

The Pennsylvania State University

The Graduate School

College of the Liberal Arts

**REAPPRAISING REAPPRAISAL:
THE INFLUENCE OF EMOTION REGULATION ON
AFFECTIVE AND PHYSIOLOGICAL RESPONSES TO RACISM**

A Dissertation in

Psychology

by

Christopher R. Perez

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

August 2013

The dissertation of Christopher R. Perez was reviewed and approved* by the following:

José A. Soto
Associate Professor of Psychology
Dissertation Adviser
Chair of Committee

Michelle G. Newman
Professor of Psychology

Pamela M. Cole
Liberal Arts Research Professor of
Psychology and Human Development and Family Studies

Keith B. Wilson
Professor of Education

Melvin M. Mark
Professor of Psychology
Head of the Department of Psychology

*Signatures are on file in the Graduate School.

ABSTRACT

Cognitive reappraisal is a commonly used emotion regulation strategy generally linked to healthier psychological functioning in individuals utilizing it as a means to down-regulate negative affect. However, mixed results regarding the effective use of cognitive reappraisal within certain cultural contexts and in response to racial discrimination have begun to call into question the inherent utility of using this strategy. Specifically, several studies have now shown cognitive reappraisal to be ineffective at down-regulating negative affect in response to racial discrimination or to be associated with worse psychological functioning within contexts characterized by multiple levels of oppression. Studies have yet to determine if cognitive reappraisal is inherently maladaptive in the face of discrimination and what specific characteristics of cognitive reappraisal (e.g., perspective) or aspects of the stressor (e.g., level of personal salience) alter its effectiveness. Research has shown that successful self-reflection requires one take a self-*distanced* perspective in order to understand *why* an event occurred; yet it remains to be seen if such an approach retains the positive effects of reappraisal in the face of discrimination. Similarly, it stands to reason that certain individuals may find racial discrimination to be more or less personally salient and, therefore, more or less difficult to reappraise. The present study examined the effectiveness of positive reappraisal, self-distancing reappraisal, and rumination in down-regulating self-reported negative affect (anxiety and anger) and physiological arousal (using pre-ejection period and respiratory sinus arrhythmia as indicators of sympathetic and parasympathetic activity, respectively) in response to racism. This study also looked at whether individual, trait-level characteristics predicted the relative effectiveness of each strategy. Results revealed no

differences between the three strategies in down-regulating negative affect and physiological arousal in response to racism. However, this study found that certain aspects of one's self-construal and ethnic identity significantly predicted the effectiveness of self-reflective strategies in a number of ways.

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Chapter 1

INTRODUCTION

Emotion regulation refers to the broad set of processes employed to manage what emotions individuals have and how and when they have them. Cognitive reappraisal (hereinafter reappraisal) is one such process and it is used to reinterpret the meaning of negative experiences or stressful events as more positive (e.g., as a learning experience) or less personally relevant, and therefore less impactful (Folkman & Lazarus, 1980; Giuliani & Gross, 2009). Research on reappraisal has steadily increased over time and studies have shown it to be a commonly used strategy (Matsumoto et al., 2008) frequently linked to healthier psychological functioning (Garnefski & Kraaij, 2006; Gross & John, 2003; Kross, Davidson, Weber, & Ochsner, 2009; Ray et al., 2005; Ray, Wilhelm, & Gross, 2008; Richards & Gross, 2000). On the other hand, some cross-cultural studies have produced mixed results (e.g., Knight & McCallum, 1998; Yoo & Lee, 2005), calling into question the inherent utility of reappraisal within certain cultural contexts.

One cultural context that has been especially influential on reappraisal is a context characterized by multiple levels of oppression (Perez & Newman, 2013; Perez & Soto, 2011; Soto et al., 2012). Characteristics of an oppressive environment, such as experiences of discrimination and racism, may undermine the utility of emotion regulation strategies such as reappraisal because of the inherently negative and highly personally relevant nature of these experiences. However, it remains unclear whether this strategy is inherently maladaptive in the face of discrimination, and should always be avoided, or if there are specific characteristics of effective reappraisal (e.g., perspective,

timing) that also depend on certain aspects of the stressor (e.g., intensity, level of personal salience). This study focuses on the emotional utility of reappraisal among ethnic minorities facing racial discrimination by testing whether modifying the personal salience of a discriminatory event or of one's cultural group preserves the adaptive qualities typically associated with reappraisal.

Discrimination and Coping

The experience of discrimination has been clearly and repeatedly linked to numerous aversive physical, psychological, and societal outcomes (Paradies, 2006; Pascoe & Smart Richman, 2009; Williams & Mohammed, 2009). In fact, in a study utilizing the MacArthur Foundation Midlife Development in the United States (MIDUS) survey, Kessler, Mickelson, and Williams (1999) found that the stress resulting from being treated unfairly or discriminated against due to race/ethnicity or other salient identities (e.g., gender) can be just as harmful as other commonly studied stressors (e.g., job loss, death of a loved one, etc.). These findings were based on the results of a nationwide general population survey that included 3,032 randomly sampled adults from the 48 contiguous states. Furthermore, this type of perceived ethnic discrimination has also been found to be a significant daily stressor in the lives of many adolescents (Fisher, Wallace, & Fenton, 2000) and has been reported as a major risk factor for critical outcomes including academic difficulties, poor health, and violent behavior in young adults (Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004; Huynh & Fuligni, 2010). Until discrimination and racism can be fully eradicated, however, it is critical to study the ways in which individuals cope with such experiences and how variability in coping efforts may influence personal outcomes. That is, do the ways in

which people deal with discrimination mitigate or exacerbate the deleterious outcomes typically associated with discrimination? If so, can adaptive strategies be feasibly taught to individuals (e.g., through counseling, skills training, or education) in an effort to help reduce the negative impact of stressors like discrimination?

Many of the coping strategies that have typically been studied can be categorized under two broad domains: problem-focused and emotion-focused (Folkman & Lazarus, 1980). As put forth by Folkman and Lazarus (1980), problem-focused coping refers to the types of attempts made in order to manage the problem deemed responsible for causing distress whereas emotion-focused coping entails regulating the negative emotions caused by the problematic event. As it relates to discrimination, problem-solving coping could take the form of confrontation. However, many individuals may be unsure of how to confront or approach discriminatory acts or may have ambivalence about whether such an approach is warranted. For instance, in a sample of 44 undergraduate females experimentally exposed to sexism, researchers found that most women did not confront the perpetrator (Swim & Hyers, 1999). Among those women who did confront the sexism, most did so only indirectly (e.g., through humorous or sarcastic remarks). As would be expected, 91% of those participants who did not respond publicly later recalled having had confrontational thoughts or desires or subsequently had lower opinions about the confederate. Given that less than half of the participants in the study used a problem-focused coping strategy, these findings suggest that problem-focused coping may not be the optimal strategy to deal with events such as discrimination.

There are several reasons why problem-focused coping may represent a poor strategy for dealing with discrimination. For example, the costs associated with directly

confronting discrimination may include a fear of repercussions (Swim & Hyers, 1999). This may leave individuals in a lose-lose situation: if they do not confront, they run the risk of allowing this type of unacceptable behavior to go unfettered; if they do confront the discrimination, they may risk provoking others or perpetuating negative stereotypes about members of their group (e.g., minorities are more prone to violence; Williams & Williams-Morris, 2000). In support of this, Swim and Hyers's (1999) study on confronting sexism found that women were more likely to use responses that were perceived as polite. This suggests that individuals are, at least at some level, constantly processing whether an action will maximize benefit while minimizing cost because the precise desired outcome for each person is different. Consistent with this notion, a recent study found that among cultural groups in which maintaining interpersonal harmony is emphasized (e.g., Asian cultures), individuals tend to shy away from problem-focused coping (e.g., direct confrontation), preferring other coping strategies (Lee, Soto, Swim, & Bernstein, 2012).

Unfortunately, the relatively fast pace with which a discriminatory action can occur does not allow an individual much time to carefully decide the best action to take in the moment. This highlights the importance of studying additional styles of coping that may continue to help an individual with the more pervasive and lingering consequences of discrimination, such as emotion-focused coping. An ideal approach to negative emotions and experiences may simply be to limit their occurrence, but it may be more realistic to alter or adjust the emotional impact of an occurrence by thinking about it differently. Because discrimination has been shown to evoke a host of negative emotional responses, typically anger and anxiety (Carter & Forsyth, 2010; Swim, Hyers,

Cohen, Fitzgerald, & Bylsma, 2003), emotion regulation strategies may be particularly helpful in dealing with discrimination-related stressors.

Emotion Regulation and the Influence of Context

Although the construct of emotion regulation may seem rather straightforward, the term can be rather nebulous, with multiple connotations, thereby requiring explicit operationalization (Cole, Martin, & Dennis, 2004). According to Gross (1998, 2008), emotion regulation refers to the ways in which individuals manage what emotions they have and when and how they have them (i.e., the regulation of emotions) and that these can occur both deliberately and automatically. Although preferences may typically be to down-regulate negative emotions and up-regulate positive emotions, this is not required for emotion regulation nor is any assumption made about inherent adaptiveness (i.e., strategies may be adaptive in some situations and not in others). These caveats notwithstanding, there is much work suggesting that certain emotion regulation strategies may be more helpful than other strategies. One such strategy that has received a great deal of attention in the literature among various cultures and across countries is reappraisal (Matsumoto et al., 2008).

The use of reappraisal (both habitually and in experimental settings) has been consistently associated with positive psychological and interpersonal factors as well as positive physiological and neurological outcomes (Garnefski & Kraaij, 2006; Gross & John, 2003; Kross et al., 2009; Ray et al., 2005, 2008; Richards & Gross, 2000). For example, Gross and John (2003) found that high reappraisers experience more positive and less negative emotions, have better interpersonal functioning and higher self-esteem, and are more optimistic, likable, and satisfied with life than low reappraisers. According

to Garnefski and Kraaij (2006), reappraisal is related to fewer symptoms of depression than other emotion regulation strategies and Richards and Gross (2000) found reappraisal to be associated with fewer cognitive costs than suppressing one's emotional expressions. With all these benefits, it follows that individuals may view reappraisal as an optimal strategy for navigating difficult life circumstances. Not surprisingly, Brantley, O'Hea, Jones, and Mehan (2002) found that low-income individuals—who are likely to encounter a disproportionate amount of daily life stress—were significantly more likely to endorse positive reappraisal than were individuals of higher income levels. However, it remains to be seen whether reappraisal is an adaptive strategy in regulating emotional reactions to discrimination.

Brantley and colleagues (2002) also found that low-income African Americans were significantly more likely to endorse reappraisal than low-income Caucasians. They posit that one reason for the discrepancy is African Americans' increased frequency of experiencing low-control stressors (e.g., racial discrimination), which tend to be associated with greater use of emotion-focused coping (Folkman & Lazarus, 1980; Strentz & Auerbach, 1988). However, Brantley and colleagues also noted that increased coping that does not lead to positive outcomes might ultimately lead to more psychological distress. Thus, despite its frequent use, reappraisal may not be an optimal strategy if it is consistently used with little success. In fact, Crocker and Major (1989) argue that reappraisal might even be harmful for stigmatized groups, depending on the individual's attributions. For example, believing that one was fired due to racism, as opposed to personal inadequacy, may be protective (Crocker & Major, 1989, cf. Schmitt

& Branscombe, 2002), but attributing being hired to one's race (e.g., as part of quotas), rather than personal strengths, would not be.

