

THOUGHT SUPPRESSION IN THE CONTEXT OF THE
NORMATIVE WINDOW MODEL OF PREJUDICE

A thesis presented to the faculty of the Graduate School of Western Carolina University in
partial fulfillment of the requirements for the degree of Master of Arts in Psychology.

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TABLE OF CONTENTS

List of Tables	iv
List of Figures.....	v
Abstract.....	vi
Chapter One: Introduction	1
Chapter Two: Literature Review	3
Social Norms as Motivators to Regulate Prejudice	3
Social Norms as External Motivators Influencing Attitudes.....	3
Social Norms Regulate the Suppression and Expression of Prejudice.....	6
The Normative Window Model of Prejudice	6
The “Rebound Effect”: An Unintended Consequence of Prejudice Suppression	9
Present Research.....	11
CHAPTER THREE: METHOD AND RESULTS	13
Participants and Design	13
Procedure	13
Pilot Study	14
Results	16
Suppression Manipulation Check.....	16
Rebound Effect.....	16
Discussion.....	19
Limitations and New Directions for Future Research.....	21
Conclusion.....	23
Referemces	24
Appendices	32
Appendix A: Essay Directions	32
Appendix B: Essay Prompt Photos.....	33
Appendix C: Lexical Decision Task Stimuli.....	34
Appendix D: Pilot Study Directions.....	37

LIST OF TABLES

Table 1. Percentage of traits per cultural stereotype category.....	15
Table A1. Letters representing stereotype-relevant words, neutral words, and non-words.....	35

LIST OF FIGURES

<i>Figure 1.</i> The Normative Window Model of Prejudice.....	7
<i>Figure 2a.</i> Mean response time of non-stereotype-relevant words as a function of condition.....	18
<i>Figure 2b.</i> Mean response time of stereotype-relevant words as a function of condition.....	18
<i>Figure A1.</i> Male Neo-Nazi.....	34
<i>Figure A2.</i> Male African American.....	34

ABSTRACT

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The following study presents a novel investigation of the moderating role of social norms in the suppression of stereotype-related thoughts and the subsequent rebound effect, hypothesizing that suppressing stereotyping thoughts regarding certain social groups leads to a greater rebound effect than suppressing stereotyping thoughts about other social groups. This experiment showed no evidence that social norms prescribing the way one should think about prejudice against a certain social group moderates the rebound effect. Participants in the suppression condition experienced the rebound effect, however the rebound effect was not significantly different across target social groups. While my results replicate past research in demonstrating the rebound effect across conditions, the results did not support my hypothesis as I did not find a significant difference in ease of thought suppression between social groups.

CHAPTER ONE: INTRODUCTION

“We have thoughts we would love to wish away—from worries and pains to annoyances, fears, and even horrors—and these thoughts are all the more distressing because we know we often can’t dispel them just by trying (Wegner, 2011).”

As Wegner suggests, people often feel their minds are “invaded” by unwanted, distressful thoughts they cannot easily dispel. Social psychologists have shown that people sometimes experience such an invasion of *prejudiced* thoughts that violate their convictions, moral sensibilities and egalitarian social norms. Furthermore, upon encountering such thoughts, people try to “wish them away” or banish them through sheer effort and mental strength. That is, they actively try to *suppress* unwanted, prejudiced thoughts. After all, most people don’t want to be seen as racist, sexist or otherwise intolerant. Ironically, repeated or chronic attempts to suppress or censure unwanted prejudiced thoughts can backfire and result in a “rebound effect.” That is, suppressed prejudiced thoughts can later return to mind “with a vengeance” and result in even greater expressions of prejudice (Macrae, et al., 1994; Wegner et al., 1987).

The present research contributes to this literature by investigating whether rebound effects resulting from prejudice suppression varies depending on the position the targeted social group occupies in society. In accordance with prevailing social norms, people habitually suppress prejudiced thoughts about groups for whom society’s attitudes are ambivalent such as women or African Americans. In contrast, because of the absence of normative pressure, people do not typically suppress prejudiced thoughts about groups for whom prejudice is justified such as neo-Nazis or criminals (Crandall & Eshleman, 2003; Crandall & Warner, 2005). Thus, I

propose that suppression of prejudice against such groups requires greater conscious attention, which in turn, results in a stronger rebound effect.

CHAPTER TWO: LITERATURE REVIEW

Social Norms as Motivators to Regulate Prejudice

Social norms dictating how we should think about social groups and discrimination against them vary over time. These norms constrain the expression of prejudice (West & Hewstone, 2012). The emergence of egalitarian social norms prompted by the civil rights (and other) movement have led to obvious positive societal impacts- people in our society no longer condone racism as a culturally accepted practice. Indeed, changing egalitarian social norms can exert a positive influence on overt expressions of prejudice, increasing equitability in hiring and college acceptance beyond filling set quotas (Baron and Pfeffer, 1994; Williams and Sternthal, 2012). Further, there is an emerging norm celebrating the strength of diversity in the workplace and educational settings (Lorenzo, et al., 2017). Emerging social norms like these can function as an external motivator through conformity pressure or as an internal motivator through conviction if adopted as one's own values.

