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Internalized Racism as a Moderator for Stereotype Threat: Effects on Self-Handicapping, Performance, and Cardiovascular Responses in Black Individuals

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Internalized Racism as a Moderator for Stereotype Threat:
Effects on Self-Handicapping, Performance, and Cardiovascular Responses in Black
Individuals

by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts
Department of Psychology
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Abstract

The purpose of the present study was to explore the relationship between internalized racism, stereotype threat, self-handicapping, test performance, and cardiovascular responses in Black individuals. Stereotype threat, or apprehension about confirming a negative stereotype, has been shown to lead to self-handicapping, poor academic performance, as well as increased cardiovascular reactivity. Internalized racism, or the acceptance of negative stereotypes about one's group, is a factor that may moderate these relationships. One-hundred nine (84% female, 16% male) Black undergraduates participated in a laboratory study. Half of the participants were put in a stereotype-threatened condition and the other half were in a neutral condition. The participants were permitted unlimited time in which to practice for a verbal test and then were tested on their verbal ability while their blood pressure was monitored. Results indicated that internalized racism moderates the relationship between stereotype threat and systolic blood pressure, but not diastolic blood pressure or heart rate. However, the

moderating effect of internalized racism in the relationship between stereotype threat and self-handicapping or test performance was not significant. It seems that individuals who do not accept the negative stereotypes about Blacks as a group experienced increased systolic blood pressure responses in stereotype-threatened situations compared to Black individuals who do accept the negative stereotypes. The implication is that Black individuals who challenge negative stereotypes will feel more stress when placed in situations where they are at risk of confirming those negative stereotypes. This study provides insight into reasons for the variability of cardiovascular disease among Black Americans, who typically experience a higher incidence overall compared to other ethnic groups.

Chapter One

Introduction

Overview

There are ethnic differences in economic factors and health between Black Americans and White Americans. One of the economic differences is in employment. Black employees, on average, are paid lower wages, promoted less often, and hold lower status positions relative to comparable White employees (Beggs, 1995; Bridges & Villemez, 1994; DeNavas-Walt, Cleveland & Webster, 2003; Elvira & Zatzick, 2002; Greenhaus, Parasuraman & Wormley, 1990; Kaufman, 1986; Mueller, Parcel & Tanaka, 1989; Nkomo & Cox, 1990). With regards to ethnic differences in health, Black individuals generally have a higher incidence of cardiovascular disease (CVD) (National Center for Health Statistics, 2004). As later sections of this paper will illustrate, the perception of racism and discrimination may account for some of these differences. One mechanism that may help explain the relationship between the perception of discrimination and ethnic disparities is stereotype threat. Stereotype threat can be defined as an apprehension that one's behavior will verify a negative stereotype about one's group. Research has shown that this apprehension can interfere with performance,

leading to a devaluing of the performance domain, and can also be a form of stress.

Some have argued that perceived discrimination and racism might also play a role by reducing activities toward advancement, skill development, and interracial social relationships by Black employees (Mays, Coleman, & Jackson, 1996). This reduction in activities can be conceptualized as self-handicapping. Similarly, perceived racism or discrimination is a kind of stressor, which may impact the cardiovascular health of Black employees (Brondolo, Rieppi, Kelly & Gerin, 2003). However, if stereotype threat can explain some of the disparity in the economic factors and health of Black individuals compared to white individuals, it does not explain how some are affected while others are not. Clearly, other factors are moderating the relationship between stereotype threat, performance, and cardiovascular responses. Internalized racism is one such factor. The purpose of the present study is to explore the relationship between internalized racism, stereotype threat, self-handicapping, performance, and cardiovascular responses in Black individuals.

I will begin this paper by focusing on ethnic differences in health and economic factors, including explanations for them. Then I will discuss perceived discrimination and work outcomes as well as ethnic differences in cardiovascular health. I will then discuss stereotype threat, its moderators, as well its outcomes including self-handicapping, performance decrements, and cardiovascular reactivity. Finally, internalized racism will be discussed as a possible moderator.

An Aside: Perceived Racism and Perceived Discrimination Defined

Throughout this paper, racism and discrimination are used somewhat interchangeably. There is a difference between racism and discrimination, however. Racism includes feelings, opinions, and ideas that a person's worth is based on race. Discrimination includes differential actions towards people based on their race as a result of the attitudes towards people belonging to that race (Stein, Hauck & Su, 1988). Throughout this paper, I may use the terms interchangeably. This is because, as subsequent sections will demonstrate, the perception and outcomes of these constructs are closely related.

It is also crucial to note that there can be no discussion about the existence or perception of racism and/or discrimination without the assumption that stereotypes about a target group exist. A stereotype is a belief about the personal attributes of a group of people (Myers, 1999). When individuals in power hold negative beliefs or act differentially towards Black individuals, this is due to awareness of negative stereotypes about Blacks. Similarly, when Black individuals perceive discrimination or racism, their perceptions are based on the knowledge that decision-makers are biased by the negative stereotypes about their group. Thus, racism and discrimination cannot exist without stereotypes.

Economic and Health Differences Between Black and White Individuals

One of the ethnic differences in the United States between Black and White individuals is socioeconomic status (SES). The median yearly household income for Black families is over \$15,000 less than that of White families (DeNavas-Walt, et al.,

2003). Similarly, while only 10% of White families fall below the poverty line, 24% of Black families are living in poverty (National Center for Health Statistics, 2004).

A relationship exists between the employment characteristics of Black individuals and their SES. As a group, Blacks earn less than comparable Whites (Beggs, 1995; Bridges & Villemez, 1994). Black employees hold positions with less task complexity and authority (Kaufman, 1986; Mueller, et al., 1989). Further, studies have shown that Blacks tend to be promoted at slower rates, and they are more likely to be laid off than comparable Whites (Elvira & Zatzick, 2002; Greenhaus, et al., 1990; Nkomo & Cox, 1990). In sum, Blacks are more likely to earn less, live in poverty, work in lower-status jobs, be passed over for promotion, and be laid-off than comparable Whites.

Another significant disparity between Black and White individuals in the United States is in health outcomes. On average, Black individuals have higher rates of hypertension, obesity, cancer, and AIDS (National Center for Health Statistics, 2004). Moreover, Blacks are less likely to have a usual source of health care, which is related to the employment issues mentioned previously. Also, 14% of Black persons reported having fair to poor health, compared to 8% of White individuals. Finally, the life expectancy for Blacks is over five years less than Whites.

Despite the multitude of troubling ethnic differences in health, the main health outcome of concern in this paper is cardiovascular disease. It has been consistently shown that Black individuals have a higher incidence of cardiovascular disease (CVD) compared to White individuals, as well as the population at large. While only 34% of White individuals have some form of cardiovascular disease, 43% of Black individuals

are afflicted (American Heart Association, 2002). More troubling, CVD is the leading cause of death among Black individuals, even more so than cancer, accidents/assaults, and diabetes combined. Furthermore, incidence of hypertension, the leading risk factor for CVD, is higher for Black individuals over every other ethnic group as well as the population as a whole. While approximately 42% of individuals in the Black community exhibit hypertension, no other group exceeds 30% (National Center for Health Statistics, 2004). Ethnic differences in cardiovascular disease are of great concern, and designing a study to address the causes of this difference can prove challenging. Cardiovascular reactivity, or changes in blood pressure in response to stimuli, is considered to be a possible indicator of future cardiovascular disease (Krantz & Manuck, 1984). As such, cardiovascular reactivity will be measured in this study.

Possible Explanations for Ethnic Disparities

One explanation for ethnic differences in economic factors and health is the existence of racism or discrimination, which as previously mentioned, is based on the existence of negative stereotypes. It is possible that individuals in power hold negative beliefs about minority groups and consequently behave in a way that impedes the advancement of said groups. This racism manifests itself in ways such as wage disparities, where Blacks earn less than comparable Whites (Beggs, 1995; Bridges & Villemez, 1994). Similarly, studies have shown hiring practices to be subject to discrimination. Faculty search committee procedures have been shown to include structural barriers for Black applicants (Mickelson, Smith & Oliver, 1993). King, Madera, Hebl, Knight & Mendoza (2006) found that resumes with stereotypically

“Black” names were rated low, regardless of their quality. Additionally, Stewart and Perlow (2001) found that evaluators have more confidence when assigning Whites to higher status jobs and conversely assigning Blacks to lower status jobs, demonstrating another form of discrimination. It seems that actual racism and discrimination may be contributing to some of the differences by ethnicity.

Another possible explanation for ethnic disparities is *perceived* racism or discrimination. Whether or not discriminatory practices are actually in place, the notion of their presence may influence behavior. The perception of discrimination can have negative effects on self-esteem, health, and general well-being (Pavalko, Mossakowski, & Hamilton, 2003; Jackson, Brown, Williams, Torres, Sellers & Brown, 1996). As long as a person feels they are subject to differential treatment based on group membership, this perception may have adverse effects. As several studies have demonstrated, there is a relationship between perceived discrimination, stress, and poor health among ethnic minorities (Landrine & Klonoff, 1996; McNeilly et al., 1995). The implications of perceived discrimination are abundant, and it is often conceptualized as a stressor.

Discrimination as a Stressor

Discrimination is a stressor for Black employees, inducing a host of responses. The outcomes of discrimination at work can range from negative perceptions of the job or organization, poor physical health, and poor psychological health. These negative outcomes can be included under the blanket term of reaction to “stress” since stress can be defined as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his

or her well-being” (Lazarus & Folkman, 1984, p.19). Several studies have named race-based discrimination as a general stressor (Contrada et al., 2001; Clark, Anderson, Clark & Williams, 1999) and an occupational stressor for Black individuals (Hughes & Dodge, 1997). Landrine and Klonoff (1996) found that 99.4% of the subjects in their study found racial discrimination to be stressful. Thus it seems likely that the multitude of studies investigating the negative outcomes of workplace discrimination may be thought of as investigating the outcomes or reactions to a stressor. Discrimination has been well-documented as a stressor for Black Americans, and the stress associated with it has been linked to negative physical and psychological outcomes (Hunter & Lewis-Coles, 2004).

