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The effects of induced depressed mood on recall of experiences with racial discrimination

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CERTIFICATE OF APPROVAL

Ph.D. Dissertation

This is to certify that the Ph.D. Dissertation of

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The Effects of Induced Depressed Mood on Recall of Experiences with Racial
Discrimination

by

Tamra Williams

A dissertation submitted in partial fulfillment
Of the requirements for the degree of
Doctor of Psychology
Department of Psychology
College of Arts and Sciences
University of South Florida

May 2002

Major Professor: William P. Sacco, Ph.D.

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Two studies examined the relationship between reported racial discrimination and depression, and whether this relationship may be due to depressed mood induced influences. In study 1, sixty-four African American undergraduates completed measures of current depression, a racial discrimination index, and rated vignettes that were ambiguous in terms of the presence or absence of racial discrimination. A significant correlation was found between depression and reported racial discrimination. The purpose of Study 2 was to examine the effect of mood on recall of past experiences with discrimination. Groups of subjects were randomly assigned to either a sad mood induction condition or a neutral mood condition, and completed a racial discrimination index. Using analysis of covariance, no significant mood congruent effects were found. Results are discussed in terms of contributions to our understanding of the effects of chronic racism, clinical implications of discrimination, and the need to consider cultural differences in definitions of and responses to racial discrimination.

Abstract Approved: _____

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Perceived Racial Discrimination and Depression

Several recent studies have demonstrated a link between depression and racial discrimination in African Americans (Brown et al., 1999; Kessler, Mickelson, & Williams, 1999; Williams, 1997; Watts-Jones, 1990; Gray & Jones, 1987). Earlier epidemiological studies that revealed higher rates of depression in African Americans, provided support for research into the factors that may be related to these rates of depression (Eaton & Kessler, 1981; Neff, 1984; Kessler & Neighbors, 1986).

Racial discrimination is a salient variable that may differentiate the experiences of minorities from non-minorities, and has also been proposed as an influential factor in depression among blacks (Clark, Anderson, Clark & Williams, 1999). In a survey administered to black and white psychiatrists who obtained demographic information on black female patients in psychotherapy, Gray & Jones (1987) found that the presenting problem most frequently encountered was depression. Psychiatrists reported that racism was an important issue in the treatment process, however, few felt that racial discrimination played a causative role in their patient's pathology.

Using the Symptom Distress Checklist (SDC), Moghaddam, Ditto, & Taylor (1990) found that immigrant women living in Montreal, who perceived Canadian society to be racially discriminatory, had higher scores on the SDC. Although depressive symptoms were not specified, higher psychological distress was associated with a view of

society as lacking equal opportunities and characterized by racial barriers.

Negative life events research also provides support for the influence of racial discrimination on depression. Numerous studies have shown that undesirable life events are associated with depression and negative affect (Gersten, Langer, Eisenberg, & Fagen, 1977; Brown, & Harris, 1978; Ross & Huber, 1985; Neighbors, Jackson, Bowman & Gurin, 1983; McClain, & Abramson, 1995; Bolger, DeLongis, Kessler, & Schilling, 1989). Research by Contrada et al. (2000) and Watts-Jones (1990) has shown that racial discrimination and other forms of racial mistreatment are clearly negative sources of stress. The African American Woman's Stress Scale (Watts-Jones, 1990) was designed to measure the stressors that African American women encounter. For the AWSS, more than 300 items were generated by asking a sample of African American women (n= 35) to list events or situations that they considered stressful. From this pool of stressors, 100 items were chosen. Items were categorized by type of stressor. Included in these categories of chronic stressors was coping with racism/ethnicity issues, such as "working with prejudiced co-workers" and "working at jobs where blacks are treated differently from whites." After items were selected, seventy-three women were administered the AWSS and the Center for Epidemiological Studies- Depression Scale three times at 6 week intervals, to establish validity and reliability. The correlation between the AWSS total score (totalled over the 4 ½ month time interval) and depression as measured by the CES-D was .64. The correlation between the racial discrimination items of the AWSS and depression was not examined.

A more direct test of the association between depression and racial discrimination has come from recent research by Landrine & Klonoff (1996) and Williams (1997). In

developing a measure of racial discrimination for African Americans, Landrine & Klonoff found that the more severe and frequent the experiences with racial discrimination, the more likely they were to experience depression as measured by the Hopkins Symptom Checklist (HSCL-58; Derogatis, Lipman, Rickles, Uhlenhuth, & Covi, 1974). Results of research by Williams (1997) also show that a correlation exists between current levels of depression and past experiences with racial discrimination. A community sample of 99 African American adults completed measures of current depression level and perceived racial discrimination. Subjects were also asked to read a series of Vignettes depicting situations that were ambiguous in terms of the presence of racial discrimination. For each vignette, respondents indicated whether they thought the scenario involved racial discrimination on a 5-point scale from 1 “Definitely No” to 5 “Definitely Yes.” The study revealed that those who reported experiencing higher frequencies of discrimination in the past year, also had higher levels of depression. Subjects who were more disturbed by their past experiences with racial discrimination were also more likely to experience greater depression. Although the correlational nature of the study naturally prohibited any causal assumptions from being made, results of the study also indicated that the association between racial discrimination and depression was not due to any tendencies by depressed participants to perceive discrimination more often than non-depressed participants when presented with ambiguous information. Thus, in addition to establishing a correlation between depression and perceived racial discrimination, the study also showed that depression was not associated with a more negative interpretation of events related to racial discrimination.

In an attempt to understand the relationship between racial discrimination and

depression, it is necessary to further examine the role of negative mood and negative cognitive biases associated with depression. In the Williams (1997) study, current depression level was not associated with a more negative interpretation or processing of information. However, it is possible that the correlation between past racial discrimination and depression may be due to the negative mood and recall biases or biases in memory associated with depression.

The Effect of Depression and Depressed Mood on Recall

Research has consistently shown that clinical depression is associated with negative cognitive biases. Depressed persons think negatively about themselves, others, and their future (Ingram & Holle, 1992; Beck, Rush, Shaw, & Emery, 1979). Present thoughts and thoughts about the future have consistently been shown to be affected by this cognitive bias. However, less definitive is the extension of the cognitive bias to memories for past events. Although the negative schema associated with depression is well documented, how depression affects recall of past experiences continues to be a source of debate.

The negative or positive nature of memories recalled may depend upon the valence of one's current mood. Some research suggests that depressed persons may exhibit mood congruent memories. The mood congruency effect refers to the tendency to recall sad memories more easily in a sad mood state, and positive memories in a positive or elated mood state. Numerous studies have found support for a mood congruency effect of depression on memory (Blaney, 1986; Dalglish & Watts, 1990; Singer & Salovey, 1988; Williams, Watts, MacLeod, & Matthews, 1989). Teasdale, Taylor and Fogarty (1980) induced a depressed mood and happy mood and found that those in the depressed mood state recalled more negative memories than subjects in the elated mood state. Similar results were reported by Clark & Teasdale (1985) who examined the effects of word

type on recall during induced depressed and elated mood states. Sixty-four college students studied a set of pleasant and unpleasant personality trait words and abstract nouns. Subjects were randomly assigned to depressed and happy mood induction conditions, and asked to recall the words. Results of the study showed that subjects recalled more pleasant trait words in the elated state, and more unpleasant trait words in the depressed state. This effect was not found for abstract nouns.

Mood congruent effects have also been found in research involving retrospective reports of family interactions and relationships. Guarino, Bernet, & Ingram (1993) examined the effect of current mood on retrospective reports of parent interactions in those with and without a history of depression. DSM-III-R criteria were used to determine the existence of previous depressive episodes in participants. The Beck Depression Inventory was used to screen for current depressive symptoms. Of the 288 undergraduate participants, 122 were classified as formerly depressed, and 166 as never having experienced a depressive episode. The Parental Bonding Instrument (PBI; Parker et al., 1979 in Guarino et al, 1993) was used to measure negative and positive parent interactions. Participants were asked to recall and rate their interactions with each parent for the first sixteen years of their life. Results of the study showed that the subjects who were experiencing depressive symptoms at the time of the study recalled their parental interactions as less caring and more overprotective than those subjects who were not currently depressed.

Similarly, Lewinsohn, & Rosenbaum, (1987) found that subjects who were depressed at the time they filled out the study questionnaires were more likely to recall parental interactions in a more negative manner compared to those who were not

currently depressed.

However, not all research consistently shows support for this mood congruent effect. In fact, more recent studies seem to indicate that negative mood may not necessarily lead to the recall of more negative memories, but may be associated with the recall of fewer positive memories. Macleod, Tata, Kentish, & Jacobsen (1997) examined retrospective cognitions in depression. Sixteen hospital patients who met criteria for Major Depressive Disorder and 17 control subjects were asked to complete an autobiographical memory task. Subjects were asked to recall positive and negative experiences in various time intervals (past week, past year, and past 5-10 years). Macleod et al. found that depressed participants recalled fewer positive responses compared to control subjects; however, they did not recall more negative experiences than controls.

Natale and Hantas (1982) found similar results in their investigation of the effects of mood on positive and negative memories. Fifty-four undergraduate students were randomly assigned to one of three mood induction conditions: elated mood, depressed mood or neutral mood. Subjects were given five minutes to recall happy and sad personal memories in the free recall task. Results showed that those in the depressed mood state did not recall a greater number of negative memories compared to those in the elated and neutral mood states. Subjects in the depressed mood condition did, however, recall fewer positive memories.

