more clean and presentable than others.						
38.	Black people are especially good at sports like basketball and football than other races.						
39.	I think it's normal for people to wear camouflage as everyday clothing.*						
40.	Nascar is a cool sport.*						
41.	Sometimes when I see a Hispanic, I wonder if they are an illegal alien.						
42.	I believe White people in the US deserve to be wealthy.						
43.	I could support Barack Obama as our president in the next presidential election.** ^R						

*Included in the analysis as measure of stereotypicality

** Not included in experiment two, as President Barack Obama was already reelected.

+ Quality Assurance Question

^R Reverse Scored

Appendix S. Scale Order of Presentation

Experiment 1	Experiment 2	
Threat and Non-threat	Threat and Non-threat	Threat-alleviation
1. Center for Epidemiological Studies Depression Scale	Center for Epidemiological Studies Depression Scale	Center for Epidemiological Studies Depression Scale
2. International Personality Item Pool: Social/Personal/Emotions Intelligence Subscale of the Values in Action Scale	International Personality Item Pool: Social/Personal/Emotions Intelligence Subscale of the Values in Action Scale	International Personality Item Pool: Social/Personal/Emotions Intelligence Subscale of the Values in Action Scale
3. Motivation to Control Prejudice Reactions	Motivation to Control Prejudice Reactions (Threat Group Only)	<i>Exposed to MCPR later as Alleviation Task</i>
4. The Four Dimensional Anxiety Scale	The Four Dimensional Anxiety Scale	The Four Dimensional Anxiety Scale
5. <i>One week break Before Invitation to Part Two</i>	-	-
6. Demographic Data (Threat Group Only Identifies Race)	Demographic Data (Threat Group Only Identifies Race)	Demographic Data (including Race)
7. Implicit Attitudes Word Completion Task	Implicit Attitudes Word Completion Task	Implicit Attitudes Word Completion Task (same style as threat group)
8. -	<i>Filler task</i>	Motivation to Control Prejudice Reactions
9. Lifestyle Survey	Lifestyle Survey	Lifestyle Survey
10. Symbolic Racism Scales	Symbolic Racism Scales	Symbolic Racism Scales
11. Modern Racism Scale	Modern Racism Scale	Modern Racism Scale
12. Old Fashioned Racism Scale	Old Fashioned Racism Scale	Old Fashioned Racism Scale
13. Race and Social Policy Questions	Race and Social Policy Questions	Race and Social Policy Questions
14. Demographic Data: (NonThreat Group Only Identifies Race)	Demographic Data (NonThreat Group Only Identifies Race)	-
15. White Racial Identity Attitudes Scale*	White Racial Identity Attitudes Scale*	White Racial Identity Attitudes Scale*

- No break, respondents immediately move on to the next scale

*Only completed if respondent self-identified as White

Appendix T. Experiment 2: Threat and Non-threat Filler Task

We all have things we'd like to improve about ourselves. We may feel that some traits are more important to develop than others.

Below is a list of traits that people often want to improve about themselves.

Using the drop down list, place the traits in the rank order you'd like to develop them such that: 1= Most important trait to develop and 12 = Least important trait to develop.

- Assertive
- Enthusiastic
- Persistent
- Creative
- Decisive
- Detail-Oriented
- Hard Working
- Humorous
- Organized
- Prepared
- Productive
- Practical

1. (Most Important)	4.	7.	10.
2.	5.	8.	11.
3.	6.	9.	12. (Least Important)

In the boxes below, indicate 3 ways in which you could be more Quality 11.

1.
2.
3.