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REDUCING AUTOMATIC STEREOTYPE ACTIVATION: EUROPEAN- AND AFRICAN
AMERICAN PHOTOS IN SITUATIONAL ATTRIBUTION TRAINING

A Thesis
presented in partial fulfillment of requirements
for the degree of Master of Arts
in the Department of Psychology
The University of Mississippi

by

SEAMUS P. WALSH

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ABSTRACT

Previous research has shown that training rooted in attribution theory, Situational Attribution Training (SAT), is effective in reducing automatic stereotyping. SAT reduces automatic stereotyping by asking participants to “consider the situation” when making attributional judgments of negative behaviors stereotypical of African Americans. The focus of the present research is to examine the repeated stereotype-consistent pairings of African American photos with the negative behaviors stereotypical of African Americans, seen during SAT, which may limit the maximum effectiveness of the training. As a methodological modification to the previous version of SAT, white participants were trained extensively to choose situational over dispositional explanations for negative behaviors stereotypical of African Americans paired with photos of both African- and European American men. By teaching participants to consider situational attributions for negative behaviors stereotypical of African Americans, paired with pictures of both African American and European American photos, I expected stronger stereotype reduction effects than has been previously shown. Participants who completed both Traditional SAT (all African American photos), and Diverse SAT (African- and European American photos), demonstrated reduced automatic racial stereotyping on a person categorization task, relative to participants that did not complete any training who exhibited substantial automatic stereotyping. However, the addition of European American photos did not increase the effectiveness of the traditional training paradigm. Implications for stereotype reduction are discussed.

DEDICATION

For my parents, who continue to inspire and motivate me to achieve.

ACKNOWLEDGEMENTS

To my committee members, thank you for all of your help and guidance throughout the thesis process. Special thanks to my advisor, Dr. Tracie Stewart, for the hard work, mindful mentorship, and long hours that facilitated the development of this project.

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INTRODUCTION

In October of 2012, the University of Mississippi commemorated 50 years of integration. Fifty years ago to the exact month, Ole Miss student James Meredith broke down racial barriers that had been in place for over 100 years prior. However, the process of racial and social equality did not come without a fight. In Meredith's time, it took presidential orders, National Guard troops, and two people's lives, not to mention decades of struggle marked by rallies, protests, freedom rides, and sit-ins. Still today, racial prejudice and stereotyping are major contributing factors to discrimination in education, housing, jobs, and the legal system for African Americans as well as other minority groups (U.S. Bureau of Labor Statistics, 2012; U.S. Department of Justice, 2011).

These prejudices were plainly seen on the University of Mississippi's campus the night of President Barack Obama's reelection. On November 2nd, many Ole Miss students left their dorms to protest the election results, which soon escalated into racial slurs and epithets targeted toward Black students (Hanrahan, 2012). These events paint a picture of the prejudices that still exist in today's society, and they demonstrate the long journey we still have to go for social parity. A day after the incident, a group of student leaders penned an open letter to students, faculty, and alumni. They were adamant that, "To move forward as a student body and university, we need to discuss our differences and strive to genuinely understand one another's backgrounds, cultures, and beliefs" (Incident Review Committee, 2013, p. 16). While advocating for the same objective laid out by these student leaders, social psychologists use the tools at their disposal to

better understand prejudicial attitudes and behaviors, so that we can channel that knowledge and push toward social change. A major component of prejudice research concerns stereotype activation.

The present paper describes the overall processes of stereotyping, including how it is defined, how it is measured, its automatic and controlled components, and finally, how it can be reduced. Through investigating these mechanisms, I hope to illustrate the importance of a relatively new stereotyping reduction method (Situational Attribution Training), and propose changes to its design that may improve stereotyping reduction outcomes.

Defining Stereotypes

Stereotypes have long been a topic of interest to social psychologists because they are an integral piece of our everyday social interaction. The *Oxford English Dictionary* defines a stereotype as “A preconceived and oversimplified idea of the characteristics which typify a person, situation, etc.; an attitude based on such a preconception.” A stereotype can be seen this way as a heuristic mechanism that allows people to easily characterize someone or something without requiring them to know their *actual* characteristics. On the basis of this heuristic process, stereotypes are therefore more likely to be used when our cognitive load is diminished, such as when we are distracted (Miami & DeBono, 2007), when a task is complex (Hadjimarcou & Hu, 1999), or even when it is a non-optimal time of day (Bodenhausen, 1990). There have also been many different definitions of stereotypes proposed by psychologists, all of which hold similarities. Lindgren (1994) defined a stereotype as “generalized and usually value-laden impressions that members of one social group use in characterizing members of another group” (p. 468). Another definition proposed by Jones (1997) defines a stereotype as “a positive or negative set of beliefs held by an individual about the characteristics of a group of people” (p.

170). Possibly the most comprehensive review of stereotype definitions was given by Kanahara (2006) in which he proposes a model for stereotypes as well as his own definition. Kanahara's model uses four categories (specification, generalization, stereotype, and application) to describe the stereotyping process, and proposes a more broad definition: "a belief about a group of individuals" (p. 311).

All of these definitions share a contention that stereotypes can play an important role in social interaction. These impressions and beliefs about a group of people can be used, both consciously and unconsciously, to guide behavior. People who hold stereotype-based expectancies have been shown to have particular behaviors that correlate with cross cultural interactions (Manusov et al., 1997). For example, attitudes of the outgroup target culture (positive or negative) are related to the behavior displayed during the interaction (e.g., gestures, facial expressions, vocal tone, vocal loudness, etc.). Relatedly, stereotype threat, the threat of confirming a negative stereotype about one's own group as self-representative, can greatly influence interracial interactions through poorer speaking ability and recall in White individuals when discussing racial issues with Black individuals (Tatum, 2010). Possibly even more important is the way stereotypes can affect the target individual. Researchers have shown that exposing people to negative stereotypes of their ingroup can lower their individual self-esteem and community worth (Fryberg, Oyserman, & Stone, 2008).

The way stereotypes can affect interactions is important, because many negative stereotypes may lead to discriminatory attitudes and behavior. But stereotype endorsement is not necessarily inevitable. Knowledge of a particular stereotype does not preordain you to a belief in that stereotype. Likewise, acknowledging that a negative stereotype exists does not necessarily predict discriminatory behavior consistent with that negative stereotype. Therefore, previous

research has drawn a line between knowledge of stereotypes and the endorsement of them (Ashmore & Del Boca, 1981; Billig, 1985). Concurrently, stereotyping can occur in both automatic and controlled processes (Devine, 1989).