Research by Burt, Niederche & Zembler (1995) also showed that memory in depressed people is impaired for recall and recognition of positive stimuli. Burt et al. (1995) conducted a meta-analysis of 99 recall studies and 48 recognition studies using

clinically depressed and non-depressed samples to investigate the association between depression and memory impairment. The authors also examined the effects of several moderator variables on the relationship between depression and memory. Separate analyses were conducted for recall and recognition studies, and for studies utilizing different types of stimuli (i.e. positive vs. negative, positive vs. neutral, negative vs. neutral, and visual vs. verbal). Results of the meta-analysis revealed a significant relationship between depression and memory impairments for both types of memory tasks, except for studies that examined memory of positive vs. negative vs. neutral stimuli. For these studies, the strength of the effect of depression on memory varied with the valence (positive, negative or neutral) of the stimuli being recalled or recognized. Compared to non-depressed subjects, clinically depressed subjects exhibited the greatest memory deficits for positive stimuli. Depressed subjects recalled fewer positive stimuli than non-depressed subjects. There were no significant differences between depressed and non-depressed subjects for recall of negative stimuli. Thus, the effects of depression on memory may vary with the valence of the stimulus being recalled.

Some studies have shown no effect of mood at all. Gilboa, Roberts, & Gotlib. (1997) examined differences in memory bias in naturally dysphoric subjects, and subjects exposed to experimentally induced sad mood, and neutral mood conditions. Memory tasks assessed incidental and intentional memory. For the intentional memory task, subjects were exposed to 21 negative and 21 neutral nouns for two seconds, then given three minutes to recall as many of the words as they could. To measure incidental memory, subjects were exposed to trait adjectives, without being given explicit instructions to attempt to remember the words being presented. Subjects were later asked

to recall as many of these adjectives as they could in three minutes. Results showed that the neutral mood condition subjects and subjects exposed to the sad mood induction procedure recalled both positive and neutral stimuli more than negative stimuli in incidental and intentional memory tasks. However, the naturally dysphoric subjects showed no significant differences in number of positive and negative words recalled.

In their review of the effects of psychopathology on retrospective reports of early childhood experiences, Brewin, Andrews, and Gotlib (1993) concluded that recall of important personal past events is not affected by mood state. Brewin et al. reviewed the literature regarding the accuracy and limitations of retrospective reports, particularly those involving childhood recollections, as well as general limitations of memory, and limitations associated with psychopathology, and mood state. They found a lack of consistent support for the effects of depressed mood on recall of negative memories. Although the authors conclude that retrospective reports are not biased due to general memory deficits associated with depression, they offer some insight into the general limitations of retrospective reports. Brewin et al. suggest that personal or autobiographical memories are stable with time, however, we do lose detailed information about the specific time at which events occurred, and specific feelings at the time; recall is most accurate for broad descriptions of past events.

To summarize, previous research has shown a relationship between current depression level and past racial discrimination. However, these studies have not explored the possibility that this relationship may be due to the depressed mood and subsequent recall or memory biases associated with depression. Thus it will be necessary to rule out the possibility of mood congruency effects before concluding that depression is

linked to past racial discrimination. Previous research has found some support for a mood congruent effect of depression and depressed mood on recall. However, other research has found that depressed mood is not associated with the recall of more negative memories. The most consistent findings have been those indicating that depression is associated with recall of fewer positive memories, but not more negative memories. Many of the recall studies, however, utilize impersonal stimuli. Therefore, the results may not be generalizable to recall of personal past experiences.

Because of the correlational nature of the Williams (1997) study demonstrating a link between discrimination and depression, and the inconsistent findings concerning the effects of mood on recall, the primary goals of this study are: (1) to examine the effect of experimentally induced depressed mood on recall of past experiences with racial discrimination, and (2) to replicate the results of the Williams (1997) study showing a correlation between racial discrimination and depression using African-American college students.

Hypotheses

1. Results of the Williams (1997) study revealed that current depression level, as measured by the CES-D, was correlated with the frequency of experiences with past racial discrimination and the severity of discrimination in a community adult sample. In addition, participants with higher depression scores were not more likely to perceive racial discrimination in situations where the role of discrimination was ambiguous. Similar findings were expected in a college student sample.
2. A correlation between depression and reported racial discrimination may be attributed to mood induced influences on memory. If so, then experimentally inducing negative mood in non-depressed persons should result in recall of more experiences of racial discrimination. Thus, the present study examined the hypothesis that negative mood inductions will lead to recall of more frequent and severe experiences with racial discrimination. Failure to find a mood effect will be consistent with the interpretation of prior findings by Williams (1997) that the recall of more frequent and more disturbing experiences with racial discrimination by those with higher levels of depression is due to actual differences in experiences of racial discrimination, rather than mood-induced influences on memory.

Study 1

Overview

Williams (1997), utilizing an adult community sample (N= 99), showed that current level of depression is associated with frequency and severity of perceived racial discrimination. The more frequently subjects reported experiences of racial discrimination during the past year, the higher their current level of depression. In addition, participants who reported being more disturbed by their experiences with racial discrimination within the past year, were also more likely to experience greater depression. Due to the correlational nature of the study, the significant positive correlation between perceived racial discrimination and depression may have been due to the current depression level of participants. Depressed participants may have had a tendency to perceive discrimination more often than non depressed participants.

The primary goal of Study 1 was to extend the results of Williams (1997) using a college student sample. Study 1 investigated whether the association between depression and discrimination could be reproduced in an African American college student sample. In the Williams study, the Center for Epidemiological Studies-Depression scale was used to assess depression. However, the present study utilized the Beck Depression Inventory (BDI; Beck, 1967) to measure current level of depression. In doing so, Study 1 also further demonstrates the psychometric properties of the Racial Discrimination Index (RDI; Terrell and Miller, 1980), by correlating the measure with other measures of depression.

Method

Participants

Participants were 64 African American college students from community (14%), private (27%) and state colleges (59%). Students were recruited for Study 1 in several ways. College students were approached individually by the investigator at student centers or during black student union functions. For these students, BDI scores did not serve as the criterion for participation in the study. They were allowed to take part in the study regardless of their BDI score. Additionally, participants who did not qualify to complete Study 2 due to elevated scores were directed to participate in the replication study.

Measures

For participants recruited directly from undergraduate classes, three measures were presented to each subject; the Racial Discrimination Index (RDI), a measure consisting of 10 Vignettes examining participants' tendencies to perceive racial discrimination, and the Beck Depression Inventory to assess current levels of depression. A demographics questionnaire was also administered.

Beck Depression Inventory (BDI; Beck, 1967 - See Appendix C). The BDI, a 21-item self-report measure, was used to assess depressive symptomatology and has been used extensively in research and clinical settings to screen for depression. It has also been shown to be reliable and valid in clinical and college student samples (Kendall, Hollon, Beck, Hammen, & Ingram, 1987), and correlate with other measures of

depression such as the CES-D (Roberts, Lewinsohn, & Seeley, 1991; Wilcox, Field, Prodromidis, & Scafidi, 1998; Lubin & Van Whitlock, 1995). Participants were asked to indicate how they felt during the past week on a 4-point scale (e.g. 0 “I do not feel sad” to 3 “I am so sad or unhappy that I can’t stand it”). A total score is obtained by summing across items. Cutoff scores and descriptors for level of depression include: 10-15 (Mild), 16-25 (Moderate), 26-35 (Moderate to Severe), and 35 or higher (Severe).

Racial Discrimination Index- (RDI; Terrell and Miller, 1980 - See Appendix D).

The RDI was developed to assess the frequency and severity of lifetime experiences with racial discrimination. The RDI originally contained 24 situations depicting blacks as the victims of racial discrimination. In addition to reporting how often they experienced each situation depicted, participants were also asked to indicate how disturbing each event was using a 5-point scale ranging from 1 “Not at all disturbing” to 5 “Extremely disturbing.”

A modified version of the RDI developed by Williams (1997) was used in the present study. The scale was modified to measure the frequency of occurrence of each item within the past year (up to the week before participation in the study), rather than assessing lifetime experiences with racial mistreatment. With regard to accuracy of recall, it was reasoned that events would be easier to recall if the time frame were limited to one year. Fourteen items were also deleted as a function of low probability of occurrence within a one-year time period and low relevance to present day experiences, leaving a final total of ten items.

Terrell and Miller reported a two-week test-retest reliability estimate of .83 for the 24 item RDI. Williams (1997) reported a high degree of internal consistency

(Cronbach's alpha = .87) for each of the frequency and severity subscales of the 10 item RDI. Previous research has shown that the RDI correlates significantly with other variables often assumed to be affected by racism such as self-concept and depression as measured by the Center for Epidemiologic Studies-Depression Scale (Terrell & Miller; Williams, 1997). For the current study, Cronbach's alpha for the frequency subscale of the RDI was .75, and .78 for the severity subscale.