Further supporting the idea that perceived discrimination is stressful is the study of the relationship between job stress and discrimination for Black employees. If stereotypes are acting to promote actual or perceived discrimination, then job stress may be another consequence of those stereotypes. Stroman and Seltzer (1991) found that Black employees tended to view factors relating to an individual in their work environment, such as their supervisor, as their main source of job stress more so than White individuals. Discriminatory acts are likely to come from an individual, thus it is possible that sources of job stress for some Black employees are co-workers or supervisors holding negative stereotypes. Similarly, Ford (1985) discovered that lack of emotional support from supervisors was the strongest predictor of negative work outcomes, such as job stress, for Black employees. If an individual is biased against a group based on race, they are less likely to positively interact with members of that racial group. If Black individuals do not receive positive interactions with their supervisor,

they may be lacking an important buffer to stress and strain. It has been shown that factors including lack of power and social undermining tend to increase symptoms of job stress such as irritability, depression, anxiety, and health strains for Black workers (Gant, Nagda, Brabson, & Jayaratne, 1993). Finally, Mays et al., (1996) demonstrated that race-based discrimination is directly linked to job stress for Black women. This research identifying discrimination as a source of job stress further supports the idea that discrimination and/or racism is a stressor for Black employees.

Taken together, perceived discrimination can be characterized as a stressor for Black employees. When stressful discrimination is perceived in the workplace, it may impact both work outcomes and cardiovascular reactivity.

Perceived Discrimination and Work Outcomes

Results from several studies indicate that Black individuals do perceive their work environments to be somehow discriminatory, while White individuals tend to believe there are equal opportunities for all people (Hite, 2004; Jeanquart-Barone & Sekaran, 1996). Career development and advancement seem to be among the main concerns, especially for Black women in the workplace (Burlew & Johnson, 1992). One study sought the insight of Black female EAPs to identify the main concerns of their Black female clientele. Topics of importance included racial and sexual discrimination, career barriers, fewer job opportunities and issues with fairness and advancement (Jackson, 1994). One study investigated the effects of perceived race-based discrimination on labor force participation for Black women (Mays, et al., 1996). Perceived discrimination did not affect entry into the labor force as predicted, but rather affected level of participation.

In other words, Black women were actively seeking employment, but were not subsequently developing skills and relationships within the organization that would eventually lead to advancement. This idea was demonstrated in another study where rate of promotion was predicted by participation in company training, with Black managers reporting a slower rate of promotion than White managers (James, 2000). The implication is that if Black employees view promotion as out of their control due to perceived discrimination, then they may choose not to participate in promotion-relevant activities. The organization, in turn, could then use this as a reason for minorities' stagnant career progress.

The perception that a work environment is discriminatory is not only generated from suspicion, but from actual conditions in the organization. Studies have demonstrated good reason for Black individuals to perceive a certain amount of racism in the workplace. As one study showed, White managers believed that the characteristics and behaviors of successful middle managers were inherently displayed by White individuals, and were less likely to be demonstrated by Black individuals (Tomkiewicz, Brenner & Adeyemi-Bello, 1998). Landau (1995) found that Black managerial and professional employees were rated as having less promotion potential than White employees, even when controlling for age, education, tenure, and job type. Another study demonstrated that White managers tend to promote employees similar to themselves (i.e. White employees) (Mueller, et al., 1989). Black managers had to perform at a much higher level in order to be considered for promotion since they tended to be judged on observable criteria, in comparison to their White counterparts. Finally,

there are a few studies dealing with discrimination and performance ratings, a main indicator of job performance. Greenhaus and Parasuraman (1993) investigated the attributions of performance ratings and found that the supervisors associated the success of Black managers to help from others more often than either ability or effort, compared to White managers. It has also been shown that Black managers are rated lower on both task and contextual job performance compared to White managers (Greenhaus, et al., 1990). A more recent study by Stauffer & Buckley (2005) demonstrated that both White and Black managers give lower job performance ratings to black employees. This evidence points to the conclusion that discrimination and racism (and the stereotypes that foster them) are real issues for minority employees in any organization.

Taken together, it seems that the perception of discrimination at work, as well as the actual presence of inequity, negatively impacts activities towards promotion and job performance.

Perceived Discrimination and Cardiovascular Outcomes

The elevated incidence of obesity, physical inactivity, fat-enriched diet, and smoking among Black individuals explains some, but not all, of the ethnic differences in cardiovascular disease (National Center for Health Statistics, 2004). It has been suggested that perceived racism and discrimination may help further explain the ethnic differences in CVD, particularly for the Black community (Anderson, McNeilly, & Myers, 1993; Brondolo, et al., 2003; Clark, et al., 1999). Black employees with low levels of job control, social support, and job satisfaction had increased work-related anger (Fitzgerald, Haythornthwaite, Suchday, & Ewart, 2003). Previous research has shown that anger is a

precursor to job stress, which is related to CVD (Fitzgerald et al., 2003). As already demonstrated, job stress is related to perceived discrimination, suggesting this relationship as a mechanism for the increased incidence of CVD among Black employees. Furthermore, research indicates that chronic stressors in the workplace can raise blood pressure for employees regardless of ethnicity (Sims, 1995; Theorell, de Faire, Johnson, & Hall, 1991; Chapman, Mandryk, Frommer, & Edye, 1990). If stressors were more prevalent for minorities, then the effect on the cardiovascular system would be greater. However, several studies have found that levels of job stress do not differ by race (Glymor, Saha, & Bigby, 2004; Auerbach, Quick, & Pegg, 2003; Liou, 1995). These studies looked exclusively at self-report measures of job stress. Perhaps if blood pressure were monitored as a measure of job stress, ethnic differences would be found.

Lab studies have shown a more direct relationship between race-related stressors and cardiovascular reactivity. Black women have been shown to exhibit greater cardiovascular reactivity in response to a hypothetical racial stressor over a non-racial stressor, while White women showed no difference by type of stressor (Lepore, Revenson & Weinberger., 2006). Gyll, Matthews, and Bromberger (2001) showed that Black women who reported experiencing discrimination in the past exhibited greater systolic blood pressure reactivity to a shoplifting speech task (which could be interpreted as race-related) than Black women who did not report discrimination. Also, Gentry (1972) found Black participants demonstrated elevated cardiovascular reactivity when mistreated by a White experimenter. However, not all studies have shown a relationship between perceived discrimination and cardiovascular responses. Matthews, Salomon, Kenyon and

Zhou (2005) found no relationship between adolescents' self-report of prior exposure to discrimination and ambulatory BP levels throughout the day.

While the existence of perceived racism and ethnic differences in CVD are well documented, the process explaining how perception translates to disease is not well understood. The same is true for the relationship between discrimination and activities towards promotion or job performance. One mechanism which may help explain the link between stressful discrimination and these outcomes is stereotype threat. A Black employee, realizing the negative stereotypes held by individuals in power, may feel apprehension towards confirming them, which leads to negative outcomes.

Stereotype Threat

Stereotype threat can be defined as apprehension towards confirming a negative stereotype in any relevant achievement setting. It applies to any group described as low ability in any domain. An individual experiences stereotype threat when placed in an achievement situation after the negative stereotype about their group has been activated. If the individual fails, their failure reflects on the group as a whole, thus confirming the stereotype (Aronson, Quinn, & Spencer, 1998). Spencer, Steele, and Quinn (1999) propose that stereotype threat is most likely to occur when a task is high in difficulty, when ability is subjected to evaluative scrutiny, and when a negative stereotype applies to task performance. Further, it is not necessary that individuals see the stereotype as valid to experience stereotype threat; they merely need to be aware of the stereotype and its relationship to their performance in a relevant situation. However, the perceived validity of these stereotypes may play an important role in reactions to stereotype threat, as will

be discussed in subsequent sections regarding moderators of stereotype threat. The relationship between negative stereotypes and stereotype threat has already been established, but an often-overlooked assumption of stereotype threat is that individuals are aware of these negative stereotypes and feel this apprehension due to actual experiences of racism and discrimination in their own lives (Steele, 1998).

It is also important to note that the main manipulation in stereotype threat research is the diagnosticity of the task. During a typical experiment, the experimenters mention to some of the participants that the test yields differences among groups. For example, half of the subjects would be told that this test typically shows ethnic differences (diagnostic condition), while the other half of the subjects would be told that the test typically does not yield ethnic differences, or no mention of differences would be made (non-diagnostic condition). To illustrate, in one experiment manipulating stereotype threat in White males, half of the subjects were told they were taking a test of math ability designed to determine why there is a growing academic achievement gap between Asian students and White students (Aronson, Lustina, Good, Keough, Steele & Brown, 1999). This was the diagnostic condition. The other half of the students were told that they were taking a test of math ability, but no mention of ethnic differences was made. This was the non-diagnostic condition. During these types of experiments, a performance decrement is only observed in the diagnostic condition. In other words, stereotype threat can explain why one group performs more poorly to another when the test is described as diagnostic, even though there is no actual difference in ability. The

implication is that the awareness of negative stereotypes about one's group can negatively impact performance.

Stereotype threat often leads to diminished performance across groups (Croizet & Claire, 1998; Gonzales, Blanton & Williams, 2002; Leyens, Desert, Croizet & Darcis, 2000; Steele & Aronson, 1995; Stone, Lynch, Sjomeling & Darley, 1999). For example, one study demonstrated that women's scores on a simulated math section of the Graduate Record Examination were lower compared to men despite having equal math ability, but only when the test was described as diagnostic (Spencer, et al., 1999). The mechanism by which stereotype threat works, however, is not completely understood. One explanation put forth in a set of studies by Schmader and Johns (2003) suggests that stereotype threat may reduce working memory capacity, thus impairing the ability to focus on the performance task.

Stereotype threat also seems to have an effect on blood pressure responses to the performance situation. Blascovich et al., (2001) demonstrated that blood pressure reliably increases for Blacks under stereotype threat, compared to Whites in the same condition. This suggests that if stereotype threat is a chronic stressor for Black individuals, it may help explain the increased prevalence of CVD. Additionally, stereotype threat may explain some of the disparities in work outcomes among Black employees. Black employees are aware of the negative stereotypes about their group, which has already been mentioned as an important condition for arousing apprehension. This apprehension may lead to impaired performance on the job or failing to perform activities to improve promotion potential.

Reactions to Stereotype Threat

Stereotype threat can have a profound effect on an individual's behavior. Depending on the frequency of encounters in stereotype-threatened situations, a person may develop both long-term defense adaptations and acute reactions. Long-term defense adaptations include disidentification, identity bifurcation, and schematicity in a counter-stereotypic domain (Steele, Spencer, & Aronson, 2002). Each is a result of repeated usage of acute strategies. These short-term reactions include domain avoidance, counter-stereotypic behavior, disengagement, and specifically, self-handicapping, of which this paper is primarily concerned.