Consistent with the caveats raised by the studies mentioned above, some research has called into question the inherent utility of reappraisal. For example, in a study of 154 White ($n = 110$) and African-American ($n = 44$) caregivers of older relatives with dementia, Knight and McCallum (1998) found that positive reappraisal led to decreased heart rate reactivity among African-Americans, suggesting that the strategy was effective in reducing distress. However, they found that positive reappraisal led to increased heart rate reactivity among White caregivers, a finding in direct contrast to the benefits shown by Gross and John (2003). Knight and McCallum reasoned that the differing cultural values and contexts of African-Americans and Whites might be responsible for these differences. Specifically, whereas Whites likely view care giving as a disruption of their personal life, African-Americans likely do not, thereby suggesting that these cultural differences preclude the ability for Whites to positively reappraise their situation within this context. Similarly, Yoo and Lee (2005) found cognitive restructuring (i.e., reappraisal) to be positively associated with psychological well-being only among Asian Americans who highly identified with their ethnic group and perceived low levels of discrimination—this was not the case among highly identified Asian Americans who perceived high levels of discrimination. It follows that the utility of positive reappraisal is best understood within the cultural contexts in which it is practiced.

The relative ineffectiveness of reappraisal has been associated not only with the experience of discrimination, specifically, but with broader contexts that include disproportionate levels of discrimination as well. There is compelling evidence that

ethnic minorities exist in a context of oppression (Jones, 1997), defined as the exercise of power by one group over another by either force or deprivation (Hanna, Talley, & Guindon, 2000), and Perez and Soto (2011) recently provided a framework for understanding how reappraisal may function differently in such contexts. Specifically, they conceptualize oppression as occurring on multiple levels (distal, proximal, and personal) and suggest that capturing an individual's unique context of oppression requires a consideration of all three levels. Briefly, distal oppression can be thought of as the extent to which one's group is in a position of less power relative to the majority/dominant group in a given societal structure. Proximal oppression can be understood as the relative salience of one's minority status (often indexed by the presence or absence of in-group members in one's environment). Personal oppression refers to individual perceptions related to minority status, such as a personal sense of being oppressed or personal perceptions of discrimination.

Utilizing this multi-level perspective on oppression, multiple studies have challenged the conventional wisdom of reappraisal's inherent effectiveness (Perez & Newman, 2013; Perez & Soto, 2011; Soto et al., 2012). For instance, Perez and Soto (2011) found that the typical psychological benefits associated with habitual reappraisal were reversed for Latinos (i.e., a distally oppressed group) who highly identified as an oppressed minority (i.e., high personal oppression) and who were located at a college with few Latinos (i.e., high proximal oppression). This was not the case for individuals endorsing low identification as an oppressed minority or those from a campus with high in-group representation, regardless of identification as an oppressed minority—that is, reappraisal maintained its effectiveness for these groups. Thus, it seems that the

particular combination of experiencing oppression at all three levels changed the relationship between reappraisal and psychological functioning from being beneficial to being deleterious.

Replicating these findings in a nation-wide sample of Latino college students, Soto and colleagues (2012) found that a greater tendency to reappraise was unrelated to psychological functioning for Latinos who both perceived high levels of discrimination (high personal oppression) and were located at universities in counties with few Latinos (high proximal oppression). However, reappraisal tendencies were associated with better psychological health for individuals who perceived less discrimination (low personal oppression) and for those from campuses in counties with a high concentration of Latinos, regardless of perceptions of discrimination. Perez and Soto (2011) suggest that multiply oppressive environments may make positive interpretations of discrimination difficult to achieve, thereby leading to a repetitive cycle in which the individual unsuccessfully struggles to reinterpret a negative event, resulting in increased distress (Gailliot et al., 2007; Schwarz et al., 1991). Thus, this may emulate the perseverative thinking process of rumination (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008).

A major limitation of the above studies was the use of a correlational design, which did not permit determining whether reappraisal was used in direct response to discrimination. To address these limitations and test the notion of a “failed reappraisal,” Perez and Newman (2013) conducted an experimental study in which Latinos from a campus with low in-group representation were randomly assigned to either perform a reappraisal or rumination task in response to an imagined scenario that included either a personally- or racially-based insult. Although reappraisal was more effective than

rumination at down-regulating the anger and anxiety resulting from the personal insult, reappraisal was similar in effect to rumination at decreasing anger and anxiety in the discrimination condition. This supported the contention that attempting to reappraise an event for which a positive interpretation is highly difficult or unlikely represents a failed reappraisal, with effects similar to rumination.

The processes of reappraisal and rumination typically have quite different outcomes—reappraisal has been linked to decreased depression (Garnefski & Kraaij, 2006) while rumination is typically associated with increased depression, as well as a number of other negative outcomes (see Nolen-Hoeksema et al., 2008, for a review). In a study of 116 female college students, Ray and colleagues (2008; Study 2) also found distinct differences in affective and physiological reactivity between reappraisal and anger rumination. Specifically, participants randomly assigned to ruminate reported experiencing more anger that was sustained over time than did participants assigned to reappraise, who reported less anger that decreased over time. Furthermore, those participants assigned to reappraise exhibited decreases in central and peripheral measures of sympathetic nervous system (SNS) arousal, whereas those assigned to ruminate displayed either static or increased levels of arousal over time.

Despite the obvious differences, these processes also share a number of characteristics, such as repeatedly thinking about a negative event from a self-focused perspective (i.e., thinking about how an event affected one's self). Additionally, ruminators tend to maintain positive beliefs about its effectiveness (e.g., rumination helps solve past mistakes and/or avoid future problems; Papageorgiou & Wells, 2001, 2003), which are similar to the goals of reappraisal (e.g., learning from the experience).

Therefore, although Ray and colleagues conclude that reappraisal and rumination are indeed two separate processes, their measurement of successful reappraisal does not account for the possibility of unsuccessful reappraisal. In fact, the case may be that individuals in discriminatory contexts engage in rumination unintentionally; that is, they may seek to reappraise but, failing to find adequate interpretations or understanding, end up perseverating on the negativity.

Reappraisal and Personal Salience

The question of how discrimination might diminish reappraisal's effectiveness, possibly leading it to fail, has yet to be adequately addressed. Perez and colleagues (Perez & Newman, 2013; Perez & Soto, 2011; Soto et al., 2012) have speculated that difficulty in reappraising events is likely related to how negative and personal the event is to the individual. Because reappraisal essentially seeks to increase the positive aspects of an event or decrease its personal impact, it stands to reason that events viewed as inherently negative and acutely personal would present quite a challenge for reappraisal. For example, individuals who feel that culture is highly central to their sense of identity or those from primarily interdependent/collectivistic cultures may struggle to reappraise discrimination because disparaging their group would be both highly negative and intensely personally salient. To say that racism was directed at the group and not the self may be no less personally salient (Schmitt & Branscombe, 2002), which could make positive interpretations of the discriminatory event an exceptionally difficult task. In fact, Outlaw (1993) has suggested that reappraising discrimination is not even possible. Yet, the difficulty (or impossibility) of positively reappraising discrimination does not

preclude an individual from attempting to do so and little research has looked at the implications of such attempts.

On the other hand, individuals who feel that their culture is not central to their identity or whose cultures primarily espouse an independent/individualistic self-construal may be better able to reappraise discrimination as not personally relevant. In some ways, they could have the luxury of saying that a racist event was not directed at them, personally, but at their group, to which they feel relatively less personally connected. These ideas find support in research by Steele and Aronson (1995); they found that African Americans (a culture valuing independence) tend to focus on their uniqueness in the face of stereotypes. If an inability to detach from the personal relevance of discrimination leads reappraisal to fail in this context, then altering this aspect might help retain its effectiveness. Detaching from the personal relevance of racial discrimination could occur in two ways: either exogenously or endogenously. Specifically, explicitly attempting to reappraise a discriminatory event from a personally detached perspective may allow individuals to emotionally remove themselves from the negative event, thereby facilitating a greater range of potential reappraisals of the situation. Alternatively, individuals who feel less personally identified with their racial group (e.g., low ethnic identity or a primarily independent self-construal) may be less bothered by reinterpreting discrimination as an attack on the group rather than the self.

In line with these ideas, Kross, Ayduk, and Mischel (2005) found that seeking to understand why a negative event occurred (vs. what occurred) alone was not enough to decrease anger and negative affect. Rather, one had to seek to understand why the event happened from greater perceptual distance (e.g., third-person perspective) to receive the

positive effects of self-reflection, or thinking back on events one has experienced. Thus, this raises the possibility that attempting to understand discrimination from a self-distanced perspective could also retain the benefits of reappraisal. For example, targets of discrimination may be able to understand the discriminatory event from a distanced perspective (e.g., “This person is ignorant and unfamiliar with me and my group.”) that allows accurate acknowledgement of the negative aspects of the situation while permitting sufficient distance to make alternative interpretations. Thomaes, Reijntjes, Orobio de Castro, & Bushman (2009) found that an accurate assessment of others’ perception of one’s self during conditions of social threat provides more help in lessening distress than an unrealistically positive interpretation of others’ views. Additionally, Johns, Inzlicht, and Schmader (2008) found that reappraising stereotype threats from a distant perspective was adaptive. However, individuals may not naturally reappraise from a distant perspective, instead requiring explicit prompting or instructions to do so.

The Present Study

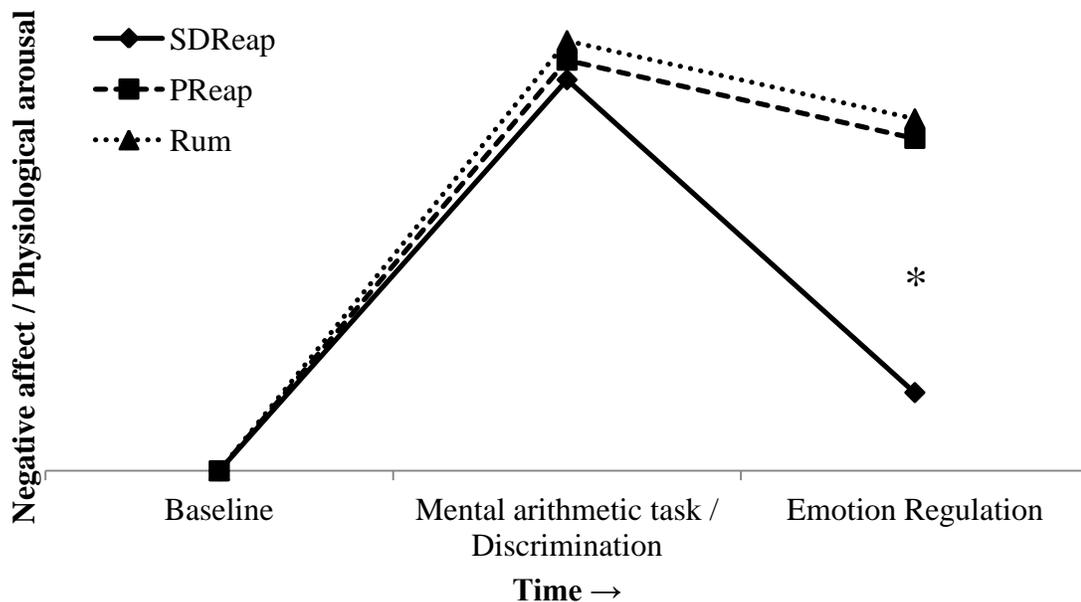
The present study provides an experimental test of three types of emotion regulation strategies in response to discrimination: positive reappraisal, self-distanced reappraisal, and rumination. Specifically, I sought to evaluate the effectiveness of each strategy in down regulating negative affect and physiological arousal resulting from an experimentally produced instance of racial discrimination. In order to comprehensively do so, I measured self-reported emotion as well as physiological arousal throughout the study, which included a racial insult and a period of implicit emotion regulation. The physiological indices were included because prior research has shown that individuals tend to be relatively inaccurate reporters of their emotional processes (Nisbett & Wilson,

1977). Secondly, in order to address whether the personal salience of one's group membership is associated with the utility of positive reappraisal in the face of discrimination, I also measured individual differences in ethnic identification.