Automatic Versus Controlled Stereotyping

As their names might suggest, automatic processing involves the involuntary, unintentional process of stereotyping, while controlled processing involves voluntary, intentional processes. Devine (1989) proposed a model of automatic and controlled stereotyping that draws a distinction between these two processes. In Devine's model, stereotyping is activated equally as much in high- and low-prejudice individuals when the process is automatic, and unconsciously primed (Study 2). However, when consciously monitoring their own responses (Study 3), low-prejudice individuals were less likely to use negative stereotype-congruent traits to describe African Americans than were high-prejudice individuals, demonstrating a controlled response that corresponds to their egalitarian beliefs. These automatic and controlled processes can further be described, respectively, as automatic *activation* of stereotypes, and the subsequent control of their *application*.

A more recent experiment conducted by Blair and Banaji (1996) demonstrated that stereotyping occurs automatically if individuals have no intention to avoid stereotyping and have a high cognitive load. Over four experiments, Blair and Banaji used semantic priming, a procedure that examines the association of two groups based on the speed of categorization (faster reaction times indicate a higher association between groups) to display automaticity in stereotyping. During the semantic priming procedure, participants were presented with a trait prime (masculine, feminine, or neutral) on a computer screen. Immediately afterwards they were presented with a person's name (male or female) and were asked to press a button on the

keyboard corresponding to the presented gender. If the participant responds faster to a typical male name after a masculine prime instead of a feminine prime, it is said to indicate a higher association between that trait and the gender. For example, a trait prime of “strong” would be a stereotype of a man, and therefore should facilitate the categorization of the target name “John” as opposed to the target name “Jane.” This process is said to be automatic when the stimulus presentation times are extremely fast (less than 500ms; Neely, 1977). Therefore, in experiments 3 and 4, Blair and Banaji moderated this automatic response by varying stimulus presentation time (250-2,500ms) and providing participants with intention to expect either stereotype (e.g. “strong”-“John”) or counter-stereotype (e.g. “strong”-“Jane”) pairings. They found that when presentation times were longer (2,500ms) participants were able to control their responses based on their stereotype or counter-stereotype intentions. For example, participants in the counter-stereotype intentions condition had faster reaction times for counter stereotypes than for stereotypes, because they were given enough time to accurately control their responses. However, when the presentation times remained fast (250ms), participants responded congruently with stereotype pairs, regardless of their intentions. Thus, participants in the counter-stereotype intentions condition had faster reaction times to stereotype congruent pairs, because they were not given enough time to accurately control their responses, demonstrating an automatic process.

Similar experiments have measured the automaticity of stereotyping using other implicit measures. One such measure is a shooter task that asks participants, through a computer game, to “shoot” targets holding a gun. Participants are faster to “shoot” African American targets overall, and more likely to incorrectly “shoot” African American targets without guns. This effect is referred to as the *shooter bias*, and implies that the association of the African American

male stereotypes as *dangerous* and *criminal* facilitates these responses (Correll, Park, Plant, Judd, & Wittenbrink, 2002). Using the process dissociation method proposed by Jacoby (1991), which measures automatic processing through algebraic equations that separate automatic and controlled processes, shooter task experiments have shown automaticity in stereotyping (Payne, 2001; Mendoza, Gollwitzer, & Amodio, 2009).

When delving into the brain functions associated with automatic and controlled processes of stereotyping, distinct areas present themselves to be involved. While examining participants brain activity through fMRI during an Implicit Association Test, which is another implicit task used to investigate stereotypic attitudes through measuring the association strength of two separate things, Knutson and colleagues (2007) found that areas of the medial prefrontal cortex (anteromedial prefrontal cortex and rostral anterior cingulate cortex) are involved in automatically activated stereotypic attitudes. However, when participants were told to suppress those stereotypic attitudes, using controlled processes, fMRI showed more activation in the dorsolateral prefrontal cortex. Knutson and colleagues also found amygdala activation during stereotypic responses; given its relation to threat response, eliciting African American male stereotypes, such as *criminal* or *violent* should activate this brain region. Relatedly, the amygdala activity in response to stereotypes is goal dependent (Wheeler & Fiske, 2005).

These results show that the automatic and controlled processes involved in stereotyping have both functional specializations, as well as distinct behavioral components. Automatic and controlled processes are equipped with discrete mechanisms in the brain, as well as separate behavioral procedures used to carry out each task. Thus, the reduction of stereotyping can take place in one region or the other, reducing either automatic or controlled responses.

Stereotyping Reduction

It is clear that both automatic and controlled stereotyping present important issues to tackle. However, automatic processes seem to be especially vital given their unconscious and implicit nature. As previously discussed, a person with egalitarian beliefs is able to display control over stereotype *application*. Still, automatic stereotype *activation* is a slightly more complex matter. Given stereotype activations unconscious processes, explicitly egalitarian individuals may not be aware of their unconscious stereotypical beliefs, and are therefore unable to control them. Previous work on automatic processes suggests that practice plays an important role in its development (Logan, 1988), and therefore may also play a role in its reduction. Consequently, previous work on reducing stereotype activation involved extensive training to negate stereotype associations (Kawakami, Dovidio, Moll, Hermsen, & Russin, 2000). In an effort to break the automatic activation of stereotypes, Kawakami and colleagues simply told participants to “just say no” to stereotype associations over many trials, thereby inhibiting an automatic process. This negation training paradigm has been shown to reduce stereotype activation, as measured by a primed stroop task, for up to 24 hours. This reduction in automatic stereotyping is just one example of various paradigms that demonstrate malleability for automatic processes which were once thought to be hard, fast, and inescapable. Other strategies that have been shown to work in the reduction of stereotype activation include the affirmation of counter-stereotypes (Gawronski, Deutsch, Mbirkou, Seibt, & Strack, 2008), mental imagery of counter-stereotypes (Blair, Ma, & Lenton, 2001), implementation intentions (Stewart, & Payne, 2008), pre-semantic processing goals (Macrae, Bodenhausen, Milne, Thorn, & Castelli, 1997), and internal motivation to respond without bias (Cullum, 2009) among others. In contrast, many stereotype reduction techniques that initially show positive effects may later result in higher

stereotype activation (Monteith, Sherman, & Devine, 1998; Hodson & Dovidio, 2001).