First, domain avoidance occurs when one avoids areas where relevant stereotypes apply. For example, one study demonstrated that Black individuals about to take a diagnostic test identified less with stereotypically "Black" activities, such as listening to rap music or enjoying basketball (Steele & Aronson, 1995). A second acute strategy is counter-stereotypic behavior where one engages in activities that disprove the negative stereotype. In other words, one might provide evidence that negative stereotypes do not apply to them before entering a stereotype-threatened situation. For example, a Black student may boast about a high verbal test score in an English class. Disengagement is a third acute reaction to stereotype threat where the connection between how one views oneself performing in a domain and how one performs in a domain is weakened. Thus, one's self-concept is not affected by performance in a relevant domain.

Lastly, self-handicapping is an acute reaction to stereotype threat. Here, one either reports or actually performs behaviors that may impede performance on an up-

coming task. There are two types of self-handicapping: behavioral/acquired and verbal/reported (Rhodewalt, 1990). Behavioral/acquired self-handicapping occurs when an individual deliberately engages in activities (or fails to engage in activities) in an attempt to attribute future failure to this lack of preparation. An example would be publicly failing to study before an important exam. Verbal/reported self-handicapping occurs when an individual provides reasons for possible future failure. An example of this would be stating that one has not studied prior to an important exam. The purpose of this is to provide oneself with an external attribution for performance when future outcomes are uncertain. The idea is that if one were to perform poorly, this performance could be attributed to these external factors, and not to internal factors such as ability or competence. Typically, self-handicapping occurs when there is some sort of public presentation of ability. One operationalization of self-handicapping used in several studies is reduced or minimal preparation/practice before a test (Rhodewalt, Saltzman, & Wittmer, 1984; Harris & Snyder, 1986). Thus, self-handicapping saves the individual from confirming a negative stereotype because it is publicly known that they have not adequately prepared.

Self-Handicapping as a Response to Stereotype Threat

The results regarding the relationship between stereotype threat and self-handicapping have been mixed. A few studies have found no effect of stereotype threat on self-handicapping (Keller & Dauenheimer, 2003; Stone, et al., 1999; Croizet & Claire, 1998). Other studies have shown support for self-handicapping as a response to stereotype threat (Steele & Aronson, 1995). For example, Keller (2002) demonstrated

that women exhibited increased amounts of reported self-handicapping when exposed to blatant stereotype threat during a math task. In this case, reported self-handicapping was measured with endorsement of two items: “How much stress have you been under lately?” and “How tricky/unfair did you find the test”. Another study by Stone (2002) found that White participants acquired more behavioral handicaps compared to Hispanic participants (i.e. by practicing less) when subject to a test of “natural athletic ability”. In general, men use behavioral self-handicaps more than women, and women use more self-reported handicaps. However, people in general are more willing to use self-reported more than behavioral handicaps (Higgins, Snyder & Berglas, 1990).

Some have suggested that certain factors influence the relationship between stereotype threat and self-handicapping. Most notably, self-esteem and the impact of performance on self-worth have been implicated. With regards to self-esteem, it has been found that those with high self-esteem reported more self-handicapping compared to those with low self-esteem (Tice & Baumeister, 1990). A related study found that both high and low self-esteem individuals reported self-handicapping, albeit for different reasons (Tice, 1991). Those with high self-esteem were motivated to self-handicap in order to enhance success, while those with low self-esteem were motivated to protect their esteem following failure. With regards to the impact of performance on self-worth, it has been shown that when performance on a stereotype threatened task is closely tied to self-worth, individuals tend to self-handicap more than persons whose self-worth is not affected by performance (Stone, 2002). In the aforementioned study, subjects practiced the least when the task was framed as a test of “natural athletic ability” and when their

self-worth would be threatened by failure on the task. Thus, individuals who are highly identified with the tested domain may self-handicap more.

Taken together, self-handicapping is a response to stereotype threat that can be either be reported or acquired prior to a task. This may be a strategy most utilized by persons who have high self-esteem and whose self-worth is affected by performance on a task. Although there is a general paucity of research regarding self-handicapping as a response to stereotype threat, studies investigating behavioral handicaps, rather than claimed or reported handicaps, are few. Thus, the current study will offer subjects a chance to engage in behavioral self-handicapping prior to a diagnostic test.

Performance Decrement as an Outcome of Stereotype Threat

One of the main findings of stereotype threat research is that the apprehension of confirming a negative stereotype will lead to poorer performance on the stereotyped domain (Steele, 1997; Steele & Aronson, 1995; Steele, et al., 2002). This outcome has been demonstrated in a host of studies including some that have investigated math performance in women (Brown & Josephs, 1999; Spencer, et al., 1999), math performance in White men when compared to Asian men (Aronson et al., 1999), math and spatial performance in Latino men and women (Gonzales, Blanton & Williams, 2002), verbal performance in low vs. high SES individuals (Croizet & Claire, 1998), athletic ability in White and Black individuals (Stone, et al., 1999), and Blacks in reading and verbal reasoning (Steele & Aronson, 1995; Blascovich et al., 2001). While the majority of these studies have been conducted using undergraduates in an academic setting, the stereotype threat effect on performance has been demonstrated on Black

applicants in an employee selection scenario. Black applicants were shown to perform more poorly on a general cognitive ability test under stereotype-threatened conditions (Ployhart, Ziegert & McFarland, 2003). Taken together, stereotype threat seems to consistently inhibit performance across a variety of domains.

Cardiovascular Reactivity as an Outcome of Stereotype Threat

Increased cardiovascular reactivity may be another outcome of stereotype threat. An individual perceives discrimination and its accompanying stereotypes as stressful, thus experiencing stereotype threat during a relevant task, and exhibiting heightened cardiovascular reactivity as a response. While there is a paucity of research on cardiovascular reactivity to stereotype threat specifically, the results of one study indicated that Blacks exhibited increased blood pressure on a test when under conditions of stereotype threat compared to Blacks under non-diagnostic conditions (Blascovich et al., 2001). Therefore, reactions to negative stereotypes by Black individuals may be acting to increase blood pressure. This idea is supported by studies looking at perceived discrimination or interpersonal mistreatment, and elevated cardiovascular reactivity (Lepore et al., 2006; Guyll et al., 2001; Gentry, 1972). The reasoning here is that both perceived discrimination and stereotype threat are based on the existence of negative stereotypes, thus increased cardiovascular reactivity may result from both. Repeated subjection to stereotype threat may partly explain the increased incidence of cardiovascular disease among Blacks.

Possible Mediators and Moderators for Stereotype Threat

Given that the phenomenon of stereotype threat and its outcomes have not been completely explained, a multitude of moderators have been proposed. For example, some proposed situational moderators include task difficulty, frustration, test diagnosticity, and stereotype relevance. Generally, the more difficult and frustrating a task, the more likely it is to produce stereotype threat (Steele, et al., 2002). Also, stereotype threat effects emerge more often when a test is characterized as diagnostic rather than non-diagnostic (Salinas, 1998; Steele & Aronson, 1995). Moreover, when a negative stereotype about a group is made relevant prior to performance, it is more likely to induce stereotype threat effects (Aronson, et al., 1998; Steele, et al., 2002). Thus in the current study, the task will be announced as being difficult, diagnostic, and relevant to a negative stereotype prior to its administration in the stereotype-threatened condition.

Some individual difference moderators have also been suggested, including domain identification, identification with the stereotyped group, and stigma consciousness. Domain identification refers to how identified an individual is with a certain area of intellectual ability, such as mathematics or verbal skills. Generally, stereotype threat effects will emerge when an individual is highly identified with the tested domain (Brown, 2001) because they will be the most apprehensive about performing poorly and thus supporting negative stereotypes. The role of identification with the stereotyped group as a moderator has demonstrated equivocal results thus far. One study found that women performed more poorly on a math test when gender was an important part of their identity compared to other women for whom gender was not as

important (Schmader, 2002). In contrast, a study by Oyserman, Harrison & Bybee (2001) found that, among African American girls most identified with being black, racial identity in the fall predicted academic efficacy in the spring. Thus, it may depend on to which group you are identified and to what degree. Stigma consciousness is a third proposed individual difference moderator. Here, those highly conscious of stigmas attached to their group may be more subject to stereotype threat effects, as one study demonstrated (Brown & Pinel, 2003). If one is more conscious of stigmas, they will more readily come to mind during a stereotype-threatened task and thus one may be more apprehensive about confirming them. Finally, one mediator that has been studied is stereotype avoidance. This concept refers to one denying that certain negative stereotypes about their group are self-descriptive. As one study demonstrated, Black participants were less likely to positively rate stereotypically “Black” items before taking a diagnostic test, thus lending support for stereotype avoidance as a mediator for stereotype threat (Steele & Aronson, 1995).

Taken together, it seems there are a multitude of suggested moderators for stereotype threat. Each may play some role in explaining the relationship between stereotype threat and outcomes (e.g. self-handicapping, performance, cardiovascular reactivity) on certain tasks. However, there may be additional unexplored moderators.

Internalized Racism

Internalized racism is the acceptance of negative stereotypes about ethnic groups by members of ethnic groups (Jones, 2000). In other words, a member of a group believes the unfavorable messages regarding the abilities and worth of their group are

true. For Blacks, this might include believing that blacks are lazy and less valuable as human beings. It might also include believing that other races are better, and the positive stereotypes about them are true as well. Members of stigmatized groups with internalized racism will accept the stereotyped limitations about their group, and may consequently never extend enough effort to exceed those expectations. Internalized racism often manifests itself as self-devaluation, resignation, hopelessness, and helplessness.

It is important to note a related concept: internalized racialism. Internalized racialism is identifying with both positive and negative stereotypes about one's group whereas, according to Cokley (2002), internalized racism is the acceptance of negative stereotypes only about one's marginalized group. Given the exploratory nature of the literature in both of these areas and the close relatedness of the two concepts, internalized racism and internalized racialism have often been used interchangeably. Most of the studies currently in the literature investigate internalized racism. However, the only scale available to measure either of the two concepts is the Nadanolitization Scale (NAD: Taylor & Grundy, 1996; Taylor, Wilson & Dobbins, 1972), which was intended to measure internalized racialism. The majority of the studies on internalized racism have used the NAD, most likely because of its close relationship to the internalized racialism and because there exists no scale for internalized racism alone. It is also likely that future research will conclude that there is no meaningful difference between the two topics.

Because of the nature of internalized racism, it is the type of racism most likely to relate to stereotype threat and outcomes. This is because stereotype threat is a reaction demonstrated by an individual subject to stereotypes, and internalized racism is a set of

beliefs about stereotypes of one's group. Thus the effect stereotype threat has on outcomes is likely to be affected by internalized racism, as this paper will later explain in more detail.

