When Racial Ambivalence Evokes Negative Affect, Using a Disguised Measure of Mood

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Many White people simultaneously hold both sympathetic and antagonistic attitudes toward Blacks. The present research found that activation of these conflicted racial attitudes gives rise to psychological tension and discomfort, as evidenced by negative mood change, and that the amount of discomfort depends on individual differences in measured ambivalence. The salience of White subjects' racial attitudes was manipulated by exposing half the subjects to controversial statements about a recent local incident of racial violence; the other half read neutral material. Before and after this manipulation, subjects took a mood test disguised as a subliminal perception task. Subjects in the high-salience condition showed significantly more negative mood change. This effect was carried by high-salience subjects who were also relatively high on dispositional racial ambivalence, as measured by a questionnaire. Ambivalence was unrelated to mood in the control condition. A second study showed that merely completing the questionnaire was not sufficient to produce negative mood change.

Survey research documents that racial attitudes currently expressed by White Americans are far more liberal than the views held a few decades ago (Lipset & Schneider, 1978; Schuman, Steeh, & Bobo, 1985; Smith & Sheatsley, 1984). One should not infer, however, that discriminatory attitudes are now rare. Anti-Black feelings are revealed in social psychological experiments involving unobtrusive measures of intergroup affect and preference (reviewed by Crosby, Bromley, & Saxe, 1980). It appears that, at least at an unconscious level, some amount of racial bias is commonplace.

Consistent with these findings of the prevalence of both favorable verbal attitudes and unfavorable nonverbal impulses, a number of investigators have created situations in which White subjects, usually college students, appear to suppress negative behavior or even display positive behavior toward Black target persons, supposedly as a means of controlling guilt or shame about harboring negative racial feelings (e.g., Dutton, 1975; Gaertner & Dovidio, 1986; McGahay, 1986; Weitz, 1972). More recently Devine (1989) has demonstrated the operation of a somewhat different kind of internal

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conflict—namely, a conflict between stereotype knowledge and personal beliefs regarding Black Americans.

Like the foregoing investigators, we believe that inner conflict is a central feature of present-day reactions to racial minority groups. However, we do not construe this conflict primarily in terms of either prejudice versus need to conform to a social norm of tolerance or personal beliefs versus automatically activated stereotypes. Rather, the present view is that Whites' attitudes about Black people tend to have both favorable and unfavorable components that are largely unrelated, so that both are simultaneously present to some extent. More specifically, it is proposed that the majority is disposed (a) to be in sympathy with Blacks as a group that is unfairly disadvantaged by past and present discrimination but also (b) to be critical of them for not doing enough to help themselves. The rationale for this theoretical approach and the supporting evidence have been presented by Katz and Hass (1988). Two attitude scales were constructed to measure, respectively, the sympathetic and antagonistic dispositions and were shown to have adequate psychometric properties. That is, the two scales ("pro-Black" and "anti-Black") are largely independent of each other; both are unrelated to Marlowe and Crowne's Social Desireability Scale but show a theoretically expected pattern of relations when compared with various subscales of Woodmansee and Cook's (1967) Multifactor Racial Attitude Inventory (MRAI); in addition, both differentiate as expected between Black and White samples. Furthermore, in accordance with a more extended theory of attitude-value relationships, the two scales show an expected pattern of cognitive association with verbal measures of two value orientations: individualistic Protestant ethic and egalitarianism.

Our theory of racial ambivalence states that both the pro-Black and the anti-Black attitudes have importance to the person who holds those attitudes. So, if one has even moderately high scores on both, being made aware of one's incompatible beliefs should generate psychological discomfort and tension. More specifically, being made aware of having deep-seated feelings of both sympathy and disdain towards Blacks should be potentially damaging to a White person's self-image as humane and fair-minded, yet discerning. In this respect, our theory has a family resemblance to Festinger's (1957) conception of dissonance arousal, particularly as interpreted by Aronson (1969). After reviewing the research literature, Aronson concluded that dissonance effects were apparent only when an inconsistency between cognitions threatened the self-concept. However, our notion of racial ambivalence involves a conflict of attitudes about a single object (here, Black Americans) whereas dissonance research has typically dealt with an incompatibility between cognitions about separate objects or between cognitions about one's own behavior and one's self-concept. Or, as construed by Cooper and Fazio (1984), dissonance arousal seems to require the perception that one is responsible for having brought about an aversive and irrevocable event, a quite different set of circumstances from those with which our model is concerned.

The work of Rokeach and others on the consequences of making people aware of inconsistencies between their racial attitudes and their general values is also pertinent. For example, in an early experiment, Rokeach (1973) found that subjects who ranked freedom and equality highly as personal values but who were only weakly in favor of civil rights for Blacks reported experiencing self-disatisfaction when made aware of the discrepancy. The more dissatisfaction expressed, the more likely it was that the subject would later engage in pro-civil rights behavior, such as joining the NAACP. Thus, there is some evidence that making the person aware of holding inconsistent cognitions relating to racial injustice aroused negative affect, which seemed to motivate behavioral change.

Our present interest focuses more systematically than the previous research on the affective consequences of activating racial ambivalence. The main hypothesis is that such activation will be psychologically unsettling and will induce negative mood change. More specifically, White subjects, on average, will be made uncomfortable and will show a negative shift in mood after exposure to material that is both strongly favorable and unfavorable to Blacks. In addition, the effect will be mediated by measured differences among subjects in pro-Black and anti-Black attitudes: subjects with relatively high scores on both these scales (those with high measured ambivalence in their racial attitudes) will show the greatest amount of negative mood change when exposed to the activating information. In other words, we expect that Whites whose racial attitudes are highly ambivalent should experience emotional tension when their ambivalence is made salient. By contrast, those low in ambivalence, as well as those for whom racial attitudes are not made salient (regardless of ambivalence level), should not experience a negative shift in affect.