Therefore, it is important to implement a controlled strategy that reduces stereotype activation without future negative backlash.

Ultimate Attribution Error

More recent work in the reduction of stereotype activation has been based on the pillars of the ultimate attribution error (UAE; Pettigrew, 1979; Stewart, Latu, Kawakami, & Myers, 2010). The UAE is related to the fundamental attribution error (Jones & Harris, 1967), in which people are more likely to explain others' behavior through dispositional instead of situational factors, especially when performing negative actions. Similarly, the UAE specifically describes attributions given towards outgroup members. It purports that prejudiced individuals will attribute *dispositional* causes to negative acts performed by outgroup members, as opposed to the same act performed by ingroup members. Accordingly, prejudiced individuals will often attribute *situational* causes to positive acts performed by outgroup members, or regard them as an exceptional case. This attributional bias becomes especially evident when the negative behaviors performed by outgroup members align with negative stereotypes of that outgroup. For example, a White man who perceives a Black man shoving someone is not just viewing a negative behavior performed by an outgroup member, he is viewing a negative *stereotype-consistent* behavior performed by an outgroup member (i.e., the violent or aggressive Black male stereotype).

Based on this description, it would seem apparent that the UAE would play a large part in perpetuating outgroup stereotypes. For example, attributing an aggressive shove from a Black actor to dispositional factors would perpetuate the Black male stereotype of “aggressive”, while the same shove from a White actor would be attributed to situational factors. Thus, because the

shove performed by the White actor was explained situationally, it would not perpetuate a stereotype of all White actors. Duncan (1976) demonstrated this pattern in an experiment in which he showed a video clip of an actor (Black or White) giving an ambiguous shove to another actor (Black or White). Participants viewing the video were more likely to attribute the shove from a Black actor to dispositional explanations, and the shove from a White actor to situational explanations. Participants were also likely to label the shove as violent *only* when it was performed by the Black actor, suggesting an association with the *violent* Black male stereotype.

Although not directly targeting the UAE, research on “perspective taking” has shown that situational attributions can play a role in bias reduction (Batson, Polycarpou, Harmon-Jones, Imhoff, Mitchener, Bednar, et al., 1997; Dovidio, ten Vergert, Stewart, Gaertner, Johnson, Esses, et al., 2004), and more specifically, the reduction of stereotype activation (Galinsky & Moskowitz, 2000). In an experiment conducted by Galinsky and Moskowitz, experimenters asked participants write a narrative about an outgroup member (elderly man, Study 1). One-third of the participants were assigned to a suppression condition where they were asked to suppress stereotypical thoughts related to the outgroup member. Another one-third of participants were assigned to a perspective-taking condition, in which they were asked to write the narrative through the perspective of the outgroup member. The final one-third were assigned to a control group, and were given no further instructions. Galinsky and Moskowitz found that although both the suppression and perspective-taking groups were able to explicitly control the stereotype consistent content in their narratives, the suppression condition was significantly faster than the perspective-taking condition to implicitly respond to stereotype consistent words on a following lexical decision task, demonstrating a rebound effect for the suppression condition that has been seen in other experiments (Monteith, Spicer, & Tooman, 1998). Further work has demonstrated

that increased situational attributions are a strong mediating factor between these perspective taking techniques and stereotypic attitudes (Vescio, Sechrist, & Paolucci, 2003).

All of this considered, the UAE seems to play an important role in the perpetuation of negative stereotypes of outgroups, specifically at such a fundamental attributional level. A technique which aims to reduce the UAE may also be well suited for the reduction of stereotype activation, especially bearing in mind the negative consequences of other techniques which have been shown to increase stereotype activation in high prejudice individuals (Monteith et al., 1998).

The Present Research: Expanding Situational Attribution Training

An initial experiment tested the effectiveness of a stereotyping reduction technique that was developed based on the assumptions of the UAE, labeled Situational Attribution Training (SAT; Stewart et al., 2010). During the SAT paradigm, participants are asked to “consider the situation” when making attributional judgments of negative stereotype-consistent behaviors of outgroups (African Americans). Across many trials, participants are presented with a photograph of an African American, paired with a negative behavior consistent with an African American stereotype. After the behavior is presented, two separate explanations (dispositional and situational) for the negative behavior are given. Participants are then told to choose the situational explanation for the given behavior. On a subsequent implicit stereotype activation measure, participants in the SAT condition showed a significant reduction in stereotype activation, even for negative traits not seen in training, compared to participants in a control condition. Whereas some bias reduction strategies have been shown to have limited effects over time, or even ‘backlash’ effects wherein bias post-intervention is increased (Kawakami et al.,

2000; Monteith et al., 1998), SAT has shown that the stereotyping reduction effects persist up to one day later (Walsh, Stewart, & Latu, 2013).

These results are promising, especially considering its generalizability beyond trained stereotypes, the persistence of its effects, and its absence of negative backlash. However, one feature of the paradigm may be cause for additional scrutiny. SAT training, as it presently operates, involves a training task in which only negative African American stereotypic behaviors are seen and which are paired only with African American photos. There are some features of the training paradigm that should be more closely examined in order to gain a better understanding of impact, namely, the composition of all African American photos paired with African American stereotypic behaviors. Although early findings for this paradigm have suggested that it is effective in reducing automatic racial stereotyping, from a face validity standpoint it might be a concern that, over the long term, such a saturated stereotype-consistent environment might lead to unintended negative effects, and in the short term, may limit the maximum effectiveness of the program.

Although to date no negative effects of training have been shown, there is still the potential for such effects to exist. Consider stereotyping rebound effects in stereotype suppression paradigms, wherein successful attempts to suppress stereotyping in the short term nonetheless lead to increased stereotyping in the long term (e.g., Monteith et al., 1998; Hodson & Dovidio, 2001). By consistently pairing a negative Black-stereotypic trait with a photo of an African American male, the possibility that these traits are now more salient in a participant's consciousness, and therefore more readily accessible, is possible. In other words, this training displays an ever-present stereotype consistent environment that may negatively affect the results. The consistent pairing of negative Black-stereotypic traits with photos of African American

males may hinder stronger stereotyping reduction effects from presenting. Methodologically speaking, these pairings are contrasting forces that can possibly lead to a dilution effect, in which the results are hampered.