Ambiguous Vignettes (See Appendix E). The Vignettes consist of ten items designed to depict situations that are ambiguous in terms of the presence of racial discrimination. The Vignettes were loosely adapted from the Social Scenarios Scale (Byrnes, & Kiger, 1988) which was initially designed to measure "non-black students' willingness to engage in discriminatory or anti-discriminatory behavior when confronted with racial conflict situations." The broad criterion that guided creation of the items was that the scenarios depict differential treatment of blacks by whites, and that it was unclear whether the differential treatment was due to race. Twelve scenarios were independently reviewed by three judges for ambiguity. Items that raters considered unambiguous were modified until a consensus was reached from all judges that the items were ambiguous. Vignettes were then piloted on 11 African American graduate psychology students. Students were asked to rate the 10 items for ambiguity on a scale from 1 to 3 with 1 being "definitely sure this does not involve racial discrimination," 2 "Not sure," and 3 "Definitely sure this does involve racial discrimination." Criteria for ambiguity and inclusion in the scale were those items having a mean closest to 2 and a small standard deviation. Based on these criteria two items were deleted leaving 10 items.

The Vignettes describe situations occurring in various domains including customer service, interracial relationships, job/housing experiences, and interactions in academic settings. For each vignette, respondents are asked to imagine themselves in each situation as the black person receiving differential treatment. Respondents indicated whether they thought the scenario involves racial discrimination on a 5-point scale from 1 “Definitely No” to 5 “Definitely Yes.”

Williams (1997) reported a Cronbach’s alpha of .81 for the Ambiguous Vignettes, indicating high internal consistency. For the present study Cronbach’s alpha for the Vignettes was .75

Procedure

With the exception of students from Study 2 who already completed the BDI and the demographics questionnaire, participants were administered the demographics questionnaire (See Appendix B), followed by the BDI, the Vignettes, and the RDI in one packet. The Vignettes and the RDI were counterbalanced so that some participants completed the RDI before the Vignettes and vice versa. The Vignettes and the RDI were administered after the BDI due to concerns that completing measures of racial discrimination might prime negative mood and temporarily influence responses to the BDI. After completing the study, participants were given a referral list of psychological services in the area in the event that participation in the study produced negative emotional reactions. Participation in the study was voluntary, and students were paid \$10.

Results

Descriptive Data

This sample was comprised of participants from Study 2 who scored 7 or higher on the BDI, as well as students who were not selected on the basis of BDI scores.

Descriptive data are presented in Table 1. BDI scores ranged from 0 – 29. Due to the procedures followed, the study benefited from an oversampling of higher BDI scores.

Fifty-five of the 64 students (86%) came from Study 2. There were no significant differences between the participants from Study 2 and those recruited only for Study 1 on key demographic variables.

Correlations were calculated to determine any relationships between the outcome variables and demographic variables. There was a significant correlation between gender and the Vignettes ($r=.335, p<.01$). Women were more likely than men to perceive racial discrimination in situations where the occurrence of discrimination was ambiguous. These results are similar to those found by Inman and Baron (1996) showing that women were more likely than men to perceive gender discrimination in ambiguous situations. The higher Vignette scores were not likely due to gender bias in items 1 and 9 which identify a female in the scenario. When these two items are excluded from the analysis, a significant gender effect still exists. $F(1.63)= 6.42, p=.01$). However, one possible explanation for higher Vignette scores may be the “double jeopardy” position African-American women hold in this society: being black and being female (Olembo & Parron, 1981). Women may have been more likely to perceive discrimination in the Ambiguous Vignettes due to experiences with dual discrimination.

Table 1. Characteristics of sample (n=64)

Age M= 20.05 SD= 2.76 (range 17-35)	
Highest Level of Education	
High school diploma or GED	17%
Freshman year of college	36
Sophomore year of college	33
Junior year of college	9
Senior year of college	5
Graduate/professional degree or other	0
Gender	
Female	53%
Male	47
Family income	
Less than \$5,000	0%
\$5,000-\$9,999	2
\$10,000-\$19,000	16
\$20,000-\$29,000	14
\$30,000-\$49,999	19
\$50,000-\$69,000	19
\$70,000-\$99,999	14
Over \$100,000	17
	M=5.48 (\$30,000-49,999) SD=1.74
Number of people in household	
M= 4.02 SD=1.61 (range: 1-9)	
Country of Origin	
U.S.	83%
Foreign	17
Amount of time in U.S. (For foreign born)	M= 9.45 SD = 5.80
Number of other black students in classes	
None	6%
Very few	58
A moderate amount	23
A considerable amount	11
Predominantly black	2
	M=2.44 (very few) SD=.83
Religion	
Catholic	11%
Jewish	2
Baptist	36

Methodist	6
Episcopalian	6
Seven day Adventist	5
Other(Pentecostal, nondenominational, Christian, Islam, atheist...)	34
Importance of Religion	
Not at all important	2%
Slightly important	13
Moderately important	14
Considerably important	31
Extremely important	41
	M=2.13 (slightly important) SD=.83
Frequency of Worship	
Never	3%
Hardly ever	22
Sometimes	38
Often	20
Always	17
	M=3.27 (sometimes) SD=1.09
Blood Pressure	
Low	9%
Within normal range	69
Borderline high	9
High	2
Don't know	11
BDI M= 9.55 SD = 5.71	

Frequency of Racial Discrimination

Table 2 presents the percentage of students reporting racial discrimination during the past year in the 3 domains. On average, students experienced some kind of racial discrimination 5 times within the past year.

Table 2. Frequency of racial discrimination within the past year (n=64)

Frequency of discrimination				
	0	1-2	3-5	> 5
Customer Service	45.3%	21.9%	18.8%	14.2%
Employment/ "on the job"	68.8%	11.0%	14.1%	6.4%
Strangers	64.1%	17.2%	11.0%	7.8%

Severity of Racial Discrimination

Thirty-eight of the 64 participants indicated some form of discrimination within the last year and were able to report how distressing these experiences were to them. Table 3 presents the severity ratings for these 38 students. Overall, participants rated discrimination in their place of employment (Mean = 2.72, SD= .77), in customer service (Mean = 2.76, SD= 1.15) and during interpersonal interactions with strangers (Mean = 2.17, SD=.40) as slightly disturbing.

Table 3. Severity of discrimination for those reporting racial discrimination within the past year.

Severity						
	N	Not at all disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing
Customer Service	35	8.6%	31.5%	43.0%	17.3%	0%
Employment/ On the Job	13	5.0%	40.0%	40.0%	15.0%	0%
Strangers	23	4.3%	82.5%	12.9%	0%	0%

These mean RDI scores are slightly lower than those obtained by Williams (1997) with an adult community sample. The difference in scores may be due to the content of some of the items comprising the RDI. Three items pertained to discrimination in places of employment. Given the age of the undergraduate sample, it may be that students have not yet entered into the workforce, or had enough experience in work settings to strongly endorse these items. Table 4 compares the Mean RDI frequency and severity scales for both populations.

Table 4. Mean RDI & Vignette scores for adult community and college student samples

	Adult Community Sample	College Students
RDI frequency	7.80 (9.53)	5.13 (7.65)
RDI severity	1.27 (1.31)	2.09 (2.04)
Ambiguous Vignettes	3.69 (.85)	3.53 (.66)

Note. Standard Deviation listed in ()

Correlation between depression and past racial discrimination

Table 5 presents partial correlations between all measures, controlling for gender. The results indicated that the more frequently students experienced racial discrimination, the higher their depression levels. Similarly, those that experienced racial discrimination as more distressing were also more likely to have higher depression levels.

In contrast, depression was not significantly related to perception of racial discrimination, as measured by the Ambiguous Vignette scores. Thus, students with higher levels of depression were not more likely to perceive racial discrimination in situations where the occurrence of discrimination is ambiguous or unclear.

In the Williams (1997) study, similar correlations were found between the CES-D and the RDI frequency subscale ($r=.38, p< .001$) in the adult community sample, but were lower for the severity subscale ($r=.28, p< .01$).

Table 5. Partial correlations among the BDI, RDI subscales and Ambiguous Vignettes (n=64)

	BDI	RDI-Disturb	RDI-Frequency	Vignettes
BDI	-----	.399**	.373**	-.014
RDI-Disturb		-----	.797**	.113
RDI-Frequency			-----	.064
Vignettes				-----

Note. ** $p< .01$

Post-Hoc Analyses

Eleven of the participants (17%) were born outside of the United States. One-way ANOVAs were conducted to examine differences between U.S. born and foreign born students on depression, RDI, and BDI scores. No significant differences were found for BDI scores, $F(1,62)=2.69$, $p=.11$; RDI frequency scores, $F(1,62)=2.39$, $p=.13$; or RDI severity, $F(1,62)=1.31$, $p=.25$. Mean scores are presented in Table 6.

Table 6. Mean BDI & RDI scores for U.S and foreign born students

	BDI	RDI frequency	RDI severity	Ambiguous Vignettes
U.S. born (n=53)	10.42 (5.74)	5.79 (8.10)	2.23 (2.03)	35.83 (6.57)
Foreign born (n=11)	7.45 (3.53)	1.90 (3.67)	1.45 (2.04)	32.91 (6.38)

Study 2

Overview

The purpose of Study 2 was to examine the effect of mood on recall of past experiences with racial discrimination. Groups of subjects were randomly assigned to either a sad mood induction condition or a neutral mood condition. The Beck Depression Inventory (BDI) was used to screen for level of current depressive symptoms. Participants with a BDI score of 7 or higher were asked to complete questionnaires for Study 1 rather than experience the mood induction procedure. The BDI was used to screen subjects with high levels of depressive symptoms that might interfere with the effectiveness of the mood induction procedures. These subjects were also excluded due to concerns that participation in the study might have exacerbated their depressive symptoms. Although established norms for the BDI indicate that a score of 10 is indicative of mild depressive symptoms, a cutoff score of 7 or above was used for the purposes of this study to be safely in the range of non-depression. It should also be noted that although the BDI was designed to assess depressive symptoms, including affective components, and has been used as a screener for depression (Roberts, Lewinsohn, & Seeley, 1991), the primary focus of the study is on depression as a mood state rather than as a psychiatric disorder.