Social Norms as External Motivators Influencing Attitudes

In the United States, the civil rights movement of the 1960's contributed to the shift of social norms to prohibit open expression of racial prejudice (Taylor, Sheatsly, & Greeley, 1978). Indeed, Whites began *reporting* having more positive racial attitudes (Taylor et al., 1978; Karlins, Coffman & Walters, 1969), suggesting that changing social norms led individuals to either adapt to holding less prejudice or suppress the expression of explicit prejudice to meet the new social norms or internal egalitarian values.

The emergence of egalitarian norms during the civil rights movement of the 1960's did not eradicate prejudice; they changed the way people experience and express it. Responding to

new normative pressures, subtle, more complex forms of racism such as “symbolic racism” (Kinder & Sears, 1981; McConahay & Hough, 1976), “modern racism” (McConahay, 1986), and “aversive racism” (Gaertner & Dovidio, 1986) replaced the blatant hatred that characterized “old-fashioned” racism prior to the civil rights movement of the 1960’s. These contemporary models of racism suggest that Whites’ racial attitudes are now more ambivalent, containing egalitarian values while possessing underlying negative affect toward African Americans (Gaertner & Dovidio, 1986; Katz & Hass, 1988; McConahay, 1986). These contemporary models of racism examine the interplay of deliberate and implicit cognitive mechanisms that manage the expression and suppression of prejudice (Gaertner & Dovidio, 1986; Pearson, Dovidio, and Gaertner, 2009). For instance, the theory of aversive racism argues that Whites often abide by prevailing egalitarian social norms and suppress prejudice against African Americans (a “normative ambiguity” group). Thus, Whites hold internalized emergent egalitarian norms and are careful not to behave in ways that violate them, meaning that social norms regulate the suppression and expression of prejudice.

In a classic test of aversive racism, Gaertner (1973) demonstrated groups that hold egalitarian ideals closest might also struggle with aversive racism the most. In a between-subjects design, a White or African American male confederate called liberal (a social group promoting egalitarian norms) and conservative leaning individuals and asked for help with car trouble (having “accidentally” called the participant on his last dime). Race served as the independent variable and willingness to help served as the dependent variable, measured through time on the phone and offered help. This design allowed Gaertner to examine reactions in the absence of the regulating forces of social norms, permitting the investigation of potential external versus internal motivators. Interestingly, liberal participants were significantly more likely to

hang up on the African American confederate compared to the White confederate. This finding demonstrates aversive racism- avoiding contact with the out-group in a situation seemingly free from the monitoring forces of social norms. However, if the participant stayed on the line, liberals were significantly more likely to help the African American confederate than conservatives. This finding demonstrates a more explicit form of prejudice- actually refusing help as opposed to avoiding contact. When social norms dictate egalitarianism, aversive racism demonstrates that prejudice is released in a form that likely won't cause the perpetrator to be caught.

A more recent study conducted by Dupree and Fiske (2018) found a similar effect of implicit bias. Their findings demonstrated that white liberals (again, a group that promotes egalitarian norms) tend to engage in a “competence downshift” when speaking to out groups stereotyped as less competent and lower status. In a meta-analysis of campaign speeches, they found that liberal candidates simplify issues and use less-complex language when talking to minority audiences compared to conservative candidates, who do not demonstrate a difference in the manner in which issues are discussed and complexity of language between social groups. They then replicated this finding in an experimental manipulation using the cover story of reporting on a book read to a white or black confederate. These findings suggest that while emerging egalitarian norms would ideally curb prejudice, there might be an ironic, counterintuitive consequence to those norms. External motivators (like social norms) pressuring individuals not to think certain thoughts might hold consequences of later bias when those norms are not perceived to be present (Dupree and Fiske, 2018; Gaertner, 1973; Pearson, Dovidio, and Gaertner, 2009).

Social Norms Regulate the Suppression and Expression of Prejudice

Crandall and Eshleman's (2003) Justification–Suppression Model of expression and suppression of prejudice builds on models of contemporary racism by providing a theoretical framework for understanding how social norms relate to the suppression and expression of prejudice more generally. Their model expands the concept of social norms as an external motivator to suppress prejudice, contending that people suppress prejudice in response to external motivators (social norms) and internal motivators (beliefs and values). Prejudice is expressed when “justified” through stereotypes or attributions (i.e. when context provides a justification for putting norms or values on hold).

For example, Sechrist and Stangor (2001) demonstrated social norms can affect behavior typical of aversive racism. Participants who were high or low in racial prejudice were given information about their university's racial beliefs. They were then given the opportunity to sit next to an African American confederate. High prejudice participants sat farther away from the African American when they believed the university shared their opinions about race than when they believed the university disagreed with their opinions about race. These findings demonstrate that a setting in which high prejudice individuals believe social norms align with their own acts as a releaser of prejudice, whereas when individuals believe social norms are more egalitarian, they suppress prejudice.

The Normative Window Model of Prejudice

Crandall's normative window model of prejudice (Crandall & Warner, 2005; Ferguson & Crandall, 2006), depicted in Figure 1, built on Crandall and Eshleman's (2003) Justification–Suppression model, more explicitly defining how social norms dictate the social standing of specific social groups. This model contends that a social group occupies one of three

conceptually adjacent positions in society based on the degree to which society justifies prejudice against the group and the degree of societal consensus of the societal standard.