An adaptation to the training that might be considered is the addition of non-African American photos, still paired with African American-stereotypic behaviors, during the training phase. Consideration of the addition of non-African American photos in SAT training raises a number of interesting questions. What might be the effects of repeated pairings of European American photos and negative African American stereotypic traits, with continued instructions to consider the situation in attributing these effects, on African American-stereotype activation? Ideally, such an adaptation would retain the positive effects of SAT but reduce exposure to a saturated stereotype-consistent environment, thus limiting potential counterproductive effects of the training.

But there are other potential impacts of this adaptation beyond diluting a stereotype-saturated stimulus environment. The revised paradigm would still maintain its focus on attributional training. However, in some aspects, the addition of European American photos during training would create a paradigm similar to previous work in negation training (Gawronski et al., 2008; Kawakami et al., 2000). Gawronski and colleagues showed that by viewing and affirming counter-stereotypic group member-trait pairings (i.e., saying “YES” to a “weak” male, and “YES” to a “strong” female), automatic stereotype activation can be reduced. Pairing a European American photo with a negative stereotype of African Americans is *similar* to counter-stereotypic pairings because it pairs stereotypes with stereotype-incongruent agents. Participants are no longer only making situational explanations solely for African American photos, but also for European American photos. Moreover, the most important thing that

European American photos may add is just that they are not African American, thereby breaking up the saturation of stereotypic pairings through the use of countervailing stimulus. Therefore, the proposed research aims to add European American photos paired with the current negative African American stereotypes already present in training. This method manipulation, by retaining its base in attribution processes, and reducing exposure to a stereotype-consistent environment, may increase the positive effects that SAT has previously shown.

Experiment Predictions

As measured through response latencies on an implicit stereotype activation task (person categorization task; Banaji & Hardin, 1996), I predict decreased stereotype activation for participants who view photos of both European- and African Americans during SAT (Diverse Training condition), as well as for participants who only view photos of African Americans during SAT (Traditional Training condition), compared to participants who do not complete any training (No-Training Control condition). In addition to the previously proven method of considering situational attributions for negative stereotype-*consistent* behaviors, participants in the Diverse Training condition will also be considering situational attributions of negative stereotypic behaviors *inconsistent* with the matched agent. This change should in-turn increase the positive effects of training because of the dilution of stereotype-saturated stimulus, as well as a break up of stereotype-consistent pairings. Due to the anticipated increased positive effects, I also expect to find a difference in automatic stereotyping between the Traditional SAT condition, and the Diverse SAT condition. Although they should both reduce stereotype activation, the Diverse condition should show stronger positive effects. Additionally, no difference in response latencies is expected for positive stereotypic, or positive or negative nonstereotypic trait primes. This prediction is consistent with previous research showing that the effects of SAT are specific

to the negative traits, stereotypic of African Americans (Stewart et al., 2010; Walsh, Stewart, & Latu, 2013).

METHOD

Participants

Participants included ninety-three White undergraduate students (55 women) from a southern university in the United States. Students participated in one experiment as a means to fulfill an introductory psychology course requirement.

Prescreening

Prior research in stereotype reduction has shown that a participant's individual level of prejudice can impact results (Monteith et al., 1998). In order to control for these variables that may affect the primary results, all participants completed an explicit measure of racial bias (SDS; Social Distance Scale; Bogardus, 1933) during a general prescreening prior to their experimental session. The SDS is a 28-item scale that measures an individuals' degree of preference towards social distance among African American and European American groups (see Appendix A).

Procedure

Upon entering the lab room, participants were randomly assigned to one of three conditions (Traditional SAT, Diverse SAT, or a No-Training Control). Previous research using a Grammar-Training Control condition designed to completely mimic the training presentation and procedures, without requiring participants to make situational attributions, showed no differences compared to a No-Training Control (Stewart et al., 2010). Because the No-Training Control condition allowed for a true baseline comparison of the entire training procedure, it was the sole control condition used in the present experiment.

Phase 1: Training. In the Traditional SAT and Diverse SAT conditions, the experimenter explained to participants that the study investigated how people explain others' behaviors. The experimenter then demonstrated the difference between situational and dispositional behaviors. Participants in the Traditional SAT condition were told that they have been randomly assigned to a condition in which they are asked to make situational explanations for negative behaviors performed by African American men. Participants in the Diverse SAT condition were told that they have been randomly assigned to a condition in which they are asked to make situational explanations for negative behaviors performed by both African American and European American men. All photos were standardized across targets, and have been used in previous experiments (e.g., Meissner, Brigham, & Butz, 2005), and all further instructions were presented on the computer screen.

Participants first completed six practice trials that exactly mimicked the normal SAT trials but included feedback. Feedback consisted of a "correct" response after participants chose a situational explanation, and an "incorrect" response after participants chose a dispositional explanation. After the practice trials, participants began the training. In accordance with previous experimental methods (Kawakami et al., 2000; Stewart et al., 2010) training was composed of 480 trials divided into six blocks of 80 trials. After each block, participants were given an opportunity to take a break, and before continuing the training, were given two more practice trials. The large number of trials was included in order to maximize the participants' chance of reaching automaticity, and training lasted approximately one-hour. Figure 1 displays a typical SAT task trial.

During the Diverse SAT condition, each trial began with presentation of a photograph of an African American or European American man, paired with the label "African American" or

“European American” respectively. Previous work has shown that faces alone, without labels accompanying them, may elicit responses to physical features rather than their race categories (Livingston & Brewer, 2002). In accordance with this finding, race labels were used in order to elicit category-based associations. A sentence describing a negative African American stereotypic behavior appeared below the photo. The African American and European American actor photos were randomized within each block, and counterbalanced with each behavior across blocks. In this way, each behavior was paired with an African American and European American photo an equal number of times. Participants in the Traditional SAT condition saw only photos of African American men during the training phase. Forty behaviors were presented twice per block – four behaviors related to each negative stereotypic trait. The pre-tested traits were loud, criminal, unintelligent, unreliable, irresponsible, violent, dishonest, dangerous, lazy, and promiscuous. Following a 3000 ms delay, the words “I Choose:” appeared mid-screen, below the behavior description. Two possible explanations of the behavior, one situational and one dispositional appeared, respectively, on the bottom left- and right-hand side of the screen. The location of the explanations was counterbalanced such that the situational explanation appeared on the right for half of the trials and the left for the remaining half. The participants’ task was to choose the situational explanation of the two by pressing the keyboard key associated with the left- or right-hand side of the screen. No-Training Control participants did not complete any training and proceeded directly to Phase 2.