A baseline mood rating was completed. Sad and neutral mood induction procedures were followed by another mood rating and a measure of past racial discrimination. All subjects were shown a film to induce amusement to return to a more positive mood prior to completing the study.

Sad and neutral moods were induced via films shown to elicit these moods. Research examining the effects of mood states has utilized a variety of mood induction procedures, most notably the Velten procedure (1968), and musical mood induction. Westermann, Spies, Stahl, & Hesse (1996) conducted a meta-analysis of 138 studies to determine the effectiveness of commonly used mood induction techniques. Mood induction procedures were classified into nine categories: Velten (mood induction through positive, negative, or affectively neutral self-referent statements), imagination (inducing mood by imagining personal, emotional events), film/story, music, feedback (inducing mood by giving feedback on test performance), social interaction (subjects participate in prearranged social interactions in which a confederate behaves in a depressed, elated, or neutral manner), gift receipt (for positive mood), facial expression (mood induction through the replication of certain facial expressions), and combined procedures. The results of the meta-analysis showed that the use of a film or story, plus instruction to focus attention on the emotions being portrayed in the film/story, was most effective for the induction of elated and depressed mood states. Given these findings, the current study used films recommended by Gross and Levenson (1995) to elicit sad and neutral moods. Gross and Levenson evaluated and selected 78 movies that best elicited eight different emotions, including sadness and a neutral state. Undergraduate students (N= 494) were shown the films and asked to complete a 16-item emotion self-report inventory indicating the type of emotion experienced and the intensity of each emotion after viewing each film. Based on these ratings, films were selected that best elicited the target emotions. Two films were selected for each of the eight emotional states. Films were rated by the researchers in terms of discriminability (how well subjects' emotion

reports correctly predicted the emotion targeted by the film), discreteness (emotion ratings for the film had to be significantly higher than the other 15 emotions being tested), and similarity (the ratings for the two films for each emotion had to be similar). They found that scenes from *The Champ* and *Bambi* best elicited sad emotions, while abstract shapes and color bars best elicited a relatively neutral state. A scene from the movie *When Harry Met Sally* was shown by Gross and Levenson (1995) to effectively elicit amusement. All films were tested on an ethnically diverse undergraduate population consisting of African American, Asian American, Caucasian and Hispanic students. Results of their analysis showed that ethnicity did not have an effect on self-reported emotion ratings for each film.

For the present study, footage from the film *The Champ* was used to induce sad mood. A scene from this movie depicting a boy crying at his father's death was shown for 2 minutes 51 seconds as recommended by Gross & Levenson (1995). Participants were shown a scene from the movie *When Harry Met Sally* in order to return to a more positive mood before leaving the study. The neutral mood footage was taken from a video of kaleidoscopic shapes, and also shown for 2 min. 51 seconds.

Prior to the mood induction procedure, participants signed a consent form stating that they would be participating in "a research study on emotions," and that they would be viewing a film clip, and completing self-report questionnaires. Participants were given instructions to pay close attention to the film clip and to focus on the emotions being portrayed in the film. The purpose of such instruction was to ensure that subjects focused their attention on the film while it was being shown and to engage them in the mood induction procedure. In their meta-analysis of the effectiveness of mood induction

procedures, Westermann et al (1996) found that one of the most effective mood induction procedures was the film technique paired with such instructions. In an attempt to minimize the possible effects of demand characteristics, no information was given about the specific emotions being studied, and participants completed a validity questionnaire at the end of the study to discern the accuracy of their mood ratings, and to determine whether they actually experienced the emotions they reported.

Method

Participants

146 African American undergraduates were recruited from on-campus minority organizations (e.g. black student unions, multicultural houses), student governments, and a psychology class at private (9.8%), state (45.9%) and community (4.9%) colleges in Connecticut, as well as from an NAACP chapter (39.3%). For psychology classes, fourteen non-black students were allowed to participate in the study; their data was excluded from the analysis.

A power analysis was conducted to determine the necessary sample size. A significant difference between mood induction conditions would suggest mood congruent effects on recall of experiences with racial discrimination. Failure to find a mood effect would be inconsistent with this alternative interpretation of mood induced influences on memory. However, the interpretation of a non-significant finding is acknowledged to be tenuous, particularly when the power to detect a real effect is low. Because power is influenced by alpha, sample size and population variance (Myers & Well, 1991), alpha was set at .10 instead of .05 in attempt to ensure enough power to detect an effect if one

exists. Consequently, with a sample size of 120, the power of the present study to detect a medium effect size was .82.

Measures

Participants were asked to complete the Beck Depression Inventory, a demographics questionnaire, a mood rating scale, and the Racial Discrimination Index.

Mood Rating Scale (see Appendix F). Participants rated their mood on a 3-item scale ranging from 1 (very bad, very sad or very negative) to 9 (very good, very happy or very positive). A total affect score was obtained by summing across the three items. Likert scales have been utilized in previous research to measure mood (Pittman et al., 1990; Wenzlaff, Wegner & Klein, 1991; Hanze, & Meyer, 1998) and have been shown to correlate highly with more widely known measures of depressive symptomatology. A series of studies by Lyubormirsky & Nolen-Hoeksema, (1995) found correlations between their 9-point Likert scale measure of mood and the Beck Depression Inventory ranging from .72 to .88. For the present study, the Cronbach's alpha for the mood rating scale was .87, indicating a high internal consistency.

Procedure

Participants were recruited through the investigator's contacts with representatives of minority and multicultural organizations on college campuses. Students were asked to sign-up for the study after announcements made during meetings

by the researcher or a representative from the student organization coordinating the study with the researcher. Students from a psychology class received credit for their participation rather than monetary compensation. Participation in the study was voluntary, and with the exception of the psychology class, participants were paid \$10. Although no subjects dropped out of the study after agreeing to participate, it was made clear that subjects would be paid even if they elected not to continue in the study.

The mood induction films were shown to small groups of undergraduates on a television monitor in a laboratory setting. Groups of subjects ranging in size from 7 to 20 were randomly assigned to receive either the sad or neutral mood induction procedure. Group size varied as a function of the number of students who signed up for the study at a particular time, and the number of students who remained after screening those with BDI scores of 7 or higher. Upon arrival, subjects were told that they would be “participating in a research project about emotions that consists of two parts. Some were asked to participate in one part of the study that involves watching a brief video, while others were asked to participate in the another part that involves completing some questionnaires.” After spacing their seating arrangements so that everyone sat at least one seat apart from each other, all students were asked to complete the consent form and the BDI to screen for level of depression. They then completed a demographics questionnaire (see Appendix B) while the experimenter scored the BDI form.

Subjects with elevated BDI scores were directed to an adjoining room to complete the questionnaires for Study 1. The remaining participants were asked to rate their mood on the 3 item affective measure to establish a baseline mood. Subjects were then given the following instructions: “You are going to be watching 2 short films from the

television monitor. Please pay close attention to the film and focus on the feelings being portrayed in the film. I also ask that you refrain from talking during the film and while completing the questionnaires so that everyone can focus.” Once the room lights were dimmed, the mood induction film began. When the film ended, subjects completed the mood rating scale followed by the RDI. Finally, subjects were shown the positive mood induction film before exiting the study. All subjects answered questions about whether they previously viewed the sad mood film and were debriefed about the purpose of the study. Participants were also given a counseling referral source in the event that participation in the study produced negative emotional reactions. The investigator remained on site to observe any reactions to the mood induction procedure. There was no evidence that the movie produced any adverse effects on subjects. No students approached the investigator after participating in the study to report negative reactions. A licensed clinical psychologist was available to assess depression and suicidality in students of one of the private universities participating in the study. Only one student had a BDI score in the moderate to severe range. This student did not endorse any suicidal ideation and was referred for counseling through the school’s mental health center.

Results

Descriptive Data

An outlier analysis on all data resulted in 4 participants being excluded based upon extreme scores on the RDI. Fourteen non-black students were excluded from the analysis and two groups from the sad mood induction condition were also dropped from

the analysis based on their small group size (n=2 & n=4). These groups were excluded to ensure an equal number of groups to facilitate data analysis, leaving 5 groups in each mood condition and a total of 122 subjects. Tabachnick & Fidell (1989) recommend equalizing cell sizes by random deletion of cases, if possible, to deal with unequal sample size, in addition to using Type III sum of squares which are invariant to cell frequencies. Table 7 presents the number of groups in each mood condition and the number of subjects in each group.

Table 7. Number of groups per mood condition & subjects per group (N=122)

	Sad Mood Condition		Neutral Mood Condition
Group 1	17	Group 6	17
Group 2	21	Group 7	15
Group 3	11	Group 8	16
Group 4	6	Group 9	6
Group 5	7	Group 10	6

Table 8 presents the demographic information and other characteristics of the sample. The investigator was able to minimize missing data by reviewing all questionnaires before students were paid and remaining on-site to answer questions. Six students were unable to recall their total family income. Tabachnick & Fidell (1989) recommend estimating missing data by inserting mean values when only a few data points are missing from different subjects. The six missing data points were replaced using the mean income for the student's particular school.