Justified Prejudice	Normative Ambiguity	Unjustified Prejudice
Examples: <ul style="list-style-type: none"> • Criminals • Neo-Nazis 	Examples: <ul style="list-style-type: none"> • African Americans • Women 	Examples: <ul style="list-style-type: none"> • Grandmothers • Farmers
Social disposition toward group: <ul style="list-style-type: none"> • Socially defined as “bad,” deviant • Negative attitudes are condoned • Norm of justified prejudice is consensual, thus stable 	Social disposition toward group: <ul style="list-style-type: none"> • Socially defined as disadvantaged • Growing norm that negative attitudes are defined as “wrong” • Norm of unjustified prejudice is not societally consensual, thus unstable 	Social disposition toward group: <ul style="list-style-type: none"> • Socially defined as “good,” righteous • Negative attitudes are defined as “wrong” • Norm of unjustified prejudice is consensual, thus stable

Figure 1. The Normative Window Model of Prejudice (Crandall & Warner, 2005).

Crandall, Ferguson and Bahns (2013) define the left-most position, called the “justified prejudice region,” as social groups defined as deviant (e.g., harmful, morally inferior, violators of cherished values) and deserving of mistreatment. Current examples of these groups include criminals, racists and terrorists. Society defines prejudice against them as just, and perhaps even mandated by prevailing social norms. In fact, because groups like racists and terrorists violate our collective values of civility and morality, negative sentiments toward them are not even socially defined as a form of prejudice. Finally, because of the widespread consensual acceptance of this prejudice, it is stable and not likely to be affected by immediate social influences.

The right-most position, called the “unjustified prejudice region,” consists of groups consensually defined as good. These groups are not typically targets of prejudice. Groups in this region might be grandparents, firefighters, or nurses. They can be thought of as “righteous”

groups; society considers negative attitudes toward them as unjustified, wrong, or inappropriate. This norm of “unjustified prejudice” is also largely consensual and stable (Crandall, Ferguson and Bahns, 2013).

The middle position is called the “normative ambiguity region.” Groups in this region once belonged in the “justified prejudice region” (e.g., African-Americans, women, sexual minorities), experiencing explicit societal oppression (Crandall & Ferguson, 2005; Ferguson & Crandall, 2006). However, egalitarian social movements changed the way society collectively views such groups and discrimination against them, and “pushed” them from the “justified prejudice region” into the “normative ambiguity region” where they now occupy a position in society of shifting acceptability. Society increasingly considers prejudice against groups in this social position as wrong and unjustified. Due to growing norms of “unjustified prejudice,” people feel pressure to suppress prejudice against these groups under most circumstances. However, the emerging non-prejudice norms are not completely consensual, thus, they are unstable and vulnerable to situational influence. That means people, motivated by external pressure to conform to these shifting social norms, or motivated by internal forces (e.g., personal egalitarian values, religious beliefs; humanitarian goals), attempt to suppress their prejudiced thoughts and responses (Crandall & Eshleman, 2003; Crandall, Ferguson and Bahns, 2013; Dovidio, 2001; Jost & Banaji, 1994; Plant & Devine, 1998).

Given that current social norms only regulate prejudice toward groups in the “normative ambiguity region” (those defined as socially disadvantaged), people are well practiced suppressing prejudice toward groups in the “normative ambiguity region” and only express prejudice toward them in certain conditions (Crandall and Eshleman, 2003). In contrast, due to the absence of normative pressure, people do not typically suppress prejudice against “justified

prejudice” groups and are therefore not well-practiced at suppression of prejudice against those groups (Crandall & Warner, 2005; Ferguson & Crandall, 2006, Crandall, Ferguson and Bahns, 2013).

The “Rebound Effect”: An Unintended Consequence of Prejudice Suppression

Wegner, Schneider, Carter, and White (1987) identified an ironic consequence of thought suppression in their classic “white bear” studies. In these studies, half of the participants, those in the “suppression condition,” verbalized their conscious thoughts for five minutes while deliberately trying to not think about a white bear, and they rang a bell every time they did think of a white bear. Then, they freely verbalized thoughts about a white bear. The other half of the participants, those in the control condition, freely verbalized thoughts about a white bear without first attempting to suppress their thoughts about the white bear. Wegner et al. found that, in the free expression exercise, participants in the suppression condition verbalized more thoughts about a white bear than those in the control condition. Thus, attempts to suppress specific thoughts backfired and caused those thoughts to subsequently come to mind to an even greater degree.

Wegner (1994) identified the cognitive processes involved in thought suppression and subsequent rebound effects. He proposed that individuals engage in two reciprocal cognitive processes when attempting to suppress unwanted thoughts that result in the rebound effect. First, through an “operating process,” individuals consciously direct their attention to thoughts other than the unwanted thoughts. Second, through an unconscious “ironic monitoring process,” they scan consciousness for indications of unwanted thoughts. Ironically, by directing people to search for unwanted thoughts, the monitoring process repeatedly primes those thoughts, making them highly accessible. As a result, when people relax their conscious attempt at thought

suppression (the aforementioned operating process), unwanted thoughts become highly accessible and can influence subsequent judgment and behavior more than they normally would (Monteith, Sherman, & Devine, 1998a; Wegner & Erber, 1992).