SELECTION OF MEASURE OF EMOTION

Our aim was to show that awareness of one's racial ambivalence is accompanied by feelings of lowered self-worth, depression, and anxiety. Therefore, we sought to measure the emotional content of the subject's experience in a situation designed to arouse his or her racial attitudes. The usual method for assessing the content of
momentary emotional states, or moods, has been the introspective self-report as elicited by adjective checklists or rating scales. However, the purpose of these techniques is usually transparent. As a result, subjects have conscious control of their responses, a serious drawback for a study in which both psychological defensiveness and situational demands may come into play. Furthermore, such techniques rest on the assumption that subjects are able to identify their emotions accurately at a conscious level. To avoid these potential problems, we devised a mood measure that was disguised as a test of subliminal perception. On each trial, a nonsense verbal stimulus was flashed on a screen too briefly for recognition. The subject's ostensible task was to select from a list of four response words the one that "felt" closest in meaning to the stimulus. (Of course, the stimulus had no actual meaning, as it was a nonword string of letters.)

One of the response words was always a positive or negative affect label, and the others were affectively neutral. The basis for the procedure is much the same as for any projective test: The selection by subjects of mood words in response to ambiguous stimuli (especially when there are differences between experimental conditions in the kind of mood words selected) is presumed to be indicative of how the subjects are feeling at the time.

More specifically, the theoretical rationale for this procedure is similar to the "feelings as information" model proposed by Schwarz and Clore (1988; Schwarz, 1990). These authors suggest that one's current affective state provides information that an individual uses when making a judgment according to a "How do I feel about it?" heuristic. In other words, one checks one's feelings and uses them as information in making an evaluation. This process may involve the misattribution of affect aroused by one source to judgment of another. In our case, subjects were instructed to "go with their feelings" in selecting an alternative for which there was no objectively correct response. Presumably their feelings would be used to guide them toward selecting mood-consistent alternatives through a "How do I feel about it?" process. Such a method of assessing mood has the advantage of requiring little self-related cognitive intervention. Subjects are asked to "pick a word that feels correct." Their focus is on feelings regarding the correctness of the word, rather than introspecting, identifying, and consciously labeling their mood state. Finally, in addition to bypassing conscious processes that may operate even when subjects are motivated to report their mood honestly and accurately, the procedure may help circumvent demand characteristics or defensiveness that could influence the report of specific moods on what may be sensitive research topics.

STUDY 1

Research Design and Predictions

To create a high-salience condition, we used stimulus materials relating to a much-publicized incident of racial violence that occurred in New York City some months before the present study was conducted. Subjects listened to an audiotape that ostensibly contained street interviews with residents of an all-White neighborhood (Howard Beach, Queens) where a gang of teenagers armed with bats and clubs had chased and beaten three Black men. Some of the interviewees expressed accord with the Blacks, whereas others sympathized with the concerns of the White youths. A low-salience group performed a neutral filler task instead of hearing the taped interviews. Before and after the salience manipulation, all subjects were given the disguised mood measure, which was separated from the manipulation by a cover story. All subjects also completed the Pro-Black and Anti-Black Attitude Questionnaire, or PAAQ, from which separate pro and anti scores, as well as an ambivalence score, were obtained. Subjects filled out the PAAQ before hearing the audiotape in the high-salience condition and after the second mood test in the low-salience condition.

Although most White people tend to be at least somewhat ambivalent about Blacks, the amount of ambivalence varies from individual to individual. According to our theoretical model, then, negative mood will be aroused by the racial salience manipulation (in comparison with control subjects), and the degree to which negative mood is evoked by the racial salience manipulation should be a function of the subject's level of ambivalence. The amount of negative affect shown by individual subjects should be related to their ambivalence scores in the high racial salience condition, but should not be related to their ambivalence scores in the low-salience control condition. In other words, the combination of high salience and high ambivalence should evoke negative affect, but ambivalence should be unrelated to affect in the absence of a situational cue that makes the ambivalence salient.

Method

Subjects. The subjects were 50 male and female White students at Brooklyn College. They were recruited for an experiment on "subliminal perception" in classes and through posted announcements. Each subject was paid $10 for participating.

Procedure. Testing was done individually by a White female graduate student. On entering the experimental room, the subject was seated in front of a microcomputer keyboard and monochrome monitor, the apparatus for
the disguised mood measure. The experimenter explained that the research dealt with subliminal perception and briefly described the phenomenon. Then she gave directions for the "subliminal perception" task—the disguised mood measure. (The measure is described in a later section.)

After giving the instructions, the experimenter went behind a partition, leaving the subject to perform the premanipulation mood test. Reappearing when the pretest had been completed, she announced that there would be a rest period before the "subliminal perception test" was resumed. She went on to explain that it would take awhile for the subconscious to process the information just presented subliminally and that during this time it was important to keep the conscious mind occupied with other material. As it happened, she added, there was another study being done that would take just about the same amount of time, and so rather than occupy the subject with a meaningless filler task, it had been agreed to help out the other experimenter by giving the subject an anonymous questionnaire on social attitudes.