T-tests were conducted to determine any differences between the two mood conditions on any key demographic variables. There were significant differences

between the conditions on education and number of other black students in classes (classroom racial congruency). Students in the sad mood condition tended to be lower classmen ($t(120) = -2.46, p = .015$) and reported more black people in their classes ($t(120) = 3.41, p = .001$)

Table 8. Characteristics of Sample

	Neutral Mood Condition (n=60)	Sad Mood Condition (n=62)
BDI	M= 3.77 SD = 1.99	M= 4.34 SD = 1.99
Age	M= 20.28 SD = 1.57 (range 18-27)	M=20.15 SD = 2.33 (range 18-32)
Number of people in household	M= 3.86 SD = 1.36 (range 1-7)	M= 4.29 SD = 1.70 (range 1-10)
Number of years in neighborhood (hometown)	M= 11.18 SD= 6.75	M= 11.67 SD= 6.86
Highest level of Education		
High school diploma or GED	10%	26%
Freshman year of college	23	21
Sophomore year of college	28	31
Junior year of college	17	16
Senior year of college	20	5
Graduate/professional degree or other	2	2
Gender		
Female	58%	64%
Male	42	36
Family income		
Less than \$5,000	0%	1%
\$5,000-\$9,999	3	3
\$10,000-\$19,000	7	7
\$20,000-\$29,000	20	15
\$30,000-\$49,999	30	24
\$50,000-\$69,000	20	21
\$70,000-\$99,999	13	18
Over \$100,000	7	11

	M= 5.23 (\$30,000-\$49,999) SD= 1.44	M= 5.47 (\$30,000-\$49,999) SD= 1.65
Number of other blacks in neighborhood		
None	3%	3%
Very few	17	18
A moderate amount	18	19
A considerable amount	28	21
Predominantly black	33	39
	M=3.72 (considerable amount) SD=1.19	M=3.74 (considerable amount) SD= 1.24
Country of Origin		
U.S.	68%	76%
Foreign	32	24
Amount of Time in U.S. (for foreign born)	M= 9.64 SD= 5.09	M= 12.50 SD= 2.68
Number of other black students in classes		
None	5%	2%
Very few	80	55
A moderate amount	12	34
A considerable amount	3	10
Predominantly black	0	0
	M=2.13(very few) SD=.54	M=2.52(very few) SD=.70
Religion		
Catholic	17%	16%
Jewish	0	0
Baptist	33	2
Methodist	5	21
Episcopalian	5	5
Seven day Adventist	2	5
Other(Pentecostal, nondenominational, Christian, Islam, atheist...)	38	47
Importance of Religion		
Not at all important	3%	5%
Slightly important	8	10
Moderately important	15	19
Considerably important	38	27
Extremely important	35	39
	M=3.93(considerably important) SD=1.07	M=3.85(considerably important) SD=1.19
Frequency of Worship		

Never	5%	11%
Hardly ever	23	31
Sometimes	38	26
Often	18	16
Always	15	16
	M=3.15(sometimes) SD=1.10	M=2.95(sometimes) SD=1.26
Blood Pressure		
Low	2%	3%
Within normal range	73	73
Borderline high	3	5
High	0	3
Don't know	22	16

Note. All demographic items with multiple response options were coded on a scale beginning with “1”. These variables include education, income, number of other blacks in neighborhood & classes, religion, importance of religion.

Frequency of Racial Discrimination

On average, students reported experiencing some form of racial discrimination 6.3 times within the past year. RDI items were categorized into 3 different domains. Items 1,2,8, and 9 pertain to customer service issues (e.g. Being made to wait for service while other white patrons were assisted first, being charged more for an item than white patrons, being asked to provide different credentials for major purchases than white patrons); items 3, 6, 7, and 10 to employment or “on the job” discrimination involving supervisors and co-workers; items 4 and 5 to interpersonal interactions with strangers (e.g. motorists not stopping for black pedestrian in the crosswalk).

Descriptive data are presented in Table 9 showing the percentage of the sample reporting racial discrimination in the 3 domains.

Table 9. Frequency of racial discrimination within the past year (n=122)

Frequency of racial discrimination				
	0	1-2	3-5	> 5
Customer Service	35.2%	21.3%	26.3%	17%
On the Job	59.8%	18.1%	14.0%	8%
Strangers	58.2%	20.5%	9.1%	12.3%

Severity of Racial Discrimination

Table 10 presents percentages for the severity of racial discrimination in each of the three domains, based only on those participants who indicated that they experienced discrimination within the past year. Overall, participants rated discrimination in their place of employment (Mean = 2.71, SD= .71), in customer service (Mean = 2.59, SD=.69) and during interpersonal interactions with strangers (Mean = 2.19, SD=.49) as slightly disturbing.

Table 10. Severity of discrimination for those reporting racial discrimination within the

past year.

	Severity of racial discrimination					
	N	Not at all disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing
Customer Service	79	6.3%	46.9%	36.6%	10.1%	0%
Employment/ On the Job	49	2%	49.0%	32.7%	16.2%	0%
Strangers	51	9.8%	64.7%	25.5%	0%	0%

Effectiveness of the mood induction procedure

A pilot study was conducted as a manipulation check with 22 African American undergraduates from Southern Connecticut State University. Students were recruited through the university’s black student union. The sad mood induction film was shown in a large classroom setting. The same instructions and procedures were followed as described previously.

The experimenter remained on site to observe reactions of the students to the mood induction procedure. The majority of students complied with instructions, however, 2 students whispered briefly during the showing of the sad mood film clip. The other 20 students appeared to be engrossed in the film and did not talk during the film or while completing the mood rating.

A t-test for paired samples was used to determine the effectiveness of the mood induction procedure. Results of the analysis showed that the mood induction procedure was effective ($t(21) = 5.75, p < .05$). As shown in Table 11, mean mood ratings after the

sad mood induction procedure were significantly lower than mood ratings at baseline.

Table 11. Pilot study mean mood ratings for sad mood induction procedure

	N	Mean	S.D
Pre mood rating	22	20.91	3.98
Post mood rating	22	13.73	5.46

To test the overall effectiveness of the mood induction procedure with the entire sample of 122 participants, mean mood ratings at baseline and immediately after the mood induction procedure were calculated. A two-factor mixed design ANOVA was performed with mood condition and trial (pre and post mood induction) as independent variables, and mood rating score as the dependent variable. Mood condition was the between subjects factor while trial or pretest-posttest was treated as the within subjects factor. Although Myers and Well (1991) recommend using the ANCOVA for a more powerful test of mood induction effects, they also note that ANOVA is acceptable, and widely used for pretest-posttest designs, and offers the ability to see the interaction between mood condition and trial.

Results of the ANOVA showed a significant main effect for mood condition, $F(1, 119) = 9.094, p < .05$, as well as a significant interaction between mood condition and trial, $F(1, 121) = 67.200, p < .05$. At pretest, participants in the sad mood condition did not differ in their mood rating scores from those in the neutral mood condition. However, at posttest, participants' ratings for the sad mood condition were significantly lower than those in the neutral mood condition. Table 12 presents the mean mood rating scores for mood condition by trial.

Table 12. Mean mood rating scores for mood condition by trial

	n	Pre test	Post test
Sad mood condition	62	19.42 (4.12)	13.73 (4.91)
Neutral mood condition	60	18.68 (4.27)	18.77 (3.92)

Note. Standard Deviation listed in ()

Effect of mood on perceived racial discrimination

Because the study utilized group administration, a preliminary analysis was conducted to examine the group effect on RDI scores. A completely nested or hierarchical design was used whereby subjects were nested in groups which in turn were randomly assigned to one of the two mood conditions. Given the importance in this study of accepting the null hypothesis, which in this case would mean finding no mood effect, a less stringent alpha level of .10 was used to reduce the risk of a Type II error. Two separate nested ANOVAs were performed; one for the frequency subscale and one for the severity subscale of the Racial Discrimination Index as the dependent variables. To reduce heterogeneity of variance in severity of discrimination scores across groups, a square root transformation was applied to these scores. Neither analyses produced a significant group effect. Group membership or social interaction within a particular group did not influence reports of frequency, $F(8,112) = 1.020$ ($p = .425$) or severity, $F(8,112) = 1.252$ ($p = .276$) of racial discrimination.

Two one-way ANCOVAs were performed on the frequency and severity subscales of the RDI to test the effects of mood on perceived frequency and severity of

racial discrimination, controlling for education and classroom racial congruency. The independent variable was mood condition, and the covariates were education and classroom racial congruency. Results of the evaluation of the assumptions of normality of the sampling distribution, linearity, homogeneity of variance and homogeneity of regression were satisfactory.

Correlations among covariates and RDI scores are presented in Table 13. One of the variables, classroom racial congruency, was significantly associated with RDI frequency scores, and was the only covariate that was a significant source of variance in the dependent variables, $F_{\text{frequency}}(1,118)= 6.13, p= .015$; $F_{\text{severity}}(1,118)= 3.38, p= .068$.

Table 13. Correlations between covariates and RDI Scores (n=122)

	Education	Classroom Racial Congruency
RDI Frequency	.046	.215*
RDI Severity	-.039	.160
Education	-----	-.032

* Significant at the .05 level

As summarized in Table 14, after adjustment by the covariates, RDI frequency and severity scores did not significantly vary as a function of mood condition, $F_{\text{frequency}}(1,118)=.316, p=.575, CI.90= -2.221 \leq (\mu_1-\mu_2) \leq 2.381 \eta^2=.003$; $F_{\text{severity}}(1,118)= .297, p=.587, CI.90= -.754 \leq (\mu_1-\mu_2) \leq .814, \eta^2=.003$.