Internalized Racism as an Individual Difference

While some amount of internalized racism most likely exists for all people, it varies across individuals, and Black individuals are no exception. While the concept of internalized racism surfaced several decades ago, it has not been extensively studied. There is a paucity of data on how internalized racism emerges, related moderators and mediators, and how it acts as an individual difference. To date, research has centered on correlates of internalized racism, such as marital distress and marital dissatisfaction (Taylor, 1992; Taylor, 1990). One study investigated the relationship between internalized racism, locus of control, and marital satisfaction in Black individuals (Washington, 1997). Internalized racism was inversely related to belief in chance (one aspect of locus of control), suggesting that those high in internalized racism tend to think that they do not have much control over the happenings in their life. A second study indicated a negative relationship between marital satisfaction and internalized racism (Taylor, 1990). Another study on domestic violence in Black families found that among those Black women who accepted abuse, internalized racism tended to be high (Brice-Baker, 1994). The researchers reasoned that internalized racism acted by lowering self-esteem in the Black women; making it less likely they would retaliate against an abusive spouse. Thus it seems that high internalized racism may be associated with an external

locus of control, low self-esteem and negative life outcomes such as marital dissatisfaction.

Internalized Racism as a Moderator for Stereotype Threat

Although it has not yet been investigated, internalized racism is a plausible moderator for stereotype threat, based on aforementioned moderators of stereotype threat. Identification with the stereotyped group, stigma consciousness, and stereotype avoidance are all closely related to internalized racism. First, internalized racism may itself be related to identification with the stereotyped group, such that those who are not strongly identified with the group may not internalize negative stereotypes about it. Conversely, it is also possible that those who are weakly identified with the group have internalized negative stereotypes, thus explaining their psychological distance. It is also possible certain individuals have a strong sense of ethnic pride and therefore do not accredit negative stereotypes about their group. Thus it seems possible that internalized racism may also be acting on stereotype threat through identification with the stereotype group. Second, stigma consciousness is closely tied to internalized racism because an individual's awareness of their stigmas is likely related to the level of internalization of attitudes about those stigmas. It seems likely that those that are constantly attending to their stigmas are more receptive to others' negative attitudes about them, or perhaps they are more resistant. Regardless of the exact mechanism, it remains likely that based on the possible relationship between internalized racism and stigma consciousness, there is a similar relationship between internalized racism and stereotype threat. Finally, stereotype avoidance is a concept that is certainly tied to internalized racism. Recall, that this

concept refers to one denying that certain negative stereotypes about their group are self-descriptive. This seems to capture the ideology of those with low internalized racism; they do not believe that negative attitudes about their group are relevant to themselves. Based on the fact that stereotype avoidance has already been established as a possible mediator to stereotype threat, it is also possible that a relationship exists between internalized racism and stereotype threat. Speculation is abundant on the precise relationship between identification with the stereotyped group, stigma consciousness, stereotype avoidance, stereotype threat, and internalized racism, but it remains plausible that there is a relationship, which lays the groundwork for a moderating role of internalized racism for stereotype threat.

Finally, some of the main researchers in the area of stereotype threat have suggested a relationship between internalizing negative group stereotypes and stereotype threat. Steele, Spencer and Aronson (2002) suggest, “the more a person has internalized the negative group stereotype, the less stereotype threat he or she may experience”. They explain that this is likely because accepting negative stereotypes about one’s group is likely coupled with disidentification with the domains of the stereotype (Steele, 1997). Based on this, it is plausible that internalized racism will moderate the relationship between stereotype threat and performance.

Taken together, evidence regarding the relationship among self-esteem, identification with the stereotyped group, stigma consciousness, stereotype avoidance, internalized racism and stereotype threat, as well as the endorsement of a relationship

between internalized racism and stereotype threat, make the suggestion of internalized racism as a moderator for stereotype threat founded.

Summary

In conclusion, disparities by ethnicity exist in the United States in work outcomes and cardiovascular disease. Reactions to stereotype threat, in the form of self-handicapping, performance decrements, and increased blood pressure may help explain those disparities. However, differences among Black individuals are also prevalent. Internalized racism may be moderating stereotype threat.

Purpose and Hypotheses

It is important to note that the population of interest in this study is Black employees, and the outcomes of interest are behavioral self-handicapping (failing to participate in activities to improve promotion potential), objective job performance, and cardiovascular reactivity. However, the current study is being conducted on Black undergraduates in a laboratory setting. The idea is that if support for the hypothesis can be demonstrated in a laboratory setting, there will be greater support for attempting this research in an applied setting.

The purpose of the current study is to investigate the moderating effect of internalized racism on self-handicapping, performance, and cardiovascular responses for Black individuals during a stereotype threat task. In the current study, participants were given a chance to practice for a task prior to being administered a diagnostic test. The practice gave participants the opportunity to engage in behavioral self-handicapping. Participants then completed a test and their blood pressure and performance were

monitored. Level of internalized racism was considered as a possible moderator for the relationship between stereotype threat and duration of practice (self-handicapping), performance, and cardiovascular responses.

Individuals with higher internalized racism have internalized many of the negative stereotypes about their group, such that they believe and accept these stereotypes, and may limit themselves based on them. These individuals are most likely not identified with domains in which negative stereotypes are prevalent because they accept those negative stereotypes. In contrast, individuals with lower internalized racism do not believe the negative stereotypes about their group. They are more likely to be identified with domains in which negative stereotypes are prevalent because they believe themselves to be capable of achieving in those domains. In the case of Blacks, those with high internalized racism are most likely not identified with academic or intellectual domains because negative stereotypes about Blacks permeate these areas. Thus, these individuals are least likely to experience stereotype threat because they do not identify with threatened domains, and identification with relevant domains is an important prerequisite for stereotype threat. However, Blacks with lower internalized racism are more likely to experience stereotype threat because they are identified with academic or intellectual domains and are apprehensive about confirming the negative stereotypes about their group through poor performance. Furthermore, because Blacks with higher internalized racism are less likely to experience stereotype threat, they may also be less likely to self-handicap and will likely experience smaller changes in blood pressure and poorer task performance compared to those with lower internalized racism, as they are

unconcerned with their performance. In contrast, Blacks with lower internalized racism may self-handicap more (to provide an alternate explanation for poor performance), experience higher changes in blood pressure (as they are more apprehensive about confirming the stereotypes), and perform better on the task (because they are concerned with their performance and will try harder).

Hypothesis 1. Black individuals with higher internalized racism will engage in more practice prior to a diagnostic test compared to Black individuals with lower internalized racism. There will be no differences based on internalized racism in duration of practice on the non-diagnostic test.

Hypothesis 2. Black individuals with higher internalized racism will perform similarly to individuals with lower internalized racism on the non-diagnostic test. However, on the diagnostic test, individuals with higher internalized racism will perform more poorly than individuals with lower internalized racism.

Hypotheses 3. Black individuals with higher internalized racism will exhibit smaller changes in systolic blood pressure responses during a diagnostic test compared to Black individuals with lower internalized racism. Cardiovascular reactivity will be similar for individuals with high and low internalized racism on the non-diagnostic test.

Hypotheses 4. Black individuals with higher internalized racism will exhibit smaller changes in diastolic blood pressure responses during a diagnostic test compared to Black individuals with lower internalized racism. Cardiovascular reactivity will be similar for individuals with high and low internalized racism on the non-diagnostic test.

Hypotheses 5. Black individuals with higher internalized racism will exhibit smaller changes in heart rate responses during a diagnostic test compared to Black individuals with lower internalized racism. Cardiovascular reactivity will be similar for individuals with high and low internalized racism on the non-diagnostic test.

Chapter Two

Method

Participants

A total of 377 individuals participated in at least one part of the study. However, given there were several phases of the study, only 109 (84% female; 16% male) successfully completed all parts of the study and were included in the analyses. All participants were Black undergraduates recruited from the University of South Florida Psychology department's human participant pool. All participants were recruited on web-based software, Experimentrak. Mean age was 20.87 ($SD = 3.69$). Of the 39 people who reported employment information, 15% were employed 20 or more hours per week. Potential participants were excluded from participation if they had a history of cardiovascular disease or if they were taking any medications that may affect the cardiovascular system. Individuals received course credit or extra credit for their participation in designated psychology courses.

Measures

Demographic data. Prior to arrival on the day of the experiment, demographic data was collected online via Experimentrak. This information included: sex, age, ethnicity, employment information, and cardiovascular history.

Internalized racism. Prior to arrival on the day of the experiment, participants completed the internalized racism questionnaire online using Experimentrak. Internalized racism was assessed using the Nadanolitization Scale (NAD) developed by Taylor, Wilson & Dobbins (1996). The NAD includes 49 items designed to measure the extent to which Blacks identify with White stereotypes about Blacks. Subjects rate each item from a 0-8 scale (Not-at-all-agree to Entirely agree). Fifteen items are reversed scored (2, 3, 7, 8, 11, 12, 14, 15, 16, 18, 19, 24, 34, 40, and 48), and the overall score range is 0-194. A total score is calculated by adding the responses to all 49 items. The measure has exhibited adequate reliability ($\alpha = 0.81$). There are also two subscales that can be computed: the Racist subscale and the Social subscale. The Racist subscale (items 4, 5, 9, 13, 17, 20, 21, 26, 28, 29, 30, 31, 32, 34, 35, 36, 37, 38, 39, 44, 45, 46, 47, 49) measures attitudes and behaviors organized around the assumption that blacks are biologically or genetically inferior. The Social subscale (items 1, 2, 3, 6, 7, 8, 10, 11, 12, 14, 15, 16, 18, 19, 22, 23, 24, 25, 27, 33, 40, 41, 42, 43, 48) measures attitudes or behaviors that are organized around the idea that blacks are interpersonally different from other groups. Information about the NAD is located in Appendix A.

Practice items. Included in the practice items are 100 roots of words and their meanings presented on Powerpoint slides. The practice items were presented on a computer monitor, and subjects navigated through the slides at their discretion using a keyboard. The content of the practice slides is independent of the content of the verbal test, such that amount of practice will not influence performance on the verbal test. The

duration of practice in total seconds was recorded as the measure of self-handicapping. A sample of the practice items is included in Appendix B.

Verbal test. The verbal test included 30 questions adapted from the verbal section of the Graduate Record Examination (GRE). All questions are designed to be difficult, such that no more than 10% of the people taking test chose the right answer. The 30 questions of verbal ability are broken down into 10 sentence completion, 10 analogies, and 10 antonyms presented in that order on the test. The test format is designed to mimic real standardized testing formats. The test was presented as a computer response task, such that participants view each question on a computer monitor and mark their answer by using a keyboard. A digital clock was located next to the keyboard so that the subjects could monitor their time. The number of correctly answered test items will serve as the measure of task performance. A copy of the verbal test is included in Appendix C.