Half the subjects were randomly assigned to each of the two salience conditions. In the high-salience condition, subjects filled out the PAAQ and then heard the audiotape about the racial violence episode, under instructions to listen carefully. When the tape ended, subjects completed a 10-item questionnaire on its content. The sole purpose of this "questionnaire" was to repeat the statements from the tape, thereby mentally reinforcing them. (No opinion or personal reaction to the statements was requested.) In the low-salience condition, during this time, subjects filled out a "Survey of Personal Values" questionnaire made up of innocuous items unrelated to racial attitudes (e.g., "The food we eat has a big effect on the state of our health").

Both experimental groups now returned to the "subliminal perception task" to provide a postmanipulation measure of mood. Afterward, those in the low-salience condition filled out the PAAQ. (This sequence was used for low-salience subjects to avoid any possible effect that activation of racial attitudes associated with answering the PAAQ items might have on mood. Conversely, in the high-salience condition, the PAAQ was administered earlier in the procedure in order to prevent any possible effect of the Howard Beach material on the measurement of racial attitudes.)

Finally, subjects were questioned about their impressions of the session. No one voiced any suspicion regarding the connection between the "subliminal perception task" and the intervening task (Howard Beach tapes or "Survey of Personal Values"). Nor did anyone express any suspicion that the "subliminal perception task" was a measure of mood.

Mood measurement. The mood test was programmed for self-administration on an IBM-PC microcomputer. On each trial, a tone signaled subjects that a word was about to be flashed in a box on the screen. The "stimulus word" (actually a nonsense stimulus) was flashed for approximately 20 msec and then was masked by a string of #s. Pilot testing established that the stimuli were exposed too briefly to be read but long enough for subjects to see that something had been presented.

Interest in the topic of subliminal perception fostered subjects' motivation during the experiment. But to further ensure their sustained attention to a task involving stimuli exposed too briefly to be read, subjects were told that they would receive a New York State Instant Lottery ticket if they attained a minimum score on the task. They were informed that virtually everyone who continued to pay attention during the trials would be able to reach that minimum score. (In fact, all subjects were given a lottery ticket at the end of the session.)

After the "stimulus word" was flashed, four response words, numbered 1 through 4, appeared on the screen and remained there until the subject selected the one that "felt similar in meaning to the word that was flashed." Subjects were told to guess if necessary, because their guesses would be guided by their subconscious reception of the stimulus word. ("Go with your feelings.") They entered their response in the computer by pressing one of four numbered keys. One of the response words was always either a positive or a negative affect adjective, and the three others were affectively neutral. All four response words were similar to the stimulus in length and appearance so that physical differences would not bias the selections. The pre- and postmanipulation series each consisted of 20 trials, in half of which the critical response word was a positive mood adjective and in half of which it was a negative mood adjective. The two types of items were randomly ordered. The following is an example of an item: LOWN (nonsense stimulus)—DAWN, DOWN, GOWN, TOWN (response words).

The positive and negative mood words were culled from published mood checklists. Most of the positive and negative affect words in our pretest and posttest lists appeared as markers of positive affect and negative affect factors in Watson and Tellegen's (1985) reanalyses of several studies of self-reported mood. The pretest negative affect response words were down, sunk, stupid, depressed, discouraged, mad, tense, nervous, uncertain, and frustrated. In the posttest they were low, sad, unworthy, gloomy, lost, anger, anxious, confused, inconsistent, and uneasy. The pretest positive affect response words were fine, whole, satisfied, cheerful, pleased, joyful, secure, active, calm, and consistent. In the posttest they were good, strong,
Validation of mood scale. A validation study of the mood test was done with a sample of 51 introductory psychology students at Brooklyn College who volunteered to fulfill part of a course requirement. Subjects were tested individually. For half the sample, a negative emotional state was induced by means of a technique modeled on that of Thompson, Cowan, and Rosenhan (1980), whereby subjects were exposed to an emotionally evocative narrative with instructions to become involved in the events described. In our version, the instructions and narrative were read aloud by a female experimenter. The listener was encouraged to project himself or herself into the narrative, which was told in the second person. It was about failing an important examination and experiencing shame, regret, and loss of self-esteem. Subjects in a control condition were read a neutral article of a similar length. The mood test was administered to all subjects before and after the experimental manipulation.

As expected, the premanipulation data showed no difference between conditions on any of the following mood scores: positive affect (total number of positive words selected out of 10), negative affect (total number of negative words selected out of 10), and composite (total positive words minus total negative words). When postmanipulation mood scores were analyzed using prescores as a covariate (ANCOVA), neither positive nor negative affect showed a significant difference between conditions. However, the finding for composite mood supported the prediction, with a more negative composite affect score in the negative mood induction condition (mean = -47) than in the control condition (mean = 1.64, F(1, 28) = 5.86, p = .02). The results, then, supported the validity of the composite mood score as a measure of change toward greater negative affect after the experience of lowered self-esteem.

Another psychometric issue bearing on the mood measure comes from the fact that the same mood words do not appear on the pre and post measures. Different words are used to avoid arousing subjects’ suspicion regarding the purpose of the procedure. To test the equivalence of the two groups of words, a separate group of 40 subjects were given all the mood items with no intervening task. For half these subjects, the two subsets of items appeared in the standard order; for the other half, the order was reversed. The results produced no effect of item group, order of presentation, or the interaction between the two on measures of positive mood, negative mood, or composite mood (p > .25 in all cases). Because no differences between the two groups of words were found, the pre and post measures can probably be considered equivalent in most situations.