Confidence intervals specify the bounds on the difference between two population means and are centered about estimated true scores (Howell, 1992). The

probability is .90 that the intervals specified above, enclose the true difference between RDI scores for the sad mood and neutral mood subjects. Eta squared is an estimate of effect size or strength of association between the dependent variable (RDI score) and the independent variable (mood condition). It represents the extent to which variance in the RDI scores is predicted by knowing mood condition (Tabchnick & Fidell, 1989). Results were non-significant even at the .25 level, and the effect size as measured by Eta² was .003 for both dependent variables.

Table 14. Mean (covariate adjusted) RDI scores by mood condition (n=122)

	Sad Mood	Neutral Mood
RDI Frequency	6.35 (6.77)	6.27 (8.45)
RDI Severity	2.62 (1.64)	2.59 (1.91)

Note. SD in ()

Post Hoc Analyses

Country of Origin and Racial Discrimination. Country of origin was assessed by having respondents indicate whether they were born in the United States or outside of the U.S. Twenty-eight percent of the sample was born outside of the United States. A large number of participants born in other countries would be of concern particularly if the majority of these students only spent a small amount of time in the U.S. Definitions of discrimination may vary with culture and cultural differences may influence perceptions of what is considered discriminatory.

As shown in Table 15, country of origin was significantly correlated with RDI severity scores, and negatively correlated with number of years spent in the U.S. Being

a foreign born student was associated less time spent living in the U.S. and less severe reports of racial discrimination. This relationship was not significant for the RDI frequency subscale, and there was no significant relationship between number of years in the U.S. (for foreign-born participants) and RDI scores.

Table 15. Correlations between country of origin, years in the U.S., and RDI scores

	RDI Frequency	RDI Severity	Country of Origin
Country of Origin	-.168	-.263**	-----
Years in U.S. (foreign born)	-.168	.028	-.824**

Note. ** correlation is significant at the .01 level. Participant responses to country of origin were dummy coded “U.S.” = 1; “Foreign” = 2

Discussion

Summary

Studies 1 and 2 were designed to help understand the relationship between racial discrimination and depression, and the role of mood on recall of discriminatory experiences. The results of Study 1 provide support for the hypothesis that repeated, and severe racial discrimination increases the likelihood of depression in the victims of discrimination. As exposure to racial discrimination increased in terms of both frequency and severity, levels of depression also increased.

Study 2 attempted to disentangle mood congruency effects from the relationship between racial discrimination and depression. The findings did not support the hypothesis that mood influenced recall of experiences with racial discrimination. Participants in the sad mood condition were not more likely than those in the neutral mood condition to recall more frequent or more severe experiences with discrimination.

Frequency of Racial Discrimination and Distress

The high correlation between frequency and severity ratings of racial discrimination suggests that participants who reported more frequent discrimination also saw these interactions as more distressing. It is possible that there may be some cumulative effect operating, whereby the more frequently a person is exposed to racial discrimination the more distressed they feel about it. Life stress or negative life events

literature may provide a theoretical framework from which to understand the association between frequency of racism experienced and subjective distress. Stress has been defined as an interaction between person and the environment when evaluated as exceeding the person's coping resources or threatening the person's well-being (Lazarus & Folkman, 1984). If racism is also defined as a source of stress, as it has been in recent literature (Thompson, 1996; Harrell, 2000; Clark, Anderson, Clark & Williams, 1999), then it is plausible that resources to cope with racial discrimination may be increasingly strained as a person experiences repeated racism. Other authors have suggested that there may be cumulative effects of racism on psychological well being in African Americans (Utsey & Payne, 2000; Utsey & Ponterotto, 2000). Further evidence of the cumulative nature of this effect has been demonstrated by Lepore, Miles, & Levy (1997), who examined the relationship between type of stress (chronic vs. episodic) and psychological distress in college students. They found that students who experienced chronic stressors or persistent negative life events had more elevated psychological distress levels than those who had episodic or infrequent life stressors.

Racial Discrimination and Cultural Differences

The present research also suggests a need to consider cultural differences in definitions of and responses to racial discrimination. In Study 1, the correlation between the BDI and RDI severity scores increased from .39 to .44 ($p < .01$) when all foreign-born students were removed from the data analysis. In Study 2, mean RDI frequency scores increased from 6.31 to 7.10 when the 34 foreign-born participants were excluded. There was also a significant association between country of origin and RDI severity scores,

suggesting that foreign-born participants tended to report less distressing instances of racial discrimination. One explanation for the less distressing reports may be that the foreign born participants did not define the interactions depicted in the RDI as racist, and therefore were not particularly distressed by them. Although the differences were not statistically significant, there was a trend in Study 1 for foreign born participants to rate the Ambiguous Vignettes as less discriminatory, again suggesting that there may be some differences in definition of racial discrimination based on cultural background. It is possible that the kinds of racial interactions depicted in the RDI are not generalizable across cultures. Essed (1991) proposed that two kinds of knowledge are necessary to make decisions about the presence or absence of racism in any given interaction: 1) situational knowledge of racism, which are rules of acceptable behavior obtained from family, society and education incorporated into a schema, and 2) general knowledge of racism which is acquired through repeated interactions and incorporates the historical context of racism for the individual's own ethnic group. Research by Essed (1991) showed differences in general knowledge of racism between black women born in the United States and the Netherlands, with African Americans demonstrating more knowledge and experience. Mellor et al. (2001) explored the role of cultural values in identifying racial discrimination in Asian and Caucasian students. Participants were asked to rate 6 videotaped scenarios as racist or non-racist. The Asian students were less likely to rate the scenarios as racist compared to the white students. Since situational and general knowledge are influenced by culture, foreign-born participants may have a less well-developed general knowledge of racism, or have different schemas based on cultural rules and conventions.

Given the cultural diversity within the African American population, it will be important for future research to assess country of origin and what it adds to our understanding of the relationship between depression and discrimination. Directions for future research might include an examination of the extent to which reactions to and definitions of racism are influenced by culture.

Limitations

Although the results of Study 2 suggest that the mood induction procedure was effective at eliciting the sad and neutral mood states, it was unclear how long the effects of the mood induction were maintained while participants completed the RDI. The failure to find a mood effect may have been due to the short term nature of the mood induction; subjects may not have been able to remain in the sad or neutral mood state long enough to complete the RDI in its entirety. An analysis of the RDI indicated that there were significant differences between the first (items 1-5) and last halves (items 6-10) of the scale. Scores were higher for items the first half of the scale than for the last half. These differences were significant for both the frequency subscale, $t= 6.70$, $df=121$, $p<.01$ for RDI frequency, and the severity subscale $t= 7.06$, $df= 121$, $p<.01$. Mean RDI frequency scores were 4.69 (s.d.= 5.64) and 1.62 (s.d.= 3.15) for the first and last halves respectively. Mean RDI severity scores were 2.09 (s.d.= 1.42) and 1.14 (s.d.= 1.49) for the first and last halves respectively. Thus, a mood effect, if it existed, would have been strongest for the first portion of the RDI. However, an ANCOVA conducted on the first half of the RDI revealed no significant mood effects for RDI frequency, $F(1,118)=.036$, $p=.85$ or severity, $F(1,118)=.077$, $p=.91$.

A few words about null hypothesis testing are warranted. One of the goals of the present research was to rule out mood congruent effects as an alternative explanation of the association between depression and racial discrimination. This goal was reflected in the experimental design and was necessary due to the inconsistent findings concerning the effects of mood on recall. The failure to find a significant mood effect was interpreted as consistent with studies (Macleod et al., 1997; Natale & Hantas, 1982; Burt et al., 1995; Gilboa et al., 1997; Brewin et al., 1993) that have not been supportive of mood congruent effects.

The research design reflects an attempt to strengthen the results of the correlational study by addressing some of the limitations inherent in such research, as discussed above. Although the results of the present study were strengthened by ruling out alternative hypotheses, it raises some important questions regarding the usage of null hypothesis significance testing (NHST), acceptance of the null, and how to report significant and non-significant findings: Can null hypothesis testing be used to claim that one variable has no effect on another or that population means are equal? If not, what are the conditions under which the null can be accepted? What criteria should be used and reported to evaluate a finding?

The present study can be viewed in light of what researchers have determined to be appropriate criteria for accepting the null hypothesis along with a reformulation of what NHST actually tells us. Cohen (1990, 1994) has pointed out that most researchers interpret the null hypothesis to mean that there is no (zero) difference between population means. He further argues that this usage of the null hypothesis is incorrect because there will always be some difference, no matter how infinitesimal. Almost all critics of null

hypothesis testing recommend reporting some form of effect size, p values, and confidence intervals (Cohen, 1994; Greenwald et al., 1996; Gliner, 2001). Greenwald et al. recommends a more informative way of reporting p values numerically rather than using the traditional “less than” or “greater than” signs. Frick (1995) proposed 3 criteria for accepting the null: 1) demonstration that the size of an effect is negligible utilizing a range or confidence interval, as opposed to showing that one variable has no (zero) effect on another, 2) results of the study yield large p values and very small effect sizes, and 3) demonstration of a good faith effort to find an effect. by increasing the number of subjects (taking into consideration the difficulty of testing subjects, sample size used in other similar studies, and uncontrolled sources of variance), utilizing multiple trials per subject (if possible), controlling for other variables that are known or are suspected of having an effect on the variable of interest, checking for the effect of the manipulation, and using a measure that is sensitive enough to detect the effect. All of these recommendations highlight the importance of reporting enough information in a results section that is useful, informative and allows the reader to more critically evaluate the findings than can be done when simply reporting statistical significance.