Macrae, Bodenhausen, Milne, and Jetten (1994) reported the first experiments examining the rebound effect following attempts to suppress *prejudiced* thoughts. They told participants to write a short story about a typical day in the life of a skinhead, instructing half the participants to avoid stereotyping (suppression condition) and giving the other half no additional instructions (control condition). Then, they asked participants to write a second story about a typical day in the life of a second skinhead without giving either group additional directions regarding stereotyping. Participants in the suppression condition did suppress prejudice in the first story, describing the skinhead in the first story using fewer stereotypes than participants in the control condition. In the second story, the rebound effect was evident as participants in the suppression condition described the second skinhead using more stereotypes than participants in the control condition.

People also experience a rebound effect resulting from prejudice suppression when they *spontaneously* suppress prejudice in response to non-prejudice social norms. Wyer, Sherman, and Stroessner (1998) conducted an experiment in which they instructed White participants to complete a survey assessing their beliefs about African Americans. Following the paradigm established by Macrae et al., (1994), they instructed one group of participants to avoid stereotyping African Americans while completing the survey (explicit suppression condition). In order to examine the contrast between explicit directions to suppress stereotyping and the subtle influence of social norms on stereotype suppression, they told the second group that an African-American political group was conducting the study (non-prejudice norm condition). Lastly, they

told a third group to simply complete the survey honestly and accurately (control condition). The participants then read a story about Donald, whose race was unspecified (Devine, 1989; Srull & Wyer, 1979). For example, Donald performed ambiguously aggressive behaviors stereotypically associated with African Americans (Devine & Elliot, 1995). Participants in the explicit suppression and the non-prejudice norm conditions exhibited a rebound effect. They perceived Donald more stereotypically, rating him as more hostile compared to participants in the control condition.

Present Research

The present research examined the impact of social norms on the suppression of stereotype-related thoughts and the subsequent rebound effect. Egalitarian (non-prejudice) norms motivated people to suppress prejudice against “normative ambiguity” groups but not “justified prejudice” groups (Crandall & Eshleman, 2003). Thus, individuals have less practice suppressing prejudice against “justified prejudice” groups than “normative ambiguity” groups. As a result, they should find active attempts to suppress prejudice against those groups to be a more difficult task, requiring more deliberate effort. From the framework of Wegner’s (1994) model, people must devote more effort to the “operating process” when attempting to suppress prejudiced thoughts about “justified prejudice” groups, and because people habitually generate negative, prejudiced thoughts about such groups, the “ironic monitoring process” should be more active, making unwanted, prejudiced thoughts highly accessible and likely to come to mind when one later relaxes attempts at thought suppression.

Accordingly, I hypothesized that deliberate attempts to suppress prejudiced thoughts about a “justified prejudice” group would result in a greater rebound effect than attempts to suppress prejudiced thought about a “normative ambiguity” group. I tested this hypothesis using

an adaptation of Macrae et al.'s (1994) paradigm. Participants first wrote a short essay about a day in the life of either a male neo-Nazi ("justified prejudice" group) or a male African American ("normative ambiguity" group) under instructions to suppress stereotypes of the depicted group or not. Then participants completed a lexical decision task to measure the accessibility of stereotypes about each group.

I predicted that the suppression instructions would affect the accessibility of stereotypes differently when the target of suppression was a neo-Nazi versus an African American. Specifically, participants who attempted to suppress stereotypes about the male neo-Nazi in the essay, would exhibit greater stereotype accessibility in the lexical decision task than participants who attempted to suppress stereotypes about the male African American in the essay.

CHAPTER THREE: METHOD AND RESULTS

Participants and Design

Participants over 18 years old were recruited using the Western Carolina University participant pool. To estimate minimum sample size, I conducted a power analysis using G*Power 3.1 software (Faul, Erdfelder, Lang & Buchner, 2007). I assumed an α of 0.05, power of .80 and a medium effect size, $\eta^2 = .25$ (Cohen, 1966). The power analysis' output parameters estimated a total sample size of 158. I collected data from 160, however 9 participants were excluded for response times greater than three standard deviations above the mean. Thus, our final sample included 151 students of Western Carolina University (85, 56.3% male) who participated in exchange for class credit. Participants' age ranged from 18 to 23 years old ($M = 18.69$, $SD = 1.69$). Participants self-identified as 120 (79.5%) White, 15 (9.9%) African American, 3 (2%) Asian, 8 (5.3%) Latino, and 5 (3.3%) other. I randomly assigned participants to one of four conditions in a 2(instruction: suppression, no suppression) x 2(social group: normative ambiguity, justified prejudice) between-subjects factorial design.

Procedure

Upon arrival, participants completed a consent form and received a set of instructions (Appendix A) designed to mask the experimental manipulation. The instructions explained that participants would complete two separate and unrelated studies- one in which they compose a brief essay and one in which they identify words. I then informed participants that the first study examined an individual's ability to construct life event details from visual information (Appendix B). They were then shown a picture of a male neo-Nazi or an African American male and given five minutes to compose a brief passage describing a typical day in the life of the

pictured individual. Before performing the task, participants in the suppression condition received the following additional instructions: “Please take five minutes to describe a day in the life of the pictured individual. Previous psychological research has established that our impression and evaluations of others are consistently biased by stereotypic preconceptions. In the present task, please avoid thinking about the target in such a manner.” Macrae et al. (1994) demonstrated that these instructions lead participants to suppress their stereotype-related thoughts during the essay writing task. In contrast, participants in the no suppression conditions were not given any additional instructions before constructing their passage.