PAAQ. The PAAQ consists of 10 pro-Black and 10 anti-Black statements, with a 6-point agree-disagree response format. Two items of each type are keyed in reverse, as a means of identifying possible acquiescent response bias. The pro and anti items are presented in random order. The two scales are presented in full by Katz and Hass (1988). Testing White college students, Katz and Hass found the scales to be reliable and largely independent. They also found evidence of construct and known-groups validity. The following are examples of pro items: “Many Whites show a real lack of understanding of the problems that Blacks face” and “This country would be better off if it were more willing to assimilate the good things in Black culture.” Examples of anti items are “One of the biggest problems of a lot of Blacks is their lack of self-respect” and “Black children would do better in school if their parents had better attitudes about learning.” To derive a measure of ambivalence, pro-Black and anti-Black scores were first converted to standard normal (t) scores, using the total sample distribution. The subject’s ambivalence score was the product of his or her pro and anti t scores.4

Howard Beach tape and questionnaire. The experimenter explained to subjects that the audiocassette they were about to hear was part of the social opinions study being conducted by another researcher. As the tape began, an adult male was heard to thank listeners for participating in the study. He continued, in part:

We are trying to learn more about people’s attitudes regarding the incident that happened in Howard Beach, Queens, last December. As you probably know, three young Black men were beaten up by a group of White teenagers, and one of the Black men was struck by a car and killed when he tried to escape. . . . We conducted a series of on-the-street interviews with residents of Howard Beach. . . . I would like you to listen to short excerpts of these interviews. After you listen to them, I will ask you to answer a few questions about the opinions you heard expressed.

Six excerpts friendly to Blacks and six antagonistic to Blacks were presented in random order. The excerpts were actually fictitious. They were recordings of six male and six female experimental confederates made on a busy sidewalk to create an on-the-street effect. The following are examples of antagonistic remarks:

It’s very easy to spot a Black person in this neighborhood, and whenever I see one, I know he’s up to no good. They come in the neighborhood and rob everyone. It’s a known fact. That’s why everybody has a thing about them.

We are all hard-working people who have jobs and take care of ourselves and our families. We don’t need them coming here and bringing their welfare and crime and drugs.
Favorable comments included:

It's crazy. Most Black people are decent and hard-working — just like us. They don't want trouble any more than we do.

If they can afford to buy a house and live here, they should be able to, just like anyone else. No one should assume that a person is bad just because he is Black.

I am ashamed that this thing happened in my neighborhood. What these few kids did is making people think that everyone in Howard Beach is a racist.

Next, subjects filled out a questionnaire that repeated six of the statements from the tape (three friendly and three antagonistic). It asked for (a) broad categorical estimates of the proportion of people in Howard Beach who would agree with each statement and (b) judgments regarding the fairness and accuracy of the newspaper and television coverage of the controversial event. The purpose of this questionnaire was to remind subjects of the attitude statements on both sides of the issue and further arouse any ambivalence they might have about Black people in general and the Howard Beach occurrence. The intention was to avoid forcing subjects to make decisions regarding their own opinions about the statements they had heard, as such decisions might trigger cognitive processes of ambivalence resolution.

Results

Reliability and intercorrelation of mood scales. To assess the internal consistency of the positive affect and negative affect scales, split-half reliability coefficients (using the Spearman-Brown formula) were computed for the total sample's premanipulation scores (N = 50). The coefficients for the positive and negative scales were .61 and .57, indicating adequate reliability. There was only a moderate degree of correlation between the premanipulation scores on the two scales, r(48) = .39, which was reasonably consistent with the two-factor structure for mood reported by Watson and Tellegen (1985).

Comparability of PAAQ scores. It will be recalled that high-salience subjects filled out the PAAQ immediately after the first mood measure whereas low-salience subjects completed the questionnaire after the second mood measure. To check whether the difference in procedure affected racial attitude scores, the means and standard deviations for the two experimental groups were compared. They were found to be very similar. Pro-Black means and standard deviations were 29.60 and 6.80 for subjects in the high-salience condition and 30.20 and 6.05 for subjects in the low-salience condition (t < 1, n.s.); anti-Black means and standard deviations were 26.44 and 6.61 for high-salience subjects and 25.08 and 6.94 for low-salience subjects (t < 1, n.s.).

<table>
<thead>
<tr>
<th>TABLE 1: Hierarchical Regression Analyses: Significance Tests of Change in R² (Ps)</th>
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</thead>
<tbody>
<tr>
<td><strong>Experimental Variable</strong></td>
</tr>
<tr>
<td>Racial salience manipulation</td>
</tr>
<tr>
<td>Ambivalence score</td>
</tr>
<tr>
<td>Salience X Ambivalence</td>
</tr>
<tr>
<td>Effect of ambivalence within:</td>
</tr>
<tr>
<td>Racial salience condition</td>
</tr>
<tr>
<td>Control condition</td>
</tr>
</tbody>
</table>

NOTE: Ps represent the test of the change in R² for the variable entered at each step. For each mood variable, corresponding mood prescores were entered on the first step as a covariate.

*p < .10; **p < .05; ***p < .025; ****p < .005; *****p < .001.

Tests of hypotheses. Comparison of the mood prescores indicated that there were no premanipulation differences in mood between the high-salience and low-salience groups. For the negative affect prescores, M = 4.24 in the high-salience group and M = 4.52 in the low-salience group (t < 1, n.s.). For the positive affect prescores, the respective Ms were 4.56 and 4.16 (t < 1, n.s.). For the composite mood scores (positive affect minus negative affect), the respective Ms were 0.32 and −0.36 (t < 1, n.s.).