Figure 1. Example of a screen display on a typical Situational Attribution Training condition.



Phase 2: The Person Categorization Task. Next, all participants completed the person categorization task (Banaji & Hardin, 1996) as a measure of automatic stereotype activation. In order to convey that the two tasks are unrelated, this task was described as a separate experiment conducted by a different researcher. The experimenter explained that the goal was to study how people categorize photographs of others in different groups and that they had been randomly assigned to a condition in which an unrelated distracter word was presented before each photo. For each trial, participants categorized photographs of African American and European American men by race after being exposed to a trait prime for 250ms. Traits included eight positive and eight negative traits unrelated to the traits used in Phase 1 that were determined by pretests to be a stereotype of African Americans (e.g., religious, poor), and 16 positive and 16 negative traits unrelated to African American stereotypes (e.g., elegant, naïve). Additionally, eight negative African American stereotypic traits targeted in Phase 1 were randomly selected for presentation

in Phase 2. In order to answer the key research question, the negative stereotypic traits that were not used in Training were of particular interest.

Participants completed two blocks of 56 trials. Within each block, half of the traits of each category (negative and positive African American stereotypic; negative and positive filler; training) were followed by an African American photo and the other half by a European American photo. The pairings were counterbalanced such that traits paired with African American photos in one block were paired with European American photos in the other block and vice versa. Because prior research has shown that the particular hand a participant uses for categorizing the targets can significantly impact results (Walsh, Stewart, & Latu, 2013), participant hand position on the task was randomized between subjects. Some participants used their left index finger for “African American” responses and right index finger for “European American” responses, and others used their right index finger for “African American” responses and left index finger for “European American” responses. Response latencies for each trial were recorded, with faster responses indicative of greater implicit association between the photo and trait.

RESULTS

Preliminary Analyses

The dependent measure was response latencies across person categorization task trials. Response latencies were log-transformed to control for outliers. All of the analyses were performed on the log-transformed data; however, nontransformed means are reported in the text. The main research question was whether the addition of European American photos in Situational Attribution Training might increase the stereotyping reduction effects of this training, thus diminishing evidence of the UAE. On this basis, the key trait analyses were focused on negative traits stereotypical of African Americans. The person categorization task was comprised of negative African American-stereotypic traits that were seen in training as well as new negative-stereotypic traits not seen or implied in training. In order to allow comparisons unconfounded by differential prior exposure in the study (Kawakami et al., 2000; Stewart et al., 2010), trait prime analyses were restricted to the negative stereotypical traits *not* used in the training.

To examine which factors impacted the relative categorization speed of African- and European American photos, difference scores of response latencies for categorizing targets as African- or European American following all combinations of trait primes (positive, negative, stereotypic, and nonstereotypic) were created (i.e. reaction time for positive African American stereotypic behaviors paired with African American photos minus reaction time for positive African American-stereotypic behaviors paired with European American photos). Related to the key research question of reducing negative African American stereotyping, faster reaction times

to American photos following a negative African American stereotype are indicative of stereotype activation. Therefore, a negative difference score would indicate stereotype activation. For example, a difference score after a negative stereotypic trait prime of -5 (e.g., reaction time for negative African American-stereotypic behaviors paired with African American photos minus reaction time for negative African American-stereotypic behaviors paired with European American photos) would indicate stereotype activation because participants were faster to respond to the African American photo following a negative African American stereotype. By contrast, a difference score after a negative stereotypic trait prime of 0 (e.g., reaction time for negative African American-stereotypic behaviors paired with African American photos minus reaction time for negative African American-stereotypic behaviors paired with European American photos) would indicate no stereotype activation because there was no difference in response times across the target race. Table 1 displays all of the mean reaction times and difference scores for African American and European American photos for all conditions following each type of trait prime.

Table 1. Mean reaction times and difference scores for African American and European American photos for all conditions following each type of trait prime

<u>Condition</u> Trait Type	AA photo RT		EA photo RT		Difference Score	
	Raw Mean	Log Mean	Raw Mean	Log Mean	Raw Mean	Log Mean
<u>No-Training Control</u>						
Negative Stereotypic	511.72 (120.83)	2.69 (.08)	579.93 (277.62)	2.72 (.14)	-68.21 (200.20)	-0.03 (.09)
Positive Stereotypic	539.35 (186.43)	2.70 (.10)	525.70 (148.17)	2.70 (.08)	13.65 (105.00)	0.00 (.05)
Negative Nonstereotypic	536.79 (186.02)	2.70 (.09)	547.86 (160.74)	2.72 (.10)	-11.07 (151.08)	-0.02 (.06)
Positive Nonstereotypic	555.38 (265.90)	2.70 (.12)	524.24 (178.91)	2.69 (.10)	31.15 (245.12)	0.01 (.08)
<u>Traditional Training</u>						
Negative Stereotypic	527.21 (112.58)	2.70 (.08)	524.22 (97.76)	2.70 (.07)	2.99 (87.04)	0.00 (.06)
Positive Stereotypic	511.87 (85.66)	2.69 (.06)	504.24 (69.21)	2.69 (.05)	7.63 (63.45)	0.00 (.05)
Negative Nonstereotypic	492.67 (82.15)	2.68 (.06)	541.28 (135.83)	2.71 (.08)	-48.61 (136.20)	-0.03 (.09)
Positive Nonstereotypic	512.03 (94.46)	2.69 (.07)	521.54 (129.59)	2.69 (.07)	-9.51 (107.37)	0.00 (.06)
<u>Diverse Training</u>						
Negative Stereotypic	527.26 (152.30)	2.70 (.08)	490.70 (92.21)	2.68 (.06)	36.56 (89.82)	0.02 (.04)
Positive Stereotypic	505.30 (94.44)	2.69 (.07)	490.66 (84.86)	2.68 (.06)	14.64 (68.38)	0.01 (.05)
Negative Nonstereotypic	509.87 (159.42)	2.68 (.08)	497.55 (90.09)	2.68 (.07)	12.33 (98.77)	0.00 (.05)
Positive Nonstereotypic	494.47 (78.91)	2.68 (.06)	517.26 (180.41)	2.69 (.10)	-22.79 (130.24)	-0.01 (.06)
<u>Overall</u>						
Negative Stereotypic	520.90 (126.40)	2.69 (.08)	538.12 (194.76)	2.70 (.10)	-17.22 (151.04)	-0.01 (.07)
Positive Stereotypic	521.33 (137.30)	2.69 (.08)	509.41 (111.87)	2.69 (.07)	11.92 (83.63)	0.00 (.05)
Negative Nonstereotypic	515.32 (151.78)	2.69 (.08)	532.21 (137.03)	2.71 (.09)	-16.90 (134.71)	-0.02 (.07)
Positive Nonstereotypic	525.02 (183.20)	2.69 (.09)	521.49 (163.30)	2.69 (.09)	3.53 (181.06)	0.00 (.07)

Note. Standard deviations are in parentheses.