After writing the essay, participants completed a lexical decision task, measuring stereotype accessibility of the targeted group. Participants received the following instructions: “In the following task, a '*' will be presented at the center of the screen, and then a string of letters will briefly appear. Your task is to decide whether or not the letters make up a valid English word. If the letters form a valid word, press the 'I' key. If the letters do NOT form a valid word, press the 'E' key. Try to classify the letter stimuli as words or nonwords as quickly and accurately as you can. When you are ready to begin, press the spacebar." After completing a practice round of four neutral and non-words, participants began the task. Participants were presented with strings of letters that represented stereotype-relevant words identified from a pilot study, neutral words chosen for matching number of syllables, and non-words also chosen for matching number of syllables (Appendix C).

Pilot Study

Fifty-six students of Western Carolina University (15, 26.8% male) participated in exchange for class credit. Participants' age ranged from 18 to 50 years old ($M = 21.22$, $SD = 5.75$). Participants self-identified as 47 (83.9%) White, five (8.9%) African American, two

(3.6%) Latino, and two (3.6%) American Indian. Participants received written instructions explaining that the researcher was interested in better understanding cultural stereotypes about different social groups (Appendix D). Participants listed traits they believed to be part of the cultural stereotype of each group.

The coding scheme for the pilot study was created based on stereotype assessment literature (Devine, 1989; Duncan, 1976). Coding instructions mandated that each characteristic listed receive only one classification. Miscellaneous non-stereotype relevant traits (i.e. brown eyes) were placed in a separate category and are not included. I selected the five most commonly listed traits to represent the stereotype-relevant words for the lexical decision task in my study. Table 1 shows coding categories and the proportion of traits listed per category.

Table 1. Percentage of traits per cultural stereotype category.

African American Male <i>(normative ambiguity group)</i>	Neo-Nazi Male <i>(justified prejudice group)</i>
Aggressive (.39)	Prejudiced (.33)
Athletic (.31)	Violent (.24)
Criminal (.27)	White (.11)
Uneducated (.02)	Uneducated (.08)
Lazy (.01)	Politically conservative (.07)

Interestingly, the cultural stereotypes of African American men, the “normative ambiguity” group, revealed higher level of consensus, with three categories covering 97 percent of the traits listed. Under 1 percent of traits listed were miscellaneous. In contrast, there was less consensus regarding cultural stereotypes of neo-Nazi men, the “justified prejudice” group, with the top

three categories covering only 68 percent of the traits listed. A total of 17 percent of traits listed were miscellaneous. Importantly, these findings reflect Crandall's normative window model of prejudice (Crandall & Warner, 2005; Ferguson & Crandall, 2006), demonstrating the differing influence of social norms on level of consensus and accessibility of cultural stereotypes by social group.

Results

Suppression Manipulation Check

To ensure the thought suppression manipulation was effective, I measured the level of stereotyping in the passage. To compute this measure, two independent raters read each passage and counted the number of stereotypes in the essay. The raters were blind to experimental condition and the purpose of the study. There was a high correlation of number of stereotypes counted between raters, $r(151) = .759$, thus scores were collapsed and a single measure of number of stereotypes per passage was calculated. Overall, participants showed greater suppression when they received the suppression instructions ($M = 1.20$, $SD = 1.27$) than when they did not ($M = 1.80$, $SD = 1.47$), demonstrating a main effect of instruction $F(1, 149) = 7.294$, $p = .008$, with a large effect size $\eta_p^2 = .047$. There were no other main or interaction effects in level of stereotype suppression.

Rebound Effect

Based on my hypothesis, I predicted that participants would respond faster to stereotype-relevant words associated with the "justified prejudice group" than the stereotype-relevant words associated with the "normative ambiguity" group in the suppression condition but not in the no-suppression condition. I did not expect the suppression instructions or the group manipulation to affect response times to the non-stereotype-relevant words. To test these predictions I subjected

the response times to the stereotype-relevant and non-stereotype-relevant words to a 2(instruction: suppression, no-suppression) x 2(group: justified prejudice, normative ambiguity) x 2(word type: stereotype-relevant, non-stereotype relevant) mixed model analysis of variance (ANOVA) with instruction and group serving as between-subjects factors and with repeated measures on the word type factor.

There was a significant instruction x group x word type interaction effect, $F(1, 147) = 4.05$, $p = .046$, $\eta_p^2 = .03$. I further tested my hypothesis by conducting separate 2(instruction) x 2(group) ANOVAs on the response times to stereotype-relevant and non-stereotype-relevant words (see Figure 2a and 2b). There were no main effects or interaction effects on the non-stereotype-relevant words, all F -ratios < 1.00 . The independent variable manipulations did not affect the accessibility of the non-stereotype-relevant words.