Hypothesis 1

Figure 1 illustrates the primary hypothesis that self-distanced reappraisal (diamonds; Figure 1) would lead to significantly greater decreases in negative affect and physiological reactivity (i.e., decreased sympathetic arousal and static parasympathetic arousal) when compared to positive reappraisal (squares; Figure 1) and rumination (triangles; Figure 1) combined. Positive reappraisal and rumination were not expected to significantly differ in their effect on negative affect or physiological reactivity.

Figure 1. The hypothesized effect of emotion regulation strategies on decreasing negative affect and physiological arousal in response to discrimination. Negative affect refers to anger and anxiety while physiological arousal refers to prejection period and respiratory sinus arrhythmia. SDReap = Self-Distanced Reappraisal; PReap = Positive Reappraisal; Rum = Rumination. * $p < .05$.



Hypothesis 2

My secondary hypothesis was that aspects of self-construal (independent, interdependent) and ethnic identification (membership esteem, private and public collective-esteem, importance to identity) would significantly predict the effectiveness of positive reappraisal in response to racial discrimination. Specifically, individuals reporting high independent self-construal, low interdependent self-construal, or low trait-levels of membership esteem, private collective-esteem, and importance to identity would evidence greater reductions in self-reported negative affect and physiological arousal than those identifying low independent self-construal, high interdependent self-construal, or high trait-levels of membership esteem, private collective-esteem, and importance to identity. This was predicted because individualism, low membership esteem, low private collective-esteem, and the belief that ethnicity is less important to one's sense of self may allow an individual to "shrug off" racism as not personally relevant. Conversely, collectivism, high membership esteem, high private collective-esteem, and the idea that ethnicity is an important aspect of one's sense of identity would make racism (i.e., an attack on the individual because of their group membership) highly personally salient.

Additionally, individuals reporting high trait-levels of public collective-esteem were expected to receive less benefit from positive reappraisal in down-regulating self-reported negative affect and physiological arousal in reaction to racial discrimination than those with low trait-levels of public collective-esteem. This was predicted because for those with high public collective-esteem, receiving discriminatory feedback would be in stark contrast to the perceptions they have about public opinion, causing a dissonance of sorts.

Chapter 2

METHOD

Participants

Participants included 87 individuals who were either college students from a large university in central Pennsylvania or non-students from the surrounding community. All participants self-identified as either Black (i.e., African American, African, West Indian, and/or Other; $n = 44$) or Latino (i.e., Mexican, Puerto Rican, Cuban, Dominican, Central American, and/or South American; $n = 43$). These groups were thought to best represent both distal and proximal oppression because they are U.S. minorities with low in-group representation in the university's surrounding community (approximately 3.8% and 3.9% for Blacks and Latinos, respectively; U.S. Census Bureau, 2012) relative to national averages (i.e., 12.6 and 16.3% for Black and Latinos, respectively; Humes, Jones, & Ramirez, 2011). Participants included males ($n = 30$) and females ($n = 57$) and all were 18 years of age or older ($M = 22.95$, $SD = 5.93$). Through random assignment, 28 participants were in the self-distanced reappraisal condition, 30 in the positive reappraisal condition, and 29 in the rumination conditions.

Recruitment took place through a psychology department subject-pool, flyers posted on campus and in the surrounding community, and emails sent through relevant listservs. As compensation, participants recruited from the subject-pool received course credit; those recruited via other methods received \$20. This study was reviewed and approved by The Pennsylvania State University's Institutional Review Board (IRB) and all participants were treated in accordance with the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 2002).

Materials and Apparatus

State affect. To measure state affect, participants rated the extent to which they were experiencing each of 16 different feelings and emotions on a 5-point Likert scale (1 = *Very slightly or not at all*; 5 = *Extremely*) after each period of the experiment. Ratings from multiple words were averaged to assess anxiety (i.e., nervous, anxious, worried, tense, jittery, restless; see Perez & Newman, 2013) and anger (i.e., hostile, angry, bad, irritable, annoyed, agitated, frustrated; see Harmon-Jones & Sigelman, 2001); multiple positive emotion words (i.e., happy, excited, joyful) were also interspersed and rated in order to mask the true nature of the study. Similar rating scales have been used in numerous studies (e.g., Gross & Levenson, 1997; Harmon-Jones & Sigelman, 2001; Perez & Newman, 2013) and adequate internal consistency was demonstrated with alphas ranging from .82 to .86 for anxiety and .84 to .93 for anger.

Emotion induction. Participants were instructed to complete a mental arithmetic task (e.g., Mauss & Butler, 2009), which required individuals to count backward by 7 from 13,652. This commonly used task is objectively difficult and generally reported to be quite frustrating for participants. To induce anger and anxiety, participants were given discriminatory (i.e., racist) feedback regarding their performance from a confederate, whom they were told was actually another participant. Feedback was provided via an instant message, which stated, “wow! that was really bad... but i heard that math is hard for you people, so i wouldnt let it get you down” [sic].

Emotion regulation tasks. Participants were asked to process their feedback by writing for three minutes in one of three ways thought to implicitly elicit the processes of positive reappraisal, self-distanced reappraisal, or rumination. The Reappraisal Task

from the Emotion Regulation Task (Hanley & Soto, 2011) has been found to be a valid procedure to implicitly engage participants in the standard process of positive reappraisal; it instructed participants to “write about all of the positive aspects of receiving this feedback, including what you may learn and how you may grow through the experience.” To induce self-distanced reappraisal, the Reappraisal Task was modified to read, “first imagine stepping outside of the experience. Now ... write about all of the positive aspects that your distant self might identify about receiving this feedback, including what your distant self may learn and how your distant self may grow through the experience” (similar to Ayduk & Kross, 2008). For rumination, I adapted work from Nolen-Hoeksema (2000) to develop a semantically similar task instructing participants to “write about how you understand your feelings about receiving this feedback, including what your feelings might mean and why you react the way you do” (Perez & Newman, 2013).

Audiovisual. Using E-Prime® 2.0, all instructions and stimuli were provided audibly using generic computer speakers and visually at the participant’s eye level on an 18-by-24 inch computer monitor that was two feet in front of the participant.

Physiology. Two physiological measures of autonomic nervous system functioning were continuously recorded throughout the experiment using a BIOPAC MP150 eight-channel bioamplifier (BIOPAC Systems, Inc., Goleta, CA). Sampling signals at 1000 Hz, these amplifiers were connected to a microcomputer utilizing the BIOPAC *AcqKnowledge* software. Physiological interval measures were calculated in milliseconds. Electrodes were placed on the body for the following measures in the following ways:

(a) Heart rate (cardiac interbeat interval) was measured with a 3-lead electrocardiograph (ECG) using MindWare pregelled, self-adhering, disposable spot electrodes. The negative lead was placed at the center of the right clavicle, the positive lead was placed over the ninth rib of the left midaxillary line, and the ground lead was placed on the ninth rib of the right midaxillary line. (b) Cardiac impedance was assessed using four additional MindWare electrodes configured to reduce movement artifact and achieve optimal signal-to-noise ratio (Qu, Zhang, Webster, & Tompkins, 1986). Specifically, two current electrodes were placed on the fourth cervical vertebrae and the ninth thoracic vertebrae, a voltage electrode was placed on the participant's sternum, at the fourth rib, and a voltage electrode was placed on the front of the neck, four centimeters above the clavicle.

Derived from ECG and cardiac impedance signals, pre-ejection period (PEP) and respiratory sinus arrhythmia (RSA) were utilized as outcome variables due to their common use (e.g., Ray et al., 2008) as relatively pure measures of isolated activity for each branch of the autonomic nervous system. Specifically, PEP refers to the time between onset of the Q-wave and onset of left-ventricular ejection; derived from ECG and cardiac impedance, PEP is a central measure of sympathetic nervous system (SNS) activation. RSA refers to the natural variation in heart rate occurring between inspiration and expiration in the breathing cycle and was derived from ECG and cardiac impedance signals as an indicator of parasympathetic nervous system (PNS) activation (Berntson, Cacioppo, & Quigley, 1994). Perseverative thinking has been linked to decreases in parasympathetic arousal (Brosschot, Gerin, & Thayer, 2006).

Self-Report Measures

Emotion regulation. The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) is a 10-item measure utilizing a 7-point Likert-type scale (1 = *strongly disagree*; 7 = *strongly agree*) to assess habitual use of cognitive reappraisal and expressive suppression as emotion regulation strategies. I used mean scores from the 6-item Cognitive Reappraisal subscale to assess tendency to reinterpret or redirect emotional thinking (e.g., “When I want to feel more *positive* emotion, I *change the way I’m thinking* about the situation” and “When I want to feel less *negative* emotion (such as sadness or anger), I *change what I’m thinking about*”). Gross & John (2003) demonstrated construct validity as well as adequate internal reliability for the reappraisal and suppression subscales across four subsamples with average alpha coefficients of .79 and .73, respectively; three-month test-retest reliability for both subscales was shown with coefficients of .69 across four subsamples (see Gross & John, 2003, for a fuller description). Furthermore, this measure’s two-factor structure tends to remain stable across cultures, countries, and languages (Matsumoto et al., 2008). Alpha coefficient for the Cognitive Reappraisal subscale in this sample was .79.

The Perseverative Cognitions Questionnaire (PCQ; Szkodny & Newman, 2011) was used to measure tendency to engage in maladaptive repetitive thought. Utilizing 26 items, rated on a 6-point Likert-type scale (1 = *Not at all like me*; 6 = *Very much like me*), this questionnaire measures five underlying process components of worry, rumination, and obsessive thinking: Lack of Controllability (LC; e.g., “It’s hard for me to put certain thoughts out of my mind”), Preparation for the Future (PF; e.g., “I repeatedly think about things so I can better handle any unforeseen event that occurs”), Understanding

Causes/Meaning (UC; e.g., “I gain insight into my difficulties by replaying them in my mind”), Dwelling on the Past (DP; e.g., “I can’t help but rehash past events in my mind”), and Ego-Dystonic Thinking (ED; e.g., “My thoughts make me uncomfortable”). Additionally, the LC and DP subscales can be combined to represent a higher-order factor of Unconstructive Repetitive Thinking (URT), as can the PF and UC subscales to represent Perceived Constructive Thinking (PCT). Finally, all 26 items can be combined to provide a single, global factor of perseverative thought; internal consistency was demonstrated here with an alpha coefficient of .94. Adequate test-retest reliability and convergent and discriminant validity have been previously established (see Szkodny & Newman, 2011, for full description).

Psychological functioning. Arguably, both negative and positive aspects of one’s psychological experience (e.g., distress and well-being) must be measured to better capture psychological functioning. I utilized measures that assess both symptoms of depression and negative emotional states (i.e., depression, anxiety, and stress) to capture psychological distress as well as measures that reflect life satisfaction and self-esteem to quantify psychological well-being.

Depressive symptomology. Radloff’s (1977) Center for Epidemiologic Studies Depression Scale (CES-D) has respondents answer the extent to which they have experienced a total of 20 symptoms in the past week (e.g., “I felt that everything I did was an effort”). Using a 4-point Likert scale (0 = *rarely or none of the time [less than 1 day]*; 3 = *most or all of the time [5-7 days]*), answers are summed so that higher scores indicate a greater presence of depressive symptoms. General population means for the CES-D ranged from 7.94 ($SD = 7.53$) to 9.25 ($SD = 8.58$). However, Radloff warns

against interpreting high group averages in terms of rates of illness instead of simply level of symptoms. Internal consistency was shown with alpha coefficients ranging from .84 to .90 among the four samples used to develop this measure and with an alpha coefficient from this sample of .88. Further evidence for psychometric adequacy can be found in the original publication (Radloff).