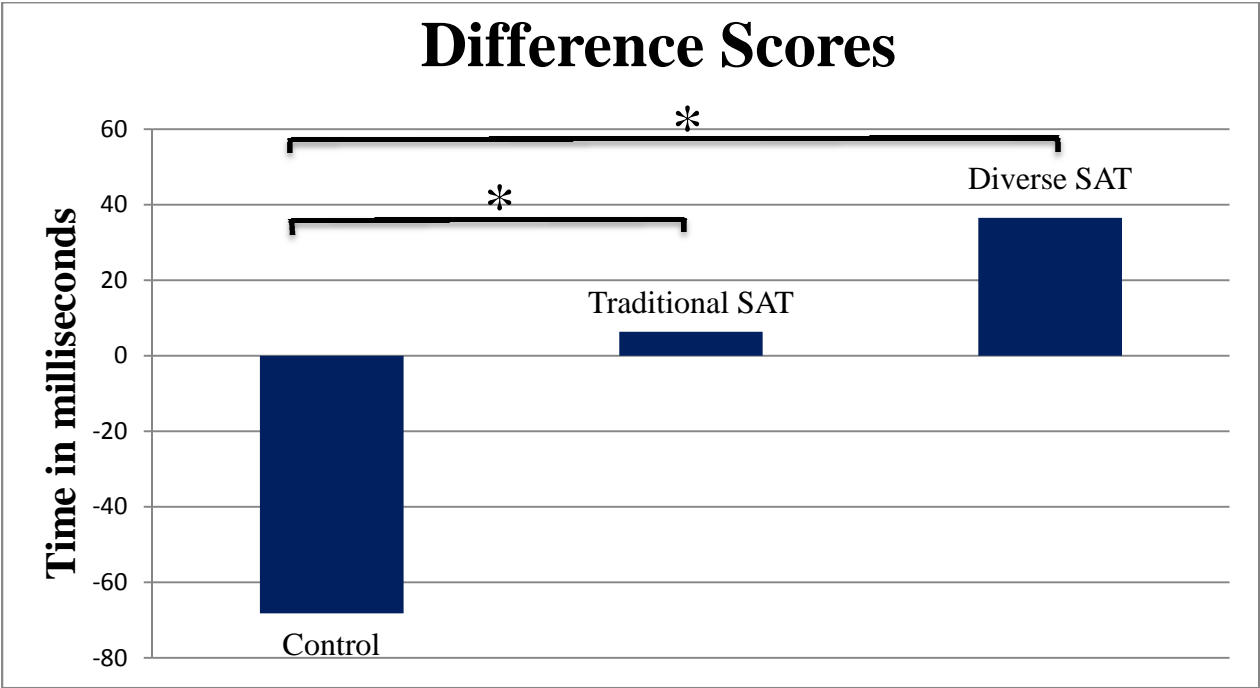
The key traits of interest were negatively valenced, African American-stereotypic traits. But in order to examine whether the training conditions did not have an impact on other types of trait primes, difference scores for each Trait Type (AA-stereotypic or nonstereotypic) and Trait Valence (positive or negative) were analyzed using univariate ANOVAs. Prior work has shown that training only impacts the activation of negative stereotypic traits (Kawakami et al., 2000; Stewart et al., 2010). Thus, I similarly predicted that the effects of training would be found for negative stereotypic trait trials, but not for other trait trials such as positive African American stereotypic traits, or neutral or positive non-stereotypic traits. For analyses of these trait trials which were not the primary interest, participant condition was held as the independent variable. Because participant hand position on the task has shown to affect previous results (i.e., whether the participant used the right or left hand for categorizing targets as African- or European American) (Walsh, Stewart, & Latu, 2013), hand position was held as a covariate, as well as scores on the explicit measure of bias taken during pre-screening (Social Distance Scale; Bogardus, 1933). Consistent with the findings of previous studies (Stewart et al., 2010; Walsh, Stewart, & Latu, 2013), reaction times did not differ across conditions for categorizing African American and European American photos following positive stereotypic trait primes ($p = .58$), positive nonstereotypic trait primes ($p = .43$), or negative nonstereotypic trait primes ($p = .33$). Analysis then proceeded to the primary focus of the study: negative African American stereotypic trait primes preceding African American and European American photos.

Primary Analyses

I next examined negative African American stereotypical trait prime trials using the same difference score measure as described above (AA photo RT – EA photo RT). I predicted that participants who did not complete training would have significantly lower difference scores than

participants who completed training, meaning faster reaction times to African American photos than to European American photos, indicating a reduction in automatic stereotyping in the training groups. Consistent with the key hypothesis, negatively valenced, stereotypic trait primes exhibited a significant difference across condition, as indicated by an overall effect of condition, $F(2, 85) = 4.39, p = .02, \eta^2 = .09$. To follow up, three pairwise simple contrasts were performed in order to investigate the relationship among conditions. The Traditional Training condition was found to significantly reduce stereotype activation, as evidenced by less difference between African American and European American photos compared to the No-Training Control condition, as indicated by a contrast difference of $-.036$ which was significant at $p = .05$. The Diverse Training condition was also found to significantly reduce stereotype activation compared to the No-Training Control condition, as indicated by a contrast difference of $.054$ which was significant at $p = .006$. However, the Diverse Training condition did not significantly differ from the Traditional Training condition, $p = .36$. Figure 2 displays the pattern of reaction time difference scores for African- and European American photos following negative stereotypic trait primes varied as a function of condition.