In contrast, the ANOVA on the stereotype-relevant words revealed a significant main effect of instruction, $F(1,147) = 15.43$, $p < .001$, $\eta_p^2 = .105$. Overall, participants showed greater stereotype accessibility on the lexical decision task when they had received the suppression instructions ($M = 602.89$, $SD = 0.72$) than when they did not ($M = 688.82$, $SD = 0.92$). There were no other main or interaction effects.

Failing to support my hypothesis, the instruction x group interaction effect was not significant, $F(1, 147) = 0.298$, $p = .826$, $\eta_p^2 = .006$. Thus, results replicated past findings in that both group conditions demonstrated the expected rebound effect based on suppression instructions. However, the group manipulation did not impact the rebound effect. Simple effects tests further demonstrated our findings of main effect of instruction. For the justified prejudice condition, stereotyping thoughts were significantly more accessible after suppression ($M = 607.73$, $SD = 156.08$) than no suppression ($M = 708.68$, $SD = 147.80$). Likewise, in the

normative ambiguity conditions, stereotyping thoughts were significantly more accessible after suppression ($M = 598.04, SD = 106.52$) than no suppression ($M = 668.96, SD = 117.82$), $F(3, 147) = 5.775, p < .001$. However, ease of thought suppression between social groups was not significantly different, $p = .755$.

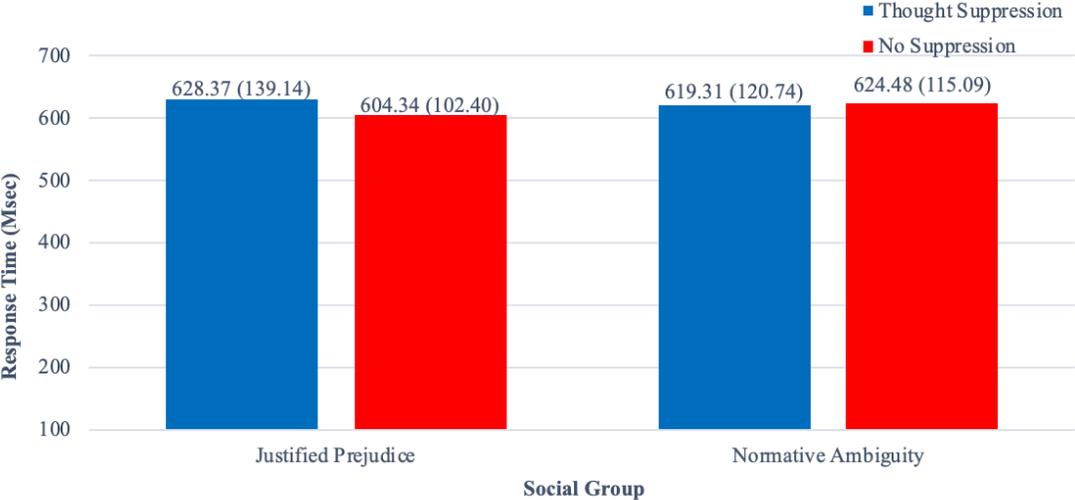


Figure 2a. Mean response time of non-stereotype-relevant words as a function of condition.

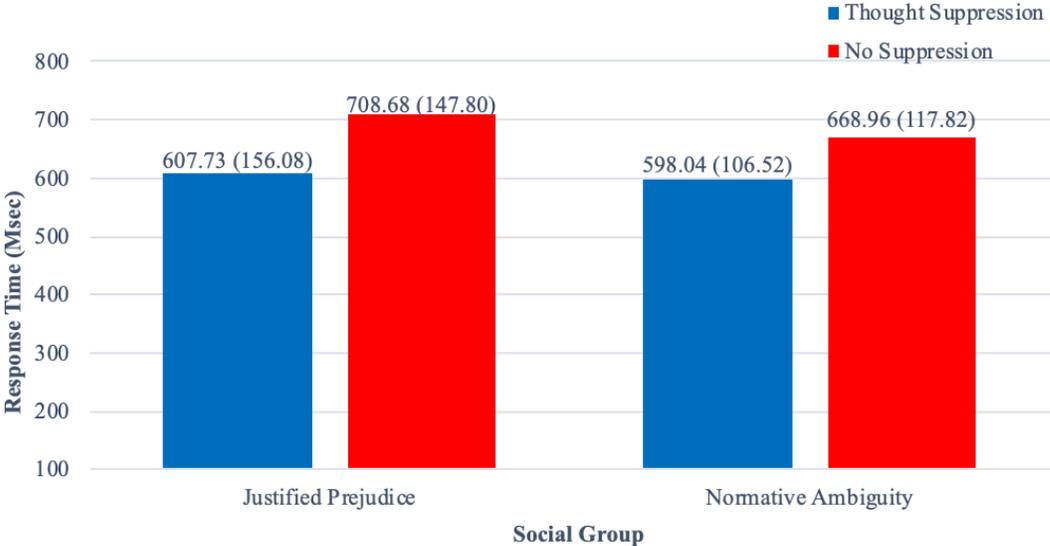


Figure 2b. Mean response time of stereotype-relevant words as a function of condition.