Negative emotional states. The 21-item short-form of the Depression Anxiety Stress Scales (DASS21; Lovibond & Lovibond, 1995) measures the negative emotional states of depression (e.g., “I couldn't seem to experience any positive feeling at all”), anxiety (e.g., “I felt scared without any good reason”), and stress (e.g., “I felt that I was rather touchy”). Respondents were instructed to indicate how much each statement applied to them “over the past week” using a 4-point severity scale (0 = *Did not apply to me at all*; 3 = *Applied to me very much, or most of the time*). Corresponding items were averaged with larger scores indicating greater likelihood for the presence of clinically significant levels of depression, anxiety, and stress. Psychometric evaluations have provided consistent support for the DASS in both clinical and non-clinical samples (Antony, Bieling, Cox, Enns, & Swinson, 1998; Henry & Crawford, 2005) as well as across four racial groups (Norton, 2007). Internal consistency was demonstrated in this study with alphas of .85, .74, and .87 for depression, anxiety, and stress subscales, respectively.

Life satisfaction. The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a five-item questionnaire utilizing a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*) to measure degree of life satisfaction as a single global factor (e.g., “The conditions of my life are excellent”). Adequate internal

consistency has been shown with alpha coefficient ranging from .83 and .85 (Pavot, Diener, Colvin, & Sandvik, 1991) to .87 (Diener et al., 1985). This study produced an alpha coefficient of .90, demonstrating internal consistency. Reliability of the SWLS was supported with test-retest correlation coefficients of .84 both for two weeks and for one month (Pavot et al., 1991) and .82 for two months (Diener et al., 1985). Convergent validity was supported by significant correlations between the SWLS and other common measures of well-being (Diener et al., 1985; Pavot et al., 1991).

Self-esteem. Rosenberg's (1989) Self-Esteem Scale (RSES) consists of 10 items measuring global self-esteem (e.g., "I take a positive attitude toward myself"). Answers are provided using a 4-point Likert scale (0 = *strongly disagree*; 3 = *strongly agree*) and responses were averaged such that greater scores indicate higher self-esteem. The RSES has received consistent psychometric validation and adequate internal consistency has been shown in diverse samples ranging from .74 to .83 (Moradi & Risco, 2006; Phinney, Ferguson, & Tate, 1997; Prelow, Weaver, Swenson, & Bowman, 2005) and in this sample with an alpha coefficient of .87.

Cultural variables. Multiple cultural variables were included in this study and reflected the following domains:

Self-construal. Consistent with Markus and Kitayama's (1991) characterization of self-construal, the 24-item Self-Construal Scale (SCS; Singelis, 1994) utilizes a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*) to assess independent (e.g., "I enjoy being unique and different from others in many respects") and interdependent (e.g., "My happiness depends on the happiness of those around me") aspects of self-construal. Singelis (1994) demonstrated construct validity as well as moderate internal

reliability in two samples with alpha coefficients of .69 and .70 for the independent subscale and .73 and .74 for the interdependent subscale. Adequate internal consistency was demonstrated in this sample with alpha coefficients of .78 and .76 for the interdependent and independent subscales, respectively.

Ethnic esteem. The Race-specific Collective Self-Esteem Scale (CSES-R; Crocker, Luhtanen, Blaine, & Broadnax, 1994), is a 16-item measure using a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*) to assess membership esteem (e.g., “I am a cooperative participant in the activities of my racial/ethnic group”), private collective-esteem (e.g., “I feel good about the race/ethnicity I belong to”), public collective-esteem (e.g., “In general, others respect my race/ethnicity”), and importance to identity (e.g., “The racial/ethnic group I belong to is an important reflection of who I am”) in relation to their racial identity. Internal consistency was previously shown with Cronbach’s alphas of .75, .72, .88, and .84 for the membership esteem, private collective-esteem, public collective-esteem, and importance to identity subscales, respectively. This study found moderate internal consistency for the membership esteem, private collective-esteem, public collective-esteem, and importance to identity subscales with alphas of .71, .77, .79, and .66, respectively.

Demographics. The demographics section asked participants to indicate basic information about themselves, such as age, gender identity, ethnic/cultural/racial identification, birthplace information, and beliefs about what others perceive to be their ethnic/cultural/racial group. Participants were also asked whether they are bilingual and, if so, to indicate their first and second languages and whether they are fluent in one or

both languages; they were also asked to indicate their reading and writing proficiency in both English and, if applicable, the other language they specified.

Procedure

Participants were told during recruitment and informed consent that they were participating in a “study on how individuals from diverse backgrounds naturally feel about, understand, and incorporate feedback and different strategies to improve this process.” After providing written consent, a research assistant placed physiology sensors on the participant as described above. Before exiting the room, the research assistant informed participants that the experimental portion of the study was going to begin and reminded them that they would be videotaped throughout.

Participants were first asked to sit quietly in front of the computer monitor, looking at a fixation point (i.e., a small cross), for four minutes to obtain a physiological baseline. The fixation point then disappeared and a sound (i.e., a one-second “ding” typical of computer programs) alerted the participants to provide their first state affect ratings, presented on screen. Participants were then reminded that another participant would be watching and grading their performance on the next task in order to provide feedback. Upon completion of the mental arithmetic task, participants were asked to provide their second set of affect ratings. At this point, the confederate provided the racist feedback regarding their performance. This occurred via an instant message on their screen accompanied by a picture of a white male. Figure 2 shows the picture used from the Center for Vital Longevity's Face Database (specifically, TMWmale18neutral; Minear & Park, 2004). Following a third set of affect ratings, participants were asked to perform an implicit emotion regulation task (to which they were randomly assigned) for

three minutes, in order “to better understand and incorporate” their feedback. Upon completion of the emotion regulation task, participants provided their fourth and final set of affect ratings.

Figure 2. Confederate picture shown to participants.



At this time, a research assistant returned to help the participant remove the physiology sensors and to provide a small debriefing, informing the participant both of the previous deception (i.e., that the task was intentionally difficult and the “fellow participant” and feedback were not real) and that a full debriefing would follow the series of questionnaires described above. While completing the questionnaires, participants were asked to rate their initial reaction to how racist the feedback was on a 4-point Likert scale (0 = *Not at all*; 1 = *Somewhat*, 2 = *Very*; 3 = *Extremely*). Although participants were already aware that the feedback was staged, other descriptors (e.g., accurate, harsh, helpful, offensive) were included to continue masking the racial nature of this study. Once the questionnaires were complete, the lead researcher met with the participant to provide a full debriefing, both verbally and in writing, and to answer any questions. Finally, participants were thanked for their time and given compensation.

Physiology Data Analysis

Physiological arousal was analyzed using MindWare's HRV (Model 60-1100-00), IMP (Model 60-1101-00), and EDA (Model 60-1102-00) software packages (Mindware Technologies LTD, Gahanna, OH).

Data Analytic Plan

I began by removing outliers from each of the self-reported affect variables (anxiety and anger), physiological arousal measurements (PEP and RSA), and self-construal and ethnic-esteem subscales; due to the relatively small sample size, this consisted of removing specific values that were 2.5 standard deviations above or below the mean of each measurement at each time point. As manipulation checks of the discrimination scenario, I calculated the average of how racist participants believed the feedback to be as well as conducted a repeated measures MANOVA looking at the change in self-reported affect and physiological arousal resulting from the discrimination scenario. Next, to confirm successful randomization, one-way ANOVAs were used to compare scores on pre-existing, trait tendencies to engage in reappraisal (i.e., ERQ) and perseverative thinking (i.e., PCQ) as well as measures of psychological functioning, self-construal, and ethnic identity among the three experimental conditions (i.e., positive reappraisal, self-distanced reappraisal, and rumination). Similarly, a one-way ANOVA was used to compare self-reported affect (anger and anxiety) and physiological arousal (PEP and RSA) at baseline.

My primary hypothesis predicted that self-distanced reappraisal would lead to greater reductions in negative affect and physiological reactivity than the other two conditions. To test the hypothesis, I first subtracted baseline levels of self-reported affect

(anxiety and anger) and physiological arousal (PEP and RSA) from subsequent time points, in line with previously used procedures (e.g., Ray et al., 2008). I then conducted a repeated measures MANOVA with time as the within-subjects factor and emotion regulation condition as the between-subjects factor to test the hypothesized interaction of time \times emotion regulation condition on all four self-reported affect (anxiety and anger) and physiological arousal (PEP and RSA) measurements (i.e., the dependent variables). Regarding the between-subjects factor of emotion regulation condition, because no differences were expected between the positive reappraisal and rumination conditions, follow-up analyses were conducted in which these groups were collapsed together and compared to the self-distanced reappraisal condition. Positive reappraisal and rumination were coded as 0, to serve as the reference group, and self-distanced reappraisal was coded as 1, as the group of interest. This coding scheme is consistent with procedures recommended by Cohen, Cohen, West, and Aiken (2003). When appropriate, effect sizes (reported in terms of partial eta squared; η_p^2) were interpreted using criteria set forth by Cohen (1988; e.g., η_p^2 s of 0.0099, 0.0588, and 0.1379 reflect small, medium, and large effects, respectively).

Simple regression analyses were used to test the secondary hypothesis that higher independent self-construal, lower interdependent self-construal, and lower reported trait-levels of ethnic identity (i.e., membership esteem, private and public collective-esteem, and importance to identity) would significantly predict greater benefit from positive reappraisal than the obverse of these measures. In order to do this, I first calculated change-scores for measures of self-reported affect and physiological arousal by subtracting the respective values for each variable at the point of receiving the

discriminatory feedback (minus baseline) from the respective values after they engaged in the emotion regulation task (minus baseline). I then entered each ethnic identification and self-construal measure as predictor variables (separately) and each of the self-reported negative affect and physiological arousal change measures as criterion variables. Follow-up, post-hoc analyses were also conducted looking at each of these relationships within the self-distanced reappraisal and rumination conditions.

Chapter 3

RESULTS

Manipulation

Descriptive statistics of participants' assessment of the feedback they received was acquired in order to validate the effectiveness of the racially-discriminatory component. On average, participants rated the feedback to be "Very" racist, $M = 2.97$, $SD = 1.24$, and most (51%) identified the feedback as "Extremely" racist, $Mdn = 4.00$. Twenty participants (23%) found the feedback to be "Not at all" racist, possibly suggesting that they did not effectively receive the manipulation. However, ethnic identity has been shown to be a significant predictor of whether an individual perceives an event as racist. Therefore, simply reporting that one did not find the feedback to be racist was insufficient for exclusion from these analyses because the removal could unintentionally bias the findings by ignoring individuals with high levels of independent self-construal or low levels of ethnic identification.

Testing the effect of the discriminatory feedback, a repeated measures MANOVA revealed a significant multivariate, within-subjects effect of time on the dependent variables (i.e., anxiety, anger, PEP, and RSA with baselines removed) from immediately prior to the discriminatory scenario (i.e., the mental arithmetic task) to immediately after, $F(4, 67) = 11.527$, $p < .001$, $\eta_p^2 = .463$. It was expected that the discriminatory scenario would lead to subsequent increases in self-reported anxiety and anger as well as subsequent increases in PEP (sympathetic arousal) and decreases in RSA (parasympathetic arousal). As illustrated in Figures 3 and 4, follow-up univariate analyses revealed a significant effect of time on anxiety, $F(1, 70) = 40.139$, $p < .001$, η_p^2

= .364, and a trend toward significance on PEP, $F(1, 70) = 3.667$, $p = .060$, $\eta_p^2 = .050$. No effect of time was shown for anger, $F(1, 70) = 0.530$, $p = .469$, $\eta_p^2 = .008$, or RSA, $F(1, 70) = 0.103$, $p = .750$, $\eta_p^2 = .001$. However, the nature of these changes over time was unexpectedly such that participants showed significant decreases in anxiety and trended toward decreases in sympathetic arousal (i.e., increased PEP) from completing the mental arithmetic task to receiving the discriminatory feedback. Anger and RSA remained static between these two time points. These results, coupled with participants' ratings of the feedback, call into question the effectiveness of the manipulations used.