Cardiovascular reactivity. Three measures of cardiovascular reactivity were taken: systolic blood pressure (SBP), diastolic blood pressure (DBP), and heart rate (HR). These were recorded using an Accutorr Plus non-invasive blood pressure monitor (Datascope Corp., Mahwah, NJ) while the participant was in a seated position. Readings were taken from a blood pressure cuff applied to the non-dominant arm. Three readings were taken at minutes 6, 8, and 10 during a 10-minute resting baseline period. Seventeen readings, in 2-minute intervals beginning at minute 0, were taken during the verbal test. Cardiovascular reactivity for all three indicators was calculated as the difference between the average of the first three verbal test readings and the average of the three baseline readings. The guidelines for recording the blood pressure were followed as documented

in a committee report by Shapiro, Jamner, Lane, Light, Myrtek, Sawada & Steptoe (1996).

Procedure

All questionnaires were completed prior to arrival on the day of the study using Experimentrak. For consistency, a White, female experimenter conducted all studies. It has been proposed that mistrust of whites may help explain disparities in test performance, when Blacks take tests of intellectual ability administered by Whites (Terrell, Terrell, & Taylor, 1981). Thus the presence of a White experimenter was employed to help precipitate stereotype threat. When the participants arrived, they were briefed on the procedure and asked to review an informed consent form. Their height and weight, as well as waist and hip circumference was then recorded. The participants were then moved to a small, private room where they performed the remainder to the tasks on a computer. Prior to the start of the tasks, a blood pressure cuff appropriate to the size of the participant's arm was applied, and they were informed that the cuff will monitor their heart rate and blood pressure for the duration of the study. The participants watched ten minutes of a video about Hawaii during which three baseline blood pressures were taken. This step is taken to ensure that the subject's blood pressure falls to a resting level before the start of the tasks, and to establish a baseline blood pressure for each participant.

During baseline each participant was assigned randomly to one of the two experimental groups: diagnostic or non-diagnostic. Then all participants, regardless of experimental condition, were told that they will be given the chance to practice for a verbal test prior to its administration. They were told that they must practice for at least

one minute, and may view the slides for as long as they want after that. The total seconds that the participants spend practicing was recorded with a stopwatch. Their blood pressure was taken at the start of practice, and every five minutes thereafter. The non-diagnostic group was told they will be taking a verbal test that is currently being developed for psychology students, and their responses will help in the refinement of the test. The diagnostic group was told that they will be taking a difficult test of verbal ability that has shown ethnic differences in verbal aptitude. The script for delivering the experimental manipulation is included in Appendix D.

When the participant had completed the practice, they were instructed to begin the test of verbal ability on the computer. Before the start of the test, participants were reminded of the purpose of this test. The non-diagnostic group was told they are taking a developmental test for psychology students, and that their answers would help with the refinement of that test. They were assured that the researchers were mainly concerned with how they answered, and not if their answers were correct. The diagnostic group was told they are about to take a difficult test of verbal ability that has shown ethnic differences in the past, and that the purpose of the experiment is to investigate why Black students typically perform more poorly than White students on tests of verbal ability. All participants were told they have 30 minutes to complete the test. They were allowed to spend as much time as needed on any individual item, but they were instructed to spend no more than one minute on any question to be able to complete all 30 questions within thirty minutes. Participants were able to monitor their time using a digital clock. The participant's blood pressures were recorded at the start of the test and every two

minutes thereafter. The computer program recorded the number of correctly answered responses.

At the conclusion of the study, the blood pressure cuff was removed and the participants completed a questionnaire asking their perceived purpose of the experiment. After all tasks have been completed, the subject was debriefed and credit was assigned on Experimentrak.

Data Analyses

Hypothesis one was tested with moderated regression. Condition (Diagnostic vs. Non-diagnostic test), Internalized Racism (continuous) and their interaction (multiplicative interaction term) were entered as predictors for practice time in seconds as an indicator of self-handicapping. Hypothesis two was similarly tested. Condition (Diagnostic vs. Non-diagnostic), Internalized Racism (continuous), and their interaction (multiplicative interaction term) were entered as predictors for task performance as number of correctly answered items. Hypotheses 3-5 were also tested with moderated regression. Condition (Diagnostic vs. Non-diagnostic test), Internalized Racism (continuous) and their interaction (multiplicative interaction term) were entered as predictors for systolic blood pressure reactivity, diastolic blood pressure reactivity, and heart rate reactivity with the appropriate baseline value of each entered as a covariate. Baseline values are often correlated with reactivity scores because change from a starting value is in part determined by the starting value when upper and lower limits of the degree of change are fixed (i.e., the law of initial values).

Chapter Three

Results

There were 55 participants in Diagnostic condition and 54 participants in the Non-Diagnostic condition. There were an equal proportion of men and women within each group, but an unequal proportion of men to women in the study overall. Additionally, the average baseline systolic blood pressure and heart rate were significantly different between men and women. Males ($M = 121.41$, $SD = 8.39$) exhibited a significantly higher SBP compared to females ($M = 108.75$, $SD = 10.19$), ($t(113) = -4.84$, $p = .000$). On the other hand, females ($M = 74.36$, $SD = 9.50$) exhibited a significantly higher HR compared to males ($M = 65.96$, $SD = 10.58$), ($t(113) = 3.31$, $p = .001$). Given the unequal amounts of men and women in the experiment overall, as well as the baseline difference in cardiovascular measures, gender was also used as a covariate in analyses involving SBP, DBP, and HR. There were no significant baseline differences between the diagnostic or non-diagnostic group on any cardiovascular reactivity measure.

The hypotheses were tested with the total score on the Nadanolitization scale (NAD) as an independent variable. However, exploratory analyses were also performed with the two subscales (Racist and Social) as independent variables in separate analyses. The NAD ($M = 102.88$, $SD = 38.61$) exhibited alpha reliability similar to that reported in

previous studies ($\alpha = .89$). The Racist subscale ($M = 49.26, SD = 24.61$) and the Social subscale ($M = 53.63, SD = 19.08$) both exhibited reliability similar to the NAD scale as a whole ($\alpha = .88$ vs. $\alpha = .78$). Each regression was tested for normality, homogeneity of variance, outliers, and multicollinearity. Overall, none of these issues posed a problem. Table 1 includes descriptive statistics, reliabilities, and correlations for all of the studied variables.

Table 1

Correlations among variables and Descriptive Statistics

		1	2	3	4	5	6	7	8	9	10
1	NAD	.89									
2	Racist NAD	.911*	.88								
3	Social NAD	.847*	.553*	.78							
4	Self-handicapping	.168	.172	.116	--						
5	Test Performance	-.195	-.215	-.121	.073	.73					
6	SBP reactivity	-.007	-.011	.000	-.159	.086	--				
7	DBP reactivity	-.026	.005	-.057	.071	.084	.125	--			
8	HR reactivity	.044	.070	-.003	-.043	.218*	.143	.416*	--		
9	Condition	.000	.014	-.018	.012	.119	.259*	.066	.161	--	
10	Gender	.159	.175	.096	.024	.051	.047	.033	.134	-.039	--
	Mean	102.8	49.2	53.6	769.5	11.8	1.2	1.1	2.6		
	SD	38.6	24.6	19.1	476.5	4.4	6.2	4.6	4.8		

* $p < .05$

Hypothesis 1 stated that Black individuals with higher internalized racism would engage in more practice prior to a diagnostic test compared to Black individuals with lower internalized racism, and that duration of practice will be similar for both groups on the non-diagnostic test. Duration of practice was the operationalization of self-handicapping. The hypothesis was not supported. There was, however, a marginally significant main effect for internalized racism ($\beta = .168, t(107) = 1.1765, p = .080$). Participants practiced longer as level of internalized racism increased. When the Racist subscale was entered into the model instead of the total NAD, a similar marginal result is found ($\beta = .173, t(107) = 1.811, p = .073$). However, when the Social subscale was entered, no part of the model was supported. Results of the moderated regressions are shown in Table 2. Overall, participants practiced an average of 769.55 seconds ($SD = 476.59$), or approximately 13 minutes.

Table 2

Results of Moderated Regression (Dependent Variable = Self-handicapping)

Study	Model	Variable	<i>B</i>	SE	<i>t</i>	<i>p</i>	<i>R</i> ²
1	1	NAD	2.146	1.215	1.765	.080	
		Condition	5.375	91.313	.059	.953	.028
	2	NAD	2.012	1.727	1.165	.247	
		Condition	-21.824	265.467	-.082	.935	
		Interaction	.267	2.442	.109	.913	.028
2	1	Racist NAD	3.428	1.894	1.811	.073	
		Condition	8.182	91.330	.090	.929	.030
	2	Racist NAD	3.807	2.671	1.425	.157	
		Condition	45.609	206.774	.221	.826	
		Interaction	-.768	3.805	-.202	.840	.030
3	1	Social NAD	2.954	2.456	1.203	.232	
		Condition	-1.015	91.906	1.203	.991	.013
	2	Social NAD	1.682	3.467	.485	.629	
		Condition	-137.895	278.241	-.496	.621	
		Interaction	2.570	4.928	.521	.603	.016

* $p < .05$

Hypothesis 2 stated that Black individuals with higher internalized racism would perform similarly to individuals with lower internalized racism on the non-diagnostic test. However, on the diagnostic test, individuals with higher internalized racism would

perform more poorly than individuals with lower internalized racism. It should be noted that data was collected for only 86 participants due to attrition and technical difficulties early in the study. This hypothesis was not supported. Again, however, there were marginally significant main effects for total internalized racism ($\beta = -.188$, $t(79) = -1.699$, $p = .093$) as well as the Racist subscale ($\beta = -.208$, $t(79) = -1.884$, $p = .063$), but no support for the model including the Social subscale as a predictor. There was a trend for test score to decrease as internalized racism increased. Results of the moderated regressions are shown in Table 3. Overall, participants received a score of 39% on the test, which exceeded expectations about the difficulty of the measure.