Postmanipulation mood scores (positive, negative, and composite mood) were analyzed using hierarchical regression analyses with corresponding mood prescores as a covariate. The results of these analyses are summarized in Table 1. To facilitate our description of the analyses, Table 2 presents the results for those subjects high and those low in ambivalence, as classified by a median split of the distribution of ambivalence in the sample. However, the full range of ambivalence scores was used in the regression analyses.

As shown in the tables, making a racial controversy salient led to higher negative mood scores, F(1, 45) = 11.08, p < .005, and lower composite mood than when a neutral task was presented (though the latter effect did not reach a customary level of significance, F(1, 45) = 2.98, p < .10). Similarly, higher ambivalence scores were associated with greater negative mood, F(1, 45) = 7.06, p < .02, and lower composite mood, F(1, 45) = 4.90, p < .04. Neither independent variable was found to have an influence on positive mood scores.

Examining these main effects more closely reveals that each of them appears to have been due to the hypothesized interaction between the racial salience manipulation and the subject’s level of racial ambivalence; for negative mood, F(1, 45) = 6.11, p < .02; for composite mood, F(1, 45) = 5.59, p < .025. The form of the interaction is broken down in the last two rows of Table 1, where we see that, as hypothesized, subjects' level of racial
TABLE 2: Adjusted Mean Postscores for Three Mood Measures as a Function of Racial Salience Manipulation and Median-Split Ambivalence

<table>
<thead>
<tr>
<th>Experimental Condition</th>
<th>Mood Measure</th>
<th>Positive Mood</th>
<th>Negative Mood</th>
<th>Composite Mood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>High Ambivalence</td>
<td>Low Ambivalence</td>
<td>High Ambivalence</td>
</tr>
<tr>
<td>Racial salience</td>
<td></td>
<td>5.56</td>
<td>6.44</td>
<td>5.46</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td>5.40</td>
<td>5.31</td>
<td>5.63</td>
</tr>
</tbody>
</table>

NOTE: Mood postscores are adjusted for corresponding mood prescores. Scores on the positive and negative mood scales can range from 0 to 10. Higher scores indicate higher amounts of each type of mood. Composite mood was calculated as a subject’s positive–negative mood scores. (Because the means in the table have been adjusted for the respective mood prescores, the composite means differ slightly from the difference between the corresponding positive and negative mood means.)

TABLE 3: Partial Correlations Between Mood Postscores and Racial Attitudes for Each Experimental Condition

<table>
<thead>
<tr>
<th>Racial Attitudes Measure</th>
<th>Mood Measure</th>
<th>Positive Mood</th>
<th>Negative Mood</th>
<th>Composite Mood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Racial</td>
<td>Control</td>
<td>Racial</td>
</tr>
<tr>
<td></td>
<td>Salience Condition</td>
<td>Postscore</td>
<td>Control Condition</td>
<td>Postscore</td>
</tr>
<tr>
<td>Ambivalence</td>
<td>-.14</td>
<td>-.00</td>
<td>.56***</td>
<td>-.10</td>
</tr>
<tr>
<td>Pro-Black</td>
<td>-.08</td>
<td>-.16</td>
<td>.28</td>
<td>-.20</td>
</tr>
<tr>
<td>Anti-Black</td>
<td>-.05</td>
<td>.17</td>
<td>.42*</td>
<td>.05</td>
</tr>
</tbody>
</table>

NOTE: Mood prescores are partialled out of the correlations reported.
*p < .06; **p < .05; ***p < .01.

Ambivalence was strongly related to both negative mood and composite mood scores when the two sides of the racial incident were made salient, $F(1, 45) = 12.62, p < .001$, and $F(1, 45) = 10.38, p < .005$, respectively. Not surprisingly, however, for subjects in the control condition, no relationship between ambivalence scores and mood was found (all $F$s < 1, n.s.).

Table 3 further describes the relationship between mood and racial salience. The top row of the table presents the partial correlation between subjects’ mood postscores and racial ambivalence scores (with corresponding prescores partialled out). These relationships are presented separately for the racial salience and control conditions. When conflicted racial attitudes were made salient, higher levels of ambivalence were related to greater negative mood, $r(23) = .56, p < .01$, and lower composite mood, $r(23) = -.60, p < .01$. In the control condition, where the topic of race was not made salient, no relationship between ambivalence and mood was found. No relationship between positive mood and ambivalence was found in either condition.

To summarize, the results for the negative mood items and the composite mood scores provided support for the hypotheses: Subjects showed more negative emotion, on average, when racial attitudes were made salient, and this effect was primarily carried by the high-ambivalence subjects in the high-salience condition. In the racial salience condition, high ambivalence was related to higher negative mood and lower composite mood; mood was unrelated to ambivalence in the low-salience (control) condition. Across conditions, there were no effects for positive mood items, but none were predicted.

As a further test of our theory of ambivalence-induced mood change, we computed correlations within the high- and low-salience conditions between each of the components of our racial ambivalence measure (pro-Black and anti-Black) and mood postscores (with corresponding prescores partialled out). The expectation was that, in the high racial salience condition, subjects’ ambivalence scores would be more predictive of negative mood than their separate pro-Black and anti-Black scores would be. No correlations were expected in the low racial salience condition. The results of these analyses are reported in Table 3.