Figure 3. Average affect at pre- and post-discrimination periods. * = $p < .05$.

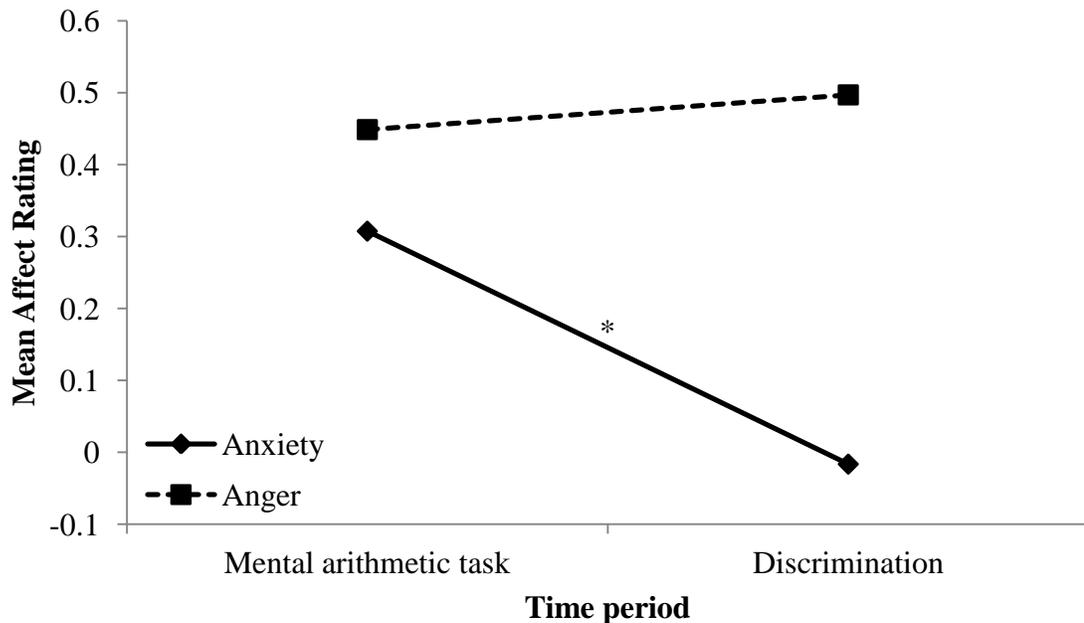
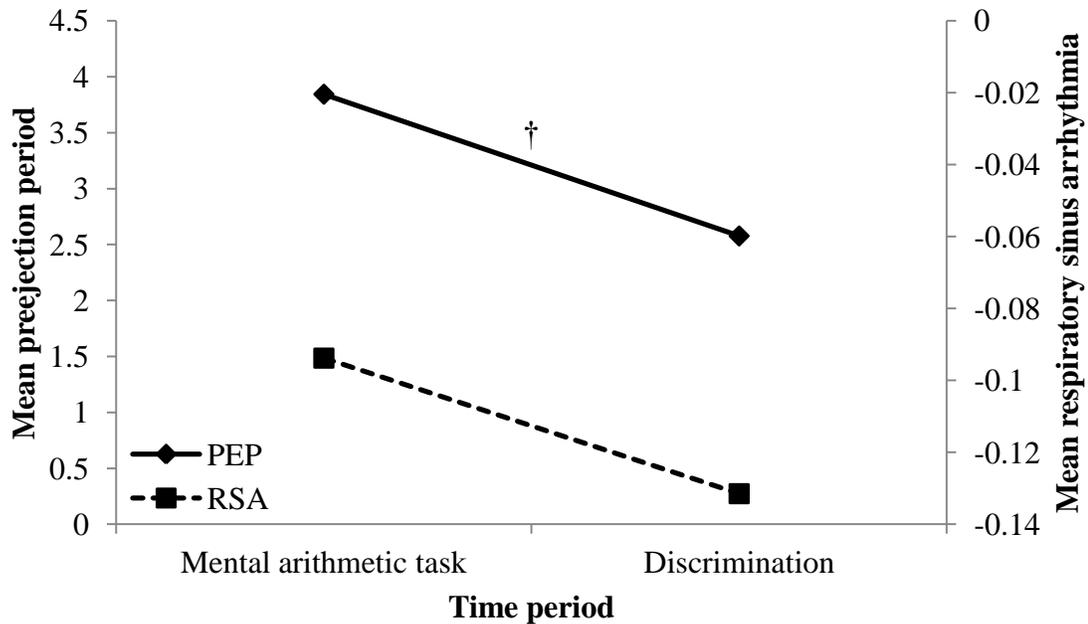


Figure 4. Average preejection period (PEP), a measure of sympathetic activity, and respiratory sinus arrhythmia (RSA), a measure of parasympathetic activity, at pre- and post-discrimination periods. PEP scores were reversed to illustrate lesser scores reflecting decreases in activation. † = $p < .10$.



Randomization

Table 1 provides descriptive statistics showing no significant differences between conditions in trait-level variables and Table 2 provides descriptive statistics showing no significant differences between conditions in self-reported affect or physiological arousal at baseline, as tested by one-way ANOVAs and Tukey post-hoc analyses. These findings confirm adequate randomization.

Table 1*Mean (Standard Deviation) Scores on Trait Variables by Condition*

Construct	Condition		
	Positive reappraisal	Self-distanced reappraisal	Rumination
ERQ reappraisal	5.14 _a (0.97)	5.35 _a (1.02)	5.23 _a (1.19)
PCQ global	3.48 _a (1.08)	3.69 _a (0.83)	3.81 _a (1.10)
CES-D	0.68 _a (0.52)	0.73 _a (0.54)	0.54 _a (0.47)
DASS21 depression	0.55 _a (0.63)	0.37 _a (0.51)	0.32 _a (0.37)
DASS21 anxiety	0.29 _a (0.40)	0.37 _a (0.46)	0.34 _a (0.47)
DASS21 stress	0.62 _a (0.67)	0.62 _a (0.62)	0.72 _a (0.75)
SWLS	4.65 _a (1.31)	4.35 _a (1.74)	4.56 _a (1.53)
RSES	2.33 _a (0.55)	2.41 _a (0.58)	2.49 _a (0.44)
SCS interdependent	4.95 _a (0.82)	4.65 _a (1.05)	4.83 _a (0.81)
SCS independent	5.20 _a (1.00)	5.19 _a (0.75)	5.06 _a (0.77)
CSES-R membership	5.79 _a (1.16)	5.85 _a (0.86)	5.58 _a (1.19)
CSES-R private	6.02 _a (1.17)	6.39 _a (0.79)	6.13 _a (1.06)
CSES-R public	4.01 _a (1.33)	3.70 _a (1.10)	3.87 _a (1.20)
CSES-R importance	4.71 _a (1.19)	4.42 _a (1.50)	4.35 _a (1.13)

Note. ERQ = Emotion Regulation Questionnaire; PCQ = Perseverative Cognitions Questionnaire; CES-D = Center for Epidemiologic Studies Depression Scale; DASS21 = Depression Anxiety Stress Scales; SWLS = Satisfaction With Life Scale; RSES = Rosenberg Self-Esteem Scale; SCS = Self-Construal Scale; CSES-R = Collective Self-Esteem Scale-Race. Means in the same row sharing subscripts did not differ in Tukey post-hoc comparisons, $\alpha = .05$.

Table 2*Mean (Standard Deviation) Values on Experimental Variables by Condition*

Period and variable	Condition		
	Positive reappraisal	Self-distanced reappraisal	Rumination
Baseline			
Anxiety	1.90 _a (0.55)	1.89 _a (0.68)	1.56 _a (0.45)
Anger	1.34 _a (0.47)	1.29 _a (0.47)	1.25 _a (0.41)
PEP	108.08 _a (10.78)	109.36 _a (6.35)	111.17 _a (10.59)
RSA	6.38 _a (0.99)	6.50 _a (0.90)	6.89 _a (1.13)

Note. Anxiety and anger were measured following the conclusion of baseline. PEP = Preejection period; RSA = Respiratory sinus arrhythmia. Means in the same row sharing subscripts did not differ in Tukey post-hoc comparisons, $\alpha = .05$.

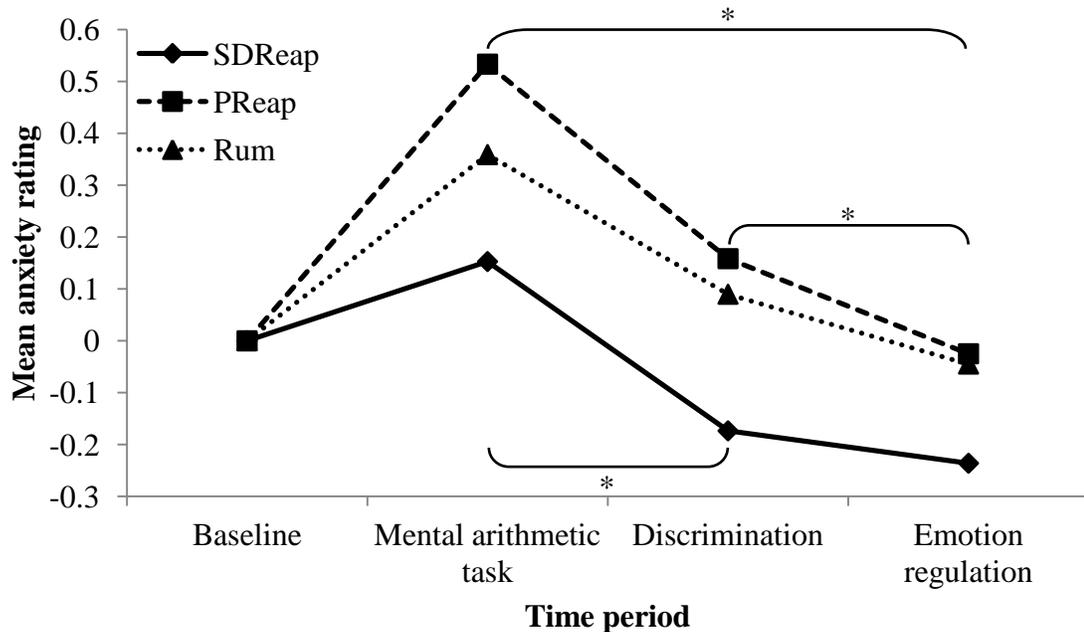
Hypothesis 1

A repeated-measure MANOVA with time as a within-subjects factor and emotion regulation condition as the between-subjects factor was used to test the hypothesized interaction of time \times emotion regulation condition on the dependent variables of self-reported negative affect composite scores (i.e., anxiety and anger) and physiological activation (i.e., PEP and RSA). The multivariate results showed a significant effect of emotion regulation condition, $F(4, 130) = 2.105, p = .040, \eta_p^2 = .115$, and time, $F(8, 60) = 11.080, p < .001, \eta_p^2 = .596$, but no interaction effect of time \times emotion regulation, $F(16, 122) = 1.122, p = .342, \eta_p^2 = .128$. A second repeated-measures MANOVA was conducted in which conditions were dummy-coded to test the planned comparison of self-distanced reappraisal versus positive reappraisal and rumination, combined; this analysis did not change any of the above-mentioned findings.