Table 3

Results of Moderated Regression (Dependent Variable = Test Performance)

Study	Model	Variable	<i>B</i>	SE	<i>t</i>	<i>p</i>	<i>R</i> ²
1	1	NAD	-.020	.012	-1.699	.093	
		Condition	.646	.994	.650	.518	.043
	2	NAD	-.012	.016	-.741	.461	
		Condition	2.632	2.703	.974	.333	
		Interaction	-.019	.024	-.790	.432	.051
2	1	Racist NAD	-.036	.019	-1.884	.063	
		Condition	.617	.991	.622	.536	.051
	2	Racist NAD	-.023	.025	-.911	.365	
		Condition	2.241	2.144	1.045	.299	
		Interaction	-.033	.039	-.855	.395	.060
3	1	Social NAD	-.025	.025	-1.037	.303	
		Condition	.744	1.003	.742	.460	.021
	2	Social NAD	-.011	.034	-.312	.755	
		Condition	2.418	2.869	.843	.402	
		Interaction	-.031	.049	-.623	.535	.026

Hypotheses 3 stated that Black individuals with higher internalized racism would exhibit smaller changes in SBP during a diagnostic test compared to Black individuals with lower internalized racism. Systolic blood pressure would be similar for individuals

with high and low internalized racism on the non-diagnostic test. This hypothesis was partially supported. Results indicated a main effect for condition ($\beta = .771, t(103) = 2.877, p = .005$) such that participants in the diagnostic condition experienced greater SBP reactivity ($M = 2.15, SD = 4.22$) compared participants in the non-diagnostic condition ($M = -.37, SD = 4.31$). Results also indicate a marginally significant main effect for internalized racism ($\beta = .240, t(103) = 1.848, p = .067$). Similarly, there was a marginally significant interaction effect for internalized racism in the relationship between condition and SBP ($\beta = -.545, t(103) = -1.956, p = .053$) in the hypothesized direction. In the diagnostic group, internalized racism was negatively related to systolic blood pressure reactivity such that those with higher internalized racism exhibited less SBP reactivity compared to those with lower in internalized racism. However, in the non-diagnostic group, there was an opposite trend. Those higher in internalized exhibited greater SBP reactivity. Again, there were similar findings for the Racist subscale of the NAD. When this subscale is used as a predictor, there was a significant main effect for condition ($\beta = .677, t(103) = 3.260, p = .002$), as well as a significant main effect for Racist internalized racism ($\beta = .271, t(103) = 2.103, p = .038$), and a significant interaction ($\beta = -.471, t(103) = -2.125, p = .036$). When the Social subscale is used as a predictor, there was only a significant main effect for condition ($\beta = .276, t(103) = 2.960, p = .004$). Results of the moderated regression are located in Table 4.

Table 4

Results of Moderated Regression (Dependent Variable = SBP Reactivity)

Study	Model	Variable	B	SE	t	p	R ²
1	1	Gender	1.560	1.306	1.194	.235	.029
		Baseline systolic BP	-.085	.049	-1.735	.086	
	2	Gender	1.398	1.276	1.096	.276	.108*
		Baseline systolic BP	-.075	.047	-1.576	.118	
		NAD	.007	.011	.668	.506	
		Condition	2.462	.822	2.995	.003	
	3	Gender	1.710	1.269	1.348	.181	.140†
		Baseline systolic BP	-.090	.047	-1.901	.060	
		NAD	.028	.015	1.848	.067	
		Condition	6.811	2.367	2.877	.005	
		Interaction	-.043	.022	-1.956	.053	
	2	1	Gender	1.560	1.306	1.194	.235
Baseline systolic BP			-.085	.049	-1.735	.086	
2		Gender	1.352	1.276	1.060	.292	.111*
		Baseline systolic BP	-.075	.047	-1.595	.114	
		Racist NAD	.015	.017	.865	.389	
		Condition	2.481	.822	3.020	.003	
3		Gender	1.804	1.273	1.417	.160	.148*
		Baseline systolic BP	-.093	.047	-1.961	.053	
		Racist NAD	.050	.024	2.103	.038	
		Condition	5.983	1.835	3.260	.002	
		Interaction	-.073	.034	-2.125	.036	
3		1	Gender	1.560	1.306	1.194	.235
	Baseline systolic BP		-.085	.049	-1.735	.086	
	2	Gender	1.492	1.271	1.174	.243	.105*
		Baseline systolic BP	-.073	.047	-1.545	.125	
		Social NAD	.005	.022	.226	.822	
		Condition	2.435	.823	2.960	.004	
	3	Gender	1.551	1.270	1.221	.225	.117
		Baseline systolic BP	-.079	.048	-1.668	.098	
		Social NAD	.030	.031	.970	.335	
		Condition	5.133	2.475	2.074	.041	
		Interaction	-.051	.044	-1.155	.251	

* p < .05

† p < .10

Hypotheses 4 stated that Black individuals with higher internalized racism would exhibit less DBP reactivity during a diagnostic test compared to Black individuals with lower internalized racism, and DBP reactivity will be similar for individuals with high and low internalized racism on the non-diagnostic test. Hypothesis 4 was not supported when the total score for the NAD was entered into the model, nor when either of the subscales were used. Results of the moderated regression are located in Table 5.

Table 5

Results of Moderated Regression (Dependent Variable = DBP Reactivity)

Study	Model	Variable	<i>B</i>	SE	<i>t</i>	<i>p</i>	<i>R</i> ²
1	1	Gender	.716	1.158	.619	.438	.140
		Baseline diastolic BP	-.286	.069	-4.135	.000	
	2	Gender	.773	1.186	.652	.516	.144
		Baseline diastolic BP	-.284	.070	-4.081	.000	
		NAD	-.002	.012	-.154	.878	
		Condition	.605	.847	.714	.477	
	3	Gender	.819	1.192	.687	.494	.147
		Baseline diastolic BP	-.291	.071	-4.108	.000	
		NAD	.005	.016	.290	.771	
		Condition	1.954	2.488	.786	.434	
		Interaction	-.013	.023	-.577	.565	
	2	1	Gender	.716	1.158	.619	.538
Baseline diastolic BP			-.286	.069	-4.135	.000	
2		Gender	.709	1.189	.597	.552	.144
		Baseline diastolic BP	-.285	.070	-4.091	.000	
		Racist NAD	.002	.018	.131	.896	
		Condition	.621	.847	.733	.465	
3		Gender	.796	1.200	.663	.509	.148
		Baseline diastolic BP	-.291	.071	-4.131	.000	
		Racist NAD	.013	.025	.543	.588	
		Condition	1.756	1.933	.908	.366	
		Interaction	-.024	.036	-.654	.515	
3		1	Gender	.716	1.158	.619	.538
	Baseline diastolic BP		-.286	.069	-4.135	.000	
	2	Gender	.800	1.172	.683	.496	.146
		Baseline diastolic BP	-.283	.070	-4.068	.000	
		Social NAD	-.011	.023	-.471	.638	
		Condition	.603	.844	.714	.477	
	3	Gender	.799	1.178	.678	.499	.147
		Baseline diastolic BP	-.286	.071	-4.055	.000	
		Social NAD	-.004	.032	-.121	.904	
		Condition	1.343	2.574	.522	.603	
		Interaction	-.014	.046	-.305	.761	

Hypotheses 5 stated that Black individuals with higher internalized racism would exhibit less HR reactivity during a diagnostic test compared to Black individuals with lower internalized racism, and HR reactivity will be similar for individuals with high and low internalized racism on the non-diagnostic test. This hypothesis was partially supported. There was a marginally significant main effect for condition ($\beta = .162, t(104) = 1.799, p = .075$) when total NAD was entered as a predictor. Similarly, there is a marginally significant main effect for condition ($\beta = .164, t(104) = 1.818, p = .072$) when the Racist NAD is entered into the model, as well as when the Social NAD is entered into the model ($\beta = .161, t(104) = 1.788, p = .077$). The diagnostic group experienced a greater increase in heart rate ($M = 3.37, SD = 5.32$) compared to the non-diagnostic group ($M = 1.81, SD = 4.18$). Results of the moderated regression are located in Table 6.

Table 6

Results of Moderated Regression (Dependent Variable = HR Reactivity)

Study	Model	Variable	<i>B</i>	SE	<i>t</i>	<i>p</i>	<i>R</i> ²
1	1	Gender	.301	1.232	.244	.808	.136
		Baseline heart rate	-.171	.045	-3.814	.000	
	2	Gender	.299	1.241	.241	.810	.162
		Baseline heart rate	-.174	.045	-3.904	.000	
		NAD	.002	.012	.164	.870	
		Condition	1.531	.851	1.799	.075	
	3	Gender	.322	1.246	.259	.796	.164
		Baseline heart rate	-.176	.045	-3.920	.000	
		NAD	.008	.016	.496	.621	
		Condition	2.809	2.484	1.131	.261	
		Interaction	-.013	.023	-.548	.585	
	2	1	Gender	.301	1.232	.244	.808
Baseline heart rate			-.171	.045	-3.814	.000	
2		Gender	.247	1.242	.199	.842	.163
		Baseline heart rate	-.173	.045	-3.886	.000	
		Racist NAD	.007	.018	.398	.692	
		Condition	1.547	.851	1.818	.072	
3		Gender	.278	1.251	.222	.825	.164
		Baseline heart rate	-.175	.045	-3.884	.000	
		Racist NAD	.013	.025	.521	.603	
		Condition	2.139	1.940	1.102	.192	
		Interaction	-.012	.036	-.340	.735	
3		1	Gender	.301	1.232	.244	.808
	Baseline heart rate		-.171	.045	-3.814	.000	
	2	Gender	.355	1.231	.288	.774	.162
		Baseline heart rate	-.174	.045	-3.915	.000	
		Social NAD	-.004	.023	-.179	.859	
		Condition	1.518	.849	1.788	.077	
	3	Gender	.339	1.235	.275	.784	.165
		Baseline heart rate	-.175	.045	-3.921	.000	
		Social NAD	.010	.032	.321	.749	
		Condition	3.080	2.567	1.200	.233	
		Interaction	-.029	.046	-.645	.520	

Taken together, there was limited support for the hypotheses presented in the study. The most significant finding was the moderation of internalized racism in the relationship between stereotype threat and SBP reactivity.

Chapter Four

Discussion

The purpose of the current study was to investigate the moderating effect of internalized racism in the relationship between stereotype threat and several outcomes including self-handicapping, test performance, systolic blood pressure, diastolic blood pressure, and heart rate. Five hypotheses were tested with five moderated regressions.

The first hypothesis stated that participants in the diagnostic condition with lower internalized racism would engage in less practice than participants with higher internalized racism, while there would be no differences in the non-diagnostic condition. The rationale for the diagnostic group was that individuals with lower internalized racism do not accept the negative stereotypes about their group, and thus they would be more worried about confirming those stereotypes by performing poorly on the verbal test. This worry would lead them to engage in more self-handicapping (i.e. less practice). However, there should be no difference based on internalized racism in the non-diagnostic condition because participants are not being exposed to stereotype threat. Regardless of what version of the NAD was used in the regression model, the hypothesis was not supported. There was, however, a marginal main effect for internalized racism when the total NAD or Racist NAD were used as predictors. In other words, there was a

trend for individuals high in internalized racism to spend more time practicing than those low in internalized racism regardless of condition. This suggests that internalized racism may impact self-handicapping. Black individuals who do not accept the negative stereotypes about their group may engage in self-handicapping prior to academic performance as a way to attribute possible poor performance to lack of practice or studying. Black individuals higher on internalized racism believe the negative stereotypes about their group, thus are not looking for an alternate attribution to poor academic performance.