In the racial salience condition, the relationship between pro-Black attitude and lowered mood was weak (nonsignificant) but in the expected direction. The relationships between anti-Black attitude and negative mood, $r(23) = .42, p < .06$, and between anti-Black attitude and composite mood, $r(23) = -.44, p < .05$, were in the predicted direction and significant. However, consistent with our model, when pro-Black attitude accompanied higher anti-Black scores, the relationship with negative affect was strongest of all: ambivalence and negative mood, $r(23) = .56, p < .01$; ambivalence and composite mood, $r(23) = -.60, p < .01$. As expected, no
significant relationship was found between mood post-scores (with prescores partialed out) and the racial attitude measures in the control condition.

Discussion

Common sense might suggest that the more sympathy one had for Blacks as disadvantaged members of society, as measured by the pro-Black scale, the more disturbed one would be by the Howard Beach stimulus materials, yet no such effect was found. Consistent with the model of ambivalence-induced mood change, only when the pro-Black attitude existed alongside the anti-Black attitude did the Howard Beach materials evoke psychological discomfort. Apparently, as the ambivalence model suggests, the simultaneous stimulation of pro- and anti-Black sentiment is required to generate the level of emotional tension we observed here. This distress is presumed to result from the self-doubt and self-dissatisfaction produced by experiencing sympathetic and critical racial reactions at the same time.

If one were to view the Howard Beach material presented to subjects as a persuasive message, could that account for the results obtained? Because the on-the-street interviews presented opinions that were evenly divided on both sides of the racial issue, the tape should be described as an ambivalent message. To the extent that persuasive messages are unsettling for people who disagree with their content, a persuasive message analysis would predict that subjects low in ambivalence, compared with those high in ambivalence, should have found more on the tape with which to disagree and been more annoyed or disturbed by its content. The results, however, showed the opposite effect: Ambivalent subjects (who presumably were likely to agree with a greater amount of the content of the interviews than subjects low in ambivalence) were more distressed after hearing the tape than less ambivalent subjects.

STUDY 2

Because the high-salience condition had two components that were absent in the low-salience condition—the PAAQ and the Howard Beach tape—the question arises whether the PAAQ by itself would have been sufficient to produce the obtained results. To answer this question, Study 2 was done.

Method

The subjects were 26 male and female introductory psychology students who participated in partial fulfillment of a course requirement. The female experimenter followed the same procedure as in Study 1, except for the following change. After completing the mood pretest, half the subjects were randomly assigned to the racial attitude questionnaire condition and completed the PAAQ. The other half were given the neutral questionnaire that had been used in Study 1. After filling out their respective questionnaires, all subjects completed the mood posttest, as in Study 1.

Results

To determine whether filling out the PAAQ influenced mood differently than filling out the neutral questionnaire, two sets of analyses were done. The first analysis compared the impacts of the PAAQ and neutral questionnaire experiences on mood. Using corresponding prescores as a covariate, no significant effects of the manipulation were found for any of the three types of mood postscore, negative, positive, or composite, all Fs(1, 23) < 1.03, n.s. The second set of analyses were hierarchical regression analyses that examined the effect of ambivalence on mood postscores (with prescores as a covariate) within the PAAQ condition. No significant effects of ambivalence on any of the mood measures were found (all Fs < 1). Thus, the results indicate that merely filling out the racial attitude questionnaire had no effect on mood, even when individual differences in ambivalent disposition toward Blacks were taken into account.

It should be noted that subjects in the high-salience condition of Study 1 filled out the PAAQ immediately before exposure to the Howard Beach tape. Although it would have been desirable to obtain the PAAQ measurement in a separate experimental session, we were unable to do so. Study 2 demonstrated that the experience of responding to the PAAQ items was not by itself sufficient to produce a negative mood effect. It remains possible, though we think it unlikely, that the PAAQ acted as an attitude-priming device, so that without its prior administration the Howard Beach tape would not have been effective. This clearly is an issue for future research. However, we are inclined to believe that hearing the "street interviews" was sufficient to activate ambivalence. Our reasons are threefold: (a) The PAAQ alone produced no effect on mood, as shown in Study 2, (b) the Howard Beach incident is known to have aroused strong feelings in the community as a real-world event, and (c) the face content of the PAAQ has nothing to do with Howard Beach in particular or racial tensions and conflict in general.

GENERAL DISCUSSION

Presenting White college students with opposing friendly and hostile opinions about Black people and their civil rights induces a negative mood state. The amount of negative mood induced in individual subjects is related to the amount of dispositional ambivalence
about Blacks that the person brings to the situation but is not so strongly related to individual variations in either pro-Black or anti-Black attitude considered alone. Thus, the main predictions of the study are upheld.

The results build on those of Katz and Hass (1988), which documented the prevalence of racial ambivalence among White undergraduates (i.e., the simultaneous holding of both pro-Black and anti-Black attitudes). Most White people probably wish to think not only that they are racially tolerant but also that they are discerning individuals whose attitude toward Blacks is based neither on blind acceptance nor on arbitrary rejection of the group and its members. The present demonstration that making the ambivalence salient creates emotional tension implies that (a) both components of the attitude are important to the person, (b) they are experienced as incompatible, and (c) making the person aware of their coexistence is threatening to favorable self-regard. Another reason for concluding that the negative mood effect is mediated by self-threat is that the negative mood words used in the mood measure denote self-relevant affective states: depression, low self-esteem, and anxiety.