Follow-up analyses were conducted to uncover the nature of the changes revealed by the first multivariate analyses. Despite the significant multivariate between-subjects effect shown for emotion regulation condition, univariate tests of between-subjects effects found no significant differences on any of the dependent variables, including anxiety, $F(2, 67) = 1.595, p = .211, \eta_p^2 = .045$, anger, $F(2, 67) = 0.373, p = .690, \eta_p^2 = .011$, PEP, $F(2, 67) = 2.069, p = .134, \eta_p^2 = .058$, and RSA, $F(2, 67) = 2.641, p = .079, \eta_p^2 = .073$. Follow-up univariate tests confirmed significant differences across time in anxiety, $F(2, 134) = 34.948, p < .001, \eta_p^2 = .343$, anger, $F(2, 134) = 13.534, p < .001, \eta_p^2 = .168$, and RSA, $F(2, 134) = 6.469, p = .002, \eta_p^2 = .088$; there was no effect of time on PEP, $F(2, 134) = 2.301, p = .104, \eta_p^2 = .033$. The nature of the time effects are further described in the following sections.

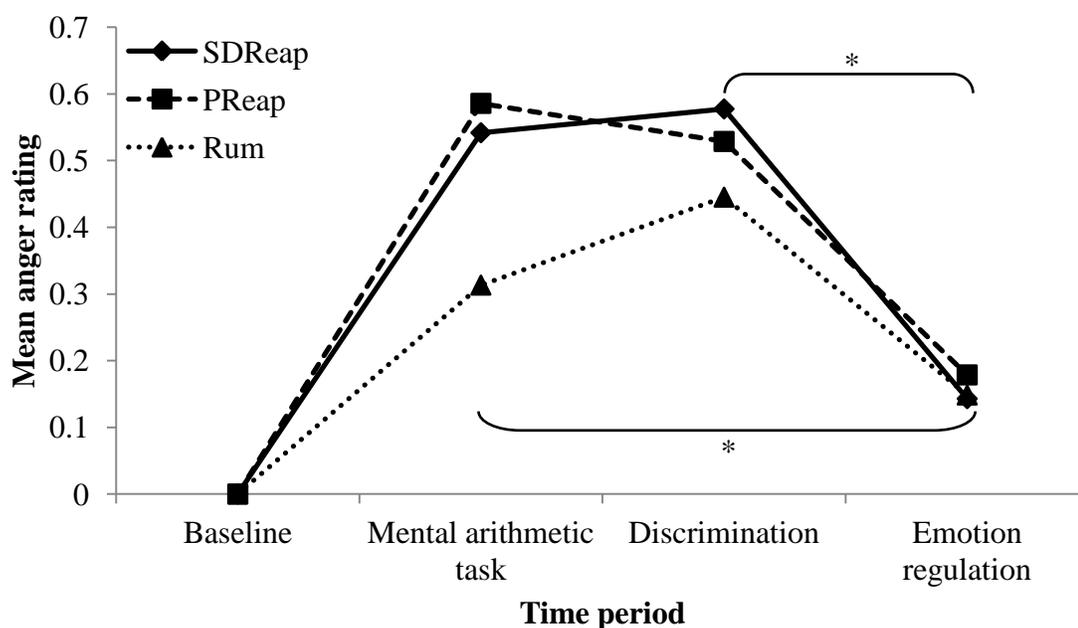
Self-reported affect. Figure 5 presents tests of within-subjects contrasts showing a significant decrease in anxiety from task to discrimination, $F(1, 67) = 38.056, p < .001, \eta_p^2 = .362$, discrimination to emotion regulation, $F(1, 67) = 6.336, p = .014, \eta_p^2 = .086$, and task to emotion regulation, $F(1, 67) = 51.092, p < .001, \eta_p^2 = .433$, periods. This reflects a continuous and significant decrease in anxiety after participants completed the mental arithmetic task regardless of emotion regulation condition. However, no interaction of time \times emotion regulation was observed, $F(4, 134) = 0.522, p = .720, \eta_p^2 = .015$, suggesting that the conditions did not significantly differ from one another over time. Therefore, these findings did not support the hypothesis that self-distanced reappraisal would show greater decreases in anxiety following emotion regulation.

Figure 5. Significant main effect of time on self-reported anxiety. SDReap = self-distanced reappraisal; PReap = positive reappraisal; Rum = rumination. * = $p < .05$.



As seen in Figure 6, tests of within-subjects contrasts showed no decrease in anger from task to discrimination, $F(1, 67) = 0.293$, $p = .590$, $\eta_p^2 = .004$, but significant decreases from discrimination to emotion regulation, $F(1, 67) = 19.666$, $p < .001$, $\eta_p^2 = .227$, and task to emotion regulation, $F(1, 67) = 16.864$, $p < .001$, $\eta_p^2 = .201$, periods. This reveals that anger was static between the mental arithmetic task and discriminatory feedback but had a significant decrease after the emotion regulation period, regardless of condition. No interaction of time \times emotion regulation was observed, $F(4, 134) = 0.651$, $p = .627$, $\eta_p^2 = .019$, suggesting that the conditions did not significantly differ from one another over time. This did not support my hypothesis that self-distanced reappraisal would show greater decreases in anger than the other two emotion regulation strategies.

Figure 6. Significant main effect of time on reduction of self-reported anger. No significant interaction of time \times emotion regulation condition was observed. SDReap = self-distanced reappraisal; PReap = positive reappraisal; Rum = rumination. * = $p < .05$.



Physiological arousal. Figure 7 illustrates that tests of within-subjects contrasts revealed no significant effects of time on PEP. That is, PEP remained relatively stable throughout the mental arithmetic task, discrimination, and emotion regulation periods regardless of condition. Similarly, no interaction of time \times emotion regulation was observed, $F(4, 134) = 0.991$, $p = .415$, $\eta_p^2 = .029$, suggesting that the conditions did not significantly differ from one another over time, contrary to what was predicted. Because self-distanced reappraisal did not lead to greater decreases in sympathetic arousal when compared to the other two strategies, these findings did not support my hypothesis.

Figure 7. No significant effects of time, emotion regulation condition, or time \times emotion regulation condition interaction on prejection period (PEP). PEP scores were reversed to illustrate greater scores reflecting increases in sympathetic activation. SDReap = self-distanced reappraisal; PReap = positive reappraisal; Rum = rumination.

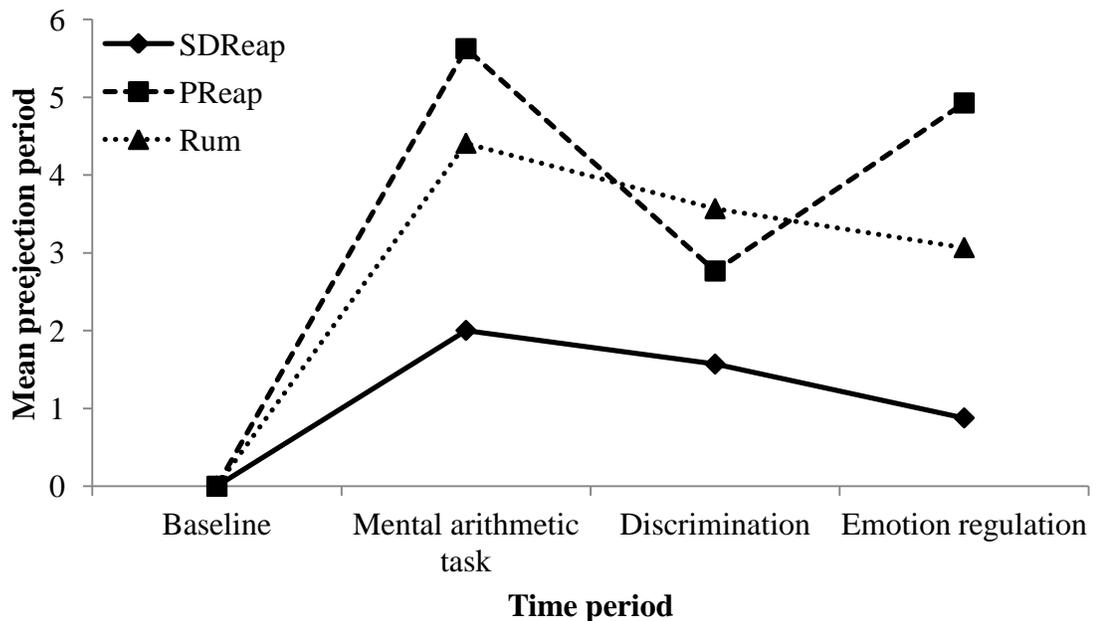
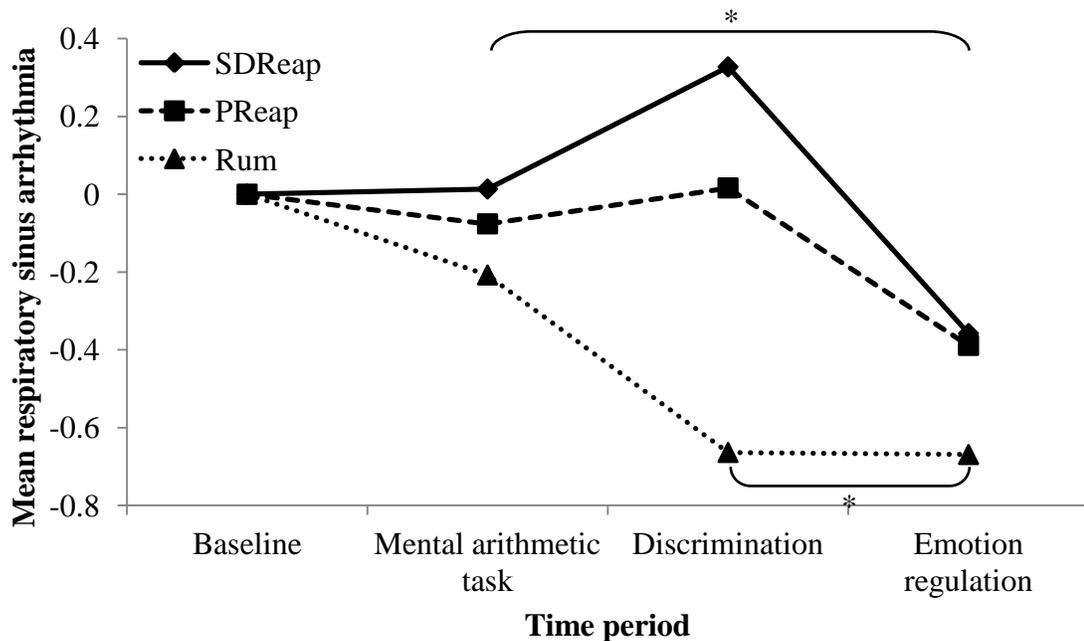


Figure 8 provides a visualization of tests of within-subjects contrasts that revealed no decrease in RSA from task to discrimination, $F(1, 67) = 0.021, p = .885, \eta_p^2 < .001$, but significant decreases from discrimination to emotion regulation, $F(1, 67) = 8.107, p = .006, \eta_p^2 = .108$, and task to emotion regulation, $F(1, 67) = 10.729, p = .002, \eta_p^2 = .138$, periods. This shows that participants' RSA was stable from the mental arithmetic task to the discriminatory feedback but significant decreased from emotion regulation, regardless of condition. However, no interaction of time \times emotion regulation was observed, $F(4, 134) = 2.338, p = .058, \eta_p^2 = .065$. Contrary to predictions, self-distanced reappraisal did not result in decreased parasympathetic reactivity compared to the other two strategies.