The lack of a main effect for condition could be attributed to a number of factors. One may be the way the protocol was delivered to participants. When participants in the diagnostic group were given instructions for the practice portion of the experiment, they were told “Later you are going to take a difficult test of verbal ability. This test has been adapted from the SAT and has shown ethnic differences in performance”. This statement was designed to be ambiguous, yet to elicit feelings of stereotype threat. Right before they completed the verbal test portion of the experiment, they were told “Now you are going to take the difficult test of verbal ability. The test has been adapted from the SAT and has shown ethnic differences in performance. Part of the purpose of this experiment is to investigate why Black students typically perform more poorly than White students on tests of verbal ability”. These instructions were designed to elicit a much stronger stereotype threat. The practice instructions were intentionally weaker due to fears that participants might habituate to the stereotype threat and that cardiovascular reactivity may have been compromised. However, this may have had the unintended effect of

weakening the situation before practice. This may help explain why a main effect for condition as well as an interaction was not found: stereotype threat was not properly elicited before practice, and thus self-handicapping was not sought by certain individuals in the diagnostic group.

Another explanation for these findings is the type of self-handicapping studied. In the current experiment, participants were given a chance to behaviorally self-handicap by failing to engage in practice prior to a verbal test. However, verbal self-handicapping, or providing verbal reasons for future poor performance, was not studied. It is possible that internalized racism may impact verbal self-handicapping more so than behavioral self-handicapping. Individuals low on internalized racism are more apprehensive about confirming negative stereotypes, yet they still want to perform well to disprove them. Thus, they may avoid behavioral self-handicapping as it could actually inhibit their performance. Verbal self-handicapping, on the other hand, is less likely to inhibit performance, and thus may be a more attractive strategy for Black individuals with low internalized racism. Future studies may want to investigate this possibility.

Third, the lack of a main effect in this analysis may be impacted by the nature of the stereotype elicited. Prior research supporting behavioral self-handicapping in response to stereotype threat has been conducted on White participants in an athletic ability task (Stone, 2002). These participants exhibited self-handicapping (i.e. lack of practice) when put under stereotype threat for athletic ability. However, a second stereotype, “laziness”, could be associated with amount of practice. Laziness is not a stereotype attributed to White individuals, thus the participants in Stone’s (2002) study

may not have been worried about confirming this second laziness stereotype. On the other hand, laziness is a stereotype attributed to Black individuals. If a second form of stereotype threat was inadvertently elicited through the practice task, this may have confounded the results. It should be noted that while practice times were generally low (about 12 minutes, the standard deviation was large ($SD \sim 8$ minutes) and practice times ranged from 97 seconds to 34 minutes. Perhaps another unstudied variable (e.g. prior experience with laziness-related racism, hopelessness or disengagement when encountering the possibility of confirming two stereotypes, conscientiousness), combined with the weak stereotype threat condition prior to the practice task, could better explain the results. Finally, it is also important to note that this study was conducted in an artificial lab setting and participants had no incentive to practice or to do well on the verbal test, thus this may have impacted practice time as well.

The second hypothesis stated that Black individuals higher in internalized racism would perform similarly to individuals lower in internalized racism on the non-diagnostic test, whereas on the diagnostic test, higher internalized racism would be related to poorer performance. This hypothesis was not supported. However, there was a marginally significant main effect for internalized racism when the NAD or Racist NAD was used as a predictor. The results suggested a trend such that Black individuals with lower internalized racism answered more items correctly than individuals with higher internalized racism.

The lack of a main effect for condition is troubling, because a performance decrement under stereotype threat is a main finding in the literature. In the current study,

participants were alone in a room while taking the test. Previous stereotype threat studies have been conducted with participants in groups (e.g. Spencer et al., 1999) as well as with single participants (e.g. Steele & Aronson, 1995). Although, it is unclear from many of the single-participant studies whether or not the participants shared a room with the experimenter while taking the test. Thus, it is possible that taking a test in complete isolation mitigates the typical impact of stereotype threat on performance. The significant main effect in the SBP and HR analyses seem to counter this argument, but it should be noted that these were calculated using only the first three readings on the testing session.

An item analysis was conducted to investigate whether the properties of the test could have been contributing to the results. The p-values (item means) and standard deviations were typical of a difficult test and were generally unrevealing. However, the participants performed better on the verbal test overall than anticipated (39% correct vs. 10-15% correct). It is possible that the version of the test proved too easy, and thus impacted the results. Alpha was sufficient ($\alpha = .73$), and item results for alpha if item deleted failed to reveal troublesome items. Next, the moderated regression was re-analyzed with test score calculated as the first ten items only, given that fatigue could have been a problem in this lengthy experiment. This was similarly unrevealing. Finally, several other stereotype threat studies utilizing ability tests have covaried SAT score in the analyses. This information was collected as part of another study, and the item was answered on a Likert scale. However, when the moderated regression was reanalyzed with prior SAT score as a covariate, the results were unchanged.

The third hypothesis stated that black individuals with higher internalized racism would exhibit less SBP reactivity during a diagnostic test compared to black individuals with lower internalized racism, while SBP reactivity should be similar for individuals with high and low internalized racism on the non-diagnostic test. There is partial support for this hypothesis when total NAD was used as a predictor, and full support for the model when the Racist NAD was used. In other words, there was support for a moderating effect of internalized racism in the relationship between stereotype threat and SBP reactivity. In the diagnostic condition, individuals with lower internalized racism exhibited greater SBP reactivity than individuals with higher internalized racism. Thus, if one has lower internalized racism, there is a greater stress response to stereotype threat. This aligns with the reasoning that an individual with low internalized racism does not accept the negative stereotypes about their group and thus is more anxious about confirming those negative stereotypes when they are activated in a relevant performance domain.

The fourth hypothesis stated that Black individuals with high internalized racism were hypothesized to exhibit less DBP reactivity during a diagnostic test compared to Black individuals with low internalized racism, and reactivity will be similar for individuals with high and low internalized racism on the non-diagnostic test. However, regardless of the form of the NAD entered into the model, this hypothesis was not supported. A significant finding for SBP but not DBP in studies involving Black participants and race-related stress is not unprecedented (Clark, 2006), and may result from SBP indicating cardiac reactivity while DBP indicates vascular reactivity.

Finally, the fifth hypothesis stated that Black individuals with higher internalized racism will exhibit less HR reactivity during a diagnostic test compared to Black individuals with lower internalized racism, and reactivity will be similar for individuals with high and low internalized racism on the non-diagnostic test. This hypothesis was partially supported. Here, there was a marginally significant main effect for condition when any of the three forms of the NAD were entered in the model; HR reactivity was greater in the diagnostic condition compared to the non-diagnostic condition. It seems that the stress related to stereotype threat emerges regardless of level of internalized racism; just mentioning that Blacks typically perform more poorly than Whites on tests of verbal ability may have caused an increase in heart beats per minute.

While there are a host of explanations for some of the findings in this study individually, there are two additional explanations for the pattern of results as a whole. The first regards domain identification. An important assumption in eliciting stereotype threat is that the target is highly identified with the domain of interest (Steele & Aronson, 1995). Some previous studies have ensured this by screening out participants with low standardized test scores or low self-reported domain identification. However, this was not done in the present investigation. It is possible that the present sample is not as identified with verbal ability as students at more prestigious four-year universities. If this were the case, the participants would not be looking for alternate attributions for poor performance (i.e. would not self-handicap) and would not try their best on the verbal test as they would be unconcerned with their performance. This would help explain the lack of group differences on these two outcomes.

A second explanation for the pattern of findings regards the instructions used to manipulate stereotype threat. Stereotype threat is typically manipulated in one of two ways. In the first, the diagnostic group is told they are going to be taking a diagnostic test of some ability while the non-diagnostic group is told they are taking a test for developmental purposes and no mention of ability is made. In the second, the diagnostic group, in addition to being told that they are to take a difficult test of some ability, is told that one group typically outperforms another group (e.g. Asians outperform Whites in math), and in the non-diagnostic group there is no mention of ethnic differences or it is specifically said that there are no ethnic differences on this ability. However, upon review of the literature, only one published study with Black participants in cognitive ability used the second type of manipulation (Blascovich, et al., 2001). Furthermore, this study used the Remote Associates Test which measures verbal ability in a different way than the current study. The remainder of the studies with Black participants always used the first type of stereotype threat manipulation (i.e. no specific mention of ethnic differences). It is possible that the experience of stereotype threat by Black individuals is different when it is explicitly said that there are ethnic differences on verbal ability prior to taking a verbal test. The stereotypes regarding cognitive differences between Blacks and Whites are arguably more pervasive or more troubling than the stereotypes for differences between men and women, for example. Perhaps stating that Blacks typically perform more poorly than Whites on tests of verbal ability has a different effect than merely stating that the test is designed to measure verbal ability. By framing the characteristics of the test as fact, participants viewed them as inevitability and withdrew

effort. This would explain why there were no group differences on self-handicapping and test performance, yet significant cardiovascular reactivity. Rather than eliciting stereotype threat, the instructions may have been merely stressing the participants by reminding them of academic trends for their race. Interestingly, low domain identification and improper stereotype threat manipulation could have been working in concert to impact the findings. Future studies may want to compare types of instructions for different groups of individuals, as well as measure and compare domain identification.

Overall, results were stronger when the Racist NAD was used over the total NAD, and no significant findings resulted from the use of the Social NAD. Recall that the Racist NAD measures feelings of internalized racism originating from the idea that Blacks are genetically inferior to Whites, and the Social NAD measures feelings of internalized racism originating from the idea that Blacks are socially different from Whites. It appears from the findings that accepting the negative stereotypes about Blacks as a group based on genetic inferiority has a much stronger impact on the relationship between stereotype threat and outcomes. Genetic inferiority is likely assumed to be unchangeable, and beliefs regarding this issue are probably deep-seated and emotionally-driven. Thus, when put in a stereotype-threatened situation, these genetic-based negative stereotypes may arise more so than socially-based stereotypes, especially since the comparatively poor performance of Black individuals on verbal tests is stereotypically believed to be because “Blacks aren’t as smart as Whites”. From the findings in this

study, future researchers may want to include the Racist NAD over the total NAD, especially because half the items are needed.