In the present study, several of these criteria were demonstrated in the reporting of effect size, confidence intervals, and high p values. In addition to the use of a manipulation check for the mood induction procedure, an attempt was made to control for influential sources of variance (i.e. group effects). Although there are several statistics that can be used to indicate effect size, the correlation ratio, Eta, was used here. Eta indicates how strong the relationship is and can be used with continuous or categorical variables (Nunnally & Bernstein, 1994). The recommendation for showing a good faith

effort includes running enough subjects to detect an effect if one exists. The author would have increased the number of subjects if results approached significance, however, as reported previously, results were not significant even at the .25 level. In addition to this “good faith” criterion, the a priori decision to set alpha at .10 demonstrates an effort to find an existing effect.

Theoretical and Clinical Implications

The finding that depression is associated with the experience of racial discrimination also has important implications for those who treat African Americans who present in therapy with symptoms of depression. This study, along with other similar research, points to a need to include racial discrimination as an issue to be assessed in the life experiences of blacks that influence the presentation of depression. Sensitivity to issues of racial discrimination as a contributing factor to the depression is necessary. In treating depression, clinicians should ascertain the frequency and severity of discrimination.

The correlational nature of the study precludes reaching the conclusion that racial discrimination causes depression. We must also be mindful of the directionality problem inherent in correlational research, which makes it difficult to determine if depression is a consequence of racial discrimination or, alternatively, that the negative cognitions associated with depression lead to the perception of discrimination. The successful mood induction procedure and data from the Ambiguous Vignettes helped to rule out the latter; however, additional studies will be needed to determine whether racial discrimination is a cause of depression.

The next step towards clarifying the relationship between racial discrimination and depression should incorporate ways to experimentally manipulate actual experiences with racial discrimination and measure misperception, and resulting mood. The Ambiguous Vignettes represented hypothetical situations and elicited thoughts about racial discrimination in the abstract. Perhaps, if the situations depicted in the Vignettes had occurred in real life, the reactions would have been stronger. A less invasive, but more realistic experimental manipulation of experiences with discrimination may involve showing participants videotape of the racial interactions depicted in the Vignettes.

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Appendices

Informed Consent

Information for People Who Take Part in Research Studies

The following information is being presented to help you decide whether or not you want to be a part of a minimal risk research study. Please read carefully. Anything you do not understand, ask the person in charge of the study.

Title of Study: Thinking and Feeling.
Principal Investigator: Tamra Williams, M.A. - University of South Florida
Study Locations: Yale University, Southern Connecticut State University

You are being asked to participate because this psychology study is being offered to African American undergraduates at your university who wish to participate.

General Information about the Research Study

The purpose of this research study is to examine feelings and thoughts in response to past and present interpersonal interactions.

Plan of Study

- The experimental treatment you will receive by taking part in this research study may involve viewing 2 short film clips lasting approximately 4 minutes each and/or completing questionnaires about your feelings and thoughts, and some demographic information (e.g., gender, age, race ...). It is expected that this study will take approximately 30 minutes of your time.
- You will receive \$10 upon completion of the study. However, should you decide to withdraw from the study or your participation is terminated by the investigator, there will be no penalty of any kind.

Benefits of Being a Part of this Research Study

- By taking part in this research study, you may increase our overall knowledge of the ways in which our emotions affect us.

Risks of Being a Part of this Research Study

- You may be asked to complete several questionnaires and/or view 2 film clips. There are no harmful side effects or risks involved in this study. The films and questionnaires may lead to some feelings of emotional distress, but these feelings will be minor and temporary.

Confidentiality of Your Records

- Your privacy and research records will be kept confidential to the extent of the law.

Appendix A (Continued)

All information will be kept confidential and identified by a subject number assigned by the Principal Investigator. Data from the study will be placed in a locked room. Only the principal investigator and co-investigator will have access to the data. However, authorized research personnel, employees of the Department of Health and Human Services, and the USF Institutional Review Board may inspect the records from this research project. The results of this study may be published. However, the data obtained from you will be combined with data from other people in the publication. The published results will not include your name or any other information that would in any way personally identify you.

Volunteering to Be Part of this Research Study

- Your decision to participate in this research study is completely voluntary. You are free to participate in this research study or to withdraw at any time. If you choose to not participate, or if you withdraw, there will not be any penalty or loss of benefits you are entitled.

Questions and Contacts

- If you have any questions about this research study, contact *Tamra Williams at 203-974-7196*.
- If you have questions about your rights as a person who is taking part in a research study, you may contact a member of the Division of Research Compliance of the University of South Florida at 813-974-5638.

Your Consent-By signing this form I agree that:

- I have fully read or have had read and explained to me this informed consent form describing a research project.
- I have had the opportunity to question one of the persons in charge of this research and have received satisfactory answers.
- I understand that I am being asked to participate in research. I understand the risks and benefits, and I freely give my consent to participate in the research project outlined in this form, under the conditions indicated in it.
- I have been given a signed copy of this informed consent form, which is mine to keep.

Signature of Participant

Printed Name of Participant

Date

Investigator Statement

I have carefully explained to the subject the nature of the above protocol. I hereby
Appendix A (Continued)

certify that to the best of my knowledge the subject signing this consent form understands the nature, demands, risks and benefits involved in participating in this study.

Signature of Investigator Printed Name of Investigator Date
Or authorized research investigators
designated by the principal investigator

Institutional Approval of Study and Informed Consent

This research project/study and informed consent for were reviewed and approved by the University of South Florida Institutional Review Board for the protection of human subjects. This approval is valid until the date provided below. The board may be contacted at (813)974-5638.

Approval Consent Form Expiration Date:

Revision Date:

Appendix B: Demographics Questionnaire

Subject Number

Date / /

1. Age

2. Race

3. Gender

(a) Male (b) Female

4. Country of origin

If not born in the United States, how long have you lived in this country?

5. How long have you lived in your current hometown/neighborhood?

Besides yourself/your family, how many other black people/families live in your neighborhood?

1	2	3	4	5
None	Very few	A moderate amount	A considerable amount	Predominantly black

6. Highest level of education completed

(a) high school diploma or GED (b) freshman year of college

© sophomore year of college (d) junior year of college (e) senior year of college (f) graduate or professional degree (g) other

Appendix B (Continued)

7. Total family income

(a) below \$5,000 (b) \$5,000 - \$9,999 (c) \$10,000 - \$19,999

(d) \$20,000 - \$29,999 (e) \$30,000 - \$49,999 (f) \$50,000 - \$69,999

(g) \$70,000 - \$99,999 (h) over \$100,000

8. How many people in your family household?

9. Overall, how many other black students are there in your classes?

1	2	3	4	5
None	Very few	A moderate amount	A considerable amount	Predominantly black

10. What is your religious affiliation:

(a) Catholic (b) Jewish (c) Baptist (d) Methodist (e) Episcopalian

(f) Seven Day Adventist (g) Other

11. How important is religion to you?

1	2	3	4	5
Not at all Important	Slightly Important	Moderately Important	Considerably Important	Extremely Important

12. How often do you attend religious services?

1	2	3	4	5
Never	Hardly Ever	Sometimes	Often	Always

13. Is your blood pressure:

1	2	3	4
Low	Within Normal range	Borderline High	High

Don't Know _____

Appendix C: Beck Depression Inventory

This Inventory, created by Dr. Aaron T. Beck, is under copyright protection.
For information on this Inventory, contact the author.

Appendix D: Racial Discrimination Index

Listed on the following pages are 20 different situations depicting interactions between black and white people. Read each item, then **write the number of times that situation or a similar situation** has happened to you in the **past year up to the past week**. Write in a "0" if you have never experienced a situation similar to the one depicted in the past year. Write in "1" if the situation has occurred once; write in "2" if the situation has happened to you twice in the past year, and so on.

Then look at the set of numbers below and indicate by circling a 1, 2, 3, 4 or 5, how **disturbing** each of the events has been for you **in the past year up to the past week**.

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

If the event did not occur to you in the past year do not circle a response.

1. A black person went to a restaurant to eat. The waitress showed the black person to a table and handed the black patron a menu. A short while later, a white person arrived and the same behavior was repeated for that person. But, instead of taking the black person's order first, the waitress took the white person's order even though the black customer was ready to order.

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

Appendix D (Continued)

2. A black person went to a mall one day. While there, the black person saw a sweater without a price tag on it. The black customer rang the bell for assistance and a white salesperson started toward the black person. But the sales person was stopped by a white customer who had just walked up. Instead of asking the white customer to wait for a minute, the black customer was made to wait.

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

3. A black person makes a mistake and the black person's supervisor, who is white, criticizes the black employee and implies that the black person is stupid. A white employee makes a similar mistake. However, the same supervisor forgives the white person and points out that all people make mistakes.

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

Appendix D (Continued)

4. A white person was crossing the street when a white person drove up in a car. Seeing the white pedestrian in the path of the car, the white motorist stopped the car until the white pedestrian had reached the curb. A few yards up the same street a black person was crossing. However, although it seems as if the white motorist saw the black pedestrian, the white motorist did not even slow down.