Discussion

The present research replicated past findings in thought suppression research, that when individuals suppress thoughts, they experience an ironic rebound effect in which the thoughts they were attempting to suppress come back stronger than they otherwise would experience. However, my hypothesis was not supported. I found no evidence that this effect is moderated by the acceptability of prejudice against a group.

The rebound effect represents an interesting interplay between deliberate and implicit cognitive processes. *Conscious* suppression of thoughts leads to a subsequent *implicit* rebound—in this case, a greater accessibility of stereotypes. The separation between the conscious and implicit processes is complex and merits further investigation. Given that attempted deliberate control can kick implicit processes into high gear, individuals low in prejudice must avoid the use of stereotypes as thought heuristics without using thought suppression. Research suggests that truly low prejudice individuals have weaker associations between social groups and typical negative traits, meaning negative traits are less likely to come to mind and stereotypes are less likely to be activated (LePore and Brown, 1997). These weaker connections are formed and maintained through internal motivation and/or underlying positive affect toward the target social group (Moskowitz et al., 1999; Ito, et al., 2015; Kang et al., 2014; Lapate et al., 2016).

Internal motivation (holding core values that reflect the egalitarian social norms) appears to change the strength of the associative links between social groups and stereotype-related traits (Moskowitz et al., 1999; Ito, et al., 2015). In an investigation of whether cognitive control is involved in self-regulation of implicit bias, Ito and colleagues (2015) found that high internal motivation predicts lower implicit bias, and this lower bias is not moderated by executive function (meaning lower prejudice is not a function of greater capacity to consciously self-

regulate bias). However, high external motivation was associated with greater implicit bias, and is moderated by executive function. Those with high executive function were better able to self-regulate bias than those with low executive function. These findings are especially interesting in light of my investigation of thought suppression given that my study focused on the consequences of external motivation, demonstrating that when presented with external motivation, individuals have a low capacity to avoid the unintentional consequences of thought suppression. Given my findings on the rebound effect, an interesting extension of Ito et al.'s (2015) study would be to test whether executive function monitors individuals' capacity to suppress prejudice across social groups.

A relatively unexplored area in research investigating social cognition of prejudice regulation is underlying affect. This is surprising given that valence of affect toward the target social group is a common theme in prejudice literature. Underlying negative affect is theorized to drive biased behaviors and attitudes of both explicit and implicit bias. According to the cognitive consistency perspective, biased perceptions like stereotypes exist to justify particular attitudes toward a social group (a symbolic attitude). People develop biased perceptions (i.e. negative stereotypes) in order to justify the symbolic attitude. Thus, prejudice is a symbolic attitude based on a general negative affective reaction (for a review, see Ajzen and Fishbein, 1977).

Underlying negative affect is also one of the foundational assumptions of the theory of aversive racism (Gaertner and Dovidio, 1986), which states that Whites still acquire negative sentiments toward African Americans. This negative affect is not likely based in rational thought, but rather learned in early childhood (Goodman, 1952). This implicit negative affect gives rise to feelings of discomfort, uneasiness, or fear in the presence of African Americans and often leads to avoidance (Hyers and Swim, 1998). Thus, aversive racism is a classic example of

the cognitive consistency perspective. Individuals hold unconscious negative attitudes that lead to a negative general affective reaction to the out group.

New research suggests that one approach to decreasing these automatic, negative associations might be lovingkindness meditation (Kang et al., 2014; Lapate et al., 2016), suggesting that change in affect toward the amorphous other (the contemplative practice focuses on positive affect toward everyone, not limited to specific groups) decreases implicit bias toward target social groups. One limitation in this area is research thus far has focused exclusively on prejudice toward “normative ambiguity” groups. It is yet to be seen if change in affect impacts one’s broader view toward any social group, or if it is limited to “normative ambiguity” and “unjustified prejudice” social groups.

Limitations and New Directions for Future Research

While I found no evidence to suggest that, because people normally *express* prejudice against “justified prejudice” groups, it is harder to *suppress* prejudice about such groups, (which hypothetically would have resulted in greater rebound effects), the statistical model used does not allow us to draw definitive conclusions that there was no interaction. Using Bayesian inferencing might offer an analytical strategy that would lend more insight into whether there is a true absence of interaction. By using prior distribution of the parameter in place of a null hypothesis, we would be able to draw more substantial conclusions about my findings.

There are many facets of thought suppression as a self-regulation strategy of stereotyping and prejudice that have yet to be explored, such as the neural correlates of the process. In initial research examining the neural correlates of thought suppression, researchers hypothesized that the conscious direction of attention to thoughts other than the unwanted thoughts was managed by the prefrontal cortex, while the detection and suppression of unwanted thoughts was regulated

primarily by the bilateral anterior cingulate cortex (Mitchell et. al., 2009). More recent findings demonstrate that these processes do not function as isolated processes located in singular neural regions, but actually function through neural networks across regions (for a review, Amodio, 2014). However, research consistently shows that the anterior cingulate cortex plays a prominent role in thought suppression by relaying transient need for more control and increases when unwanted thoughts occur in order to suppress them (Mitchell et. al., 2009; Amodio, 2014).