Limitations and Future Directions

The sample characteristics were likely the biggest limitation in the current study. The restricted age range as well as educational background makes it difficult to generalize to other populations. Since the majority of participants were young, it is difficult to discuss cardiovascular reactivity in response to stereotype threat in older populations. Similarly, including participants with a more diverse educational background would also be beneficial, since internalized racism and stereotype threat is likely different among individuals who did not attend college, or perhaps attended a trade/vocational school instead of a 4-year university. The stereotype threat literature as a whole would benefit from these improvements, since most studies have been conducted on undergraduates.

Also, the operationalization of self-handicapping may have been problematic. While previous studies have used practice before a test as a form of self-handicapping (Stone et al., 1999), there are many other forms of self-handicapping which were not investigated (e.g. claiming lack of sleep). Future studies may want to investigate other types of self-handicapping which are used by individuals with differing levels of internalized racism.

Finally, motivation may have been an issue for this study. Participants were guaranteed 3 points of extra credit towards a course regardless of their performance during the experiment. Thus, there was no incentive to practice for any length of time or to exhibit peak performance on the verbal test. The artificial environment may not have

been eliciting true differences between individuals, which would impact the results.

Future studies should provide incentives for good test performance.

Conclusions

The current study was successful in demonstrating that Black individuals experience SBP and HR reactivity in response to stereotype threat, that internalized racism moderates the relationship with SBP, and that internalized racism may have an impact on self-handicapping and test performance. While the population of interest is employed Black individuals, and ideally results from this study would be used to make inferences about workplace phenomenon (e.g. Black employees failing to engage in activities designed to improve promotion potential), it is difficult to do so with confidence at this time. There is a paucity of research on stereotype threat in the workplace, likely due to the difficulty in studying it outside of the laboratory. Future studies may want to utilize findings from this study and others when designing field studies in organizations.

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Appendix A
Questionnaires

Obtaining a copy of the Internalized Racism Scale of the Naganolization Inventory and any correspondence concerning this measure should be addresses to Dr. Jerome Taylor, Department of Africana Studies, University of Pittsburgh, 4140 Wesley W. Posvar Hall, 230 S Bouquet Street, Pittsburgh, PA, 15260.

Appendix B

Practice Items (example)

ROOT: ac, acr

Meaning: age, era

Examples:

Primeval = of the age

Medieval = of the Middle

Appendix C

Verbal Test

Directions: Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five lettered words or sets of words. Choose the word or set of words for each blank that best fits the meaning of the sentence as a whole.

Question 1

Normally an individual thunderstorm lasts about 45 minutes, but under certain conditions the storm may _____, becoming ever more severe, for as long as four hours.

- A. wane
- B. moderate
- C. persist
- D. vacillate
- E. disperse

Question 2

We lost confidence in him because he never _____ the grandiose promises he had made.

- A. forgot about
- B. reneged on
- C. tired of
- D. delivered on
- E. retreated from

Question 3

No other artist rewards the viewer with more sheer pleasure than Miro; he is one of those blessed artists who combine profundity and _____.

- A. education
- B. wisdom
- C. faith
- D. fun
- E. depth

Appendix C (continued)

Question 4

The child was so spoiled by her indulgent parents that she pouted and became _____ when she did not receive all of their attention.

- A. discreet
- B. suspicious
- C. elated
- D. sullen
- E. tranquil

Question 5

The _____ of evidence was on the side of the plaintiff since all but one witness testified that his story was correct.

- A. paucity
- B. propensity
- C. accuracy
- D. brunt
- E. preponderance

Question 6

Though he was theoretically a friend of labor, his voting record in Congress _____ that impression

- A. implied
- B. created
- C. confirmed
- D. belied
- E. maintained

Question 7

Your _____ tactics may compel me to cancel the contract as the job must be finished on time.

- A. dilatory
- B. offensive
- C. repugnant
- D. infamous
- E. confiscatory

Appendix C (continued)

Question 8

They fired upon the enemy from behind trees, walls, and any other _____ point they could find.

- A. conspicuous
- B. definitive
- C. vantage
- D. exposed
- E. indefensible

Question 9

We need more men of culture and enlightenment; we have too many _____ among us.

- A. visionaries
- B. students
- C. philistines
- D. pragmatists
- E. philosophers

Question 10

Chaotic in conception but not in _____, Kelly's canvases are as neat as the proverbial pin.

- A. conceit
- B. theory
- C. execution
- D. origin
- E. intent

Appendix C (continued)

Directions: In each of the following questions, a related pair of words or phrases is followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair

Question 11

mason : wall

- A. artist : easel
- B. fisherman : trout
- C. author : book
- D. congressman : senator
- E. sculptor : mallet

Question 12

fire : ashes

- A. accident : delay
- B. wood : splinters
- C. water : waves
- D. regret : melancholy
- E. event : memories

Question 13

goose : gander

- A. duck : drake
- B. hen : chicken
- C. sheep : flock
- D. dog : kennel
- E. horse : bridle

Question 14

judge : courthouse

- A. carpenter : bench
- B. lawyer : brief
- C. architect : blueprint
- D. physician : neck
- E. landlord : studio

Appendix C (continued)

Question 15

pigheaded : yield

- A. lionhearted : retreat
- B. lily-livered : flee
- C. dogged : pursue
- D. featherbrained : giggle
- E. eagle-eyed : discern

Question 16

fox : cunning

- A. dog : playful
- B. hyena : amusing
- C. beaver : industrious
- D. vixen : cute
- E. colt : sturdy

Question 17

deadbeat : pay

- A. killjoy : lament
- B. spoilsport : refrain
- C. daredevil : risk
- D. diehard : quit
- E. turncoat : betray

Question 18

ream : paper

- A. carton : milk
- B. statue : marble
- C. tablet : clay
- D. ink : pen
- E. card : wood

Appendix C (continued)

Question 19

whisper : speak

- A. brush : touch
- B. skip : walk
- C. listen : hear
- D. request : ask
- E. whimper : whine

Question 20

buffoon : dignity

- A. braggart : modesty
- B. blackguard: strength
- C. laughingstock : ridicule
- D. imposter : identification
- E. gambler : risk

Directions: In each of the following questions, a word is presented with five word choices following it. From the five answer choices, choose the best word that reflects the opposite of the word given.

Question 21

Industry

- A. cleanliness
- B. pragmatism
- C. sloth
- D. promptness
- E. abasement

Question 22

Fickle

- A. spotless
- B. industrious
- C. welcome
- D. urgent
- E. appreciate

Appendix C (continued)

Question 23

Critical

- A. unimportant
- B. uncertain
- C. silent
- D. coherent
- E. destructive

Question 24

Testy

- A. erroneous
- B. uncommunicative
- C. even-tempered
- D. quick-witted
- E. industrious

Question 25

Compose

- A. disturb
- B. reveal
- C. strengthen
- D. isolate
- E. prevent

Question 26

Skeptical

- A. theoretical
- B. indifferent
- C. ready to believe
- D. eager for change
- E. lost in thought

Appendix C (continued)

Question 27

Conclusive

- A. difficult to express
- B. bringing bad luck
- C. easy to solve
- D. lacking merit
- E. open to question

Question 28

Adherent

- A. fugitive
- B. dissembler
- C. opponent
- D. educator
- E. witness

Question 29

Slack

- A. rough
- B. active
- C. liberal
- D. dependent
- E. familiar

Question 30

Irk

- A. pry
- B. tinge
- C. beguile
- D. convince
- E. soothe

Appendix C (continued)

Correct Answers to Verbal Test:

1. C
2. D
3. D
4. D
5. E
6. D
7. A
8. C
9. C
10. C
11. C
12. E
13. A
14. D
15. A
16. C
17. D
18. E
19. A
20. A
21. C
22. E
23. A
24. C
25. A
26. C
27. E
28. C
29. B
30. E

Appendix D

Experimental Manipulation Instructions

Practice Instructions for Diagnostic Condition:

“Later you are going to take a difficult test of verbal ability. This test has been adapted from the SAT and has shown ethnic differences in performance. In a moment, you will be given a chance to practice for that verbal test by viewing slides of roots of words, their meanings, and examples of complete words. You must practice for the test for at least a minute but you may go as long as you want. When I close the door and say ‘begin’ over the speaker, start viewing the slides by pressing the arrow key. When you are done, simply speak out loud. Do you have any questions?”

Task Instructions for Diagnostic Condition:

“Now you are going to take the difficult test of verbal ability. The test has been adapted from the SAT and has shown ethnic differences in performance. Part of the purpose of this experiment is to investigate why black students typically perform more poorly than white students on tests of verbal ability. The test includes 30 questions and you will have 30 minutes to complete the test. It is recommended that you spend no more than 1 minute on any question in order to be able to complete the test in time. You can monitor your time with the clock provided. The next question will appear on the screen automatically after you answer a question. You cannot go back to previous questions on the test, and you must answer each question in order to move on. Use the keyboard to enter the letter of your answer to each question. You can start the test by pressing the space bar, but please do not do so until I say “begin” over the speaker. Also, you must remain in the room for 30 minutes regardless of whether or not you finish early, as we must get all of the blood pressures. Do you have any questions?”

Practice Instructions for Non-Diagnostic Condition:

“Later you are going to take a test of verbal ability. Your responses on this test will help with the development of a new version of the SAT for psychology students. We will mainly be looking at how you answer, not if your answers are correct. In a moment, you will be given a chance to practice for that verbal test by viewing slides of roots of words, their meanings, and examples of complete words. You must practice for the test for at least a minute but you may go as long as you want. When I close the door and say ‘begin’ over the speaker, start viewing the slides by pressing the arrow key. When you are done, simply speak out loud. Do you have any questions?”

Appendix D (continued)

Task Instructions for Non-Diagnostic Condition:

“Now you are going to take the test of verbal ability. Your answers will help with the refinement of a new version of the SAT for psychology students. We will mainly be looking at how you answer, not if your answers are correct. The test includes 30 questions and you will have 30 minutes to complete the test. It is recommended that you spend no more than 1 minute on any question in order to be able to complete the test in time. You can monitor your time with the clock provided. The next question will appear on the screen automatically after you answer a question. You cannot go back to previous questions on the test, and you must answer each question in order to move on. Use the keyboard to enter the letter of your answer to each question. You can start the test by pressing the space bar, but please do not do so until I say “begin” over the speaker. Also, you must remain in the room for 30 minutes regardless of whether or not you finish early, as we must get all of the blood pressures. Do you have any questions?”

*Note: the remainder of the script was identical for both conditions.