Figure 8. Significant reduction in respiratory sinus arrhythmia (RSA) across the sample as an effect of emotion regulation period. No significant interaction of time \times emotion regulation condition was observed. SDReap = self-distanced reappraisal; PReap = positive reappraisal; Rum = rumination. * = $p < .05$.



Hypothesis 2

Table 3 outlines regression analyses testing the second hypothesis that high independent self-construal, low interdependent self-construal, and lower reported trait-levels of ethnic identity (membership esteem, private and public collective-esteem, and importance to identity) would predict greater decreases (as reflected through change scores) in self-reported negative affect and physiological arousal when utilizing positive reappraisal in response to racial discrimination. Results provided mixed support for the second hypothesis in that evidence was found for some but not all self-construal and ethnic identity measures in predicting positive reappraisal's effectiveness. Specifically, inconsistent with the hypothesis, self-construal was unrelated to positive reappraisal's effectiveness, as was membership esteem. However, consistent with predictions, results showed that higher levels of private collective-esteem significantly predicted less benefit from positive reappraisal in terms of self-reported anger reduction, $r(23) = .411, p = .021$, and increased levels of public collective-esteem significantly predicted less benefit from positive reappraisal in terms of PEP (i.e., great sympathetic arousal), $r(26) = .487, p = .004$. Similarly, trends were observed suggesting that higher levels of private collective-esteem may predict less benefit from positive reappraisal in terms of self-reported anxiety reduction, $r(25) = .275, p = .082$, and increased levels of importance to identity may predict less benefit from positive reappraisal in terms of anger reduction, $r(23) = .335, p = .051$.

Table 3

Regression Coefficients for Self-Construal and Ethnic Identity on Self-Reported Affect and Physiological Arousal Within Each Emotion Regulation Condition

Condition	Change scores			
	Anxiety	Anger	PEP	RSA
Positive reappraisal				
SCS				
Independent	.009	.150	-.055	-.127
Interdependent	.102	.003	-.055	-.067
CSES-R				
Membership	.135	.100	.190	-.053
Private	.275†	.411*	.147	-.048
Public	-.201	.059	.487**	-.135
Importance	.229	.335†	-.094	.156
Self-distanced reappraisal				
SCS				
Independent	.234	.291†	-.040	-.367*
Interdependent	-.075	.511**	-.031	-.359*
CSES-R				
Membership	.295†	.201	.037	-.281†
Private	.209	.144	-.113	-.349*
Public	.078	.265	.210	.052
Importance	-.048	-.036	-.058	-.131
Rumination				
SCS				
Independent	.080	.283†	.250	-.058
Interdependent	-.041	-.258†	.050	-.551**
CSES-R				
Membership	.026	.089	-.125	.021
Private	-.183	-.348*	-.111	.169
Public	.063	-.018	-.043	.296†
Importance	-.110	-.226	-.345*	-.069

Note. SCS = Self-Construal Scale; CSES-R = Collective Self-Esteem Scale-Race; Preejection period (PEP) values were reversed in order for all positive coefficients to reflect increases in affect and physiological arousal. * = $p < .05$. ** = $p < .01$. † = $p < .10$.

Table 3 also presents exploratory, post-hoc analyses into these same relationships within the self-distanced reappraisal condition. Interestingly, greater interdependent self-construal was a significant predictor of decreased benefit from self-distanced reappraisal at down-regulating self-reported anger, $r(24) = .511, p = .004$, and a similar trend was observed for independent self-construal, $r(24) = .291, p = .075$. Next, increases in independent self-construal, $r(24) = -.367, p = .033, r^2 = .135$, interdependent self-construal, $r(25) = -.359, p = .033$, and private collective-esteem, $r(24) = -.349, p = .040$, predicted decreases in RSA (i.e., decreased parasympathetic activation), while membership esteem showed a trend toward a similar relationship, $r(24) = -.281, p = .082$. This suggests that self-distanced reappraisal may lead to greater perseveration for individuals with a high independent self-construal, high interdependent self-construal, high levels of membership esteem, or high private collective-esteem. Finally, a trend was also observed suggesting that increased membership esteem may predict decreased benefit from self-distanced reappraisal at down-regulating self-reported anxiety, $r(24) = .295, p = .072$. No relationships were observed for public collective-esteem or importance to identity. Figure 3 also shows exploratory, post-hoc analyses into these same relationships within the rumination condition, which produced mixed results. First, results showed increased interdependent self-construal to be a significant predictor of decreases in RSA (i.e., decreased parasympathetic activity), $r(25) = -.551, p = .001$. However, a trend suggested that individuals reporting higher levels of public collective-esteem were less likely to experience decreases in RSA when engaged in the rumination task, $r(26) = .296, p = .063$. Surprisingly, increased private collective-esteem was a significant predictor of greater anger reduction, $r(25) = -.348, p = .038$, and increased

importance to identity was a significant predictor of greater increases in PEP (i.e., decreased sympathetic arousal), $r(26) = -.345, p = .036$, within the rumination condition. This suggests that the rumination task may have been a beneficial process for individuals who reported higher trait-levels of private collective-esteem, because it led to greater decreases in anger, and those for whom ethnicity is important to their identity, in that it led to greater decreases in sympathetic arousal. Trends were observed suggesting that increased independent self-construal may predict less benefit, $r(24) = .283, p = .081$, and increased interdependent self-construal may predict more benefit, $r(25) = -.258, p = .097$, of the rumination task in down-regulating self-reported anger in response to racial discrimination. No relationships were observed for membership esteem.

Chapter 4

DISCUSSION

Research continues to find mixed results regarding the effectiveness of reappraisal within certain cultural contexts (Knight & McCallum, 1998, Perez & Soto, 2011; Soto et al., 2012; Yoo & Lee, 2005) and in response to racial discrimination (Perez & Newman, 2013), which has called the inherent utility of this strategy into question. Kross and colleagues (2005) have suggested that the key to successful self-reflective thinking lies in taking a *distanced* perspective in order to understand *why* an event occurred and there is some evidence to suggest that taking such a perspective can serve to retain the positive effects of reappraisal, even in the face of discrimination (Johns et al., 2008). Therefore, I tested the effectiveness of three different self-reflective processes—positive reappraisal, self-distanced reappraisal, and rumination—to down-regulate negative affect and physiological arousal in response to racism. I found no differences between the three self-reflective strategies in their ability to down-regulate negative affect or sympathetic arousal in reaction to racial discrimination. That is, individuals' self-reported affect and physiological arousal did not appear dependent on the type of process in which they engaged. However, I found mixed results suggesting that certain aspects of one's self-construal and ethnic identity significantly and differentially predicted the effectiveness of each emotion regulation strategy.

Self-Reflective Thought in Response to Racial Discrimination

The finding that emotion regulation alone led to decreases in self-reported anxiety and anger regardless of emotion regulation condition essentially demonstrates that simply reflecting on a negative event through writing can contribute to a decrease in the

experience of some negative affect, consistent with other research findings (see Pennebaker & Chung, in press, for a review). However, it is interesting to note that sympathetic arousal was unchanged over time and parasympathetic activity decreased during the emotion regulation period, unrelated to the participants' assigned conditions. This suggests that participants did not benefit physiologically, in terms of sympathetic arousal, but that all conditions instead engaged participants in perseverative thinking, which has previously been linked to decreases in parasympathetic activity (Brosschot et al., 2006). Unfortunately, despite reporting decreases in negative affect, simply engaging in this process in response to racial discrimination does not necessarily lead to commensurate physiological benefits. This idea may be consistent with Thomaes and colleagues' (2009) findings that in the face of social threat, children experienced greater emotional resilience if they expressed realistic self-perceptions than if they made unrealistically positive interpretations, which were linked to emotional vulnerability and distress. That is, the current study showed that individuals report decreasing levels of negative affect when self-reflecting (either through positive reappraisal, self-distanced reappraisal, or rumination) on an inherently negative occurrence (i.e., racial discrimination) but remain physiologically distressed. Put simply, thinking positive may not be only insufficient, but deleterious within certain contexts.

Inconsistent with the initial hypothesis, which predicted no differences between rumination and positive reappraisal, the effects of the rumination condition on sympathetic and parasympathetic arousal were unique, and not necessarily similar to those of positive reappraisal (or even self-distanced reappraisal). One reason why this may have occurred is that the wording used in the rumination-adapted task may not have

adequately elicited depressive or angry rumination. The rumination task instructions were to seek to understand “what your feelings might mean” and “why you react the way you do.” Recall that Kross and colleagues (2005) note two components critical to successful reappraisal. First, it must occur from a self-distanced perspective. While the rumination instructions used here do not request a self-distanced perspective, the relatively introspective quality of understanding one’s feelings, what they mean, and why they have them may lend itself to a more constructive reflection. Second, according to Kross and colleagues, successful reappraisal must seek to answer *why* an event occurred, not simply *what* occurred. However, the rumination instructions included both a “what” and “why” component. Therefore, despite being consistent with previous work, the rumination task may have been less ruminative than intended. Clearly, there is much left to disentangle regarding self-reflective thought.

Self-Construal and Ethnic Identity on Self-Reflection

I also found mixed results for the hypothesis that self-construal (interdependent and independent) and ethnic identification (as measured by membership esteem, private and public collective-esteem, and importance to identity) would significantly predict the effectiveness of engaging in positive reappraisal in response to racial discrimination. Supporting this hypothesis, large effects were found showing that the more that individuals identified having high trait-levels of private collective-esteem, the less benefit they received from positive reappraisal in down-regulating self-reported anger and the more they identified having high trait-levels of public collective-esteem, the less benefit they received in down-regulating sympathetic arousal. Overall, it seems that placing heavy importance on one’s ethnicity may preclude the ability to benefit from engaging in

positive reappraisal in response to a racist event. This lends greater support to the idea that attempting to reappraise inherently negative, personally salient events for which positive interpretations seem unlikely may represent a failed reappraisal. Additionally, it provides modest support to the idea that identity (e.g., self-construal, ethnic identity) can alter the effectiveness of certain emotion regulation strategies when utilized under certain conditions.

These results may also suggest that individuals who maintain high public collective-esteem, a belief that out-group members hold one's own ethnicity in positive regard, in spite of objectively lower in-group representation in their proximal environment may do so at their own peril. Considering the model proposed by Perez and Soto (2011; see also Soto et al., 2012), participants with high public collective-esteem may have perceived their proximal environment as less oppressive than their group's representational numbers would suggest. One explanation for this discrepancy is that these participants may have purposefully shaped their immediate environments in order to decrease their proximal oppression (e.g., by joining certain organizations), potentially protecting themselves from discrimination and leaving them unprepared to cope with racism when it occurs. Again, this may not be surprising given Thomaes and colleagues' (2009) assertion that accuracy, as opposed to unrealistic positivity, is paramount in contexts of social threat.

Exploratory analyses also revealed interesting relationships between identity (self-construal and ethnic identity) and the down-regulation of self-reported negative affect and physiological arousal when engaging in self-distanced reappraisal or rumination in reaction to racial discrimination. Specifically, it appeared that self-distanced reappraisal

was more indicative of decreased parasympathetic arousal (as measured by RSA), which may reflect greater perseverative thinking (Brosschot et al., 2006), for individuals identifying highly as having an independent and interdependent self-construal as well as high trait-level private collective-esteem. Furthermore, interdependent self-construal was found to be a strong predictor of self-distanced reappraisal's decreased effectiveness in down-regulating self-reported anger in response to racial discrimination, explaining 26% of the variance in change.