Whether the two cognitive processes proposed by Wegner (1994) to underlie thought suppression and the subsequent rebound effect implicate different neural networks has, to our knowledge, yet to be directly investigated. Thus, an investigation of whether the lateral prefrontal cortex, which manages the cognitive control of racial biases (Amodio, 2004; Amodio, 2014), manages what Wegner called the operating process and whether the anterior cingulate cortex manages the implicit suppression of thoughts (Amodio, et al., 2004; Gehring & Fencsick, 2001; van Veen & Carter, 2002; Amodio, 2014), operates as the ironic monitoring process would be an interesting next step. To test this idea, participants could perform stereotypical word associations related or not related to the target social group while assigned differing cognitive loads to measure the two processes (rehearse a 9-digit number- high cognitive load; no rehearsal- light cognitive load).

Perhaps the most vital component of researching thought suppression related to stereotyping and prejudice is the application of findings in interpersonal interactions and relationships. Research investigating self-regulation of prejudice has typically focused on conscious, top-down mechanisms like thought suppression and thought replacement (Devine 1989; Devine, 2017; Paluck, 2012; Pearson, Dovidio, and Gaertner, 2009). Further research is needed investigating automatic, bottom-up mechanisms that lead to lower prejudice levels. For

example, there is evidence to suggest that change in underlying negative affect results from subtle environmental cues like vivid counter-stereotypic examples, lowering implicit bias (Lai, et al., 2014). To my knowledge, we do not have concrete evidence that internalization of egalitarian social norms (i.e. internal motives) changes the valence of affect toward specific social groups, however given the theoretical importance of internal motives and underlying affect to level of prejudice, it would also be an interesting hypothesis to examine.

Conclusion

How individuals self-regulate stereotyping thoughts has broad implications for positive or negative interactions between social groups, as well as hiring in the workplace, school admittance, and many other circumstances. Catching ourselves in the act of using stereotypes is difficult given that they are by definition automatic associations. Even if one does catch oneself using a stereotype, how to avoid thinking or applying the stereotype presents what can seem to be an impossible situation, given that suppressing the thought could lead to the rebound effect. Further research is needed to examine self-regulation strategies in this area. My research replicates and supports past findings on thought suppression, suggesting that thought suppression is not an effective strategy in the self-regulation of prejudice and stereotyping.

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APPENDICES

Appendix A: Essay Directions

Part 1: Directions given to all subjects.

In this study, we're examining an individual's ability to construct life event details from visual information. The study is conducted through an online survey. Please follow the link on the board to access the survey. Your participation is voluntary. There is no penalty for not participating or stopping participation at any time. All-in-all the study should take about 10-15 minutes. First, please read the consent form and date it. By dating the form, you are agreeing to participate in the study.

Part 2: Participants were randomly assigned to one of the below two conditions and received the next directions in the context of the survey:

1. Suppression condition: "Previous research in social psychology demonstrates that our impressions and evaluations of others are consistently biased by stereotype-based misconceptions. Please keep that bias in mind when writing your essay."
2. Control condition: no additional instructions given.

Appendix B: Essay Prompt Photos



Figure A1. Male Neo-Nazi, (Koch, 2007).



Figure A2. Male African American, (JTS Digital Media, 2017).

Appendix C: Lexical Decision Task Stimuli

Table A1. Letters representing stereotype-relevant words, neutral words, and non-words.

Lexical Decision Task		
	African American Male	Neo-Nazi Male
Stereotype-Relevant Words	Athletic	Racist
	Criminal	White
	Aggressive	Violent
	Loud	Bigot
	Dangerous	Hateful
	Uneducated	Aggressive
	Strong	Angry
	Angry	Insane
	Disrespectful	Crazy
	Ghetto	Amoral
	Muscular	Threatening
	Lazy	Uneducated
Thief	Ignorant	
Neutral Words	Two	Two
	Industrialization	Industrialization
	Apartment	Apartment
	Communication	Communication
	Article	Article
	Hurricane	Hurricane

Tug	Tug
Sip	Sip
Log	Log
Electricity	Electricity
Curious	Curious
Shop	Shop
How	How

Non-Words

Amn	Amn
Aramaicfrancine	Aramaicfrancine
Gagesrives	Gagesrives
Iorminaindicts	Iorminaindicts
Andrusego	Andrusego
Nunfy	Nunfy
Indk	Indk
Fieth	Fieth
Latl	Latl
Wot	Wot
Dinarsutilization	Dinarsutilization
Antetramp	Antetramp
Cocummination	Cocummination
Cartlei	Cartlei
Oxber	Oxber
Guet	Guet

Ips

Ips

Gol

Gol

Woh

Woh

Pohs

Pohs

Souric

Souric

Icylettrice

Icylettrice

Appendix D: Pilot Study Directions

In this study, we are examining students' perceptions of what the cultural stereotype are for a number of different social groups. Therefore, we will show you pictures of people who belong to three different racial/ethnic groups and we would like you to list whatever characteristics, traits, behaviors, etc. that come to your mind that you think would reflect the cultural stereotype of the pictured social group. **Keep in mind, we are not interested in your own personal beliefs, rather we are interested in your perception of the cultural stereotype of each group.** For each of the depicted groups, please list four or five thoughts about the cultural stereotype for that group. **Also, keep in mind that all of your responses are completely anonymous, strictly confidential, and do not reflect your personal views.** So, please feel free to write anything that comes to mind.