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

5. A white person was tending to a lawn using a leaf blower, and some of the leaves and grass clippings were being blown onto the sidewalk. Another white person was walking by, so the white person who was tending the lawn turned the leaf blower off until the white pedestrian had passed. A few moments later a black person walked by. Although the white person saw the black person walk by, the white person did not turn the blower off, allowing some of the leaves and grass clippings to be blown in the direction of the black person.

Appendix D (Continued)

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

6. A black person was hired at the same time as a white person. Both had approximately the same credentials and both were given the same job title, and paid the same amount of money. The first day of work, the black person was given significantly more work to do than the white person.

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

7. A going away party was being given for an employee. A white person was in charge of sending out invitations for the party. Although the employee who was going away liked and was liked by both the black and white employees, invitations were sent to all whites but none were sent to the black employees.

Appendix D (Continued)

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

8. A black person went to a yard sale. The black person asked the price of a particular item. The person in charge of the yard sale, who was white, told the black customer the price. A few moments later, a white person arrived and asked the same clerk how much the price was for the same item. The clerk was overheard quoting a figure much lower than the figure given to the black person.

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

9. A black person walked into a car rental company. The black person wanted to pay for the car rental by credit card. However, the white clerk informed the black person the bill would have to be paid in cash and paid in advance. After the black patron paid the bill, a white person entered, and although the white did not seem to have any more credentials than the black person, the white patron was informed the bill could be paid when the rental was returned and could be paid by check.

Appendix D (Continued)

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

10. A black and white person were hired at the same time. Both had similar credentials. Also, both had the same job title and were being paid the same amount of money. However, each day the white supervisor of these two employees would assign the black person a job which was considerably more menial than the job assigned the white person.

Number of times you have been in a situation similar to this one in the past year

1	2	3	4	5
Not at all Disturbing	Slightly Disturbing	Moderately Disturbing	Considerably Disturbing	Extremely Disturbing

Appendix E: Ambiguous Vignettes

Instructions: The following scenarios describe incidents that may or may not involve racial discrimination. Please read each scenario carefully, then decide whether you feel the situation involves racial discrimination and circle the appropriate response below.

1. Imagine that you and your family are thinking about buying a house in a quiet middle class neighborhood. Your family is large; you have several brothers and sisters. The next door neighbor, Marsha, who is white, notices your family inspecting the house and talking to the current owners. Later that same day Marsha tries to discourage her neighbor from selling their house to your family. She explains that she is worried that the children in your family would disturb the neighborhood, and all the cars of the various family members would detract from the neat and unified appearance of the neighborhood.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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2. You have just moved to Tampa. You have no relatives in the area, but you do have a friend who lives near the College Hill housing development, also known as a high crime area. Since you do not yet have a car, you decide to call a cab to pick you up from your

Appendix E (continued)

apartment in Temple Terrace. However, when you call the cab service and mention your destination, you are told that they do not make stops in high crime areas.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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3. Imagine that you are applying for a job at a small clothing store. You stop by the store to pick up an application, but spot the manager talking to another applicant, who is white. They appear to know each other by first names and talk for quite some time. At the end of their conversation, the manager gives this person an application to complete and return. As soon as they are through talking, you approach the manger about the same job opening, but you are told the position has already been filled.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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4. Imagine that you have been dating a white person for the past month or so. Although your partner's parents admit that you are a very nice person, they have been trying to

discourage the relationship from developing further. They don't mind the two of you

Appendix E (continued)

being friends, and as a child they encouraged all of their children to have friends from all racial and ethnic groups. However, they are concerned that dating seriously would interfere with achieving education and career goals. They feel that education should come first.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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5. You and your friend James are both college students, and you are both looking to buy new cars. James, who is white, pulls into a car dealership driving a Mercedes Benz. The salesman directs him to the new car lot. You arrive at the same dealership a few hours later in your smaller, older, less expensive car. The salesman directs you to the used car lot.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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6. Imagine that your friend Dave and his roommate (who are both white) are looking for a third person to share their house. They have been looking for a third roommate for

three weeks now. You drop by the house to look at the room and it is empty, except for a

Appendix E (continued)

box filled with books and a desk. However, when you meet your friend's roommate, he says that he's changed his mind and would prefer to use the room as a study area.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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7. Imagine you are trying out for one of the main characters in a local theater production of a tragic play about two young lovers. The two previous actors who played the roles were white. You have previous theater experience acting in several plays. A few days after your audition, you find out that you did not get the part. You are later informed by the casting committee that the role was given to a white person, who they say had more acting experience.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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8. Imagine that you are applying for a job at a local amusement park. You have worked for other amusement parks before, mainly working outside concession stands and some

outdoor game booths. However, this time you were hoping to get a job in restaurant food

Appendix E (continued)

service. These jobs are very popular because the restaurants are air conditioned and more comfortable than working outside in the sun. A week after turning in your application, you are told that you would be placed in one of the outside concession stands or in one of the janitorial grounds keeper positions. The restaurant position was given to a white person who had more restaurant experience. When you ask the manager why you did not get the job, he said that you were better qualified for the outside jobs.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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9. Imagine that you are a salesperson for a large computer software company.

You are frustrated with your job because the company always sends you to minority business conferences to represent the company products. These conferences are usually smaller and less lucrative. Your supervisor says that sending a black salesperson builds better rapport with the minority business community who she feels are better able to relate to you and trust you more than the other white sales representatives. However, your white colleagues are sent to the bigger conferences which are more nationally recognized and net more profit. You have had the opportunity to attend some of these

profitable conferences, but not as many as your white peers.

Appendix E (continued)

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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10. Imagine that you have been having some difficulty in one of your classes. You perform poorly on the first exam, and ask your professor, who is white, what you should do? Your professor recommends that you drop the class. He says that based on your first test score you probably will not pass the class, and from past experience, students in your position usually end up dropping the class.

Do you feel that this situation involves racial discrimination?

Definitely No

Definitely Yes

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Appendix F: Mood Rating Scale

Please rate how you are feeling **AT THIS VERY MOMENT** by circling the appropriate number.

1	2	3	4	5	6	7	8	9
Very Bad				Neutral				Very Good

1	2	3	4	5	6	7	8	9
Very Sad				Neutral				Very Happy

1	2	3	4	5	6	7	8	9
Very Negative				Neutral				Very Positive

Appendix G: Previous Viewing Questionnaire

1. How well were you able to experience the emotions portrayed in the first film you saw?

1	2	3	4	5
Poor	Fair	Good	Very Good	Excellent

2. Please rate how accurate your mood ratings were

1	2	3	4	5
Poor	Fair	Good	Very Good	Excellent

3. Have you ever seen the first film clip shown earlier? (Please circle)

Yes	No
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Appendix H: Referral List

THANK YOU for participating in this study. Your time and effort are greatly appreciated. Sometimes completing questionnaires of this type makes people realize that they have not been feeling as well emotionally as they would like. Or sometimes answering some of the items about depression and past experiences with racial mistreatment actually stirs up negative feelings. In either case, there are several options you have to deal with these feelings. First, feel free to contact the experimenter conducting the study, Tamra Williams, at 974-7196. I will be pleased to discuss your reactions and answer any questions you may have.

If you think you might benefit from counseling, psychological services are available through Yale's Department of University Health (DUH). Also, most health insurance companies cover some type of mental health services. Therefore, as an alternative, you might also check with your insurance company to see what type of mental health services are covered, if any.

DUH Office of Mental Hygiene 432-0290

Appendix I: Debriefing

The purpose of this experiment was to further our understanding of the relationship between sad mood and racial discrimination. The hypotheses tested by the experiment were that (1) people who experience higher frequencies of racial discrimination also experience greater sad mood, and (2) people who experience more severe discrimination also are more likely to experience greater sad mood. The study also hypothesized that feeling sad does not alter our ability to remember past racial discrimination or distort the experience in terms of severity or frequency.

The experiment was divided into two studies. In one study, students were randomly assigned to one of two groups: a sad mood group and a neutral mood group. In the sad mood group, students viewed a short film that induced a temporary sad mood state, while the neutral group viewed a film that was affectively neutral. After watching the film, students were asked to complete a questionnaire requiring them to reflect on their experiences with racial discrimination. At the end of the study, both groups viewed another short film to induce a more happy mood state. In the second study, students were asked to complete several questionnaires that measured their current mood and experiences with racial discrimination in the past year.

It is expected that sad mood will not distort the ability to recall past experiences with racial discrimination; students in the sad mood condition will not recall more frequent or more severe experiences with discrimination than those in the neutral mood condition. It is also predicted that one's current mood will be linked to the amount and

Appendix I (Continued)

severity of discrimination experienced within the past year.

If you have any questions, please feel free to ask them of the experimenter, Tamra Williams (203) 974-7196.

Thank you for participating.

About the Author

Tamra Williams received a Bachelor's Degree in Psychology/Sociology from Wesleyan University in 1992 and entered the Ph.D. program in Clinical Psychology at the University of South Florida. Ms. Williams has authored and coauthored several publications on aggression in offender populations, has been an invited guest lecturer and presenter on issues concerning racial discrimination and mental health in African Americans.

Ms. Williams completed her pre-doctoral internship at the Yale School of Medicine, Yale Psychiatric Institute, followed by a research fellowship at the Yale Department of Law & Psychiatry.