The impact of identity variables on the effectiveness of rumination in down-regulating self-reported negative affect and physiological arousal in response to racial discrimination is especially noteworthy. These exploratory findings suggest that engaging in the rumination task may not have been as detrimental as one might expect for individuals reporting high trait levels of private collective-esteem and importance to identity. Specifically, private collective-esteem significantly predicted greater decreases in anger and importance to identity significantly predicted greater decreases in sympathetic arousal after engaging in the rumination task.

Interpretation and Perspectives

The current study found that self-reflective thought, regardless of type, was relatively ineffective in reaction to racial discrimination, leading to decreases in self-reported negative affect (i.e., anxiety and anger) without a commensurate decrease in sympathetic arousal and with corresponding decreases in parasympathetic activity. Therefore, it unfortunately remains unclear whether taking a self-distanced perspective when self-reflecting in reaction to racial discrimination will help individuals avoid the negative effects suggested by prior research (e.g., Perez & Soto, 2011). One simple

explanation for these findings is that the physiological indices used in this study did not provide an accurate reflection of participants' distress. Alternatively, it may have been that the mental arithmetic task was too distressing, the racist feedback was too subtle, or a combination of the two, which is supported by the fact that there was very little change in self-reported negative affect and physiological arousal from the mental arithmetic task to the discriminatory feedback. In fact, following the mental arithmetic task, anxiety significantly decreased and sympathetic arousal showed a trend toward decreasing when participants faced the discriminatory scenario.

On the other hand, these findings may present a more interesting picture that exposes a somewhat insidious side of self-reflection. First, one's subjective experience gives the impression that self-reflection effectively down-regulates negative affect, confirming its usefulness. However, despite the positive subjective experience reflected in this study, the objective reality was that self-reflection was ineffective at decreasing sympathetic nervous system arousal in response to a racist event and led to further decreases in parasympathetic arousal. This explanation would support the notion that individuals are relatively inaccurate reporters of their emotional processes (Nisbett & Wilson, 1977). Furthermore, the self-sustaining belief that self-reflection serves a beneficial function (e.g., Gross & John, 2003; Papageorgiou & Wells, 2001, 2003) may lead ethnic minorities to perpetually engage in a strategy that is typically effective but that, in response to racist events, actually causes increased physiological arousal and potentially negative health effects over time (e.g., increased blood pressure).

Research has shown that low-income individuals are significantly more likely to endorse positive reappraisal than high-income individuals (Brantley et al., 2002) and,

unfortunately, Black and Hispanic individuals are disproportionately low-income (DeNavas-Walt, Proctor, & Smith, 2012). Adding to this the findings that many ethnic minorities report discrimination being a daily stressor in their lives (Soto et al., 2011; Swim et al., 2003) allows us to see that this process of feeling emotionally better but getting physically worse could be quite frequent. Additionally, this process may exacerbate and perpetuate the concept of racial battle fatigue, the idea that racially oppressive contexts create an environment in which minorities are chronically under psychological and physiological stress (see Smith, Allen, & Danley, 2007, for a review).

A potential criticism for this study could be that individuals do not engage in self-reflection in response to discrimination; therefore, contriving a scenario in which they must do so automatically places them at a disadvantage. Supporting this viewpoint is research by Noh and Kaspar (2003), who report that racial minorities (Korean and Southeast Asians in Canada) were more likely to utilize problem-focused coping (e.g., confrontation) in response to racism, if given adequate social resources. Furthermore, they found that the habitual use of emotion-focused coping was actually indicative of poorer health in those perceiving discrimination. Unfortunately, as discussed above, problem-focused coping may not always be a practical response to racism, leaving emotion-focused coping strategies as the only seemingly logical alternative.

Regarding emotion regulation, research has shown that individuals are more likely to use disengagement strategies (e.g., distraction) rather than reappraisal in response to high-intensity negative stimuli (Sheppes, Scheibe, Suri, & Gross, 2011). However, while discrimination is clearly unpleasant (and can be highly intense at times), the type of daily-occurring, subtle discrimination studied here is unlikely to rise to the

level of high-intensity stimuli studied by Sheppes and colleagues (2011; i.e., very unpleasant pictures, strong electrical shocks). Unlike discrimination, which is recurrent and has lingering emotional effects, participants in Sheppes et al.'s study presumably knew the negative stimuli would soon end. Furthermore, Hoggard, Byrd, and Sellers (2013) found that African American students' cognitive appraisals of racially stressful events were no different from their appraisals of nonracially stressful events. However, the ways in which these students coped with racially versus nonracially stressful events differed in that they were less likely to utilize planful problem solving strategies and more likely to cope by confronting, ruminating, and avoiding. Although it may be the case that these individuals were coping with racially stressful events in distinctly different ways, I believe it is more likely that the strategies they typically utilize simply fell short when applied to racially stressful events.

Limitations and Future Directions

Overall, this study represents a step forward in continuing to ask fundamental questions about the appropriateness of positive reappraisal within a context of oppression, especially in response to racism. Nevertheless, there were a number of limitations worth mentioning. For instance, a significant limitation of this study was the relatively small sample size, which likely contributed to insufficient power to observe small effects and restricted the analyses that could have been performed. One such analysis that would have been quite interesting was to compare Latino and Black participants in order to delineate differences that likely exist between these two cultural groups.

Manipulation concerns. First, it is important to note that although the majority of participants found the feedback to be explicitly racist, a number of participants denied

recognizing it as such. Of course, the focus of this study was on the effects of regulating emotions elicited by racist feedback, and this discrepancy in perceived racism is in itself intriguing, but there are a few reasons this could have occurred. One, a number of participants identified English as their second language, which may have influenced their ability to detect the racism. For example, the term “you people” may be a distinctly American idiom while the final statement, “i wouldnt let it get you down” [sic], may have been viewed as sympathetic or encouraging. However, language difficulties could not have been the sole contributing factor because an equal number of native English speaking participants also rated the feedback as non-racist. Next, participants’ ethnic identity may have played a significant role. Research has suggested that individuals with high levels of ethnic identification tend to perceive more instances of discrimination (despite being more protected from the adverse effects) than individuals with lower levels of ethnic identification, and vice versa (Eccleston & Major, 2006; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003).

Another potential manipulation confound in this study was the mental arithmetic task. This task can be quite challenging in and of itself, let alone in conjunction with participants believing they were being watched and evaluated. The fact that the task likely contributed to participants’ self-reported negative affect and physiological arousal prior to receiving the feedback makes it difficult to purely delineate the unique contribution of the racist comment.

Other concerns. There were also a few confounds that will be important to address in future studies. First, discrepancies between self-reported affect and physiology are difficult to interpret as they can result from a number of influences. These

include individuals simply being relatively poor reporters of their internal mental processes (Nisbett & Wilson, 1977) as well as expectancy bias or social desirability. Indeed, the instructions for both reappraisal tasks asked participants to write about “all the positive aspects.” Therefore, participants may have believed they should feel better and answered accordingly, whether for personal expectations or belief about what the researchers wanted. A second confound may have been whether participants were fully able to engage in the emotion regulation strategy to which they were assigned. Although this study instructed participants to self-distance, it may not have given them adequate instruction or time in order to do so. Unfortunately, participants’ understanding of and accuracy in self-distancing were not addressed; future research should be sure to do so.

Interestingly, when talking to research personnel after the study’s conclusion, many participants spontaneously volunteered that they thought the confederate looked to be “less than credible” and did not take his opinion seriously. While the results remain meaningful, because this type of multifaceted, relatively ambiguous situation is likely similar to the discrimination ethnic minorities face in their daily lives, future research should seek to understand the many gradations of racism, from subtle and covert (e.g., poor service) to extreme and overt (racial slurs). Racism can also come from a variety of sources as well, so it will be important for future studies to alter the source from which the racism comes, the type of event that “elicits” the racist response, and the intensity of the response (see Kawakami, Dunn, Karmali, & Dovidio, 2009, for an example). Doing so may serve to unpack the specific characteristics of racial events that render reappraisal ineffective.

Implications

The findings that self-reflective thinking was ineffective at down-regulating physiological arousal to discrimination, regardless of type, suggests that emotion regulation researchers must begin to incorporate contextual factors into their studies, as a “one-size-fits-all” approach to emotion regulation is clearly not accurate. Similarly, Noh and Kaspar (2003) assert that an explanation for ethnic minority coping that takes a social or contextual viewpoint is gaining support and Hoggard et al. (2013) report a need to develop race-specific models for coping with racism. It seems clear that a paradigm shift of sorts is approaching within the emotion regulation literature and this study provides a modest contribution to that goal by highlighting gaps within the literature and ideas for future study design.

I also believe this research could have significant implications for clinical psychology moving forward and can be used to guide clinical practice. For instance, a greater understanding of the consequences of reappraisal and rumination may inform clinicians when, and in what contexts, acknowledging and accepting negative perceptions might be more adaptive and beneficial than reappraising. Thus far, this research seems to suggest that discrimination is an often-ambiguous event resulting in mixed emotions, and encouraging clients to reappraise their perceptions without fully understanding their situation could cause more harm than good! Instead, adequately assessing individual clients and developing clear conceptualizations of their unique cultural contexts is indicated and has been shown to be a relatively simple and quite useful task in previous research (see Donohue et al., 2006).

Furthermore, given the high level of importance that many empirically supported treatments place on reappraising negative thoughts (e.g., thought records, challenging thoughts worksheets), it is imperative to understand the specific aspects of successful reappraisal and whether there are techniques (e.g., psychoeducation, therapeutic homework, exercises) that can help clients learn to reappraise discriminatory events more effectively (e.g., by self-distancing). Understanding individual characteristics that differentiate those naturally-successful reappraisers from less-successful ones, and being able to assess and teach these qualities, could significantly alter therapeutic process and outcome. Additionally, the distinction between cognitive distortions and maladaptive thoughts may be even more critical when discussing perceptions of discrimination because appraising a situation as discriminatory may not be a distortion but perseveratively thinking about it may be maladaptive nonetheless.

Conclusion

Despite ample research showing reappraisal to be a highly effective emotion regulation strategy in general (Garnefski & Kraaij, 2006; Gross & John, 2003; Kross et al., 2009; Ray et al., 2005, 2008; Richards & Gross, 2000), there remains a dearth of information regarding the effectiveness of this strategy in direct response to specific types of stimuli (cf. Sheppes et al., 2011), like racism, or even within discriminatory contexts. This is interesting given that emotion regulation seems to play a vital role in the relationship between discrimination and psychological functioning (Borders & Liang, 2011; Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009; Miller & Kaiser, 2001). This study contributes to the literature by examining the role of three types of self-reflective thinking—positive reappraisal, self-distanced reappraisal, and rumination—and showing

that, within a context of oppression and in direct response to discrimination, even a self-distanced may fair no better than positive reappraisal. Moreover, I believe this study provides a much-needed push for emotion regulation researchers to take their own advice and reappraise reappraisal.

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VITA

Christopher R. Perez

EDUCATION

- 2013 **Doctor of Philosophy, Clinical Psychology**
The Pennsylvania State University
- 2013 **Predoctoral Internship in Clinical Psychology**
Veterans Affairs Palo Alto Health Care System (APA Accredited)
- 2009 **Master of Science, Psychology**
The Pennsylvania State University
- 2007 **Bachelor of Arts, Highest Honors, Psychology**
California State University, San Bernardino
- 2005 **Associates in Arts, High Honors, Liberal Arts**
Victor Valley College

PUBLICATIONS

- Hanley, K. E., Howard, M., Zhong, B., Soto, J. A., **Perez, C. R.**, Lee, E. A., Dawson-Andoh, N. A., & Minnick, M. R. (in press). The Communication Anxiety Regulation Scale: Development and initial validation. *Communication Quarterly*.
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