Figure 2. Difference scores of response latencies for categorizing African American and European American photos following negative African American stereotypic trait primes.



Note. Asterisks indicate a significant difference at $p < .05$.

DISCUSSION

The present experiment examined the stereotyping reduction effects of the Traditional SAT paradigm, wherein photos of African American men are paired with negative behaviors stereotypical of African Americans, and the Diverse SAT paradigm, which pairs photos of both African American and European American men with negative behaviors stereotypical of African Americans. Where the Traditional paradigm has shown in previous experiments to be effective in stereotyping reduction (Stewart et al., 2010; Walsh, Stewart, & Latu, 2013), no research has shown the effectiveness of the Diverse paradigm. Therefore, the main goal of the present research was to examine whether the addition of European American photos to Situational Attribution Training can produce positive stereotyping reduction effects similar to, and perhaps greater than effects seen in previous experiments. Participants trained to make situational judgments of negative behaviors stereotypical of African Americans over numerous trials, showed reduced activation of negative African American stereotypes *not seen* in training, regardless of whether participants were in the Traditional or Diverse SAT condition. Furthermore, SAT presented stereotyping reduction effects that generalized beyond those traits seen in training, but had no impact on positive stereotypic, or positive or negative nonstereotypic traits. Thus, participants were indiscriminate in their evaluation of negative African American stereotypes overall, and the training did not impact the positive stereotypic traits associated with African Americans, or more general positive or negative nonstereotypic traits. These results demonstrate a very

surgical negative stereotyping reduction effect that has been seen in previous experiments (Kawakami et al., 2000; Stewart et al., 2010).

The Primary interest of the present research was to assess the effectiveness of the Diverse Training condition compared to the Traditional method. There were no significant differences in stereotype activation between each of the training groups. The addition of European American photos to SAT was shown to yield stereotyping reduction effects equal to the previously used all-African American SAT paradigm. The Diverse and Traditional versions of the SAT paradigm were equally effective in reducing the specific automatic association between African American individuals and negative stereotype-consistent traits. These findings suggest that the addition of European American photos to SAT can dilute the saturation of a stereotype-consistent environment while still producing a reduction in automatic stereotyping.

Importantly, the current research has shown a decrease in automatic stereotype activation, as opposed to a decrease in controlled stereotype application. Whereas most egalitarian individuals would be able to *control* for a stereotypical response when given sufficient time, stereotypic responses may still be automatically activated during a fast response. These results indicate that participants in both the Traditional SAT and the Diverse SAT conditions were able reduce their automatic stereotype activation, even when providing an instantaneous response.

Previous experiments of different bias training paradigms have resulted in the counterproductive effects of higher stereotype activation in high prejudiced individuals (Monteith et al., 1998). Notably, the stereotyping reduction effects that were present in the current experiment existed regardless of an individual's explicit level of prejudice. When controlling for participants' level of explicit prejudice using the Social Distance Scale (Bogardus, 1933), both the Traditional and the Diverse SAT paradigms showed a reduction in automatic stereotyping. This

finding is consistent with previous SAT experiments that were also absent of any counterproductive effects (Stewart et al., 2010; Walsh, Stewart, & Latu, 2013).

Limitations and Future Directions

The present research shows that both forms of SAT display success in reducing stereotype activation. However, going forward, more research is needed to determine the preferred method. Although the univariate tests did not show any differences across training groups, the response times appear to suggest stronger stereotyping reduction effects for participants in the Diverse Training condition. The current Diverse SAT paradigm distributed African American and European American photos evenly, but a more uneven distribution of photos may produce a more desired effect. For instance, displaying more European American photos during training, or displaying more African American photos during training may increase stereotyping reduction. Future work should investigate the preferred distribution of race photos, as well as demand characteristics that may have contributed to this preference. Additionally, future research is needed to see if the delay effects seen in the Traditional paradigm (Walsh, Stewart, & Latu, 2013) carry over to the Diverse Training. It is important for any viable stereotyping reduction technique to show persistent effects across time. Therefore, if the reduction in automatic stereotyping for the Diverse SAT condition is persistent, it could provide a practical implement for future stereotyping reduction programs.

In order to control for demand characteristics, an important aspect of the experimental procedure included deception. To ensure that participants were unaware of the relatedness between the training task and the stereotype activation measure, the experimenters verbally explained the separate nature of the experiments on numerous occasions. However, there was no

direct probe for suspicion after the tasks were complete. Therefore, future work should be more thorough in its evaluation of demand characteristics.

The current experiment shows that automatic stereotype activation, as measured implicitly by the person categorization task, can be reduced using both Traditional and Diverse SAT paradigms. Although the person categorization task measures stereotype activation for a broad range of African American stereotypes, more work should be done to test SATs effectiveness with other stereotyping and prejudice measures. The shooter task, designed by Joshua Correll and colleagues (2002), is an implicit task that is specifically designed to assess the activation of the violent, criminal, or threatening black male stereotype. It can be used in place of the person categorization task to more definitively measure the activation of these specific negative African American male stereotypes. Additionally, a task that measures the likelihood to *behaviorally* reduce discrimination, such as measuring the amount of antidiscrimination flyers a participant agrees to handout (Stewart, Latu, Branscombe, & Denney, 2010), can add a behavioral component to the cognitive aspect of stereotyping. These measures, as well as others, should be utilized to investigate SATs broader implications.

A characteristic of the present research that should be examined more closely is particular to the current sample. Specifically, this research was conducted using a college student sample in a state that has long been tied to race-based prejudice and discrimination, and as was discussed in the introduction, still struggles with racial issues to this day. In one way, the reduction of automatic stereotype activation in a sample with such a long history of racial discrimination should highlight the effectiveness of SAT. It bodes positively for the future if stereotyping reduction is present in a community that has historically been resistant to change. What is unknown, however, is the exact discrepancy in baseline automatic stereotyping across samples. The racial issues

Mississippians struggle with are not specific to Mississippi alone, but are a small picture of the greater issue facing the U.S. and the world more generally. Not long before the election night incident on the Ole Miss campus, a young Black teenager, Trayvon Martin, was shot and killed in Florida during a fight that was initially provoked due to Trayvon's alleged *suspicious* activity (Schneider, 2012). Trayvon's activity leading up to the event included walking alone at night in a predominantly white neighborhood while wearing a hooded sweatshirt and holding a bag of skittles candy. These circumstances led people to conclude that his death was undoubtedly tied to stereotypical influence. As this tragic event shows, racial bias is not a Mississippi issue, but a human issue.