That making a person aware of holding incompatible cognitions relating to issues important to him or her (such as equal rights for Black people) constitutes a challenge to self-esteem and arouses psychological discomfort was demonstrated by Rokeach and associates (e.g., Ball-Rokeach, Rokeach, & Grube, 1984; Rokeach, 1973). Our research, like theirs, examines the affective consequences of confronting the person with an inconsistent cognitive structure pertaining to the domain of race. However, we go beyond their paradigm by focusing on friendly and antagonistic racial attitudes as independent dispositions of the person and by showing the affective consequences of a context that activates these separate attitudes (in the present instance, by presenting the Howard Beach material).

There is a conceptual issue having to do with the nature of the racial ambivalence that was experimentally activated. The Howard Beach material dealt with an emotionally charged racial incident of considerable local concern at the time of the study. It vividly projected an image of Blacks as a dangerous, predatory underclass, as well as a counterimage of Blacks as innocent victims of blue-collar Whites' hatred and brutality. Hence, it is altogether plausible that the Howard Beach tape provided strong cues for the activation of ambivalence. This conclusion has an interesting implication for interpretation of PAAQ-based ambivalence scores. Inasmuch as the scores predicted individual differences in emotional reaction to the Howard Beach tape, it would follow that the PAAQ measures attitudes that go beyond the face content of its items. These items do not refer explicitly to the issues raised by the street-interview excerpts, such as Black criminality, White racial violence, and the tensions existing between inner-city ghettos and the surrounding neighborhoods. It would seem that responses on the PAAQ are functionally related to feelings of sympathy and hostility toward Black people in social contexts that are not related in any obvious way to the content of the questionnaire items.

Another issue that may require clarification concerns our definition of ambivalence as the product of the pro-Black and anti-Black scores, rather than the sum, for example. Conceptually, ambivalence is affected by both the similarity and the extremity of the two racial attitudes. That is, ambivalence conflict will be greater the more nearly equal are one's pro- and anti-Black attitudes (e.g., being high on one and low on the other produces little conflict). The conflict will also be more intense when the two racial attitudes are more extreme (e.g., strong agreement with both pro-Black and anti-Black attitude statements should produce more ambivalence than weak agreement with both groups of items). Because the product of two numbers is more sensitive to both the similarity and the extremity of the numbers than their sum, ambivalence defined as a product of the component scores is more consistent with the theoretical model. (See Hass, Katz, Rizzo, Bailey, & Eisenstadt, 1991, for an algebraic comparison of sums and products.)

The advantage of defining ambivalence as the product of its components is illustrated in Figure 1, which depicts (a) ambivalence defined as the sum of the component racial attitude scores (panel A of the figure) and (b) ambivalence defined as the product of the two scores (panel B). In each panel the shaded area indicates the possible combinations of pro and anti scores that would produce values above the median on the ambivalence dimension. (The locations of the medians for the separate pro- and anti-Black dimensions have been shown for reference purposes.) In both panels the boundary line between the shaded and nonshaded areas indicates the minimum values for pairs of pro-Black and anti-Black scores that will produce a sum (panel A) or a product (panel B) at or above the median on the respective distribution of sums or products. Of course, the exact location of the line will depend on the particular data set; however, the shape of the line will remain the same—a straight-line diagonal in the case of sums and a curve of the form shown for products.

Although the two methods of defining ambivalence produce comparable results for many pairs of pro-Black and anti-Black scores (e.g., having a pro score above the median as well as an anti score above the median results in a high ambivalence score regardless of the definition), the methods differ in important respects. As can be seen in panel A of Figure 1, if ambivalence is defined as the sum of the component scores, then a pair of pro and anti...
scores just above the median for each will produce an ambivalence score in the shaded area, but so will a pair of scores in which one is very high and the other is very low—a situation of low conflict, or low ambivalence. However, ambivalence defined as the product of the two scores (panel B of Figure 1) yields a picture more consistent with our model of ambivalence. Having scores that are very high on one scale and very low on the other results in a low ambivalence score when products are used. Similarly, having pro and anti scores that are slightly below their respective medians but also are very similar results in an ambivalence score above the median when products are used, but not in the case of sums. Both these consequences of using product scores are more consistent with the theory—the former because it omits from the high-ambivalence category individuals who are low in conflict and the latter because it includes a group of individuals who may be susceptible to experiencing some conflict because of the similarity of their scores.

Recently the use of multiplicative scores for concepts and the use of simple correlational techniques for their analysis have come under some criticism (Evans, 1991). In our case, we believe the use of multiplicative scores is justified for several reasons. First, and most important, the computation of ambivalence scores as products is theory driven. Ambivalence, by definition, results from the tension between two conflicting urges. Measurement of ambivalence, therefore, requires the combined assessment of both impulses. Furthermore, because both similarity and extremity of the competing desires contribute to the intensity of the ambivalence experienced, products are theoretically superior to sums as the method of combining the component scores, as we have seen.

The use of product scores for ambivalence also appears justified on empirical grounds. Hass et al. (1991) compared ambivalence computed as the product of pro-Black and anti-Black scores with ambivalence computed as a sum. In their experiment, they found the product-based ambivalence scores to be more predictive than scores based on sums. In the present experiment as well, the regression analyses reported that included multiplicative ambivalence scores were redone with ambivalence computed as a sum. As expected, the results of these analyses were similar to those obtained with ambivalence computed as a product. However, in every case, main effects and interactions involving the ambivalence term were stronger when ambivalence was computed as a product. So, on both theoretical and empirical grounds, the use of product scores as a measure of ambivalence appears justified.