Steps should be taken to reduce stereotyping and prejudice so that similar events don't occur in the future, and the present study suggests that Diverse SAT is a step in the right direction. Although additional work is needed to address the limitations of the current research, further investigation may show that stereotyping reduction interventions that incorporate the mechanisms involved in Situational Attribution Training may prove to be an important catalyst for societal change.

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LIST OF APPENDICES

APPENDIX A: SOCIAL DISTANCE SCALE

SOCIAL OPINION SURVEY

Please answer each of the following items concerning your social opinions on a scale from 1 (strongly disagree) to 9 (strongly agree). For some of the items, you may have to imagine being in a particular role (e.g., a parent).

I would be willing to have an African American person as my:

	STRONGLY DISAGREE					STRONGLY AGREE			
	1	2	3	4	5	6	7	8	9
Good Friend	1	2	3	4	5	6	7	8	9
Next Door Neighbor	1	2	3	4	5	6	7	8	9
Co-worker	1	2	3	4	5	6	7	8	9
Roommate	1	2	3	4	5	6	7	8	9
Child's Friend	1	2	3	4	5	6	7	8	9
Sibling's spouse	1	2	3	4	5	6	7	8	9
Romantic Date	1	2	3	4	5	6	7	8	9
Family physician	1	2	3	4	5	6	7	8	9
U.S. President	1	2	3	4	5	6	7	8	9
Governor	1	2	3	4	5	6	7	8	9
Wife or Husband	1	2	3	4	5	6	7	8	9
Child's teacher	1	2	3	4	5	6	7	8	9
Dance partner	1	2	3	4	5	6	7	8	9
Fellow church or Social club member	1	2	3	4	5	6	7	8	9

SOCIAL OPINION SURVEY (continued)

Please answer each of the following items concerning your social opinions on a scale from 1 (strongly disagree) to 9 (strongly agree). For some of the items, you may have to imagine being in a particular role (e.g., a parent).

I would be willing to have a Caucasian person as my:

	STRONGLY DISAGREE					STRONGLY AGREE			
	1	2	3	4	5	6	7	8	9
Good Friend	1	2	3	4	5	6	7	8	9
Next Door Neighbor	1	2	3	4	5	6	7	8	9
Co-worker	1	2	3	4	5	6	7	8	9
Roommate	1	2	3	4	5	6	7	8	9
Child's Friend	1	2	3	4	5	6	7	8	9
Sibling's spouse	1	2	3	4	5	6	7	8	9
Romantic Date	1	2	3	4	5	6	7	8	9
Family physician	1	2	3	4	5	6	7	8	9
U.S. President	1	2	3	4	5	6	7	8	9
Governor	1	2	3	4	5	6	7	8	9
Wife or Husband	1	2	3	4	5	6	7	8	9
Child's teacher	1	2	3	4	5	6	7	8	9
Dance partner	1	2	3	4	5	6	7	8	9
Fellow church or Social club member	1	2	3	4	5	6	7	8	9

VITA

Seamus P. Walsh

Department of Psychology, The University of Mississippi
205 Peabody Hall
University, MS 38677
spwalsh@go.olemiss.edu

EDUCATION

Doctoral Student in Experimental Psychology, The University of Mississippi, 2011-present
Specialization: Social Psychology
B.S. Psychology cum laude, Florida State University, 2011

HONORS AND AWARDS

University of Mississippi Graduate Honors Fellowship, 2011-2015
Florida Bright Futures Medallion Scholarship, 2007-2011
Academic Competitiveness Grant, Florida State University, 2008-2009

RESEARCH INTERESTS

Stereotyping, prejudice, and discrimination
Bias reduction
Intergroup relations
Relationship between prejudice and purpose in life

CONFERENCE PRESENTATIONS

Stewart, T. L., Walsh, S. P., & Latu, I. M. (2013, July). *A further examination of situational attribution training*. Paper to be presented at the annual meeting of the American Psychological Association, Honolulu, HI.

Florez, I.A., Walsh, S.P., Bowden, M., Stewart, T.L., & Schulenberg, S.E. (2013, July). *Examining meaning in life as a predictor of automatic stereotyping*. Poster to be presented at the annual meeting of the American Psychological Association, Honolulu, HI.

Walsh, S.P., Stewart, T.L., & Latu, I.M. (2013, January). *Reduction of automatic stereotyping through situational attribution training is robust to individual differences in social dominance orientation and testing delay*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, New Orleans, LA.

Culver, A. A., Stewart, T. L., Latu, I. M., Myers, A. C., & Walsh, S. P. (2012, January). *Reducing automatic racial stereotyping via situational attribution training: Mechanisms and generalizability*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, San Diego, CA.

PRESENT RESEARCH PROJECTS

Situational Attribution Training

Graduate Research Assistant, August 2011-present

Collaborating with Dr. Tracie Stewart, we are investigating the efficacy of a stereotype reduction technique: Situational Attribution Training. I have contributed through theoretical thought, literature review, experimental design, experiment programming, experiment administration, and data analysis.

Purpose and Prejudice

Graduate Research Assistant, January 2012-present

Collaborating with Dr. Tracie Stewart and Dr. Stefan Scheulenberg, we are determining the relationship between meaning, purpose in life, and prejudicial attitudes. I have contributed through theoretical thought, literature review, experimental design, experiment programming, experiment administration, and data analysis.

Disaster Preparedness

Graduate Research Assistant, August 2012-present

Working with Dr. Stefan Scheulenberg at the University of Mississippi Clinical Disaster Research Cooperative, we are examining attitudes toward, and the effectiveness of University disaster preparedness and mitigation. For this project I have contributed through theoretical thought, literature review, experimental design, and experiment administration.

TEACHING EXPERIENCE

April, 2013 Guest Lecturer, Social Psychology
Topic: Research Methods

February, 2012 Guest Lecturer, Social Psychology
Topic: Research Methods, and Ethics

October, 2011 Guest Lecturer, Social Psychology
Topic: Social Influence

PROFESSIONAL MEMBERSHIPS

Society for Personality and Social Psychology, 2011-present
Psi Chi National Honor Society, 2008-present
National Society of Collegiate Scholars, 2008-present