As regards the disguised mood measure used in this study, it appears to be a promising new technique for the unobtrusive measurement of momentary emotional states, one that should be particularly useful when it is
important that the subject remain unaware of the investigator's purpose and unable to consciously control his or her responses. Further evidence of the validity of the disguised mood measure comes from a recent experiment by Hass and Eisenstadt (1990) that tested an assumption made by self-awareness theory (Duval & Wicklund, 1972; Wicklund, 1975) that self-focused attention leads to self-criticism, self-dissatisfaction, and negative affect. As predicted by self-awareness theory, subjects who saw their reflection in a mirror while completing the disguised mood measure were found to have more negative affect than subjects who did not face the mirror (significantly lower composite mood scores, as well as significantly higher negative mood scores). Of course, the self-awareness predictions are not important for our present purposes, but the results provide additional support for the validity and utility of the measure.

As used in the present research, the scores on individual items on the mood measure were binary. However, there seems to be no reason that a more refined response format could not be used in future research. For example, subjects could be required to rate the degree of assurance with which they made each response, or response reaction time could be assessed (a procedure currently being investigated). A longer list of mood words could also be used, allowing investigators to develop subscales for assessing various types of positive and negative affect. For example, it would be interesting to investigate whether the negative mood induced by the activation of racial ambivalence results from threats to the ought self or to the ideal self, as these terms are defined by Higgins (1987). The former kind of challenge, according to Higgins, should induce a state of agitated anxiety, whereas the latter should induce dejection. If the mood scale had additional items, appropriate subscales could be constructed to address this question.

A word of caution about a possible limitation on the use of disguised mood measures of the sort we have developed: The mood measure is conceived to work as a result of a misattribution process. Subjects are instructed to go with their feelings in selecting an alternative when there is no objectively correct answer. Presumably they use how they feel at the moment as a guide to select one of the alternatives provided, attributing their feelings to the task. It may well be that, if subjects are correctly aware of the source of their feelings (or otherwise attribute them to a source other than the task), they may not use those feelings in making the judgments on the mood measure. Feelings known to have been caused by other events will not be considered informative in making current evaluations (Schwarz, 1990). Consequently, the disguised mood measure may be most suitable in situations in which subjects are not aware of the source of their feelings. Although this caution is speculative, it is consistent with other research in which the perceived information value of subjects' affective state has been manipulated. For example, Schwarz and Clore (1985) found that, if their subjects were given another source to which to attribute their momentary feelings, they discounted those feelings rather than use them as information when making a judgment.

Finally, the present results point toward future research that would test an additional feature of our formulation that deals with the behavioral consequences of ambivalence activation. The theory states that the emotional tension associated with the activation motivates efforts at tension reduction, which may sometimes take the form of extremely positive or negative behavior toward members of the out-group (see Katz, 1981). Consistent with this formulation, studies have shown that reactions to individual Blacks tend to become polarized under certain conditions (e.g., Dienstbier, 1970; Linville & Jones, 1980). Similar results were obtained when the out-group target was mentally ill (Gergen & Jones, 1963) or had a physical disability (Gibbons, Stephan, Stephenson, & Petty, 1980). In these studies, ambivalence was not measured or experimentally manipulated. However, in a few additional investigations (Carver, Glass, Snyder, & Katz, 1977; Hass et al., 1991; Katz, Glass, & Cohen, 1973), direct evidence of ambivalence mediation was obtained when measures of subjects' racial attitudes were compared with their evaluations of Black stimulus persons. In the next step in testing our overall theory would be to demonstrate experimentally that it is negative affect that mediates the tendency for activated ambivalence to cause extreme behavior toward the attitudinal object.

### NOTES

1. We use the term *ambivalence* to refer to a situation in which one has strong, competing, incompatible inclinations or attitudes toward a particular object. We do not use the term, as it is sometimes applied, to refer to the circumstance in which a person is simply uncertain, neutral, or wavering.

2. The program was written in BASIC. The time required by the computer to execute the sequence of program commands to flash and mask the nonsense word, plus the time required by the monitor to scan the screen (17 msec), yields an estimate of approximately 20 msec for the time the nonsense word was on the screen.

3. All $p$ levels reported in this article are two-tailed.

4. For a discussion of the conceptual rationale and more detail regarding the procedure for this ambivalence score, see Hass, Katz, Rizzo, Bailey, and Eisenstadt (1991).

5. In each illustration we assume the pro-Black and anti-Black raw scores have been converted to $t$ scores in order to equalize the respective contributions of the two scales to the ambivalence measure.

6. The interested reader may get a better feel for the relationships portrayed here by substituting some imaginary values in the figures and comparing the consequences for sums and for products. For example, imagine a score of 1 at a low score on either scale, 9 as a high score, and 5 as a moderate score. In this case, two moderate scores (a situation that should result in some ambivalence for an individual) produce a
sum of 10, but so would a score of 1 on one scale and 9 on the other (a situation in which there should be little ambivalence). When products are computed, however, the two moderate producer scores produce a higher ambivalence score (25) than one high and one low score (9), a result more in line with the theoretical model.

7. Evans (1991) suggests the use of hierarchical multiple regression to test for the contribution of a multiplicative score (interaction) after the linear components (main effects for its component scores) have been removed. As Evans admits, such a procedure "makes enormous demands on sample requirements" (p. 9). Because it would require a sample many times the size of that used here, we could not analyze our data in the manner recommended. In any event, we believe the use of multiplicative ambivalence scores is justified on theoretical grounds.

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